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JOHN BROOKS HENDERSON







# CONCHOLOGIA ICONICA:

OR,

## ILLUSTRATIONS

OF THE

### SHELLS OF MOLLUSCOUS ANIMALS.

VOL. XX.

CORRESPONDING SYN-GRAPHS OF THE GENERA

|              |               |             |            |
|--------------|---------------|-------------|------------|
| SOLEMYA.     | TEREDO.       | FISTULANA.  | PTEROPODA. |
| MYA.         | PEDICULARIA.  | RISSOA.     | ANCYLUS.   |
| CLAUSILIA.   | MYTILIMERIA.  | SILICUARIA. | ALYCEUS.   |
| CYLINDRELLA. | SAXICAVA.     | CYRINA.     | MARGARITA. |
| PUPA.        | PEPINIDE.     | SPHERIUM.   | ROTELLA.   |
| VANIKORA AND | GASTROCELENA. | PLANORBIS.  | STYLIFER.  |
| NERITOPSIS.  | ZYLOPHAGA AND | PLANAXIS.   | AURICULA.  |
| KUPHUS.      | NAVIA.        | VELORITA.   |            |

— 3 —

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PHYSICO-MATHEMATICAL SOCIETY OF VIENNA.

DESIGNED BY

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# PREFACE

11

## THE TWENTIETH VOLUME.

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ON the completion of this great work, a few words appear due to the Subscribers.

In the British Museum, England possesses a collection of shells—including that of the late Mr. Hugh Cuming, acquired by purchase in 1865—which for richness and completeness rivals all other collections in the world put together.

The 'Conchologia Iconica' was commenced by my late husband, Mr. Lovell Reeve, in 1843, as the exponent of these and other collections. At the time of his decease, in 1865, fifteen volumes of the work had been completed. Although these, containing as they do most of the more important Genera, would have been no inconsiderable contribution to Conchological science, still as many Genera remained unrepresented, it was thought desirable to continue the work to a point at which, for all practical purposes, it might be pronounced complete.

The literary conduct of the work was therefore entrusted to Mr. G. B. Sowerby, F.L.S., who had hitherto supplied the artistic portion.

His Royal Highness the late Prince Consort was amongst the earliest subscribers, and his subscription (for two copies) has been graciously continued by Her Majesty the Queen.

Many of the earlier subscribers have not lived to see the completion of the work, in the commencement of which they took a lively interest, but their subscriptions have been continued by members of the family, or have been replaced by other individuals.

To Her Most Gracious Majesty the Queen, and to the rest of the Subscribers, I beg to tender my most grateful acknowledgments, for the continued support which has enabled me to bring the work to what I trust will be deemed a satisfactory conclusion.

MARTHA REEVE

THE COLLEGE, GILDEDON, NEAR HARLOW:

March 29, 1878.



MONOGRAPH

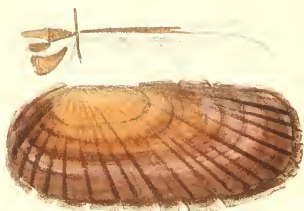
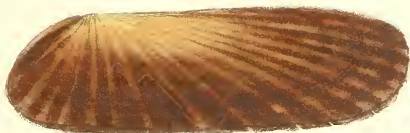
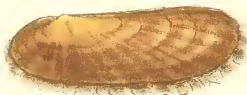
OF THE GENUS

S O L E M Y A.

— Out of the depths! Almighty King,  
Did vital forms frame — *Walls.*







## SOLEMYA.

### GENUS SOLEMYA, Lamour.

*Trochus antiquioris, elongatissimus, crassus, elongatus, utrinque dentatus, epidermide crassa, radiata, aculeata fusca, ultra marginem lateralem, termino exserto, Carolo obtusius. L. sinuatum postico, intercomposita callum tripontem instructum. Impressione duarum remota, subtrigona.*

Shell equivalently inequalated, transversely oblong, obtuse at each end, covered with a strong shiny brown horny epidermis extending along the edges of the valves. Hinge without teeth, ligament partly internal, inserted behind a three-angled callus: muscular impressions two, distant, subtrigonal.

To the four or five species previously known one has recently been described and well characterized by Mr. Edgar Smith, of the British Museum—namely, the *Sol. Parkinsoni* from New Zealand, which appears to be very distinct from the comparatively well-known Australian species. The northern parts of the United States present one or two species, which, with the familiar *Solemya Mediterranea*, complete the little list. The *Solemya*, like the *Solenas* and *Mya*, are mud burrowers, and from the construction of the foot and thickness of the shell leap with surprising activity. The shell is described as having a cardinal tooth in each valve, but the term seems quite inapplicable to the internal callus, behind which the ligament is inserted in a groove.

#### Species 1. (Mus. Brit.)

SOLEMYA OCCIDENTALIS. *Sol. testâ parvâ, angustâ, elongatâ; latere postico brevissimo, margine laterali obliquè truncato; latere postico attenuato, ad terminum acuminato.*

THE WESTERN SOLEMYA. Shell small, narrow, elongated; posterior side very short, lateral margin obliquely truncated; posterior side attenuated, acuminated at the end.

DESHAYES. MS. Brit. Mus.

Hab. —?

The specimens in the British Museum appear young, and the shape of the callus and ligamental insertion not sufficiently developed to determine the distinctness of the species. It is, however, a larger shell than *Solemya Mediterranea*.

#### Species 2. (Figs. a, b, c, Mus. Brit.)

SOLEMYA MEDITERRANEA. *Sol. testâ soleniformi, elongatâ, radiatâ; latere postico angustissimo, brevissimo, obliquè truncato; latere antico elongato, cressâ terminum ampliâculo; callo cardinali angulato, arcuato, obliquè trigono; arcâ ligamentiferâ post callum trigonâ, infra lineam productâ; ligamento partim etiam in sulcum obliquum linearem ante callum instructo.*

THE MEDITERRANEAN SOLEMYA. Shell soleniform, elongated, rayed; posterior side rather narrowed, very short, obliquely truncated; anterior side elongated, rather more ample towards the end; cardinal callus narrow, curved, obliquely trigonal; ligamental area behind the callus trigonal, linearly produced below; also a part of the ligament inserted in an oblique linear sulcus in front of the callus.

LAMOUR. Anim. s. Vert., ed. Deshayes, vol. vi. p. 125.

*Solemya Solan*, Salis Marchlius.

Hab. Mediterranean.

#### Species 3. (Mus. Brit.)

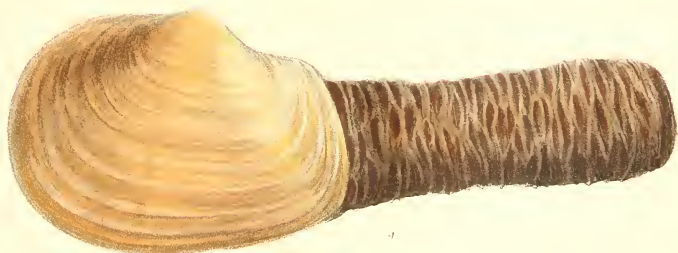
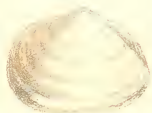
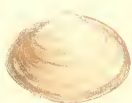
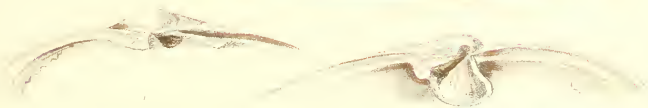
SOLEMYA BOREALIS. *Sol. testâ brevissimâ, anticâ latâ, subtruncatâ, posticâ latissimo, ad terminum truncato; callo cardinali trigono crasso, lato; infra bifurcato; impressione musculari anticâ elongatâ, subtrigonâ; epidermide crassa.*

THE BOREAL SOLEMYA. Shell rather short, anteriorly broad, rather truncated, posteriorly very broad, truncated at the end; cardinal callus trigonal, thick, broad; bifurcate below; anterior muscular impression elongated, subtrigonal; epidermis thick.









# M Y A.

## PLATE I.

### Genus MYA, Linnæus.

*Testa æquivalvis, bimusculari, phoracæ ad extrematibus hians, oblonga, epidermidæ propiè indurata. Cardo edentulo, lamina ligamentifera tripsona, cæca alia, projecta, in valva sinistra munito. Impressio pallii plusminusve sinuata.*

Shell equivalve, bimuscular, generally gaping at each end, covered with a wrinkled epidermis. Hinge toothless, furnished in the left valve with a ligament-bearing, trigonal, hollow projecting plate. Pallial impression more or less sinuated.

### Genus CRYPTOMYA, Conrad (included).

In the more restricted genus *Mya*, typified by *M. arenaria* and *M. truncata*, the siphons are long and produced, and covered with a coriaceous epidermis in continuation of that which covers the shell; but in the *Cryptomya* there is not the same epidermis-covered projection. But the construction of the hinge and general characters of the shell, and the mud-boring habits of the animal are alike in both groups; and no useful purpose is served in keeping them apart. The *Myæ* are few in number, and are principally inhabitants of Northern shores.

### Species 1. (Mus. Sowerby.)

**MYA ARENARIA.** *Mya testâ ovatâ, solidâ, fibrâ, concentricè leviter rugatâ, utriusquè validè hiantî; latere antico ventricosâ, lato, latere postico cuneatâ, subdepresso, leviter angulatâ, ad terminum subbiliquè truncatâ; lamina ligamentiferâ in valvâ dextrâ magnâ, productâ; impressione palli late et quadratim sinuatâ.*

THE SAND MYA. Shell ovate, solid, brown, concentrically lightly wrinkled, gaping strongly on each side; anterior side ventricose, broad, posterior side cuncate, subdepressed, slightly angular,

rather obliquely truncated at the end; ligament-bearing plate in the left valve large, produced, pallial impression broadly and squarely sinuated.

LINNÆUS. Systema Nature.

Hab. British Coasts.

### Species 2. (Mus. Brit.)

**MYA ELLIPTICA.** *Mya testâ tenui, ovatâ, compressâ, angustè hiantî; latere antico breviusculo; latere postico propiè marginem dorsalem obliquè depressâ, angulatâ, ad terminum obliquè truncatâ; margine ventrali rectiusculo.*

THE ELLIPTICAL MYA. Shell thin, ovate, compressed, narrowly gaping; anterior side rather short; posterior side obliquely depressed near the dorsal margin, angular, obliquely truncated at the end; ventral margin rather straight.

A. ADAMS (*Cryptomya*). MS. Mus. Brit.

Hab. — ?

More nearly equal-sided than *Mya Californica*, the anterior and not the posterior side being the shorter.

### Species 3. (Fig. a, b, Mus. Brit.)

**MYA CALIFORNICA.** *Mya testâ compressâ, angustè hiantî, ovatâ, pallidè rubescenti; latere antico inflato, rotundo, umbonibus subretroatis; latere postico subangustato, breviusculo, ad terminum subtruncato, lamina ligamentiferâ parvisculo, sinu palli impressionis parvâ.*

THE CALIFORNIAN MYA. Shell compressed, narrowly gaping, ovate, pale reddish; anterior side inflated, rounded, umbones leaning a little backwards; posterior side a little narrow, rather short, slightly truncated at the end; ligamentiferous plate rather small, sinus of the pallial impression small.

CONRAD — ? *Cryptomya*.

Hab. California.

MYA.—PLATE I.

Species 4. (Mus. Sowerby.)

MYA TRUNCATA. *Mya testâ oblongâ, ventricosâ, irregulariter rugatâ, posticè latè hiantî; latere antico valdè inflato, obliquè tumido, margine dorsali elevato, umbonibus angulatis, prominentibus, retrorsis, latere postico angustato; margine dorsali depresso, marginè terminâli truncato.*

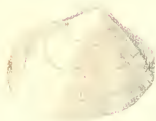
THE TRUNCATED MYA. Shell oblong, ventricose,

irregularly wrinkled, posteriorly broadly gaping; anterior side much inflated, obliquely tumid, dorsal margin elevated, umboes angular, prominent, leaning backwards, posterior side narrow; dorsal margin depressed, terminal margin truncated.

LINNEUS. *Systema Naturæ.*

*Hub.* Coasts of Great Britain.





# M Y A.

## PLATE II.

Species 5. (Fig. a, b. Mus. Brit.)

**MYA PHILIPPINARUM.** *Mya testâ tenui, albâ, inflatâ, inequilaterali, vix equivalvâ; latere antico lavi, ventricosissimo, margine dorsali declivi, margine ventrali inflato; latere postico brevi, striato, subcompresso, posticâ cuneato, subangulato, vix truncato, margine dorsali declivi, margine ventrali sursum declivi, subnullâ striâ, retrorsâ.*

**THE PHILIPPINE MYA.** Shell thin, white, inflated, inequilateral, scarcely equivalve; anterior side smooth, very ventricose, dorsal margin sloped, ventral margin much inflated; posterior side short, striated, a little compressed, posteriorly cuneate slightly angular, hardly truncated; dorsal margin sloped downwards, ventral margin sloped upwards; umbones rounded, leaning backwards.

A. ADAMS. MS. Brit. Mus.

*Hab.* Bay of Manila.

Belonging to the group known as *Cryptomya*, and like several other species, having one half of its surface striated; the other smooth.

Species 6. (Fig. a, b. Mus. Brit.)

**MYA SEMISTRIATA.** *Mya elongato-ovata, tenui, albâ, latere antico inflato, levigato; latere postico, usque ad medium tenuiter, posticâ valdè striato, ad terminum angustato angulato, post angulum truncato, lavi.*

**THE HALF-STRIATED MYA.** Shell elongated, oval, thin, white, anterior side inflated, smooth; posterior side finely striated as far as the middle, strongly behind, narrow at the end, angular, truncated behind the angle, smooth.

HANLEY. Proc. Zool. Soc. 1850, p. 80.

*Hab.* — ?

One of the *Cryptomya* group described by Mr. Hanley from a single valve in the collection of the late Mr. Cuming.

Species 7. (Mus. Brit.)

**MYA PEJECISA.** *Mya testâ oblongo-subquadrata, brevi, albâ, concentricè irregulariter rugatâ, anticâ inflatâ, latâ; posticâ subangustatâ; latere postico brevi, lat. truncato, hiatis, margine elevato.*

**THE SHORTENED MYA.** Shell oblong-subquadrate, short, elevated, concentrically irregularly wrinkled, inflated in front, broad; posteriorly rather angular; posterior side short, broadly truncated, gaping, margin raised.

GOULD. United States Exploring Expedition.

*Hab.* Sitcha.

Although this shell is broader and shorter than the British *Mya truncata* is generally found, its distinctness from that species is matter of some doubt.

Species 8. (Fig. a, b. Mus. Sowerby.)

**MYA CANCELLATA.** *Mya testâ elongatâ, crassiusculâ, albââ rugis concentricis numerosis, minutè undulatis, et striis radiantibus decussatâ; latere postico brevi, cuneato, ad terminum truncato, circulariter hiatis, latere postico inflato, obliquè producto, ad terminum rotundato.*

**THE CANCELLED MYA.** Shell elongated, rather thick, whitish; decussated with numerous minutely undulated concentric wrinkles and radiating striæ. posterior side short, cuneate, truncated and roundly gaping at the end; posterior side inflated, obliquely produced, rounded at the end.

CONRAD. Annals of Natural Science of the Academy of Philadelphia.

*Hab.* California.

April, 1875.









24



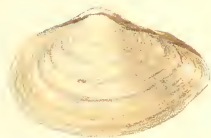
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30

# M Y A.

PLATE III.

Species 9. (Fig. 9, 10.)

MYA MINDORENSIS. *Mya testâ compressâ, albâ, levigatâ, ovatâ; latere anticeo subcylindrico, conchiformi, umbonibus parvis, subelevatis; latere postico angustiusculo, prope marginem dorsalem angulato, post angulum compresso, a latere umbonali truncato, margine dorsali brevi, depresso.*

THE MINDORO MYA. Shell compressed, white, broad, smooth, ovate; anterior side rather inflated, rounded, umbos small, nearly central; posterior side rather narrow, angular near the dorsal margin, compressed behind the angle, broadly truncated at the end, dorsal margin short, depressed.

ADAMS AND REEVE — ? MS. Mus. Cum. in Brit. Mus.

*Hab.* Isl. Mindoro.

A small shell of the *Cryptomya* group, differing from *Mya Californica* chiefly in the broad posterior truncation.

Species 10. (Mus. Brit.)

MYA DIVERGENTIA. *Mya testâ brevi, postice latissimo hiatus, subquadrata, albâ, tenuissimè striatâ; latere anticeo semicirculari, umbonibus elevatis, subconicatis; latere postico acutè angulato, perpendiculariter truncato, ante angulum undulatum rugatâ, dextrâ item striatâ.*

THE DIVERGENT MYA. Shell short, with a wide posterior hiatus, rather square, white, very finely striated; anterior side half-round; rather acuminate; posterior side acutely angular, perpendicularly truncated, with wavy wrinkles and divergent striae in front of the angle.

A. ADAMS (*Cryptomya*). MS. Cum. Coll. in Brit. Mus.

*Hab.* Ceylon.

Species 11. (Mus. Brit.)

MYA DECURTATA. *Mya testâ ovatâ, albâ, levigatâ, antice subrotundâ; margine ventrali convexo; latere*

*postico acutè arcuatim angulato, angustato, perpendiculariter truncato; margine dorsali depresso, rectiusculo, complanato.*

THE SHORTENED MYA. Shell ovate, white, smooth, anteriorly rounded; ventral margin convex; posterior side with an acute curved angle, narrow, perpendicularly truncated; dorsal margin depressed, rather straight, flattened.

A. ADAMS — ? MS. (*Cryptomya*), Cum. Coll. in Brit. Mus.

*Hab.* Isl. Luzon, Philippines.

Species 12. (Fig. a, b, Mus. Sowerby.)

MYA ACUTA. *Mya testâ ovatâ, tenuisculâ, palliâ fulcâ, concentricè leviter rugatâ, utrinquè latè hianti; latere anticeo ventricoso, lato; latere postico cuneato, compresso subrostrato, subacuminato; impressione palliâ acutè sinuata.*

THE ACUTE MYA. Shell ovate, rather thin, pale fulvous, concentrically lightly wrinkled, widely gaping at each end; anterior side ventricose, broad; posterior side cuneate, compressed, rather rostrated, rather acuminate; impression of the mantle roundly sinuated.

SAY, Wood's General Conchology.

*Mya Japonica*, Say (var.) MS. Mus. Sowerby.

*Hab.* North America; Chupoo, Japan.

The two specimens figured, the smaller Japanese, the larger North American, resemble each other and differ in the same degree from our common *Mya arenaria*. They are much more pointed at the end, and have a more rounded sinus in the pallial impression. These differences, however, may be rather varietal than specific.

May, 1875.

MYA.—PLATE III.

Species 13. (Mus. Brit.)

MYA PRINCEPS. *Mya testis alba, tenui, ovali, ventricosa; antè medianu, medio et postivè radiatim striatà; latere antico inflato, oblongo anticè levigato, semi-ovato; umbonibus inflatis, retrorsis; latere postico brevi, angusto, obliquè angulato, anti angulum coarctato, ad terminum truncato; margine dorsali depresso, declivi.*

THE PRINCE MYA. Shell white, thin, ovate, ventricose;

radiately striated from before the middle, and posteriorly; anterior side inflated, oblong, smooth anteriorly, semiovate; umbones inflated, recurved; posterior side short, narrow, obliquely angular; narrowed in front of the angle, truncated at the end; dorsal margin depressed, sloped.

A. ADAMS. Ind. (*Cryptomya*) MS. Cum. Coll.

*Hab.* Philippine Islands.

The largest and finest of the *Cryptomya* group.

MONOGRAPH  
OF THE GENUS  
CLAUSILIA.

Nature, great parent!

How mighty, how majestic are thy works! *Thou*









# CLAUSILIA.

PLATE I.

## Genus CLAUSILIA. *Desparroux*.

*Testa terrestri, plerumque siccitatis, turrita, fusiformis, aperturâ plus minusve auriformi, intus lamina liberâ subspirali testacea clausâ, columella plerumque bicipitâ.*

Shell terrestrial, generally sinistral, turreted, fusiform, aperture more or less auriform, closed within by a free subspiral shelly plate, columella generally with two plaits.

The *Clausium*, shown at fig. 7, can only be seen *in situ*, by breaking the last whorl of the shell. It is of a subspiral form and turns on the edge of the inner part of the columella by means of a cartilaginous hinge. The animal can thereby retreat further within his shell and shut himself up more securely than by means of the ordinary external operculum of other shells. The species of this interesting genus of land shells are found everywhere in Europe, in China, and Chinese and Indian Islands, and generally in temperate districts. We have not been able to identify, among our 165 species taken principally from the British Museum and our own collections, half of the species enumerated by Pfeiffer, whose long and laborious studies, almost entirely confined to the air-breathing molluses, have enabled him to present so complete a list. Our enumerations, however, include the great bulk of the species likely to be met with, and most of the more interesting and striking forms.

### Species 1. (Mus. Sowerby.)

*CLAUSILIA TRIDENS. Cl. testâ papiriformi, medio subin-  
flata, fusca, profundè perpendiculariter sulcata; anfractibus senis permanentibus, altis, ultimo  
elongato, angustato, infra prolongato, profundè  
rimato, subortuo; aperturâ magnâ, latâ, subquad-  
ratâ, superne elevato, acuminato; margine albo,  
crasso, expanso; plâcâ parietali crassâ, plâcâ co-  
lumellari parvâ, elevatâ, plâcâ subcolumellari in-  
conspiciuâ.*

THE THREE-TOOTHED CLAUSILIA. Shell pupa-shaped, a little inflated below, brown, deeply perpen-  
dicularly grooved; whorls six permanent, high,  
last elongated, narrow, prolonged below, deeply

notched, a little tortuous; aperture large, broad,  
rather square, raised above, acuminated; margin  
white, thick, expanded; parietal plait thick,  
columellar plait small, raised, under-columellar  
plait inconspicuous.

CHUMNITZ (Turko). Pflr. Mon. Hel. II. 396.

*Turba costulata.* Wood.

*Clausilia labata.* Sowerby.

*Hab.* Porto Rico.

### Species 2. (Mus. Brit.)

*CLAUSILIA BARTLETTI. Cl. testâ subrosâ, brevissimâ,  
ventricosissimâ, solidâ, levi; anfractibus quinis,  
tribus maximis, inflatis, ultimo angustato, pro-  
longato; aperturâ subauriformi, labio externo  
supra medium sinuato; plâcâ parietali magnâ,  
plâcâ columellari subtriangulâ.*

BARTLETT'S CLAUSILIA. Shell somewhat pink, very  
short, very ventricose, solid, smooth; whorls  
five, three very large, inflated, last narrowed,  
prolonged; aperture subauriform, outer lip  
sinuous above the middle; parietal plait large,  
columellar plait subtriangular.

A. ADAMS. Proc. Zool. Soc. 1855.

*Hab.* Eastern Peru.

### Species 3. (Mus. Brit.)

*CLAUSILIA BIPLICATA. Cl. testâ fusiformi, ventricosi,  
pruinosi, tenuissimè striatâ; anfractibus novenis,  
inflatis; aperturâ oblongâ; margine albo, labio  
interno bicipitâ.*

THE TWO-PLAIED CLAUSILIA. Shell fusiform, ventri-  
cose, plum-coloured, very finely striated;  
whorls nine, inflated; aperture oblong; margin  
white, inner lip two-plaited.

MONTAGU. Brit. Bev.

*Hélix perreca.* Mull.

*Clausilia Montagni.* Gray.

*Hab.* Germany, Spain, Great Britain.

### Species 4. (Fig. a, b, Mus. Sowerby.)

*CLAUSILIA FORMOSENSIS. Cl. testâ fusiformi, ventri-  
cosâ, solidâ, fâlcâ, cel pruinosâ; anfractibus un-*

*deccis, usque ad medium et infra gradatim crescentibus, ultimo rimato; aperturâ subauriformi, margine crasso, albo, labio interno triplicato.*

THE FORMOSA CLAUSILIA. Shell fusiform, ventricose, solid, fulvous or plum-coloured; whorls eleven, gradually increasing to the middle and below, last notched; aperture somewhat ear-shaped; margin thick, white; inner lip with three plaits.

H. ADAMS. Proc. Zool. Soc. 1866, p. 317, t. 33, f. 7.  
*Hab.* Island of Formosa.

Species 5. (Mus. Brit.)

CLAUSILIA PHEBUSÆ. *Cl. testâ altâ, subcylindricâ, flavâ, levigatâ, ad suturam rubro-lineatâ; anfractibus novenis, gradatim crescentibus, altis, obliquis, convexis, ultimo altissimo, longè rimato; aperturâ elongato-auriformi, intus nigro marginatâ, plicâ parietali magnâ.*

THE PHEBUSÆ CLAUSILIA. Shell high, subcylindrical, yellow, smooth, with a red line at the suture; whorls nine, gradually increased, high, oblique, convex, last very high, with a long notch; aperture elongated, ear-shaped, black-edged within, parietal plait large.

A. ADAMS. Proc. Zool. 1872.  
*Hab.* China.

Species 6. (Mus. Brit.)

CLAUSILIA TAYLORÆ. *Cl. testâ dextrâ, albâ, pyramidalâ, medio paulò inflatâ, rugosè liratâ; anfractibus undecenis, medio et supra gradatim attenuatis, ultimo altissimo, infra medium carinato, descendenti, subattenuato, profunde rimato, sublatato; aperturâ deltoidè, magnâ, vix plicatâ, margine utrinque latè expanso.*

TAYLOR'S CLAUSILIA. Shell dextral, whitish, pyramidal, a little swelled in the middle, roughly ridged; whorls eleven, gradually attenuated from the middle upwards, last very high, keeled below the middle, descending, slightly attenuated, deeply notched, slightly uncoiled; aperture deltoid, large, scarcely plaited, margin widely expanded on each side.

PEIFFER. Proc. Zool. Soc. 1861, p. 27, Pl. II.

*Hab.* —?

A shell of remarkable beauty and singularity of form.

Fig. 7. Species 142. (Mus. Brit.)

CLAUSILIA MACASCARIENSIS. I had figured the species on Plate XV. as *Clausilia Macarona*, not knowing that the latter name was only synonymous with the former. The later figures and description were taken from a specimen in which the back of the last whorl is more strongly and roughly plaited than usual. In the figure on this Plate we have shown a last whorl with the clausium *in situ*.

Species 8. (Mus. —?)

CLAUSILIA EXLIS. *Cl. testâ brevi, solidâ, fusiformi, pruinosa, medio et infra ventricosa, latâ; anfractibus novenis, levibus, inflatis, brevè falcâ ad suturam marginatis, ultimo leviter rimato, infra angustato; aperturâ perpendiculariter oblongâ, magnâ; margine albo, crasso, labio externo supra medium sinuato, tumido, plicâ parietali prominenti, plicâ columellari crassâ, magnâ.*

THE NARROW CLAUSILIA. Shell short, solid, fusiform, plum-coloured, ventricose in the middle and below, broad; whorls nine, smooth, inflated, bordered with a narrow band at the suture; last slightly notched, narrowed below; aperture perpendicularly oblong, large; margin white, thick, outer lip sinuous above the margin, tumid, parietal plait prominent, columellar plate thick, large.

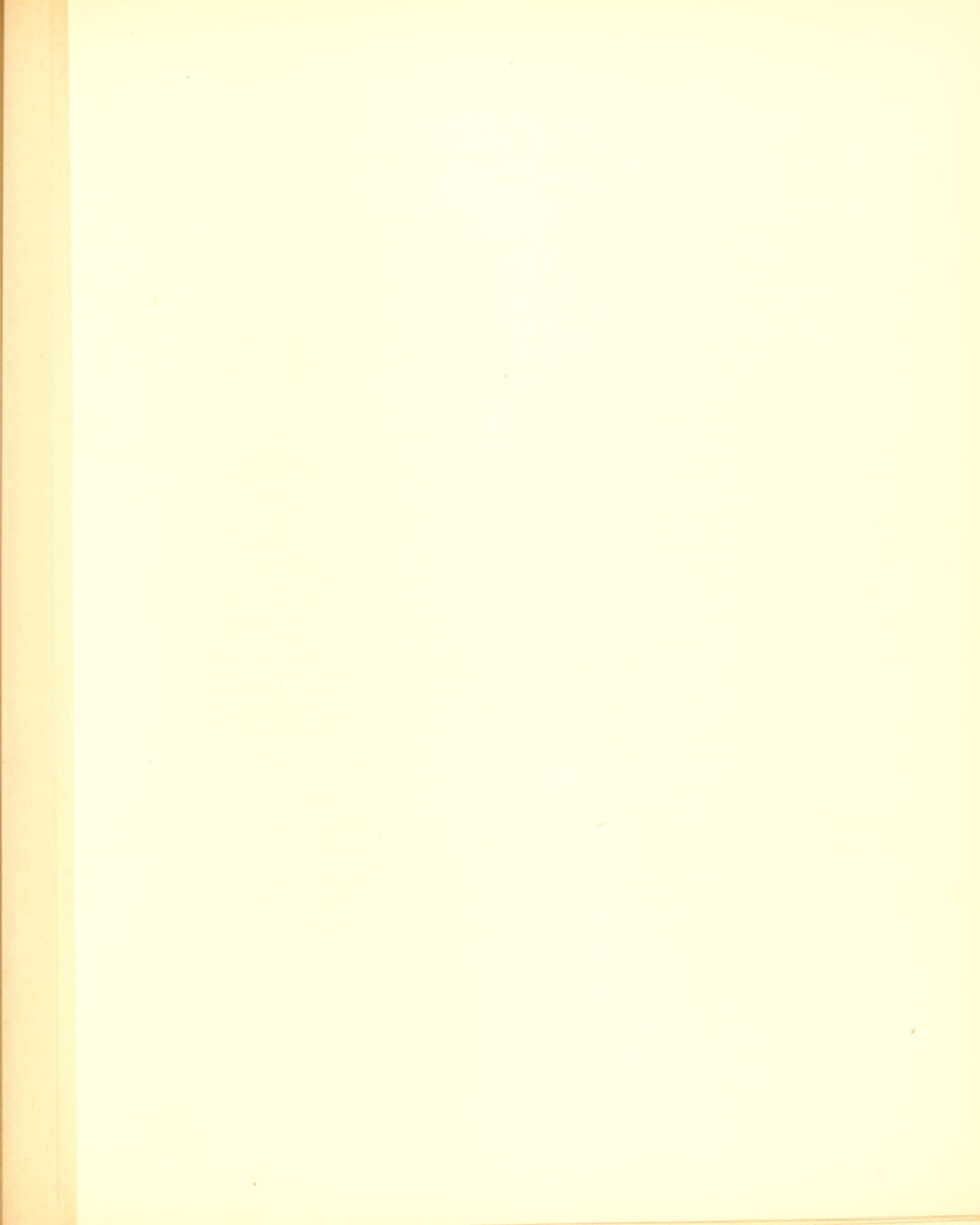
ADAMS. Proc. Zool. Soc. 1866.  
*Hab.* Isle Formosa.

Species 9. (Mus. —?)

CLAUSILIA OBLITA. *Sowerby.*

THE FORGOTTEN CLAUSILIA.

An error has arisen from the first plate remaining undescribed long after its publication. The writer having mislaid his memoranda cannot now identify this shell, but names it provisionally as above.





# CLAUSILIA.

PLATE II.

Species 10. (Mus. — ? C. post.)

**CLAUSILIA PORTUCALIS.** *Cl. testâ brevî, conicâ, levissimâ, lobis septuaginta, mucronibus striatis, spirâ, albâ, fuscâ, ciliâ, sinistrâ, subrotundâ, aperturâ subquadratâ, marginibus contractis, ciliâ sinistrâ plicatâ.*

**THE WRY-MOUTHED CLAUSILIA.** Shell short, brown, very shortly cylindrical; whorls few, striated, regular; the last notched, notched, notched; aperture rather square, with the lower margin plaited above, in the middle and below.

**OLIVIER, SOWERBY'S GALLERY.**

*Hab.* Syria.

*labio exteriori superiore incrassato, margini superiori perpendiculariter angustato, plicâ columellari latâ, obliquâ.*

**THE ELEGANT CLAUSILIA.** Shell rather fusiform, purple-brown, sculptured with white, narrow numerous-consecutive ribs; whorls nine, rather convex, the last contracted and plaited beyond the aperture; aperture whitish, somewhat auriform, margin expanded, reflected outer lip thickened above, upper margin with a single perpendicular plait, columellar plait broad, oblique.

**BULLZ.** Rossin. Icon. iii. p. 64.

*Clausilia intercedens*, A. Schmidt.

*Hab.* Wallachia.

Species 11. (Mus. Sowerby.)

**CLAUSILIA ANATOLICA.** *Cl. testâ striatâ, coniformi, pallidâ, griseo-fusâ, radiâ et lobis octidâ, septimo gravitatis, ante cordâ; anfractibus concentricis, obliquis, dense laminatis costatis, albâ, sinistrâ, sinistrâ, plicâ aperturam obliquâ sinistrâ, aperturâ rotundâ subquadratâ, margine expanso, lobis, labio exteriori inflexo plicatâ, sinistrâ sinistrâ, perpendiculariter angustatâ; plicâ columellari sinistrâ, obliquâ.*

**THE ANATOLIAN CLAUSILIA.** Shell sinistral, fusiform, pale greyish-brown, inflated in the middle and below, oblique, with close, laminar ribs; last contracted, notched, with two oblique ridges near the margin; aperture large, rather square, margin expanded, thin, outer lip with an inner plait, upper margin with a single perpendicular plait; columellar fold raised, oblique.

**ROHL.** Kuster, p. 233.

*Hab.* Anatol.

Species 12. (Mus. Sowerby.)

**CLAUSILIA ELEGANS.** *Cl. testâ subfusiformi, parvâ, griseo-fusâ; costis albâ, tenuibus, crebris septentibus sculptâ; anfractibus 9, concentricis, albâ, post aperturam contracto et plicato; aperturâ orbiculâ, subauriformi, margine expanso, reflexo,*

Species 13. (Mus. Sowerby.)

**CLAUSILIA LAMINATA.** *Cl. testâ levigatâ, fusiformi, fusco-cæneâ, obliquè sinistrâ; anfractibus concentricis; aperturâ subauriformi, inflexâ, antice plicatâ; plicâ superiori obliquâ, breviusculâ; plicâ columellari obliquâ, latâ laminatâ; margine aperturæ angustâ, albâ.*

**THE LAMINATED CLAUSILIA.** Shell smooth, fusiform, brownish-brown, obliquely sinistral; whorls rather convex; aperture somewhat auriform, plaited within at the lower part; superior plait oblique, rather short; columellar plait oblique, broadly laminar; edge of aperture narrow, white.

**MONFAGU.** British Shells.

*Hab.* Sicily, Muller.

*Clausilia lamellata*, Leach.

*Clausilia decurcata*, Jeffreys.

*Clausilia leucâ*, Monk.

*Clausilia yanantini*, Zeigler.

*Clausilia Transylvanica*, Stentz.

*Hab.* Great Britain, and Europe generally.

Species 14. (Mus. Sowerby.)

**CLAUSILIA EXARATA.** *Cl. testâ gracili fusiformi, griseo-cæneâ, laminis tenuibus crebris sculptâ; anfractu*

*ultimo elongato, contracto, propè aperturam obliquè birugato, concavo; aperturà parvè, subauriformi, fultè, infrà intus plicatà, margine expanso, plicè superiori parvè, plicè columellari elevatà, arcuatà.*

THE PLOUGHED CLAUSILIA. Shell slenderly fusiform, greyish, sculptured with thin, close laminae; last whorl elongated, contracted, with two oblique wrinkles near the aperture, concave; aperture small, rather auriform, brown, with an inner plait below, margin expanded; upper plait small; columellar plait raised, arched.

ZEIGLER. Pfeiffer Monog. ii. 449.

*Clausilia callosa*, Montford.

*Clausilia denegabatis*, Zeigler.

*Hab.* Dalmatia.

Species 15. (Mus. Sowerby.)

CLAUSILIA LEVISSIMA. *Cla. fusiformi, cornè, levigatà, sinistrali; anfractibus vix convexis, elevatis, ultimo compresso propè aperturam arcuatim rimato; aperturà magnà, bicipitatà, margine albo, reflexo, tenui.*

THE VERY SMOOTH CLAUSILIA. Shell fusiform, horny, smooth, sinistral; whorls scarcely convex, elevated, last compressed, with a curved notch close to the aperture; aperture large, with two folds, margin white, reflected, thin.

ZEIGLER. Pfeiffer Monog. ii. p. 439.

*Clausilia glabrata*, Mühlfeldt.

*Clausilia levigata*, Mühlfeldt.

*Clausilia decorata*, Zeigler.

*Clausilia superstructo*, Parreyss.

*Clausilia fulginea*, Parreyss.

*Hab.* Croatia and Dalmatia.

Species 16. (Mus. —? Copied.)

CLAUSILIA MOUHOTI. *Cla. testà fusiformi, ventricosà, tenui, tenaciter striatà griseo-fuscè, maculis albis fuscisque propè suturam notatà, maculis albis medio anfractu sum aspèrè; anfractibus apicalibus rotundis, medianis inflatis, penultimo elongato, medio contracto, ultimo infrà rimato; aperturà magnà, auriformi, plicè superiori parvè, altà, columellà bicipitatà, aperturæ margine reflexo, subexpanso.*

MOUHOT'S CLAUSILIA. Shell fusiform, ventricose, thin, finely striated, grey-brown, marked with white

and brown spots near the suture, lined with white spots in the middle of the whorls; apical whorls rounded, middle ones inflated, the last but one elongated; the last notched; aperture large, auriform, upper plait small, white, columella with two plaits, margin of the aperture reflected, slightly expanded.

PFEIFFER. Proc. Zool. Soc., 1875, p. 275, Pl. 36.

*Hab.* Loa Mountains, Camboja.

Species 17. (Figs. a, b, Mus. Sowerby and Brit.)

CLAUSILIA LUCOSTIGMA. *Cal. testà fusiformi, angustà, fuscà, vel pallidè cornè, medio subinflato; anfractibus 9, elevatis, liris, ad suturam lineà rubrà maculis albis interruptè ornatis; ultimo rimato, contracto; aperturà albè, subauriformi, intus contracto, plicè columellari latà, margine superiori perpendiculariter multiplicato.*

THE WHITE-MARKED CLAUSILIA. Shell fusiform, narrow, brown, or pale horn, a little inflated in the middle; whorls nine, raised, ridged, with a red line at the suture, interrupted by white spots; the last notched, contracted; aperture white, somewhat auriform, contracted within, columella plait broad, upper margin with a single perpendicular plait.

ZEIGLER. Pfeiffer Monog. ii. p. 446.

*Clausilia caudidilabris*, Porro.

*Clausilia opalium*, Zeigler.

*Clausilia latilabris*, Mühlfeldt.

*Hab.* Italy.

Species 18. (Mus. Sowerby.)

CLAUSILIA CYLINDRICA. *Cla. breviusculà, subcylindricà, cornè, tenaciter liratà; anfractibus altis, rectiusculis, aperturà perpendiculariter oblongà, margine angusto, rotundo, albo, superne multiplicato, plicè columellari obliquà, angustà, elevatà.*

THE CYLINDRICAL CLAUSILIA. Shell rather short, rather cylindrical, horny, finely ridged; whorls elevated, rather straight, aperture perpendicularly oblong, margin narrow, rounded, white, plaited above, columellar plait oblique, narrow, raised.

GRAY. MS. Pfeiffer Monog. iii. p. 591.

*Hab.* Himalaya Mountains.







# CLAUSILIA.

PLATE III.

Species 19. (Mus. Sowerby.)

CLAUSILIA FALLAX. *Cl. testâ subcylindrica, fusiformi, lœvis lamelliformibus rugatâ, parvâ foveâ; apertura subquadrata, superne uniplicata, exteriori externa superne contracta, labio columellari bicalloso, plievâ columellari rotundâ, infivâ truncata.*

THE FALLACIOUS CLAUSILIA. Shell rather ventricose, fusiform, wrinkled with lamelliform ridges, pale fulvous; aperture rather square, single-plaited above, outer margin contracted above, columellar lip with two callosities, columellar plait rather straight, truncated below.

ROSSMÄSLER — ? Pfeiffer, Monog. ii. p. 127.

*Clausilia obscura*, Parreys.

*Clausilia dricipiens*, Zeigl.

*Hab.* Transylvania.

Species 20. (Mus. Sowerby.)

CLAUSILIA DISCOLOR. *Cl. testâ brevicauli, obovâ, lævigatâ, medio ventricosâ, versis apicem angustatâ, cornâ, flammis fuscescentibus curvatis, anfractibus 10, convexâculis, tribus apicalibus angustissimis; apertura latâ, plievâ superiori parvâ, inferiori super columellam obliquâ elongatâ.*

THE TWO-COLOURED CLAUSILIA. Shell rather short, stout, smooth, ventricose in the middle, narrow towards the apex, horny, varied with brownish flames, whorls 10, rather convex, three apical very narrow; upper plait small, lower obliquely elongated upon the columella.

PFEIFFER, Monographia, ii. p. 416.

*Hab.* Isl. Cerigo.

Species 21. (Mus. Sowerby.)

CLAUSILIA FÆVELA. *Cl. parvâ, tenui, fusiformi, lævi, purpureo-fuscâ; anfractibus altis, ultimo arcuatum rimato; apertura subauriformi, intus infivâ biplicata, margine tenui, rotundo albo, margine superiori uniplicata, plievâ columellari elevato, perobliquâ, infivâ truncata.*

THE LITTLE CLAUSILIA. Shell small, thin, fusiform, smooth, purple-brown; whorls elevated, the last with a curved notch; aperture rather auriform, with two folds within at the lower part, margin thin, round, white, upper margin with one fold, eolumellar fold raised, very oblique, truncated below.

STURDE — ? Pfeiffer, Mon. ii. p. 462.

*Clausilia minima*, Parreys.

*Hab.* Germany and other parts of Europe.

Species 22. (Mus. Brit.)

CLAUSILIA CYLINDRIFORMIS. *Cl. testâ fusiformi, pallidissimâ lilacâ, longè rimatâ, leviter limatâ; anfractibus apicalibus fuscis, medianis subinflatis; ultimo contracto, elongato, longè saluto, ad dorsum rugis duabus obliquis, elevatis, elongatis quasi livacinatâ; apertura rotundâ, suborâtâ, plievâ superiori tenui, plievâ columellari elevatâ, tenui, margine, expansâ, tenui.*

THE CYLINDRIFORM CLAUSILIA. Shell fusiform, very pale lilac, with a long notch, slightly ridged; apical whorls brown, middle whorls a little inflated, the last contracted, elongated, with a long portion uncoiled, as it were double-keeled at the back with two oblique elevated wrinkles; aperture distant, rather oval, upper plait thin, columellar plait raised, thin, margin expanded, thin.

BOURBIGNAT — ? Pfeiffer, Mon. Hel. iv. p. 720.

*Hab.* Mount Lebanon, Syria.

Species 23. (Mus. Sowerby.)

CLAUSILIA BIELZI. *Cl. testâ dextrorsâ, ventricosâ-fusiformi, tenui, cornâ, irregulariter et plerumque distanter limatâ; anfractibus convexis, medianis inflatis, elevatis, ultimo elongato, propè aperturam rimato; apertura perpendiculariter oblongâ, margine externo rotundo, lævi; plievâ internâ duabus, tenuibus, plievâ marginali superiori parvâ; plievâ columellari tenui, angulatâ.*

BIELZI'S CLAUSILIA. Shell dextral, ventricose-fusiform, thin, horny, irregularly and for the most part distantly ridged; whorls convex, the middle ones inflated, raised, the last elongated, notched near the aperture; aperture perpendicularly oblong, outer margin rounded, smooth; internal plaits two, thin, upper marginal plait small, columellar plait thin, angular.

PARREYS, Pfeiffer Monog. iii. p. 588.

*Clausilia tenuis*, Parreys.

*Clausilia elatæata*, Rossmäslér.

*Hab.* Transylvania.

## Species 24. (Mus. Brit.)

*CLAUSILIA ROLPHII.* *Cl. testâ obtusâ fusiformi, cornuâ fusââ liris crebris sculptâ; anfractibus medianis ventricosâ, ultimo elevato, infra contracto, rimato in varicem spiralem ad dorsum desinentè; aperturâ subauriformi, margine externo superne contracto, labio columellari plicato, plicâ, unâ superiori, parvâ, duabus parvis submarginalibus, unâ magnâ laminatâ, obliquâ subintenuâ.*

ROLPHI'S CLAUSILIA. Shell obtusely fusiform, horn-brown, sculptured with close ridges; middle whorls ventricose, the last raised, contracted below, notched, ending in a spiral varix at the back; aperture rather auriform, outer margin contracted above; columellar lip plaited, plaits, one above small, two small near the margin, one large, laminated, oblique, partly internal.

LEACH — ? Pfeiffer Monog. iv. p. 762.

*Clausilia Mortilleti*, Dumont.

*Clausilia biplicata*, Parreys.

*Clausilia satelles*, A. Schindl.

*Hab.* Britain, France, &c.

## Species 25. (Mus. Brit.?)

*CLAUSILIA SWINHOEII.* *Cl. testâ arcuato-rimatâ, fusiformi, solidâ, subventricosâ, castaneâ, striatâ; anfractibus 10-12, convexiusculis, ultimo infra turgidè; aperturâ verticali, oblongâ ovali, angulo superiori rotundato; lamellis validis, unâ superiori, duabus columellaribus obliquis, hand elevatis.*

SWINHOE'S CLAUSILIA. Shell with a curved notch, fusiform, solid, rather ventricose, chestnut striated; whorls ten to twelve convex, the last turgid at the lower part; aperture vertical, oblong, oval, rounded at the upper angle, lamellæ strong, one upper, two oblique columellar, not raised.

PFEIFFER. Proceedings of the Zoological Society, 1865, p. 830, plate 46, f. 11.

*Hab.* Isl. of Formosa.

## Species 26. (Mus. Sowerby.)

*CLAUSILIA CRISPA.* *Cl. testâ brevi, ventricosâ fumoso-fusâ, anfractibus 8, maculis magnis albis castaneisque superne propè suturam variegatis, convexis, tenuiter et densè latis, ultimo propè aperturam rimato, infra ad dorsum subspiraliter birugato; aperturâ albâ, disjunctâ, intus contractâ, margine lato, laminatâ expanso, plicâ superiori perpendiculari, plicâ columellari elevatâ.*

THE CRISP CLAUSILIA. Shell short, ventricose, smoky-brown, whorls eight, variegated above near the suture with large white and chestnut spots, convex, finely and closely ridged, the last notched near the aperture, with two subsutural wrinkles below on the back; aperture white, disjoined, contracted within, margin broad, spread in a layer, upper plait perpendicular, columellar plait elevated.

LOWE. Dr. Paiva, Monog. Moll. Madeira.

*Hab.* Madeira.

## Species 27. (Mus. Sowerby.)

*CLAUSILIA GASTIDOLEPTA.* *Cl. testâ breviusculâ, castaneâ ad suturam albâ variegatâ, tenuissimè liratâ, anfractibus 9, medianis ventricosâ, ultimo attenuato, rimato, compresso, infra birugato; aperturâ albâ, margine lato, latere externo supra medium sinuatum incrassato, plicâ superiori elongatiüsculo, plicâ columellari lato, horizontali.*

THE SMALL-CHESTED CLAUSILIA. Shell rather short, chestnut, varied with white at the suture, very finely ridged, whorls nine, the middle ones ventricose, the last attenuated, notched, compressed, with two wrinkles beneath; aperture white, margin broad, outer side sinuously thickened above the middle, upper fold rather lengthened, columellar fold broad, horizontal.

ZEHLER — ? Pfeiffer Monog. ii. p. 418.

*Clausilia Freyeri*, Kuster.

*Clausilia tabula*, Kuster.

*Clausilia elongata*, Cautraine.

*Clausilia imbecilis*, Parreys.

*Hab.* Dalmatia.

## Species 28. (Mus. Sowerby.)

*CLAUSILIA DELTOSTOMA.* *Cl. testâ parvâ, angustâ, fusâ, densè albiratâ; anfractibus 10, convexiusculis; ultimo rimato, obliquè attenuato, infra birugato; aperturâ sublellatoicâ, biplicato, parviüsculo, subtilisjuncto.*

THE DELTA-MOUTHED CLAUSILIA. Shell small, narrow, brown, with close, white ridges; whorls ten, rather convex; the last notched, obliquely attenuated, with two wrinkles below; aperture somewhat deltoid, with two plaits, rather small, a little disunited.

LOWE — ? Pfeiffer Mon. ii. p. 411.

*Hab.* Porto Santo, Madeira.





# CLAUSILIA.

PLATE IV.

Species 29. (Mus. Sowerby.)

CLAUSILIA CONSPERSA. *Clu. testâ biplicatâ, cono. levissimeculâ, medio ventricosâ, ad subapicem tuberculis minutis albis ornatâ; anfractibus 10, ultimis striatis, ad dorsum albo notato, infâra subcristâ; apertura magna, plicis columellaribus latâ, subobovatis; margine tenui, albo, levigato.*

THE SPRIKLED CLAUSILIA. Shell smooth, bony, rather short, ventricose in the middle, crowned with minute white tubercles at the suture; whorls ten, the last notched, marked with white at the back, slightly varicos below; aperture large, columellar plait broad, nearly horizontal; margin thin, white, smooth.

PARREYSS. ROSSDIASLET, Icon. iii.

Hab. Bosnia. Corfu. Dalmatia.

Species 30. (Mus. Brit.)

CLAUSILIA PlicATA. *Clu. testâ elongatâ, fusiformi, rubro-fuscâ, tenuiter lineatâ, ad suturam plerumque variâ albo ornatâ; apertura oblongâ, biplicatâ, infâra subapicem minutis, margine tenuiter reflexo; ultimis attenuatâ rimatâ, infâra elongatâ, tumidâ.*

THE PLEATED CLAUSILIA. Shell elongated, fusiform, red-brown, finely ridged, ornamented at the sutures with strong white plaits; aperture oblong, with two plaits, somewhat acuminate below, margin thinly reflected; last whorl notched, elongated, tumid below.

DEBAENAUD (Pupa). Conch. fluv. Pfeiffer Monog. ii. p. 479.

*Clausilia maxima, C. grossa, C. elongata, C. pubescens, Parreyss.*

*Clausilia rustica, Zeigler.*

*Helix muralis, Studer.*

*H. pilcosa, Fertsuse.*

*Clausilia plebeja, litigiosa, olivacea, anceps, consimilis, parudocina, Zeigler.*

Hab. Central Europe.

Species 31. (Mus. Sowerby.)

CLAUSILIA NIGRICANS. *Clu. testâ parvâ, levigatâ, griseo-nigrescenti, brevissimeculâ, anfractibus 9, concentricis-*

*culis, apertura parvâ, biplicatâ, plicis marginibus albis.*

THE BLACKISH CLAUSILIA. Shell small, smooth, blackish-grey, rather short, whorls nine, rather convex; aperture small, with two plaits; plaits and margin white.

PETTERSEY. British Isles.

*Clausilia Marcella, Risso.*

*Clausilia obtusa, Pfeiffer.*

*Clausilia diligata, Parreyss.*

*Clausilia bichatula, Morch.*

*Clausilia elegantula, Parreyss.*

Hab. Britain. Germany. France. Scandinavia.

Figure 32.

CLAUSILIA TRIDENS. Species I. Plate I.

Although this is a different variety and worth figuring for the difference, I am now convinced that *Cl. tridens* of Chemnitz, and *Cl. labiata*, Sowerby, *labiatus*, Montfort, are one.

Species 32 is postponed.

Species 33. (Mus. Sowerby.)

CLAUSILIA JAVANA. *Clu. testâ gracili-fusiformi, fuscâ, tenuissimè obliquè striatâ; anfractibus concentricis, culis, elevatis, obliquis, ultimo infâra attenuatâ, rimatâ; apertura magna, auriformi, margine reflexo, expanso, albido, levigato, plicis superiori, columellarique parvis, albis, approximatis.*

THE JAVA CLAUSILIA. Shell slenderly fusiform, brown, very finely obliquely striated; whorls rather convex, raised, oblique, the last attenuated below, notched; aperture large, auriform, margin reflected, expanded, whitish, smooth, upper and columellar plaits small, white, approximate.

PILLIFLE. Monog. Helic. ii. p. 105.

Hab. Java.

This is an elegantly fusiform species with expanded aperture.

Species 34. (Mus. Sowerby.)

CLAUSILIA VENTRICOSA. *Clu. testâ fusiformi-subpyramidalâ, tenuissimè filistriatâ, fuscâ; anfractibus 13.*

April, 1875.

*obliquis, altis, mediis et infra ventricosis; suturâ profundâ, incisâ; ultimo anfractu rinato, anticâ tumido; aperturâ subquadratâ, margine albo; plicâ superiori parvâ, plicâ columellari elevato, fere horizontali.*

THE VENTRICOSE CLAUSILIA. Shell fusiform, somewhat pyramidal, very finely thread-striated, brown; whorls thirteen, oblique, elevated, ventricose in the middle and under; suture deep, incised; last whorl notched, tumid anteriorly; aperture rather square, margin white; upper plait small, columellar plait raised, nearly horizontal.

DEPARNAUD. *Con. fluv. Pflf. Mon. ii. p. 465.*

*Helix perversa*, STRUÏ.

*Clausilia latestriata*, PARREYSS.

*Hab.* Germany. France, &c.

Species 35. (Mus. Sowerby.)

CLAUSILIA PHILIPPANA. *Cl. testâ brevi, fusco-rubescenti, solidâ, ventricosissimâ, anfractibus 5-6, latis, altis, lævigatis, ultimo angustato, juxta aperturam lineatim rinato; aperturâ subauriformi, margine expanso; plicis superiori et columellari validis, approximatis.*

PHILIPP'S CLAUSILIA. Shell short, reddish-brown, solid, very ventricose, whorls five or six, broad, high, smooth; the last narrow, linearly notched close to the mouth; aperture rather auriform, margin expanded; upper and columellar plaits strong, approximate.

PFEIFFER. *Monog. ii.*

*Hab.* Birma.

A peculiarly obese shell of few whorls.

Species 36. (Mus. Sowerby.)

CLAUSILIA LINEOLATA. *Cl. testâ fusiformi, elongatâ, angustâ, carneo-fuscâ, liris albis tenuibus, crebris sculptâ; anfractibus 13, convexis, ultimo angustato, ad dorsum medio compresso, infra tumido; aperturâ oblongâ, margine externo tenui, supra medium sinuatum subcontracto, plicâ superiori brevissimâ, plicâ columellari, elevato, subinterno.*

THE LINEAR CLAUSILIA. Shell fusiform, elongated, narrow, horn-brown, sculptured with white, thin,

close ridges; whorls thirteen; convex, the last narrow, compressed in the middle at the back, tumid below; aperture oblong, outer margin thin, sinuously contracted above the middle; upper plait very short, columellar plait elevated rather internal.

HELD — ? Pfeiffer *Monog. iv. p. 778.*

*Hab.* Germany. France, &c.

Species 37. (Mus. Sowerby.)

CLAUSILIA OLIVIERI. *Cl. testâ cærulescenti, strigis indigne carnis ruscigatâ, validè inæqualiter levatâ, elongato-fusiformi; anfractibus 11, superne declivibus; suturâ profundâ; ultimo anfractu angustato, rinato, ad dorsum medio compresso, infra tumido, validè rugoso; aperturâ fulvâ, angustè ovatâ, plicâ superiori parvâ, plicâ columellari elevato, intus angulatâ.*

OLIVIER'S CLAUSILIA. Shell bluish, variegated with horny stripes and waves, strongly unequally ridged, elongated, fusiform; whorls eleven, sloped above; suture deep, last whorl narrow, notched, compressed in the middle at the back, tumid below, strongly wrinkled; aperture fulvous, narrowly ovate, upper plait small, columellar plait raised, angular within.

ROTH. — ? Kuster, p. 233. Pfeiffer *Mon. ii.*

*Hab.* Rhode Island.

Species 38. (Mus. Sowerby.)

CLAUSILIA LUNULARIS. *Cl. testâ griseo-fuscâ, tenuissimè striatâ, subventricosâ; anfractibus 8, medianis inflatis, ultimo ad dorsum medio contracto; aperturâ subauriformi, margine tenui, expanso, reflecto; plicis superiori et columellari parvis, approximatis.*

THE LUNULAR CLAUSILIA. Shell grey-brown, very finely striated, rather ventricose; whorls eight, the middle ones inflated, the last contracted in the middle at the back, aperture rather auriform, margin thin, expanded, reflected; upper plait and columellar plait small, approximate.

PFEIFFER. *Monograph Helicorum, iii. p. 608.*

*Hab.* Eubœa.







# CLAUSILIA.

PLATE V.

Species 39. (Mus. Sowerby.)

**CLAUSILIA OMBROSUMA.** *Cl. testâ breviusculâ, lamellis parvis, laevibus; anfractibus 10, subnullis, albis, ad suturam expansis; ultimo brevissimo, subcarinato, aperturâ ovata, albâ, marginibus reflexis; margine interno prope suturam paulo alio superius et columellari brevibus, repræsentatis.*

**THE SHAD-BROWN LINED CLAUSILIA.** Shell shortly testiform, purple-brown, smooth; whorls ten, rather convex, ornamented at the suture; last whorl notched; aperture straight, ovate, margin white, a little reflected, outer margin callous from the suture, upper and columellar plate thin, representate.

MENKE. Synops. P. Pfeiffer Mon. ii. p. 102.

*Clausilia filiformis*, Parreyss.

*Clausilia taranta*, Zedler.

*Hab.* Germany. Hungary, &c.

Species 40. (Mus. Sowerby.)

**CLAUSILIA PLUMBEA.** *Cl. testâ breviusculâ, lamellis parvis fusis, laevibus; anfractibus 10, subnullis; superius ad suturam alba laevibus, ventricose et anticosis, ultimo profunde rimato, ad lamam compresso, infra subcarinato, aperturâ alba, int. biplicatâ, majusculâ, margine reflexo, expanso.*

**THE PLUM-COLOURED CLAUSILIA.** Shell short, very ventricose, purple-brown, smooth; whorls ten, convex, banded with white above at the suture, middle ones ventricose, last deeply notched, depressed at the back, subcarinated below; aperture white, with two broad plaits, rather large, margin reflected, expanded.

ROSMÄSSLER — ? Pfeiffer Mon. ii. p. 401.

*Hab.* Transylvania.

Species 41. (Mus. Sowerby.)

**CLAUSILIA SEMIRUGATA.** *Cl. testâ griseo-albidâ, lamellis tenuibus lineatis; anfractibus paucis, levibus.*

*medio laevigatâ, int. suturâ tenui fusâ tuberculâ albâ interruptâ rugis; ultimo rimato, obliquè angustato, ad dorsum compresso, infra tumido, subcarinato; aperturâ suboviformi, margine tenui, plivâ columellari latâ, albâ.*

**THE HALF-WINKLED CLAUSILIA.** Shell whitish-grey, ridged with thin lamellæ; whorls few, raised, smooth in the middle, belted at the suture with a narrow band interrupted by white tubercles, the last notched, obliquely narrowed, flattened at the back, tumid below, partly keeled; aperture rather auriform, margin thin, columellar plait broad, white.

ZEDLER. Verh. Claus. p. 29.

*Clausilia pruvilâ*, Parreyss.

*Clausilia pygmaea*, Zedler.

*Clausilia nitida*, Mullfeldt.

*Clausilia Chersonensis*, Ferr.

*Clausilia rugata*, Parreyss.

*Clausilia fasciolaris*, Parreyss.

*Hab.* Dalmatia.

Species 42. (Mus. Sowerby.)

**CLAUSILIA STRANGULATA.** *Cl. testâ breviusculâ, lamellâ lineâ lineatâ, griseo-fusâ; anfractibus 8, concaeviusculis, ultimo attenuato, rimato, brevissimè soluto, ad dorsum coarctato, tumidi birugato; aperturâ oblongâ, margine tenui, subexpanso.*

**THE STRANGLED CLAUSILIA.** Shell rather short, ridged with lamina, fulvous-grey; whorls eight, rather convex, the last attenuated, notched, very shortly uncoiled, pressed in at the back with two tumid wrinkles; aperture oblong, margin thin, rather expanded.

FERRISSAC — ? Pfeiffer Mon. ii. p. 467.

*Clausilia retusa*, Parreyss.

*Hab.* Syria.

This curious little shell is pressed and knotted behind the aperture so as to give the appearance of strangulation.

## Species 43. (Mus. Sowerby.)

CLAUSILIA VALLATA. *Cla. testâ brevi, subventricosâ, convexâ; anfractibus 8, convexis; ultimo rimato, ad dorsum compresso, propè aperturam varice albo, plicis formi nullâ; aperturâ albâ, margine crasso, plicâ columellari crassâ, plicâ superiori tenui.*

THE WALLED CLAUSILIA. Shell short, subventricose, horny; whorls eight, rather convex; the last notched, compressed at the back, walled near the aperture with a white, plait-like varix; aperture white, margin thick, columellar plait thick, upper plait thin.

MUSSON. Ms. Pfeiffer Monog. 1868. p. 453.

*Clausilia cellata*, Adams.

*Hab.* Epirus.

## Species 44. (Figs. a, b. Mus. Sowerby.)

CLAUSILIA RUGOSA. *Cla. testâ parvâ, subventricosâ, tenuiter lîvâ, fuscâ, anfractibus 10, convexis, ultimo angustato, aperturâ auriformi, margine plicisque albis, plicis unâ brevi superiori, unâ inferiori, propè marginem instructâ, unâ laterali propè marginem aeternam conspicuâ, unâ latâ, columellari, cum unâ parvâ infriâ.*

THE RUGOSE CLAUSILIA. Shell small, rather ventricose, finely ridged, brown, whorls ten, convex, the last narrow, aperture auriform, margin and plaits white; plaits, one short upper, one placed near the lower margin, one lateral conspicuous near the outer margin, one broad, columellar with one small underneath.

*Clausilia R. haudii*, Charpentier.

*Clausilia pygmaea*, Charpentier.

*Clausilia circinata*, Ferrussac.

*Clausilia pygmaea*, Moquin.

*Hab.* France. Northern Italy.

## Species 45. (Mus. Sowerby.)

CLAUSILIA TRISTAMI. *Cla. testâ elongato-fusiformi, purpureo-fuscâ, tenuiter lîvâ, anfractibus 14, altis, ultimo rimato; aperturâ latâ, bîplicatâ, margine albo, lîvigato, angustato.*

TRISTAM'S CLAUSILIA. Shell elongated fusiform, purple-brown, finely ridged; whorls fourteen, high, the last notched; aperture broad, two plaited, margin white, smooth, narrow.

PFEIFFER. Proc. Zool. Soc. 1860.

*Hab.* Mount Atlas, Tunctina.

## Species 46. (Mus. Sowerby.)

CLAUSILIA SHANGHAIENSIS. *Cla. testâ elongato-fusiformi, lîvigatâ, politâ, convexâ; anfractibus 12, convexis; ultimo vix rimato, obliquè attenuato; aperturâ oblongâ, bîplicatâ, margine crasso, lîvi, albo, reflecto.*

THE SHANGHAI CLAUSILIA. Shell elongated fusiform, smooth, polished, horny; whorls twelve, rather convex; the last hardly notched, obliquely attenuated; aperture oblong, with two plaits; margin thick, smooth, white, reflected.

PFEIFFER. Monograph iii. p. 410.

*Hab.* Shanghai, near China.

## Species 47. (Mus. Sowerby.)

CLAUSILIA STIMPSONI. *Cla. testâ parvâ, albidd, tenui, gracili, tenuiter lîvâ; anfractibus 10, ultimo elongato; aperturâ parvâ, bîplicatâ, fuscâ, margine crassissimâ, plicâ columellari obliquè elevatâ, vix prominente.*

STIMPSON'S CLAUSILIA. Shell small, whitish, thin, slender, finely ridged; whorls ten, the last elongated; aperture small, with two folds, fulvous, margin rather thick, columellar plait obliquely raised, scarcely prominent.

A. ADAMS. *Mort.* Ocas. Zool. ii. p. 83.

*Hab.* Japan.





49



48



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52



51



53



57



55, a



56



56

# CLAUSILIA.

PLATE VI.

Species 48. (Mus. Hanley.)

**CLAUSILIA BACILLUM.** *Cla. testā fusiformi, pallidē aurantia, brevi; anfractibus 9, convexis, medianis ventricosis, ultimis contractis; aperturā oblongā, albi, superne cuneatā, plicā superiori validā; plicā columellari elongatā, obliquā.*

**THE WALKING-STICK CLAUSILIA.** Shell fusiform, pale orange, smooth; whorls nine, convex, the middle ones ventricose, the last contracted; aperture oblong, white, covered above. upper plait strong; columellar plait elongated, oblique.

**BENSON.** MS. Hanley, Conchologia Indica, p. 12.

*Hab.* Nanchai, Khasi Hills.

There appear to be only two specimens of the species known.

Species 49. (Mus. Brit.)

**CLAUSILIA PARREYSSI.** *Cla. testā subpyramidatā, minutē interruptim liratā, fusco-rubescētē, infrā medium ventricosā; anfractibus 9, inferioribus altis, ad suturam tenuissimē plicatis; aperturā magnā, biplicatā, labio externo suprā medium sinuato; plicā superiori parvā, incurvā; plicā columellari, altā, latiusculā.*

**PARREYSS' CLAUSILIA.** Shell somewhat pyramidal, minutely interruptedly ridged, reddish brown, ventricose below the middle; whorls nine, the lower ones elevated, very finely plaited at the suture; aperture large, with two plaits; outer lip sinuated above the middle; upper plait small, curved inwards; columellar plait elevated, rather broad.

**ZEIGLER.** Pfeiffer, Monograph. II. p. 400.

*Clausilia marmorata*, Parreyss.

*Clausilia cerca*, Menke.

*Hab.* Carpathian Mountains.

Species 50. (Mus. Brit.)

**CLAUSILIA ANGUSTATA.** *Cla. testā rimatā, fusiformi, tenui, levigatā, conspicuē attenuatā, apice acuto, suturā albofilosā; anfractibus 10-11, planulatis, ultimo infrā gibbo, striato; aperturā vix obliquā, oblongo-ovalī; plicā superiori compressā, marginum*

*non-attēgenti, inferiori validā, tortuosā; plicis internis 4, inaequalibus; peristomate continuo soluto, albo, angustē reflexo.*

**THE NARROW CLAUSILIA.** Shell notched, fusiform, thin, smooth, conspicuously attenuated, with acute apex, suture white-threaded; whorls ten or eleven, flattened, last gibbous below, striated; aperture very slightly oblique; oblong-ovate; upper plait compressed, not touching the margin, lower plait strong, tortuous, inner plaits four, unequal; peristome continuous, detached, white, narrowly reflected.

**BREYER.** Pfeiffer.

*Hab.* Transylvania.

Species 51. (Mus. Benson, Hanley.)

**CLAUSILIA BULBUS.** *Cla. testā pupiformi, ventricosissimā, castaneā, rimatā; anfractibus 4, duobus apicalibus parvisculis, tertio magno, alto, valdē inflato, ultimo alto, versūs aperturam angustato; aperturā parvā, auriculiformi, peritremate pallidē carneo, crasso, reflexo, columellā biplicatā.*

**THE BULB CLAUSILIA.** Shell pupiform, very ventricose, chestnut, notched; whorls four, two apical, rather small, third large, elevated much inflated, last elevated, narrow towards the aperture; aperture small, ear-shaped, peritreme pale flesh, thick, reflected, columella with two folds.

**BENSON.** Annals of Natural History, 1863.

*Hab.* Near Moulmein, Birmah.

Resembling *Clausilia Philippiana*, but with the whorls fewer, much more inflated and unequal.

Species 52. (Fig. a, b, Mus. Brit.)

**CLAUSILIA VALIDA.** *Cla. testā subfusiformi, solidā, pallidē cornēā, vel flavidā, medio anfractuum latē unifasciatā, tenuiter liratā; anfractibus 8-9 altis, subcylindricis, medianis inflatis, ultimo altissimo, versūs aperturam attenuato; aperturā magnā, altissimā auriformi, plicā superiori elongatā, plicis super-columellari unā validā, elongatā, alterā parvā inferiori.*

May, 1875.

CLAUSILIA.—PLATE VI.

THE STRONG CLAUSILIA. Shell rather fusiform, solid, pale horny, or yellowish with a broad band in the middle of the whorls, finely ridged; whorls eight to nine, elevated, rather cylindrical, middle ones inflated, last very high, attenuated towards the aperture; aperture large, very high, auriform, upper plate elongated, plaits on the columella, one strong, elongated, the other small, lower.

PFEIFFER. Monographia Heliceorum III.  
Hab. Lien Kien.

Species 53. (Mus. Hanley.)

CLAUSILIA INSIGNIS. *Cla. testâ fusiformi, rimatâ, castaneâ, lævigatâ, propè suturam fasciâ pallidâ cinetâ; anfractibus 9, convexis, gradatim versùs terminis attenuatis; ultimo altissimo; aperturâ subtrigoniâ, margine purpureo crasso; labio externo lato, supernè incrassato, sinuato; plicis superiori et columellari valvilib.*

THE WONDERFUL CLAUSILIA. Shell fusiform, notched, chestnut, smooth, girt with a pale band near the suture; whorls nine, convex; gradually attenuated towards the end; last very high; aperture nearly trigonal, margin purple, thick, outer lip broad, thickened and sinuated above; upper and columellar plaits strong.

GOULD. Proceedings of the Boston Society of Natural History.

Hab. Tavoy, Birmah.

Species 54. (Mus. Brit.)

CLAUSILIA MARGINATA. *Cla. testâ fusiformi, solidâ, fusco-corned, lævigatâ; anfractibus 10, ad suturam fimo-marginatis, apicalibus 6 contractis, inferioribus ventricosâ, ultimo rimato, aperturâ contractâ, elevatâ, margine crasso, labio externo ad medium sinuatum plicato, plicis superiori et columellari crassis, marginis.*

THE FORDERED CLAUSILIA. Shell fusiform, solid, brown-horn, smooth; whorls ten, thread-bordered at the suture, the six towards the apex contracted, lower ones ventricose, last notched; aperture contracted, elevated, margin thick, outer lip with a sinuous plait in the middle; upper and columellar plaits thick, large.

ZEIGLER.

*Clausilia Democletiana*, Menke.

*Clausilia bitabiata*, Fr.

*Clausilia vitrea*, Bietz.

Hab. Transylvania.

Species 55. (Mus. Brit.)

CLAUSILIA BINOTATA. *Cla. testâ breviusculâ, subpyramidatâ; pallidâ succineâ; anfractibus 9, breviusculis ad suturam denticulato-plicatis, apicalibus sensim contractis, medianis convexis, ultimo ad dorsum lineâ pallidâ semilunariibus duabus notato; aperturâ latâ, margine externo supra medium sinuatum plicato, columellâ biphlicatâ.*

THE TWO-MARKED CLAUSILIA. Shell rather short, rather pyramidal; pale amber; whorls nine, rather short, with tooth-like plaits at the suture, three apical, sensibly contracted; middle convex, last marked at the back with two pale semilunar lines; aperture broad, external margin with a sinuous plait above the middle; columellar with two plates.

ROSMASLEE. Pfeiffer, Monograph. II.

*Clausilia cosentanea*, Zeigler.

*Clausilia bipustulata*, Kuster.

Hab. Istria.

Species 56. (Mus. Brit.)

CLAUSILIA ITALICA. *Cla. testâ fusiformi, fusco-plumbeâ, medio ventricosâ; anfractibus 9-10, ad suturam denticulato-plicatis, apicalibus sensim contractis, medianis inflatis, ultimo infrâ angustato, ad dorsum lineâ pallidâ flexuosi notato; aperturâ subovatâ, labio externo intus incrassato, plicis superiori et columellari superiori elongatis, inferiori parvi.*

THE ITALIC CLAUSILIA. Shell fusiform, plum-brown, ventricose in the middle; whorls nine to ten, with tooth-like plaits on the suture, apical sensibly contracted, middle inflated, last narrowed below, marked with a flexuous pale line on the back.

MARTENS. Pfeiffer, Monog. II.

*Clausilia alboguttulata*, Meyner.

*Clausilia punctata*, Michaud.

*Clausilia crenata*, Menke.

Hab. Lombardy; Tyrol; Badia, &c.







# CLAUSILIA.

PLATE VII.

Fig. 53 b. (Mus. Benson.)

CLAUSILIA INSIGNIS. This shell is figured in Mr. Hanley's work on Indian Shells as a more slender variety of the species figured in Plate VI.

Species 57. (Mus. Brit.)

CLAUSILIA BILABIATA. *Cl. testâ brevi, sulcâ, levi, anfractibus 9, brevibus, medianis ventricosis, suturam minutissimè plicatis; aperturâ subquadratâ, margine crasso, labio interno biphicato, labio externo duplicato, suprâ medium plicâ dentiformi sinuato.*

THE DOUBLE-LIPPED CLAUSILIA. Shell short, fulvous, smooth, whorls 9, short, middle ventricose, very finely plaited at the suture; aperture rather square, margin thick, inner lip with two plaits, outer lip doubled, sinuated with a tooth-like plait above the middle.

WAGNER. Pfeiffer, Mon. II.

*Clausilia boreica*, Zeigler.

*Clausilia ruficilabris*, Cautraîne.

*Clausilia tuberosa*, Muhlfeldt.

*Clausilia planilabris*, Rossmâster.

Hab. Dalmatia.

Remarkable for the thickness and double character of the outer lip.

Species 58. (Mus. Brit.)

CLAUSILIA SANDERII. *Cl. testâ fusiformi, obscurè roscoalbâ, levi, medio ventricosissimâ, anfractibus 10-11, apicalibus parvis, medianis inflatis, altis, ultimo rimato, versûs aperturam contracto, aperturâ magnâ, margine crasso; labio columellari validè biphicato, labio externo suprâ medium sinuatim tumido.*

SANDER'S CLAUSILIA. Shell fusiform, dull rose-white, smooth, very ventricose in the middle; whorls 10-11, apical small, middle inflated, high, last notched, contracted towards the aperture; aperture large, margin thick, columellar lip strongly plaited, outer lip sinuously swelled above the middle.

KÜSTER. Pfeiffer, Mon. II.

*Clausilia honorifica*, Parreyss.

*Clausilia magnifica*, Parreyss.

Hab. Dalmatia.

Species 59. (Mus. Brit.)

CLAUSILIA SUMATRANA. *Cl. testâ solidâ, brevi, ventricosâ, plumbeâ et succineâ, anfractibus 8, supernè albo-fusciatis, 6 apicalibus convexis, brevibus, penultimo alto, ventricoso, ultimo alto infrà contracto; aperturâ auriformi, magnâ, biphicatâ, labio externo medio tumido, plicâ columellari obliquè tortuâ.*

THE SUMATRA CLAUSILIA. Shell solid, short, ventricose, plum-coloured and amber; whorls 8, white-banded above, 6 apical convex, short, penultimate high, ventricose, last high, contracted below; aperture auriform, large, biphicate, outer lip swelled in the middle, columellar plait obliquely tortuous.

MARTENS. Berlin Akad. Pfeiffer, Mon. VI.

Hab. Island of Sumatra.

Species 60. (Mus. Benson.)

CLAUSILIA OVATA. *Cl. testâ brevi, ventricosâ, fumosocastaneâ, lævigatâ, solidâ, anfractibus 6, supernè albo-fusciatis, duobus apicalibus parvis, brevibus, tribus, medianis altis, inflatis, ultimo altissimo, rimato, versûs aperturam subcontracto; aperturâ auriformi, margine purpurascens, crassiâculo, rotundo, plicâ superiori parvâ, plicâ columellari elevatâ, levî, parvâ.*

THE OVATE CLAUSILIA. Shell short, ventricose, smoky-chestnut, smooth, solid; whorls 6, white-banded above, two apical small, short, three middle high, inflated, last very high notched, a little contracted towards the aperture; aperture auriform, margin purplish, rather thick, rounded, superior plait small, columellar plait raised, thin, small.

BLANFORD. Journal of Asiatic Society of Bengal, 1872.

Hab. Tongbu, Birman.

## Species 61. (Mus. Benson.)

CLAUSILIA LOXOSTOMA. *Cla. testâ fusiformi, fusco-cornéâ, lævigatâ; anfractibus 9, ad suturam plicatis, medianis ventricosis, altis, ultimo alto, infrâ subangustato, rimato; aperturâ magnâ, obliquè subtrigonâ, margine reflexo, albo, planiusculo, labio externo supernè sinuatim tumido, labio interno buplicato.*

THE OBLIQUE-MOUTHED CLAUSILIA. Shell fusiform, horn-brown, smooth; whorls 9, plaited at the suture, the middle ones ventricose, high, last high, rather narrowed below, notched; aperture large, obliquely subtrigonal, margin reflected, white, rather flat, outer lip sinuously swelled above, inner lip buplicate.

BENSON. Pfeiffer, Mon. II. p. 404.

*Clausilia Bengalensis*, Busch.

*Hab.* Bengal.

## Species 62. (Mus. Hanley.)

CLAUSILIA FUSIFORMIS. *Cla. testâ flavidâ, minutè striatâ, fusiformi, ventricosâ; anfractibus 8, convexis, versùs apicem gradatim angustatis, medianis ventricosis, altis, ultimo angustiori, altissimo; aperturâ albâ, auriformi, margine crasso, labio externo propè suturam sinuatim angustato, medio et infrâ tumido; labio interno buplicato, plicâ columellari alto, planato.*

THE FUSIFORM CLAUSILIA. Shell yellow, minutely striated, fusiform, ventricose; whorls 8, convex, gradually narrowed towards the apex, middle ventricose, high, last narrower, very high; aperture white, auriform, margin thick, outer lip sinuously narrowed near the suture, tumid in the middle and below; inner lip with two plaits.

BLANFORD. Contributions to Indian Malacology, v. 1865, p. 16.

*Hab.* Arakau Mountains.

## Species 63. (Mus. Brit.)

CLAUSILIA CYCLOSTOMA. *Cla. testâ fusco-rubescenti, tenuiter liratâ, brevi, fusiformi; anfractibus 9, apicalibus parvis, medianis altis ventricosis, ultimo altissimo, rimato, ad dorsum obliquè bicaricoso; aperturâ latâ, rotundâ, margine albo, crasso, latè reflexo, plicis labii interni parvis, acutis.*

THE ROUND-MOUTHED CLAUSILIA. Shell reddish-brown, finely ridged, short, fusiform; whorls 9, apical small, middle high, ventricose; last very high,

notched, with two oblique varices at the back; aperture broad, rounded, margin white, thick, broadly reflected, plaits of the inner lip small, acute.

PFEIFFER. Monographia Heliceorum, IV. p. 784.

*Hab.* Central America.

## Species 64. (Mus. Brit.)

CLAUSILIA CATTAROENSIS. *Cla. testâ subpyramidatâ, medio paulò inflatâ, plumbeâ et castaneâ; anfractibus 11, albo, marginatis, apicalibus 6, parvis, brevibus, medianis latioribus, ad laterâ rectiusculis, ultimo alto, versùs aperturam vix angustato; aperturâ magnâ, subquadratâ, plicâ superiori validâ, plicâ columellari altâ, obliquâ, plicis internis supernè duabus linearibus, infrâ columellam, unâ parvâ, obliquâ.*

THE CATTARO CLAUSILIA. Shell somewhat pyramidal, a little inflated in the middle, plum-coloured and chestnut; whorls 11, white-bordered, 6 apical small, short, middle wider, rather straight at the sides, last high, scarcely narrowed towards the aperture; aperture large, subquadrate, upper plait strong, columella plait high, oblique, inner plaits two linear above, one small, oblique, below the columella.

ZEIGLER. Pfeiffer, Monog. II. 437.

*Clausilia lævigata*, Mullh.

*Clausilia lesinaensis*, Parreyss.

*Hab.* Cattaro.

## Species 65. (Mus. Hanley? copied.)

CLAUSILIA TURITELLA. *Cla. testâ flavidâ, angustissimâ, elongatâ, pyramidatâ; anfractibus 14, lentè crescentibus, convexiusculis, ultimo oblongo; aperturâ oblongo-subquadratâ, suprâ columellam uniplicatâ, columellâ rectâ.*

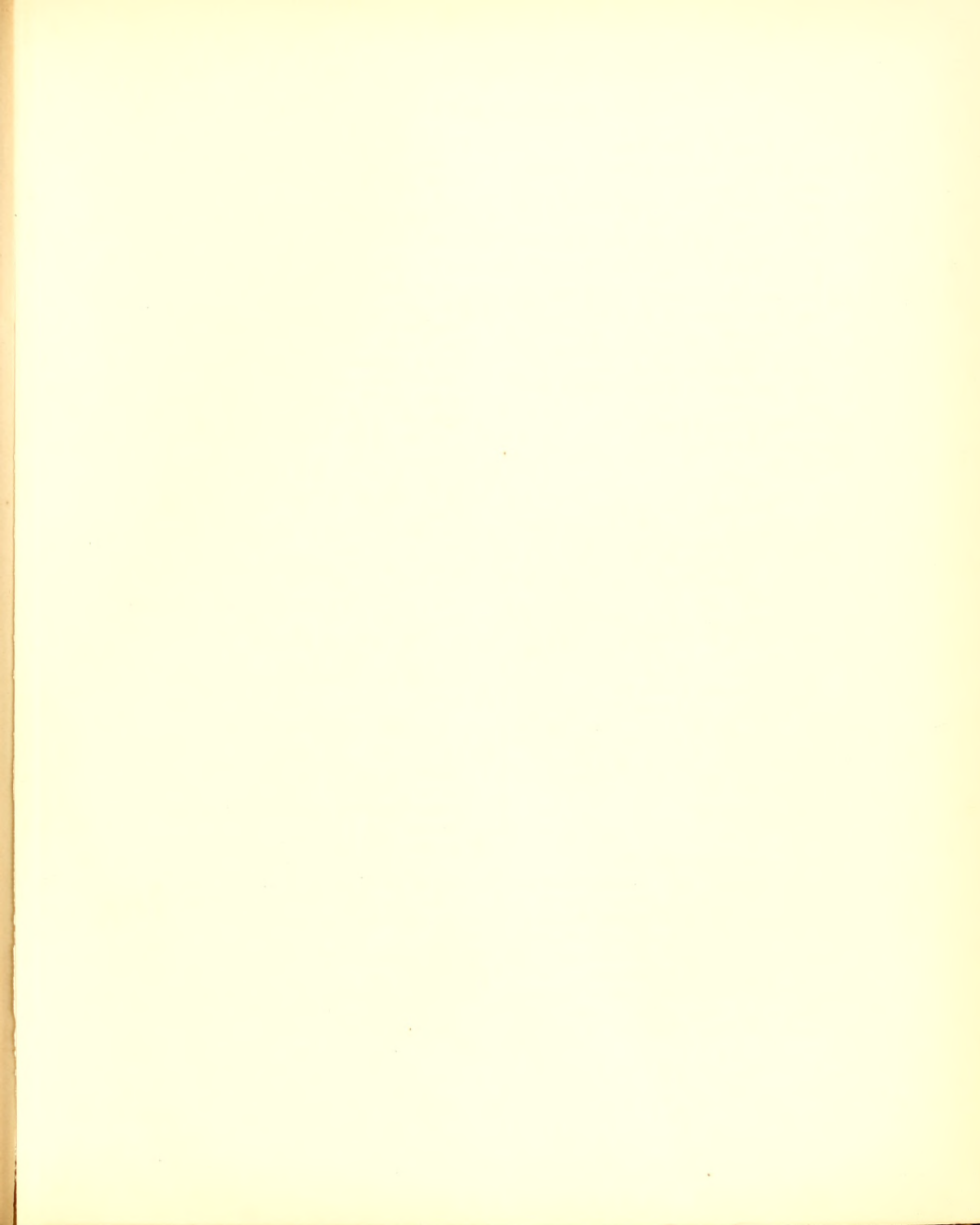
THE TURITELLA CLAUSILIA. Shell yellow, very narrow, elongated, pyramidal; whorls 14, slowly increasing, rather convex, last oblong; aperture oblong, rather square, with a single plait over the columella, columella straight.

SOWEBY.

*Clausilia egyptica*, Hanley, as of Gray, MS.

*Hab.* Landour.

This shell seems so different from the type specimens in the Brit. Mus. that after figuring it I have felt compelled to give it a new name.





# CLAUSILIA.

PLATE VIII.

Species 66. (Mus. Brit.)

*CLAUSILIA PFCINEATA.* *Clu. testâ parvâ, brevi, subfusiformi, obscure succineâ, tenuissimè striatâ, anfractibus 10, apicalibus 5 parvis, attenuatis; medianis ventricosâ, ultimo elongato, ad dorsum pliato; apertura ovatâ; plicâ superiori subdistanti, plicâ columellari magnâ; labio externo supra medium dentiformi, tumido.*

THE AMBER CLAUSILIA. Shell small, short, subfusiform, dull amber, very finely striated, whorls 10; apical 5 small, attenuated, middle ventricose, last plaited at the back; aperture ovate, upper plait rather distant, columellar plait large; outer lip with a tooth-like swelling above the middle.

ZEIGLER. Pfeiffer, Monograph, II.

*Clausilia nymphea*, et *C. striatâ dilis*, Parreyss.

Hab. Croatia.

Species 67. (Mus. Brit.)

*CLAUSILIA FIMBRIATA.* *Clu. testâ brevi, ventricosâ, fusiformi, albâ, levigatâ; anfractibus 10, ad suturam fimbriatâ, convexis, apicalibus sensim attenuatis, medianis rotundis, ultimo altiusculo, propè aperturam contracto, ad dorsum propè marginem tumido; apertura subquadratâ, labio externo supra medium sinuatum tumido, subdentato; plicâ columellari latâ, plicâ superiori parvâ.*

THE FRINGED CLAUSILIA. Shell short, ventricose, fusiform, whitish, smooth; whorls 10, fringed at the suture, convex, the apical ones notably attenuated, middle large, but rather high, contracted near the aperture, tumid near the margin at the back; aperture rather square, outer lip sinuated with a tooth-like swelling above the middle, columellar fold broad, upper fold small.

MUELFELDT. Pfeiffer, Mon. II. p. 399.

*Clausilia saturata* and *Cl. ploterata*, Zeigler.

*Clausilia virens*, Muehlfeldt.

*Clausilia styriaca*, Parreyss.

Hab. Illyria—Croatia.

Species 68. (Mus. Brit.)

*CLAUSILIA BLANDA.* *Clu. testâ subpyramidatâ, levigatâ, pallidè succineâ, scapulicellatâ; anfractibus 10, apicalibus tribus parvis, convexis, alteris subventricosâ, ad lateri rectiusculis; ultimo alto; apertura suborâtâ, margine albo, tenuisculo, labio externo propè suturam undulato, labio interno lato, plicâ superiori parvâ, plicâ columellari latâ, inferiori parvâ, rotundâ.*

THE BLAND CLAUSILIA. Shell rather pyramidal, smooth, pale amber, semi-pellucid; whorls 10, three at the apex small, convex, the others rather ventricose, rather straight at the sides, last high, aperture rather ovate, margin white, rather thin, outer lip with a tooth near the suture, inner lip broad, upper plait small, columellar plait broad, lower small, strong.

ZEIGLER. Pfeiffer, Mon. II. p. 118.

*Clausilia castanea*, Kuster.

*Clausilia striptata*, Muehlfeldt.

Hab. Dalmatia.

Species 69. (Mus. Theobald? copied.)

*CLAUSILIA MASONI.* *Clu. testâ fusiformi, fuscâ, gravili, anfractibus 10, medianis et inferioribus altis, obliquè ventricosâ, propè suturam depressis, ultimo elongato, attenuato, supra aperturam profundè rimato; apertura mucronâ, margine effuso, labio interno supra triplicato.*

MASON'S CLAUSILIA. Shell fusiform, brown, rather slender, whorls 10, middle and lower high, obliquely ventricose, depressed near the suture, last elongated, attenuated, deeply notched above the aperture; aperture very large, margin effuse, inner lip three-plaited above.

THEOBALD. Journal of Asiatic Society of Bengal, v.

Hab. Near Tonghoo mountains, Pegu, and Martaban.

Species 70. (Mus. Crosse? copied.)

*CLAUSILIA SANDBERGERI.* *Clu. testâ rimatâ, solidâ, fusiformi, ventricosâ, regulariter tenuissimè liratâ,*

*griseo-corné, albo strigatâ; anfractibus 12, apicalibus angustis, brevibus, alteris tumidis usque ad ultimum gradatim crescentibus; aperturâ ovatâ, margine tenui, albo, labio interno triplicato, plicâ superiori validâ, plicâ columellari superiori latâ, inferiori parvi.*

SANBERGEE'S CLAUSILIA. Shell notched, solid, greyish-horn, striped with white, whorls 12, the apical ones narrow, short, the others tumid, gradually increasing to the last; aperture ovate, margin thin, white, inner lip with three plaits; upper plait strong, upper columellar plait broad, lower small.

MOUSSON. *Crosse, Journal de Conchyliologie, 1873.*

*Hab.* Borschom, Russia.

Species 71. (Mus. Crosse? copied.)

CLAUSILIA FUNICULUM. *Cl. testâ subcylindricâ, pallidissimè conca, tenuiter lirata; anfractibus 8-9, altis, paulò convexis, gradatim crescentibus, ultimo obliquè descendenti; aperturâ pyriformi, labio externo tenui, labio interno super anfractuum ultimum parallelèter quadruplicato.*

THE LITTLE-CHIMNEY CLAUSILIA. Shell subcylindrical, very pale horn, finely lirated; whorls eight to nine, high, a little convex, gradually increasing; last obliquely descending; aperture pyriform, outer lip thin; inner lip with four parallel plaits upon the body whorl.

MOUSSON. *Crosse, Journ. de Conchyliologie, 1873.*

*Hab.* —?

The four parallel plaits on the part of the inner lip where it laps over the body whorl is a peculiar characteristic of this species.

Species 72. (Mus. Hanley.)

CLAUSILIA TUBA. *Cl. testâ elongatâ, eleganter fusiformi, tenuiter lirata; anfractibus 12, obliquis, cæsius apicem sensim attenuatis, brevibus, medianis altis, ultimo elongato, suprâ aperturam obliquè rimatâ; aperturâ mœnâ, auriformi, margine albo, effuso, expanso, labio interno medio biplicato, plicis validis, approximatis.*

THE TUBE CLAUSILIA. Shell elongated, elegantly fusiform, finely ridged; whorls twelve, oblique,

sensibly attenuated towards the apex, middle-high, last elongated, obliquely notched above the aperture; aperture very large, auriform, margin white, effuse, expanded, inner lip with two plaits in the middle, plaits strong, approximate.

HANLEY. *Proc. Zool. Soc., 1868.*

*Hab.* Shan States.

Species 73. (Mus. Brit.)

CLAUSILIA GRACILICOSTA. *Cl. testâ gracilî, fusiformi, tenuiter regulariter liris laminiformibus sculptâ, anfractibus 12, gradatim in medio inflatis, ad laterâ rectiusculis, ultimo profundè rimato, autè rimam obliquè curvato, postè aperturam soluto; aperturâ ovatâ, rectâ, infrâ subannulatâ, intus rimatâ, labio externo suprâ medium summum tumido, labio interno angusto, plicâ superiori brevi, plicâ columellari altâ.*

THE THIN-RIBBED CLAUSILIA. Shell slender, fusiform, regularly sculptured with thin laminated ridges; whorls twelve, gradually inflated in the middle, rather straight at the sides, the last deeply notched, obliquely keeled in front of the notch, uncoiled near the mouth; aperture oval, straight, rather acuminate below, notched within; outer lip sinuously tumid above the middle; inner lip narrow, upper plait short, columella plait high.

ZIEGLER. *Pfiffer, Monograph, II. 414.*

*Clausilia variabilis* and *Clausilia porcata*, Ziegler.

*Hab.* Russian Mountains.

Species 74. (Mus. Brit.)

CLAUSILIA CRASSICOSTATA. *Cl. testâ pallidè fulvâ, brevi, fusiformi, costis solidis subtilstantibus, rectiusculis, lirata, medio ventricosa; anfractibus paucis, apicalibus sensim contractis, medianis altis, ad laterâ rectiusculis, ultimo altissimo, infrâ attenuato, profundè rimato, costis ad dorsum infrâ undatis; aperturâ obliquâ, margine effusâ, reflexâ, albâ, labio externo crasso, labio interno angusto, plicis columellari et superiori validis, approximatis.*

THE THICK-RIBBED CLAUSILIA. Shell pale fawn, short, fusiform, ridged with solid, rather distant, rather straight ribs, ventricose in the middle; whorls few, apical ones notably contracted, middle

high, rather straight at the sides, last very high, attenuated below, deeply notched, ribs waved at the lower part of the back; aperture oblique, margin effuse, reflected white, outer lip thick, inner lip narrow; columella and upper plaits strong, approximate.

Benson, Pfeiffer, Monograph, IV, p. 753.

*Hab.* Sicily.

Species 75. (Mus. Benson, Hanley.)

CLAUSILIA Jos. *Cha. testâ brevi, fusiformi, cornuâ, spirâ, medio inflatâ; anfractibus medianis albis, ultimo altissimo rimato, aperturâ subtrigona,*

*margine albo, tenuisculo, labio externo proposituram sinuato supra medianâ tumido; labio interno hylivato; plivâ superiori distanti, brevi, plivâ columellari obliquâ, valvâ.*

THE JOS CLAUSILIA. Shell short, fusiform, horny, ridged, middle inflated; middle whorls high, the last very high, notched, aperture nearly trigonal, margin white, rather thin, outer lip sinuous near the suture, tumid above the middle; inner lip with two folds; upper fold distant, short; columellar fold oblique, strong.

Benson, Pfeiffer, Monograph, IV, p. 761.

*Hab.* Darjiling, Himalayas.









# CLAUSILIA.

PLATE IX.

Species 76. (Mus. Brit.)

CLAUSILIA BIDENS. *Cl. testâ parvâ, ventricosâ, ferè albâ, brevî, lævigatâ; anfractibus 8, medianis ventricosis, ad suturam minutè distanter plâcatis, ultimo infrà subcontracto, aperturâ latè oratâ intâs propè marginem externum incurvato, labio interno tenui, plicâ superiorî minutâ, plicâ columellari magnâ.*

THE TWO-TOOTHED CLAUSILIA. Shell small, ventricose, nearly white, smooth; whorls eight, middle ones ventricose, minutely distantly plaited at the suture, last a little contracted below; aperture broadly ovate, thickened within near the outer margin, inner lip thin, upper plait minute; columellar plait large.

LINNEUS. Syst. Nat. Pflüffer Monog. VI. 454.

*Helix papillaris*, Bruguière. Sc.

*Clausilia Mediterranea*, Gray.

*Clausilia citrea*, Stultz.

*Clausilia virgata*, Jan.

*Clausilia sulcritana*, Gené.

*Hab.* Countries of the Mediterranean.

Species 77. (Mus. Brit.)

CLAUSILIA DUBIA. *Cl. testâ plumbeâ, parvâ, subfusiformi, regulariter livatâ; anfractibus 10, ultimo paulò contracto, aperturâ majusculâ, obliquâ, plicis palatalibus prominentibus, plicâ superiorî labii interni acutâ, plicâ columellari duplicatâ.*

THE DOUBTFUL CLAUSILIA. Shell plum-coloured, small, rather fusiform, regularly ridged; whorls ten, last a little contracted; aperture rather large, oblique, palate plaits prominent, upper plait of the inner lip sharp, columellar plait duplicate.

DRAPANAUD. Moll. Buys. et tors.

*Clausilia speciosa*, Hindobonosi, Transylvanica, Tettelbachiana et gracile, Pfeiffer.

*Clausilia Schelecti*, Zeleb.

*Clausilia obietana*, Dupuy.

*Hab.* Central Europe.

Species 78. (Mus. Hanley.)

CLAUSILIA ARAKANA. *Cl. testâ fusiformi-pyramidatâ, flavidâ, lævigatâ; anfractibus 12, suprâ medium*

*sensim contractis, brevissimâ, infrà medium convexâ, ventricosis; aperturâ albâ, margine externo suprâ medium tumido, labio interno buplicato, plicâ columellari elevatâ.*

THE ARAKAN CLAUSILIA. Shell fusiform, pyramidal, yellow, smooth; whorls twelve, those above the middle notably contracted; very short below the middle convex, ventricose; aperture white, outer margin tumid above the middle; inner lip with two plaits, columellar plait elevated.

THORALD. Journ. Asiat. Soc. Bengal, 1872.

*Hab.* Moulemein, Birmah.

Species 79. (Mus. — ? Copied.)

CLAUSILIA INDEX. *Cl. testâ pupiformi, tenuiter striatâ, ventricosâ, fuscâ, costano strigatâ, anfractibus 10, apicalibus 5, lævibus, alteris convexis, altiusculis; aperturâ oratâ, margine fulvo, labio interno triplicato, plicis æquidistantibus, brevibus.*

THE INDEX CLAUSILIA. Shell pupa-shaped, finely striated, ventricose, brown, striped with chestnut, whorls ten, five apical smooth, the others convex, rather higher; aperture ovate, margin fulvous, inner lip with three equidistant short plaits.

MOUSSON. Cross, Journ. de Conch., 1873, p. 215.

*Hab.* Borschom, in Russia.

Species 80. (Mus. Brit.)

CLAUSILIA CECILLE. *Cl. testâ fusiformi-pyramidatâ, solidâ, leviter striatâ; coraco-plumbeâ, medio et infrà ventricosâ, anfractibus 12, apicalibus 7 contractis, brevibus, alteris gradatim latioribus, altis; aperturâ oblongâ, margine albo, crasso; propè suturam sinuato, attenuato, labio interno buplicato.*

CECILLE'S CLAUSILIA. Shell fusiform, pyramidal, solid, lightly striated, horny-plum-coloured; ventricose in the middle and under; whorls twelve, apical ones seven, contracted, short, the rest gradually broader, elevated; aperture oblong, margin white, thick, sinuous near the suture, attenuated, inner lip buplicate.

PHILIPPI. Pfeiffer, Novit. Conch., p. 122.

*Hab.* China.

CLAUSILIA.—PLATE IX.

Species 81. (Mus. Brit.)

CLAUSILIA DOBENI. *Cla. testâ elongatâ, subfusiformi, corneo-rubescenti, infra costam, levigatâ; anfractibus circa 10, apicalibus 4 contractis, brevibus, alteris altissimis, moderatè ventricosi; ultimo elongato, attenuato, supra aperturam rimato; aperturâ obliquâ, anticè productâ, margine crasso, albo, rotundo, labio interno buplicato, plicis elongatis; plicâ internâ unâ obliquâ conspicuâ.*

DOBEN'S CLAUSILIA. Shell elongated, rather fusiform, reddish horn, chestnut below, smooth; whorls about ten, the four apical ones contracted, short, the others very high, moderately ventricose; last elongated, attenuated, notched above the aperture; aperture oblique, produced anteriorly; margin thick, white, rounded, inner lip with two plaits, plaits elongated; an inner plait oblique, conspicuous.

PFIEFFER. Malak. Bl., 1860, p. 213.

Hab. Venezuela.

Species 82. (Mus. Crosse.)

CLAUSILIA YOKOHAMENSIS. *Cla. testâ ventricosâ, fusiformi, crassiusculâ, fusco-concâ, leviter et irregulariter striatâ; anfractibus 9-10, altis, moderatè concavis, apicali obtusissimo, penultimo latissimo, ultimo elongato, non rimato; aperturâ violacâ, pyriformi-ovatâ, prorsum productâ; margine late reflexo, plicâ superiori labii internè valatâ, compressâ, plicâ superiori columellari obliquè, inferiori parvâ.*

THE YOKOHAMA CLAUSILIA. Shell ventricose. fusiform, rather thick, horny-brown, slightly and irregularly striated; whorls nine to ten, high, moderately convex, apical one very obtuse, penultimate very broad, last elongated, not notched; aperture violet, pyriform-ovate, produced forwards; margin broadly reflected; upper plait of the inner lip strong, compressed; upper columellar plait oblique, lower small.

CROSSE. Journal de Conchyliologie, 1873, p. 133.

Hab. Yokohama, Japan.

Species 83. (Mus. — ? Copied.)

CLAUSILIA SEMILAMELLATA. *Cla. testâ tenui, parvâ, albâ, levigatâ, fusiformi, medio subcentricosâ; anfractibus 8-9, inferioribus altis, moderatè concavis, ultimo elongato, attenuato, dorso propè aperturam*

*lirato, supra aperturam rimato; aperturâ obliquâ productâ, ovatâ, subsolatâ, margine tenui, angustè reflexo, plicâ superiori, labii internî elongatâ, columellâ, arcuatâ, angustâ, plicis 5 parvis, parallelibus aequalibus instructâ.*

THE HALF-LAMINATED CLAUSILIA. Shell thin, small, white, smooth, fusiform, rather ventricose in the middle; whorls eight or nine, lower ones high, moderately convex, last elongated, attenuated, ridged near the aperture on the back, notched above the aperture; aperture obliquely produced, ovate, rather solid, margin thin, narrowly reflected, upper plait of the inner lip elongated, columella arched, narrow, set with five small, parallel equal plaits.

MOUSSEN — ? Crosse Journ. Conch.

Hab. — ?

Species 84. (Mus. — ? Copied.)

CLAUSILIA SIEVERSI. *Cla. testâ albidâ, parvâ, subcylindraceâ, attenuatâ levigatâ, anfractibus 9-10, viz concavis, ultimo obliquè elongato, supra aperturam rimato; aperturâ pyriformi, plicâ superiori labii internî prominenti, columellâ angustâ, arcuatâ, creberrimè transversè plicatâ.*

CLAUSILIA SIEVERSI. Shell whitish, small, rather cylindrical, attenuated, smooth, whorls nine or ten, very little convex, the last obliquely elongated, notched above the aperture; aperture pyriform, upper plait of the inner lip prominent, columella narrow, arched, very closely transversely plaited.

PFIEFFER — ? Crosse Journ. Conch., 1873, p. 214.

Hab. LENKORAN, Russia.

The granulations, or plaits on the arched columella, are much more numerous in this than in the preceding species, and the last whorl has no ridges on the back.

Species 85. (Mus. Brit.)

CLAUSILIA COMMUTATA. *Cla. testâ parvâ, pallidè corncâ, levigatâ, fusiformi, anfractibus brevibus, cæcis apicem gradatim contractis, medio moderatè inflatis; aperturâ ovatâ, buplicatâ.*

THE COMMUTED CLAUSILIA. Shell small, pale horny, smooth, fusiform, whorls short, gradually contracted towards the apex, moderately inflated in the middle, aperture ovate, buplicate.

ROSSMASLER. Pfeiffer, Monog. Hel. II, p. 401.

Hab. Spain, Sicily, &c.





87



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95

# CLAUSILIA.

PLATE X.

Species 86. (Mus. Brit.)

CLAUSILIA Plicatula. *Cl. testâ fusiformi, rufo-fulvâ, tenuissimè striatâ, versus apicem attenuatâ, mediò ventricosâ; anfractibus duodecenis, ultimo subcontracto; aperturâ subquadratâ, superiè ad suturam subacuminatâ, columellâ inter laminae dentato-plicatâ.*

THE PLAIED CLAUSILIA. Shell fusiform, reddish-fawn, very finely striated, attenuated towards the apex, ventricose in the middle; whorls twelve, the last contracted; aperture rather square, acuminated above at the suture, columella tooth-plaied between the folds.

MONTAGÉ. Pfeiffer, Mon. Helv. VI. p. 498.

Hab. Pyrmont.

Species 87. (Mus. Brit.)

CLAUSILIA MEISENERIANA. *Cl. testâ oblongo-fusiformi, pallidè fuscâ, tenuiter liratâ, superiè attenuatâ, mediò inflatâ, apice rotundo; anfractibus tridécenis, moderatè convexis; aperturâ molliori, lamina columellari prominenti, labio externo superiè flexuoso, prope suturam incrassato.*

MEISNER'S CLAUSILIA. Shell oblong-fusiform, pale fulvous, finely ridged, attenuated above, inflated in the middle, apex rounded; whorls thirteen, moderately convex; aperture middle-sized, columellar lamina prominent, outer lip flexuous above, thickened near the suture.

SHUTTLEWORTH. Pfeiffer, Mon. Helv. VI. p. 405.

Hab. Corsica, Sardinia, &c.

Species 88. (Mus. Brit.)

CLAUSILIA CUMINGIANA. *Cl. testâ levigatâ, fusco-purpureâ, elongatâ, subpyramidatâ, versus apicem gradatim attenuatâ; anfractibus decenis, albis, perobliquis, ad latera rectiusculis; aperturâ magnâ, auriformi, laminae columellaribus duabus, approxiatis, margine albo, crasso.*

CUMING'S CLAUSILIA. Shell smooth, brown-purple, elongated, subpyramidal, gradually attenuated towards the apex; whorls ten, white, very oblique, rather straight at the sides; aperture

large, ear-shaped, columellar laminae two, approximate, margin white, thick.

PFEIFFER. Mon. Helv. VI. p. 406.

Hab. Philippines.

Species 89. (Mus. Brit.)

CLAUSILIA EXCELLENS. *Cl. testâ pallidè coracâ, solidâ, tenuiter sulcatâ, magnâ, ventricosâ, subfusiformi; anfractibus undecenis, perobliquis; aperturâ magnâ, auriformi, lamina parietali prominenti, columellari elevatâ, plicâ tuberculiformi trans labrum infra trajectâ; labio externo supra molliè incrassato.*

THE EXCELLING CLAUSILIA. Shell pale horn, solid, finely sulcated, large, ventricose, rather fusiform; whorls eleven, very oblique; aperture large, auriform, parietal lamina prominent, columellar raised, tuberculiform plate below crossing the inner lip, outer lip thickened above the middle.

PFEIFFER. Mon. Helv. VI. p. 427.

Hab. Loo Choo.

A fine species, nearly white, with the last whorl more strongly wrinkled than the others.

Species 90. (Mus. Brit.)

CLAUSILIA FLATYDEEA. *Cl. testâ solidâ, subventricosâ, solidiusculâ, pallidè coracâ, pyramidatâ, tenuissimè striatâ; anfractibus undecenis, gradatim attenuatis; aperturâ subauriformi, lamina columellari angustâ, subverticali, margine albo, incrassato, supra molliè labii externi tumido.*

THE FLAT-SCAPED CLAUSILIA. Shell solid, rather ventricose, pale horny, pyramidal, very finely striated; whorls eleven, gradually attenuated; aperture rather auriform, columellar lamina narrow, nearly vertical, margin white, thick, swelled above the middle of the outer lip.

MARTENS. — ?

Hab. Japan.

Species 91. (Mus. Brit.)

CLAUSILIA FLUVIATILIS. *Cl. testâ ventricosâ, solidâ, pyramidatâ, mediò et infra inflatâ; pallidè fuscâ,*

*tenuissimè striatâ, versus apicem attenuatâ; anfractibus undecenis, obliquis, ultimo infra carinato; apertura magnâ; labio interno crenulato, laminâ columellari angustâ, elevatâ, ferè perpendiculari; labio interno in tuberculum dentiformem desinenti.*

THE FLUVIATILE CLAUSILIA. Shell ventricose, solid, pyramidal, inflated in the middle and below; pale brown, very finely striated, attenuated towards the apex; whorls eleven, oblique, convex; last keeled below; aperture large, inner lip crenulated, columellar lamina narrow, raised, almost perpendicular; inner lip ending in a tooth-shaped tubercle.

BENSON. — ?

*Hab.* Chusan.

The last whorl is keeled at the bottom. In this and the preceding species the columellar lamina is closely pressed against the edge, and is almost perpendicular.

Species 92. (Mus. Brit.)

CLAUSILIA KOBENSIS. *Cl. testâ solidâ, ventricosâ, pyramulatâ, rubro-fuscâ, tenuissimè liratâ; anfractibus duodeccenis, obliquis, versus apicem attenuatis, infra medium convexis, ultimo ad terminum rotundo; apertura magnâ, margine albo, crasso, supra medium labii externi truncato; laminâ columellari elongatâ, peculiariter arcuatâ, plicâ minori infra instructâ.*

THE KOBE CLAUSILIA. Shell solid, ventricose, pyramidal, red-brown, finely ridged; whorls twelve, oblique, attenuated towards the apex, convex below the middle, last rounded at the end; aperture large, margin white, thick, swelled above the middle of the outer lip; columellar lamina elongated, peculiarly arched, with a smaller inserted below.

SMITH. Quarterly Journal of Conchology.

*Hab.* Kobe, Japan.

Species 93. (Mus. Brit.)

CLAUSILIA VETUSTA. *Cl. testâ brevi, subventricosâ, fuscâ vel albâ, tenuissimè liratâ; anfractibus undecenis, tribus inferioribus valdè inflatis; apertura parvâ, auriformi; laminâ columellari prominenti, elevatâ, semiternâ.*

*cl. testâ subfusiformi, cornéâ, tenuissimè striatâ; anfractibus decenis, superioribus attenuatis, rectiusculis, inferioribus inflatis; apertura simpli, margine angustè incrassato, laminâ columellari perlevatâ, parvâ.*

THE ANTIQUATED CLAUSILIA. Shell short, subventricose, brown or white, very finely ridged; whorls eleven, three lower much inflated; aperture small, auriform, columellar lamina prominent, raised, half internal.

ZEIGLER. Pfeiffer. Mon. Helic. VI. 499.

*Hab.* Illyria.

Species 94. (Mus. Brit.)

CLAUSILIA ACULUS. *Cl. testâ subfusiformi, cornéâ, tenuissimè striatâ; anfractibus decenis, superioribus attenuatis, rectiusculis, inferioribus inflatis; apertura simpli, margine angustè incrassato, laminâ columellari perlevatâ, parvâ.*

THE NEEDLE CLAUSILIA. Shell subfusiform, horny, very finely striated; whorls ten, upper attenuated, rather straight, lower inflated; aperture simple, margin narrowly thickened, columellar lamina much raised, small.

BENSON. Pfeiffer. Mon. Helic. VI. p. 482.

*Hab.* China.

Species 95. (Mus. Brit.)

CLAUSILIA OLYMPICA. *Cl. testâ parvâ, fusiformi, fuscâ, tenuissimè striatâ; anfractibus duodeccenis, superioribus attenuatis, medianis inflatis, ultimo elongato, soluto, tortuo, profundè rinuato; apertura auriformi, subquadrato, margine incrassato, laminâ columellari nullo.*

THE OLYMPIC CLAUSILIA. Shell small, fusiform, fulvous, very finely striated; whorls twelve, upper attenuated, middle inflated, last lengthened, unwound, twisted, deeply notched; aperture ear-shaped, rather square, margin thickened, columellar lamina none.

FRIVOLPE. Pfeiffer. Mon. Hel. VI. p. 514.

*Hab.* The Olympic Mountain.

A tortuous swelling of the part above the mouth is remarkable in this species.







97.



96.



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101.



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104.



105.

# CLAUSILIA.

PLATE XI.

Species 96. (Mus. Brit.)

**CLAUSILIA DAURICA.** *Cla. testâ ventricosâ, succinea et plumbeâ, levigatâ; anfractibus undecenis, ultimo angustato, dorso rugato; apertura oblongâ, posticè angustatâ; labio externo superne sinuato, margine supra mediana tumido, lamina columellari magna, lamina interna inconspicua.*

**THE DAURIAN CLAUSILIA.** Shell ventricose, amber and plum, smooth; whorls eleven, last narrow, wrinkled at the back; aperture oblong, posteriorly narrowed; outer lip sinuous above, margin tumid above the middle, columellar lamina large, inner lamina inconspicuous.

FRIVALDSKY. Pfeiffer. Mon. Helv. VI. p. 446.

*Hab.* Serbia.

Species 97. (Mus. Brit.)

**CLAUSILIA SUCOSA.** *Cla. testâ angustatâ, subpyramidalâ; anfractibus undecenis, dorsale costis reticulatis levitè; ultimo elongato, dorso infusâ sulcato, carinato; apertura magna, lamina columellaribus duobus, superiori obliquâ, inferiori brevi, prominenti.*

**THE GROOVED CLAUSILIA.** Shell narrow, rather pyramidal; whorls eleven, obsolete ridged with small rather straight ribs, last elongated, back grooved and keeled below; aperture large, columellar laminae two, upper oblique, lower short, prominent.

WAGNER. Pfeiffer. Mon. Helv. VI. p. 499.

*Clausilia irregularis.* Zeigler.

*Hab.* Dalmatia.

Species 98. (Mus. Brit.)

**CLAUSILIA SOMPHETICA.** *Cla. testâ brevi, ventricosâ, fere levigatâ; pallidi carinâ; anfractibus undecenis, medianis latis; apertura subquadratâ, lamina columellari nullâ, lamina parietali brevi; labio externo sinuato.*

**THE SOMPHETIC CLAUSILIA.** Shell short, ventricose, almost smooth, pale horn; whorls eleven, middle white; aperture subquadrate, columellar lamina

none, parietal lamina short, outer lip sinuous above.

PFEIFFER. Mon. Helv. VI. p. 446.

*Hab.* ———?

Species 99. (Mus. Brit.)

**CLAUSILIA FRAUENFELDTI.** *Cla. testâ elongato-fusiformi, fuscâ, levigatâ; anfractibus decenis, medianis et inferioribus inflatis, ad suturam albo angustè fasciatâ; ultimo elongato, angustato; apertura pyriformi, expansâ, castaneâ; labio externo supra medianum tumido, lamina columellari lato.*

**FRAUENFELDT'S CLAUSILIA.** Shell elongate-fusiform, brown, smooth; whorls ten, middle and lower inflated, narrowly banded with white at the suture, last elongated, chestnut; aperture pyriform, expanded, chestnut; outer lip tumid above the middle, columellar lamina broad.

ZELEBOR. Pfeiffer. Mon. Helv. VI. p. 440.

*Hab.* Serbia.

Species 100. (Mus. Brit.)

**CLAUSILIA PAGANA.** *Cla. testâ parvâ, brevi, fusiformi, obscure fuscâ, tenuissimè striatâ; anfractibus decenis, apicali rotundo, superioribus attenuatis, inferioribus subventricosis; apertura auriformi, margine crasso, labio externo supra medianum sinuato, tumido, lamina columellari interne extensa.*

**THE PAGAN CLAUSILIA.** Shell small, short, fusiform, dull brown, very finely striated; whorls ten, apical round, upper attenuated, lower rather ventricose; aperture auriform, margin thick, outer lip sinuous above the middle, tumid, columellar lamina extended within.

ZEIGLER. Pfeiffer. Mon. Helv. VI. p. 505.

*Hab.* Serbia.

Species 101. (Mus. Brit.)

**CLAUSILIA SEMIDENTICULATA.** *Cla. testâ breviusculâ, fusiformi, plumbeâ, levigatâ, apice succineâ; anfractibus undecenis, medianis ventricosis, ultimo ad dorsum elongato, soluto, tortuo, medio sulcato;*

CLAUSILIA.—PLATE XI.

*aperturâ succineâ, labio externo, superne emarginato, supra medium sinuatim tumido, margine crenulato; columellâ infra laminaâ triplicatâ.*

THE HALF-DENTICULATED CLAUSILIA. Shell rather short, fusiform, plum, smooth, apex amber; whorls eleven, middle ventricose, last elongated at the back, unwooned, tortuous, with a groove in the middle; aperture amber, outer lip emarginated, sinuously tumid above the middle, margin crenulated; columella triplicate below the lamina.

PFEIFFER. Mon. Helic. VI. p. 509.

Hab. Turkey; on the banks of the Bosphorus.

Species 102. (Mus. Brit.)

CLAUSILIA FORTUNEL. *Cl. testâ elongato-fusiformi, solidâ, obscure plumbeâ, tenuissimè striatâ; anfractibus quaterdecenis, superioribus attenuatis, medianis et inferioribus ventricosis; ultimo elongato, medio compresso; aperturâ magnâ, auriformi, succineâ, margine albo, crasso, laminaâ columellari magnâ, crassâ, margine columellari medio sinuato.*

FORTUN'S CLAUSILIA. Shell elongated-fusiform, solid, dull plum, very finely striated; whorls fourteen, upper attenuated, middle and lower ventricose; last elongated, middle compressed; aperture large, ear-shaped, amber, margin white, thick; columellar lamina large, thick, columellar margin sinuous in the middle.

PFEIFFER. Mon. Helic. VI. p. 494.

Hab. Shanghai.

Species 103. (Mus. Brit.)

CLAUSILIA BERGEL. *Cl. testâ subfusiformi, fusco-plumbeâ, levi; anfractibus undecenis, medianis ventricosis, ultimo elongato, birugato; aperturâ*

*subtrigonâ, labio externo supra infrâque acuminato.*

BERGE'S CLAUSILIA. Shell subfusiform, brown-plum, smooth, whorls eleven, middle ventricose, last elongated, with two wrinkles; aperture rather trigonal, outer lip acuminated above and below. MAYER. Pfeiffer. Mon. Helic. VI. p. 422.

Hab. Bavaria.

Remarkable for the peculiar triangular form of the mouth.

Species 104. (Mus. Brit.)

CLAUSILIA SERICATA. *Cl. testâ brevi, fusiformi, ventricosâ, levi, fusco-plumbeâ; apice et aperturâ succineis; aperturâ magnâ, margine expanso; laminaâ columellari latâ, elevato, laminis internis quaternis.*

THE SILKEN CLAUSILIA. Shell short, fusiform, ventricose, smooth, brown-plum, apex and aperture amber; aperture large, margin expanded; columellar lamina broad, raised, four internal laminae.

PFEIFFER. Mon. Helic. VI. p. 492.

Hab. Eubœa.

Species 105. (Mus. Brit.)

CLAUSILIA LEROSENSIS. *Cl. testâ obscure plumbeâ, acutè et crebrè laminatâ, subfusiformi, anfractibus undecenis, apicalibus levigatis, medianis ventricosis, ultimo elongato, ad dorsum costis distantibus lirato; aperturâ triplicatâ, auriformi.*

THE LEROS CLAUSILIA. Shell dull plum, sharply and closely laminated, rather fusiform; whorls eleven, apical smooth, middle ventricose, last elongated, ridged on the back with distant ribs; aperture with three plaits, auriform.

FERRUSSAC. — ?

Hab. Island Leros.





107.



106.



108.



110.



109.



112.



111.



113.



115.



114.

# CLAUSILIA.

PLATE XII.

Species 106. (Mus. Brit.)

**CLAUSILIA EXILIS.** *Cl. testâ pupiformi, fuscâ, tenuissimè liratâ; anfractibus novenis, mediis sub-aqualibus, ultimo contracto; aperturâ parvâ, margine externo superius flexuosius tumido, utriusque interno prope suturam biplicato, plâcâ columellari nullâ, lamina seminternâ intus productâ.*

**THE NARROW CLAUSILIA.** Shell pupa-shaped, brown, very finely ridged; whorls nine, middle nearly equal, last contracted, aperture small, outer margin with a tumid band above, inner margin with two plaits near the suture, no columellar plait, internal plaits extended within.

LOWE. Proc. Zool. Soc. 1866, p. 307.

*Hab.* Madeira.

Species 107. (Mus. Brit.)

**CLAUSILIA BELCHERI.** *Cl. testâ fusiformi, levigatâ, altâ, fusco-stramineâ; anfractibus decenis, convexis, supra medium attenuatis, medio inflatis, ultimo supra aperturam elongato; aperturâ subauriformi, superius sinuatâ, plâcâ columellari magnâ, elevatâ.*

**BELCHER'S CLAUSILIA.** Shell fusiform, smooth, raised, brown-straw; whorls ten, convex, attenuated above the middle, inflated at the middle, last lengthened above the aperture; aperture rather ear-shaped, sinuated above, columellar fold large, elevated.

PFEIFFER. Mon. Hel. Vol. VI. p. 412.

*Hab.* Corean Archipelago.

Species 108. (Mus. Brit.)

**CLAUSILIA CLAVIFORMIS.** *Cl. testâ breviter fusiformi, levissimâ, fusco-stramineâ; anfractibus octonis, convexis, infra medium inflatis, ultimo subtortuoso; aperturâ perpendiculariter oblongâ; labio interno biplicato, plâcâ parvis.*

**THE KEY-SHAPED CLAUSILIA.** Shell shortly fusiform, very smooth, brown-straw; whorls eight, convex, inflated below the middle, last rather tortuous; aperture perpendicularly oblong, inner lip with two folds, folds small.

PFEIFFER. Mon. Hel. Vol. VI., p. 412.

*Hab.* Corean Archipelago.

Much resembling *Clausilia Belcheri*, but shorter and more ventricose.

Species 109. (Mus. Brit.)

**CLAUSILIA RUBIS.** *Cl. testâ pallidè fulcâ, fusiformi, laminatim liratâ, Iris crassis, subistantibus; anfractibus undecenis, supra medium longè attenuatis, medio et infra radè inflatis, ultimo infra subcontracto; aperturâ oblongâ, subquadratâ, plâcâ labii interni parvis.*

**THE ROUGH CLAUSILIA.** Shell pale fulvous, fusiform, laminately ridged, ridges thick, rather distant; whorls eleven, attenuated some length above the middle, much inflated at the middle and under, last somewhat contracted below; aperture oblong, rather square, folds of the inner lip small.

PFEIFFER. Proc. Zool. Soc. Lond. 1864.

*Hab.* Island of Crete.

Species 110. (Mus. Brit.)

**CLAUSILIA PETROSA.** *Cl. testâ albâ, breviter liratâ, sub-fusiformi, corneâ; anfractibus duodecenis, superioribus brevibus, attenuatis, inferioribus tribus altis, ultimo elongato, tortuo, obliquè producto; aperturâ auriformi, margine albo, crasso, labio interno radè biplicato, labio externo supra medium tumido.*

**THE STONY CLAUSILIA.** Shell high, slightly ridged, subfusiform, horny; whorls twelve, upper short, attenuated, lower three high, last elongated, tortuous, obliquely produced; aperture ear-shaped, margin white, thick, inner lip with two strong folds, outer lip swelled above the middle.

PARREYS. Küster, p. 226.

*Hab.* Greece.

The aperture is curiously twisted and brought round, so as to project on the right side.

## Species 111. (Mus. Brit.)

CLAUSILIA IDE. *Cl. testâ subfusiformi, solidâ, latâ, pruinosâ, laminis fulvis numerosis, rectiusculis, tenuibus liratâ; aperturâ magnâ, subquadratâ, prope suturam sinuatâ, tumidâ, plicâ parietalâ porâ, laminâ columellari mediocri.*

THE MOUNT IDA CLAUSILIA. Shell subfusiform, solid, broad, plum-colour, ridged with fulvous, numerous, rather straight, thin laminae; aperture large, rather square, sinuated and tumid near the suture; parietal plait small, columellar lamina middle-sized.

PFEIFFER. Mon. Hel. Vol. VI. p. 498.

*Hab.* Mount Ida.

## Species 112. (Mus. Brit.)

CLAUSILIA DISTANS. *Cl. testâ fusiformi, elongatâ, lacteâ, angustâ, distanter liratâ; anfractibus quaterdecenis, superioribus attenuatis, medianis et inferioribus latiusculis, ultimo breviter rimato, declivi, aperturâ perpendiculariter oblongâ, superne attenuatâ, margine albo, columellâ rectiusculâ, laminâ columellari obliquè dentiformi.*

THE DISTANT CLAUSILIA. Shell fusiform, elongated, cream-coloured, narrow, distantly ridged; whorls fourteen, upper attenuated, middle and lower rather wide, last shortly notched, sloped down; aperture perpendicularly oblong, attenuated above, margin white, columella rather straight, columellar laminae obliquely tooth-shaped.

PFEIFFER. Proc. Zool. Soc. 1864, p. 605.

*Hab.* Sudsuro, Crete.

## Species 113. (Mus. Brit.)

CLAUSILIA COMPRESSA. *Cl. testâ regulariter fusiformi, lilacâ, strigis brevibus, fuscis variegatâ, tenuiter laminatim liratâ; anfractibus decenis, superioribus parvis, ultimo elongatâ; aperturâ perpendiculariter oblongâ, labio externo prope medium sinuatim tumido, plicâ parietalâ parâ, plicâ columellari prominenti.*

THE COMPRESSED CLAUSILIA. Shell regularly fusiform, lilac, variegated with short brown stripes, ridged with fine laminae; whorls ten, upper

small, last elongated; aperture perpendicularly oblong, outer lip sinuously tumid near the middle, parietal fold small, columellar fold prominent.

PFEIFFER. Mon. Hel. Vol. VI. p. 428.

*Hab.* Island of Cerigo.

## Species 114. (Mus. Brit.)

CLAUSILIA SCALARIS. *Cl. testâ brevi, latâ, fulvâ, tenuiter laminatim liratâ; anfractibus senis, prope suturam latioribus angulatis, ultimo altâ, infra contracto; aperturâ auriformi, columellâ infra retrorsim expansâ, labio externo supra medium sinuatim tumido, plicâ parietalâ porâ, plicâ columellari medioeri, obliquâ.*

THE LADDER-LIKE CLAUSILIA. Shell short, broad, fulvous, with fine laminar ridges; whorls six, broader and angular near the suture, last high, contracted below; aperture auriform, columella expanded backwards below, outer lip sinuously tumid above the middle, parietal fold small; columella fold middling, oblique.

PFEIFFER. Mon. Hel. Vol. VI. p. 439.

*Hab.* Malta.

The whorls are angularly shouldered, so as to give the appearance of steps.

## Species 115. (Mus. Brit.)

CLAUSILIA HAEREL. *Cl. testâ brevisculâ, pyramidato-subfusiformi, latâ, distanter tenuiter liratâ, inter liras pruinosâ; anfractibus decenis, inferioribus magnis; aperturâ auriformi, margine crasso, albo, labio externo supra medium tumido, plicâ parietalâ minutâ, plicâ columellari altissimâ, ferè perpendiculari.*

HAEREL'S CLAUSILIA. Shell rather short, pyramidally subfusiform, broad, distantly finely ridged, plum-coloured between the ridges; whorls ten, lower large; aperture auriform, margin thick, white, outer lip tumid above the middle, parietal fold minute, columellar fold very high, almost perpendicular.

BIELZ Pfeiffer, in Novit. Conch. Fasc. XXII. p. 264.

*Hab.* Transylvania.







# CLAUSILIA.

PLATE XIII.

## Species 116. (Mus. Brit.)

**CLAUSILIA LIVEUS.** *Cla. testâ dextrali, pruinoso-fuscâ, breviusculâ, fusiformi; anfractibus octonis, altis, inferioribus subinflatis, ultimo contracto, obliquo; aperturâ auriformi, infra obliquè productâ, margine crasso, albo, plicâ columellari magnâ, plicâ parietali parvâ, labio externo ad medium late tumido.*

**THE LIVID CLAUSILIA.** Shell dextral, plum-brown, rather short, fusiform; whorls eight, high, rather inflated, last contracted, oblique; aperture ear-shaped, obliquely produced below; margin plain, white, columellar plait large, parietal plait small, outer lip broadly tumid at the middle.

BIELZ. Pflr. Vol. IV. p. 718.

*Clausilia Lischkeana.* Bielz.

*Hab.* Transylvania.

## Species 117. (Mus. Brit.)

**CLAUSILIA BAHIA.** *Cla. testâ parvâ, breviusculâ, subfusiformi, olivaceo-fuscâ, levi; anfractibus octonis; aperturâ subobliquè ovali, plicâ columellari magnâ, elevatâ, plicâ parietali parvâ.*

**THE BAY CLAUSILIA.** Shell small, rather short, subfusiform, olive-brown, smooth; whorls eight; aperture rather obliquely oval, columellar plait large, raised, parietal plait small.

ZEIGLER. Pfeiffer. Vol. VI. p. 496.

*Clausilia fontana.* Schmidt.

*Clausilia cruda.* Schmidt.

*Hab.* ———?

## Species 118. (Mus. Brit.)

**CLAUSILIA SCHMIDTI.** *Cla. testâ parvâ, fusiformi, politâ, pruinosâ; anfractibus duodecenis, superioribus parvis, mediâ et inferioribus subinflatis, ultimo infra subcontracto; aperturâ subaurantiâ, oblongâ, labio externo supra medium sinuatum tumido, plicâ columellari productâ, plicis parietalibus duobus.*

**SCHMIDT'S CLAUSILIA.** Shell small, fusiform, polished, plum-coloured; whorls twelve, upper small, middle and lower somewhat inflated, last a

little contracted below; aperture rather orange, oblong, outer lip sinuously tumid, columella plait produced, parietal plait two.

PFEIFFER. Mon. Hel. Vol. VI. p. 490.

*Hab.* Carinthia.

## Species 119. (Mus. Brit.)

**CLAUSILIA FERARATA.** *Cla. testâ latâ, brevî, fusiformi, longitudinaliter, perobliquè costatâ; anfractibus senis, ultimo et penultimo altissimis, ultimo infra contractâ et prolongatâ; aperturâ depressâ, subrotundâ, auriformi; margine ad columellam obliquè expanso; plicâ parietali prominenti; plicâ columellari crassâ.*

**THE PLOUGHED CLAUSILIA.** Shell broad, short, smoky-brown, longitudinally very obliquely ribbed; whorls six, last and last but one very high, last contracted below and prolonged; aperture depressed, rather round, ear-shaped; margin obliquely expanded at the columella; parietal plait prominent; columellar plait thick.

MARTINI. ———?

*Hab.* New Granada.

## Species 120. (Mus. Brit.)

**CLAUSILIA TERES.** *Cla. testâ angustâ, altissimâ, levigatâ, lilacâ; anfractibus septendecenis, superioribus caldè attenuatis, inferioribus altis, subinflatis; aperturâ aurantiâ, perpendiculariter oblongâ, labio externo, supra medium tumidâ; plicâ columellari obliquâ, elevatâ, plicâ parietali parvâ, acutâ.*

**THE ROLLING-PIN CLAUSILIA.** Shell narrow, very high, smooth, lilac; whorls seventeen, upper very attenuated, lower high, subinflated; aperture orange, perpendicularly oblong, outer lip tumid above the middle, columellar plait oblique, raised; parietal plait small, sharp.

OLIVIER. (Bulimus.) Pflr. Mon. Hel. Vol. II. p. 414.

*Hab.* Crete.

## Species 121. (Mus. Brit.)

**CLAUSILIA SIEBOLDTI.** *Cla. testâ breviusculâ, fusiformi, supernè succinè, infra pruinosâ, levigatâ; an-*

*fractibus novenis, superioribus subattenuatis, medianis inflatis; aperturâ magnâ, auriformi; margine albo, crasso, labio externo supra medium tumido, plicâ parietali brevi, acutâ, plicâ columellari prominenti.*

SIEBOLDT'S CLAUSILIA. Shell rather short, fusiform, amber above, plum-coloured below, smooth; whorls nine, upper rather attenuated, middle inflated; aperture large, ear-shaped; margin white, thick, outer lip tumid above the middle, parietal plait short, sharp; columella plait prominent.

PFEIFFER. Malak. Bl. 1869.

Hab. Japan.

Species 122. (Mus. Brit.)

CLAUSILIA MARANHONENSIS. *Cl. testâ brevi, latâ, subcylindricâ, levigatâ, albâ et pallidâ fulvâ; anfractibus senis, altis, ultimo infra subcontracto, prolongato, profundè et obliquè rimato; aperturâ rotundò-auriformi, margine albo, expanso, supernè rimato, plicâ parietali prominenti; plicâ columellari parvâ, altissimâ.*

THE MARANHON CLAUSILIA. Shell short, broad, rather cylindrical, smooth, white and pale fulvous; whorls six, high, last rather contracted below, prolonged, deeply and obliquely notched; aperture roundly-auriform; margin white, expanded, notched above; parietal plait prominent, columellar plait small, very high.

ALBES. Pfeiffer. Mon. Hel. IV. p. 785.

Hab. River Maranhon, Columbia.

Species 123. (Mus. Brit.)

CLAUSILIA CORTICINA. *Cl. testâ altâ, subpyramidatâ, levigatâ, pruinôsâ; anfractibus novenis, inferioribus altis, ultimo prolongato; aperturâ maximâ, supernè subacuminatâ, prope suturam sinuatim emarginatâ; plicâ parietali tenui, plicâ columellari altâ, parvâ, columellâ arcuatâ.*

THE RIND CLAUSILIA. Shell high, rather pyramidal, smooth, plum-coloured; whorls nine, lower high, last prolonged; aperture very large, rather acuminated above, sinuously emarginated near the suture; parietal plait thin, columellar plait high, small, columella plait curved.

VON BUSCH. Pflr. Mon. Hel. II. p. 404.

Hab. Java.

Species 124. (Mus. Brit.)

CLAUSILIA KUTSCHIGI. *Cl. testâ brevi, ventricosissimâ, lilaciâ, levigatâ; anfractibus octonis, tribus inferioribus altis, inflatis, ultimo subcontracto, ad dorsum plicato; aperturâ magnâ, latâ, margine crasso, plicis parietali et columellari acuminatis, prominentibus.*

KUTSCHIG'S CLAUSILIA. Shell short, very ventricose, lilac, smooth; whorls eight, three lower high, inflated, last a little contracted, plaited at the back; aperture large, broad; margin thick, parietal and columellar plaits acuminated, prominent.

KÜSTER, p. 274.

*Clausilia costicolla*. PAIR.

*Clausilia carpulenta*. Kutschig.

Hab. Dalmatia.

Species 125. (Mus. Brit.)

CLAUSILIA CASTALIA. *Cl. testâ subpyramidatâ, supernè attenuatâ, medio et infra inflatâ, fusâ, levi, anfractibus novenis, inflatis; aperturâ parvâ, obliquè subproductâ, supernè acuminatâ; margine crasso, plicâ columellari altâ.*

THE CASTALIA CLAUSILIA. Shell rather pyramidal, attenuated above, inflated in the middle and below; brown, smooth; whorls nine, inflated; aperture small, a little obliquely produced, acuminated above; margin thick, columellar plait high.

ROTH. Rossmäsler, Icon. III. p. 54.

Hab. Mount Parnassus.





127.



126.



128.



129.



130.



131.



132.



133.



135.



134.

# CLAUSILIA.

PLATE XIV.

Species 126. (Mus. Brit.)

CLAUSILIA CONTAMINATA. *Cl. testâ brevissimâ, latâ, levigatâ, lilacinâ; aufractibus senis; apertura latâ, subquadratâ, subaurâ, plicâ nullâ.*

THE CONTAMINATED CLAUSILIA. Shell very short, broad, smooth, lilac; whorls six; aperture broad, rather square, rather golden-tinted; no plaits.

ZEIGLER. Pfeiffer. *Mon. Hel. II.* 436.

*Hab.* Cephalonia.

Species 127. (Mus. Brit.)

CLAUSILIA MADENSIS. *Cl. testâ dextrali, pyramidatâ, brevi, coracâ et pruinosis, brevi; aufractibus novenis, superioribus angustis, inferioribus ventricosis; apertura obliquâ, auriformi, supernè angustatâ; plicâ columellari prominenti, plicâ parietali elongatâ.*

THE MADEN CLAUSILIA. Shell dextral, pyramidal, short, horny, plum-coloured, smooth; whorls nine, upper narrow, lower ventricose; aperture oblique, ear-shaped; narrow above; columellar fold prominent, parietal fold lengthened.

FUSSENDORF. — ?

*Hab.* Transylvania.

Species 128. (Mus. Brit.)

CLAUSILIA CANALICULATA. *Cl. testâ brevi, pyramidatâ, aufractibus octavis, inferioribus latis; apertura latâ, subaurâ, subrotundâ, prope suturam canaliculatâ, sinuatâ, margine crasso, plicâ columellari elevatâ, latâ.*

THE CHANNELLED CLAUSILIA. Shell short, pyramidal, whorls eight, lower broad; aperture broad, rather golden, rather rounded, channelled near the suture, sinuated, margin thick, columellar plait raised, broad.

PFEIFFER. *Mon. Hel. III.* 599.

*Clausilia Eubœa.* Parreys.

*Hab.* Eubœa.

Species 129. (Mus. Sowerby.)

CLAUSILIA REINIANA. *Cl. testâ magnâ, solidâ, subfusiformi, latâ, fuscâ, tenuissimè striatâ; aufractibus decenis, apicalibus quatuorvis brevibus, rotundis, medianis magnis, inflatis, ultimo maximo, infra contracto; apertura magnâ, subauriformi, subauriculatâ; plicâ parietali angustâ, plicâ columellari parvâ, planâ, subelevatâ, plicâ minutâ, infra columellam brevi.*

THE REINI CLAUSILIA. Shell large, solid, subfusiform, broad, brown, very finely striated; whorls ten, four apical short, round, middle large, inflated, last very large, contracted below; aperture large, subauriform, rather orange; parietal fold narrow, columellar plait small, flattened, rather raised; minute plait below the columella small.

KOBELL. — ?

*Hab.* Japan.

Species 130. (Mus. Brit.)

CLAUSILIA SYRACUSANA. *Cl. testâ subfusiformi, pallidè fulvâ, lamina acutis reetis crebris liratâ; aufractibus decenis, apicalibus quaternis parvis, rotundis, brevibus; apertura subovâtâ, margine expanso, albo; labio externo, supernè tumido, dentato, dente interno continuo, plicâ parietali minutâ, plicâ columellari crassi, elevatâ; plicâ subinternâ obliquâ, ad marginem inferiorem desinente.*

THE SYRACUSE CLAUSILIA. Shell subfusiform, palefulvous, ridged with numerous sharp, straight laminae; whorls ten, four apical small, rounded, smooth; aperture rather ovate, margin white, expanded; outer lip tumid above, toothed, inner lip continuous, parietal plait minute, columellar plait thick, raised; a subinternal oblique plait ending at the lower margin.

PHILIPPI. Pfeiffer. *Mon. Hel. IV.* 739.

*Clausilia macrostoma.* Cautraire.

*Clausilia inflata.* Delle Chiaje.

*Hab.* Sicily.

## Species 131. (Mus. Brit.)

CLAUSILIA STICLA. *Cla. testâ breviusculâ, pallidâ, latâ, levigatâ, medio et infâ ventricosâ; anfractibus paucis, tenuissimè striatis, fusco strigatis, ultimo elongato; aperturâ obliquâ, subaviformi, labio externo crasso, infâ subexpanso, columellâ triplicatâ.*

THE SICILIAN CLAUSILIA. Shell rather short, pale, broad, smooth, ventricose in the middle and below; whorls few, very finely striated, striped with brown, last elongated; aperture oblique, rather auriform, outer lip thick, expanded below, columella three-plaited.

BENOÎT. — ?  
Hab. Sicily.

## Species 132. (Mus. Brit.)

CLAUSILIA REGILABRIS. *Cla. testâ subfusiformi, brevi, levi, corneâ et pruinosâ; anfractibus apicalibus parvis, rotundis; aperturâ latâ, margine crasso, albo, labio externo superne tumido, sinuato; plicâ parietali acutâ; columellâ biphicatâ.*

THE ROUGH-LIPPED CLAUSILIA. Shell subfusiform, short, smooth, horny and plum-coloured; apical whorls small, round; aperture broad, margin thick, white, outer lip tumid above, sinuous; parietal fold sharp; columella with two plaits.

MOUSSON. Pfeiffer. Mon. Hel. VI. p. 475.  
Hab. Near Janina, Greece.

Having a singularly broad and thick-lipped mouth.

## Species 133. (Mus. Brit.)

CLAUSILIA STRAMINICOLLIS. *Cla. testâ pruinosa, fusiformi, levi, infâ medium subventricosâ; anfractibus novenis, stramineo ad suturam tenuitatis; aperturâ aurantiâ, oblongâ, posticè angustatâ et attenuatâ, labio interno biphicato.*

THE STRAW-NECKED CLAUSILIA. Shell plum-coloured, fusiform, smooth, ventricose below the middle;

whorls nine, with a straw-coloured band at the suture; aperture orange, oblong, posteriorly narrow and attenuated, inner lip with two plaits.

PARREYS. Küster, Claus. p. 341.  
Hab. Transylvania.

## Species 134. (Mus. Sowerby?)

CLAUSILIA CALCAREA. *Cla. testâ brevi, fusiformi, levigatâ, corneâ; anfractibus undecenis, medianis et inferioribus altis, ventricosis; aperturâ magnâ, margine crasso; plicâ parietali parvâ, plicâ columellari elevatâ, plicâ subinternâ infâ prope columellam curvâ.*

THE CALCAREAN CLAUSILIA. Shell short, fusiform, smooth, horny; whorls eleven, middle and lower high, ventricose; aperture large, margin thick; parietal plait small, columellar plait raised, subinternal plait curved below near the columella.

PHILIPPI. Pfeiffer. Mon. Hel. II. 453.  
*Clausilia assimilis.* Zeigler.  
Hab. Sicily.

## Species 135. (Mus. Brit.)

CLAUSILIA BILABIATA. *Cla. testâ subfusiformi, fulvâ, tenuiter striatâ; anfractibus paucis, inferioribus convexis, ventricosis; aperturâ subovatâ, prope suturam subacuminatâ; labio externo crasso, supra medium tumido, extis duplicato; columellâ quadruplicatâ, plicâ superiori brevi, latâ, plicâ parietali productâ.*

THE DOUBLE-LIPPED CLAUSILIA. Shell subfusiform, fulvous, finely striated; whorls few, lower convex, ventricose; aperture subovate, slightly acuminated near the suture; outer lip thick, tumid above the middle, double outside; columella with four plaits, upper plait short, broad, parietal plait produced.

SMITH. Proc. Zool. Soc.  
Hab. Japan.







# CLAUSILIA.

PLATE XV.

## Species 136. (Mus. Brit.)

**CLAUSILIA FIDIGRANA.** *Cl. testâ parvâ, fusiformi, pruinosa, tenuiter lirata, iris filiformibus; apertura pallidè aurantiâ, parvâ, columella medio latè pliatâ, pliatâ inferiori minutâ, pliatâ parietali inconspicua, labio externo superâe acuminatâ, sinuato.*

**THE THREAD-GRAINED CLAUSILIA.** Shell small, fusiform, plum-coloured, finely ridged, ridges thread-like; aperture pale orange, small, columella broadly plaited in the middle, lower plait minute, parietal plait inconspicuous, outer lip acuminated above, sinuous.

ZUGLER. Pfl. Mon. Hel. II. p. 499.

*Clausilia interrupta.* —?

*Hab.* Silesia, Croatia, Austria.

## Species 137. (Mus. Brit.)

**CLAUSILIA AQUILA.** *Cl. testâ brevî, latâ, brevibatâ, superâe angustatâ, infâi ventricosâ, pallidè lilacinâ; apertura mucronâ, aurantiâ; marginè crasso, pliatâ columellari magnâ, prominenti.*

**THE EAGLE CLAUSILIA.** Shell short, broad, smooth, narrow above, ventricose below, pale lilac; aperture very large, orange; margin thick, columella large, prominent.

PABREYS. Rossmâsler, Icon. III. p. 43.

*Hab.* Dalmatia.

## Species 138. (Mus. Brit.)

**CLAUSILIA CANA.** *Cl. testâ brevî, ventricosâ, fusiformi, striatâ, fuscâ, nudiâ denticulis variegatâ; anfractibus novenis, superioribus attenuatis; apertura auriformi, pliatâ parietali ad suturam approximati, pliatâ columellari latè laminatâ.*

**THE HOARY CLAUSILIA.** Shell short, ventricose, fusiform, striated, brown, varied with darker coloured spots; whorls nine, upper attenuated; aperture ear-shaped, parietal plait near the suture, columellar plait broadly laminar.

HELDEMAN. Kùst. p. 193.

*Clausilia tessellata.* Parreys?

## Species 139. (Mus. Brit.)

**CLAUSILIA STIGMATICA.** *Cl. testâ brevissimâ, ventricosâ, brevî; anfractibus medianis et inferioribus inflatis, ad suturam tuberculis parvis albis oratis; apertura subquadratâ, magnâ, labio interno biphicato, superâe interrupto.*

**THE STIGMATIC CLAUSILIA.** Shell very short, ventricose, smooth, middle and lower whorls inflated, orbiculated at the suture with small white tubercles; aperture rather square, large, inner lip two-plaited, interrupted above.

ZUGLER. Pfl. Mon. Hel. II. 424.

*Hab.* Dalmatia.

## Species 140. (Mus. Brit.)

**CLAUSILIA BUSCHI.** *Cl. testâ brevî, pyramidalâ, pallidè cornèâ, brevî, semipellucidâ; anfractibus novenis, convexis; apertura parvâ, auriformi, pliatâ parietali et columellari parvis.*

**BUSCH'S CLAUSILIA.** Shell short, pyramidal, pale horny, smooth, semipellucid; whorls nine, convex; aperture small, auriform, parietal and columellar plaits small.

KËSTER. Martens in Malak. Bl. VII.

*Hab.* Japan.

## Species 141. (Mus. Brit.)

**CLAUSILIA BORNEENSIS.** *Cl. testâ altâ, pyramidalî, fuscâ; anfractibus decenis, inflatis; apertura aurantiâ, auriformi, tortuosim versus latus dextram productâ, superâe acuminatâ, marginè crasso, labio interno biphicato.*

**THE BORNEAN CLAUSILIA.** Shell high, pyramidal, brown; whorls ten, inflated; aperture orange, ear-shaped, tortuously bent back towards the right side, acuminated above, margin thick, inner lip two-plaited.

PFIEFFER. Mon. Hcl. IV. 736.

*Hab.* Borneo.

The mouth is peculiarly bent over towards the right side of the shell.

## Species 142. (Mus. Brit.)

CLAUSILIA MACASCARIENSE. *Cla. testâ lilacinâ, subventricosâ, pyramido-fusiformi; anfractibus decenis, inferioribus altis, latis, rectilateratibus, ultimo elongato, ad medium dorsi depresso, liris inequalibus, irregularibus rugato; aperturâ aurantiâ, magnâ, obliquâ, subauriformi, superiâ acuminatâ, plicâ parietali acutâ productâ, plicâ columellari magnâ, angulatim productâ.*

THE MACASCAR CLAUSILIA. Shell lilac, subventricose, pyramidal, fusiform; whorls ten, lower high, broad, rectilateral, last elongated, depressed at the middle of the back, wrinkled with unequal irregular ridges; aperture orange, large, parietal plait sharply produced, columellar plait large, angularly produced.

SOWERBY.

*Clausilia corrugata.* Menke.

*Clausilia Macaroua.* Zeigler.

*Hab.* Macascar.

## Species 143. (Mus. Sowerby.)

CLAUSILIA DELESSEITII. *Cla. testâ fusiformi, pruinosa, tenuissimè lirata; anfractibus undecenis, albo marginatis, obliquis; ultimo prope terminum ad dorsum depresso et subcarinato; aperturâ prominenti, subovata, margine albo, lato, reflexo, plicâ columellari magnâ, obliquè productâ.*

DELESSEIT'S CLAUSILIA. Shell fusiform, plum-coloured, finely ridged; whorls eleven, bordered

with white, oblique; last depressed or partly keeled near the end at the back; aperture prominent, subovate, margin white, broad, reflected, columellar plait large, obliquely produced.

*BOUBOIGNAT.* Mon. Hel. IV. 774.

*Hab.* Syria.

## Figure 144. (Mus. Brit.)

CLAUSILIA FUNICULUM. Already given in Plate VIII. f. 71, and repeated here by error.

## Species 145. (Mus. Brit.)

CLAUSILIA CALLOSA. *Cla. testâ pruinosa, laminatim tenuissimè lirata, elongata, angustissimè medio et infra rectilaterali; anfractibus decenis, altis, ultimo elongato, ad dorsum infra obliquè sulco impresso; aperturâ auriformi, infra productâ, margine crasso, plicâ parietali minutâ, plicâ columellari obliquè acuminatâ; altissimâ, plicâ internâ conspicuâ.*

THE CALLOUS CLAUSILIA. Shell plum-coloured, with fine laminar ridges, elongated, very narrow, straight-sided in the middle and below; whorls ten, high, last elongated, impressed at the back below with an oblique groove; aperture auriform, produced below, margin thick, parietal plait minute, columellar plait obliquely acuminated, very high; a conspicuous inner plait.

*MUHLFELDI.* Pflr. Mon. Hel. II. 419.

*Hab.* Dalmatia.





147



146



148



149



150



151



152



153



155



154

# CLAUSILIA.

PLATE XVI.

## Species 146. (Mus. Sowerby.)

**CLAUSILIA CINEREA.** *Cla. testâ brevi, brevi, subrotundâ, anfractibus octonis, apicalibus quaternis fusco-ungroscenilibus, medianis et inferioribus subconcentricis, ultima profundè rimatâ, aperturâ pallidè castaneâ, latâ, rotundâ, margine tenui, paritum reflexâ, plicâ columellari elevatâ, linearî, plicâ parietali suturæ approximâtâ, acutâ.*

**THE ASHY CLAUSILIA.** Shell short, smooth, bluish; whorls eight, four apical blackish brown, middle and lower rather ventricose, last deeply notched; aperture pale chestnut, broad, rounded, margin thin, a little reflected; columellar plait raised, linear parietal plait close to the suture, sharp.

**PHILIPPI.** A. Schmidt. *Clausilia*, p. 108.

*Clausilia omisosa.* Ziegler.

*Clausilia terec.* Delle Chiaje.

*Hab.* Naples.

## Species 147. (Mus. Sowerby.)

**CLAUSILIA COCHIN-CHINENSIS.** *Cla. testâ brèvescendâ, solidâ, fusco-griseâ, tenuissimâ, obliquè limatâ; anfractibus novenis, infusâ latâ, altâ, convexâ, ultima profundè rimatâ; aperturâ auriformi, pallidè carneâ, superne subannulatâ, sinuatâ; margine crasso, costâ s. plicâ parietali parvâ, tenui, plicâ columellari margini, perelovatâ.*

**THE COCHIN-CHINA CLAUSILIA.** Shell rather short, solid, brownish-grey, very finely obliquely ridged; whorls nine, broad below, high, rather convex, last deeply notched; aperture auriform, pale flesh, rather acuminate above, sinuated; margin thick, reflected, parietal plait small, thin, columellar plait large, much raised.

**PFEIFFER.** *Mon. Hel. VI.* p. 443.

*Hab.* Cochin-China.

## Species 148. (Mus. Sowerby.)

**CLAUSILIA GOULDIANA.** *Cla. testâ solidâ, pallidè fulvâ, brevi, fusiformi, ventricosissimâ; anfractibus septenis, inferioribus altis, convexis, ultima obliquè contracto, suturâ distinctâ; aperturâ latâ, labio externo albo, crasso, latè reflexo, superne sinuatâ, submarginatâ, plicâ parietali prominenti, acutâ; plicâ columellari obliquâ, elevatâ, linearî.*

**GOULD'S CLAUSILIA.** Shell solid, pale fulvous, smooth,

fusiform, very ventricose; whorls seven, lower high, convex, last obliquely contracted, suture distinct; aperture wide, outer lip white, thick, broadly reflected, sinuous above, submarginate, parietal plate prominent, sharp; columellar plait oblique, elevated, linear.

**PFEIFFER.** *Novil. Conch.* p. 123.

*Hab.* Burmah.

## Species 149. (Mus. Sowerby.)

**CLAUSILIA TRISTRAMI.** *Cla. testâ pruinôsâ, fusiformi, tenuissimâ limatâ; anfractibus trilobatis, superioribus brevibus, attenuatis, medianis et inferioribus ventricosis, ultima dearticulatâ impresso; aperturâ castaneâ, margine albo, plicis parietali et columellari tenuibus.*

**TRISTRAM'S CLAUSILIA.** Shell plum-coloured, fusiform, very finely ridged; whorls thirteen, upper smooth, attenuated, middle and lower ventricose, last impressed divergently; aperture chestnut, margin white, parietal and columellar folds thin.

**PFEIFFER.** *Mon. Hel. VI.* p. 481.

*Hab.* Tunis.

The former figure of this species, given in Plate V., was not so characteristic as the present, which, however, is only introduced by inadvertence.

## Species 150. (Mus. Sowerby.)

**CLAUSILIA RAYMONDI.** *Cla. testâ fulvâ, inter costas pruinôsâ, costellis filiformibus limatâ, angustâ, retilateralî, altâ; anfractibus decenis, medianis et inferioribus altis, ultima infusâ contracto, prolongato, lacato, tortuo, ad dorsum obliquè bicarinatâ; aperturâ distantî, productâ, auriformi, margine tenui expanso, plicis parietali et columellari tenuibus, approximatis.*

**RAYMOND'S CLAUSILIA.** Shell fulvous, plum-coloured between the ribs, ridged with filiform ribs, narrow, straight-sided, high; whorls ten, middle and lower high, last contracted, prolonged, uncoiled, tortuous, obliquely bicarinate at the back; aperture distant, produced, ear-shaped, margin thin and expanded, parietal and columellar plaits thin, close together.

**BOUGUIGNAT.** *Pfeiffer. Mon. Hel. VI.* p. 513.

*Hab.* Syria.

CLAUSILIA.—PLATE XVI.

Species 151. (Mus. Sowerby.)

CLAUSILIA BOISSIERI. *Cl. testâ subconvexâ, fusiformi, breviusculâ, levigatâ; anfractibus decenis, apicalibus fusco-nigrescentibus, medianis et inferioribus gradatim inflatis, ultimo prolongato, lirato, tortuo, laevo, carinis duabus convergentibus desinenti; aperturâ latâ, fulvâ, productâ, margine tenui, expanso, supernè sinuato, plicâ parietali minutâ, plicâ columellari altâ, prominenti.*

BOISSIER'S CLAUSILIA. Shell blueish, fusiform, rather short, smooth; whorls ten, apical blackish-brown, middle and lower gradually inflated, last prolonged, ridged, tortuous, uncoiled, ending in two converging keels; aperture broad, fulvous, produced, margin thin, expanded, sinuous above, parietal plait minute, columellar plait high, prominent.

CHAPENTIER. Pfl. Mon. Hel. p. 513.

Hab. Syria.

This species has a couple of wrinkled keels converging at the bottom of the last whorl.

Species 152. (Mus. Sowerby.)

CLAUSILIA VARIANS. *Cl. testâ pullulè cornesâ, semipellucidâ, tenuissimè liratâ, tenui, subfusiformi, medio gradatim inflatâ; aperturâ subconvatâ, parvâ, margine supernè sinuatim emarginato, plicis parietali et columellari tenuibus, subapproximatis.*

THE VARYING CLAUSILIA. Shell pale horn, semipellucid, very finely ridged, thin, subfusiform, gradually swelled in the middle; aperture subovate, small, margin sinuously notched above, parietal and columellar plaits thin, rather approximate.

ZIEGLER. Pfl. Mon. Hel. II. p. 409.

Hab. Germany.

Species 153. (Mus. Sowerby.)

CLAUSILIA PROXIMA. *Cl. testâ brevi, ventricosâ, levî, subconvexâ, apice aperturâque succineis; anfractibus octonis apicalibus parvis, medianis, inferioribusque latis, altis, inflatis; ultimo profundè rinato, ad dorsum perpendiculariter rugato; aperturâ latâ, subquadratâ, margine tenui, reflexo, plicâ parietali parvâ, plicâ columellari altâ, latâ.*

THE NEAR CLAUSILIA. Shell short, ventricose, smooth, blueish, apex and aperture amber; whorls eight, apical small, middle, lower broad, high, inflated; last deeply notched, perpendicularly wrinkled at the back; aperture broad, rather square, margin thin, reflected, parietal plait small, columellar plait high, broad.

WALDERDORFF. Syst. Verz. Call. 1864.

Hab. Cattar.

Species 154. (Mus. Sowerby.)

CLAUSILIA LUNELLARIS. *Cl. testâ parvâ, fulvâ et pruinosâ, brevî, tenuissimè striatâ; anfractibus novenis, inferioribus inflatis, altis; ultimo rinato, ad dorsum maculâ semilunari notato; aperturâ fideâ, margine paulò expanso, supernè sinuato, emarginato, plicis parietali et columellari minutis, approximatis.*

THE LUNELLAR CLAUSILIA. Shell small, fulvous and plum-coloured, short, very finely striated; whorls nine, lower inflated, high, last notched, marked at the back with a semilunar spot, aperture fulvous, margin a little expanded, sinuous, emarginated, parietal and columellar plaits minute, near together.

PFEIFFER. Mon. Hel. III. p. 608.

*Clausilia laudaris* by error, Pl. IV. 38.

Hab. Eubœa.

Species 155. (Mus. Sowerby.)

CLAUSILIA BLANDIANA. *Cl. testâ brevî, sordidè pruinosâ, tenuissimè striatâ, subfusiformi; anfractibus septenis, suturâ profundè separatis, convexis, ultimo altissimo, prolongato, profundè rinato, laevo, tortuo; aperturâ magnâ, castaneâ, obliquè auriformi, trans latus dextrale extenso, expanso; plicâ parietali prominenti, plicâ columellari nullâ.*

BLAND'S CLAUSILIA. Shell short, dull plum-colour, very finely striated, rather fusiform; whorls seven, separated by a deep suture, convex, last very high, prolonged, deeply notched, uncoiled, tortuous; aperture large, chestnut, obliquely auriform, extended across the right side, expanded, parietal plait prominent, no columellar plait.

PFEIFFER. Mon. Hel. IV. p. 785.

Hab. Santa de Bogota, Columbia.







157



156



158



159



161



162



160



163



164



165

# CLAUSILIA.

PLATE XVII.

Species 156. (Mus. Sowerby.)

**CLAUSILIA CERULEA.** *Cl. testâ brevi, subovatoâ, laevi, fusiformi; anfractibus decem, medianis et laterâlibus inflatis, apicalibus parvis, nigrescentibus, ultimo infriâ protracto, angustato, rugato, ad dorsum tuberculato; aperturâ intus castaneâ, marginè aurco-fulvâ, obliquâ, margine tenui, reflexâ.*

**THE BLUEISH CLAUSILIA.** Shell short, bluish, smooth, fusiform; whorls ten, middle and lower inflated, apical small, blackish; last produced below, narrow, wrinkled, with two tubercles; aperture chestnut within, margin golden-fawn, oblique, margin thin, reflected.

FERRISSAC. Küster, p. 216.

*Clausilia hippocoma.*

*Hab. Morca.*

Species 157. (Mus. Sowerby.)

**CLAUSILIA DALMATINA.** *Cl. testâ brevissimâ, ventricosâ, pallidâ fulvâ, tenuissimè striatâ; anfractibus setosis, laevibus, ultimo albo, infriâ angustato, post marginem aperturæ marginato, dorso albo undato; aperturâ latâ, marginè albâ, expansâ, plicâ columellari latâ.*

**THE DALMATIAN CLAUSILIA.** Shell very short, ventricose, pale fulvous, very finely striated; whorls eight, short, last high, narrow below, with a wrinkle behind the margin of the mouth; marked with white at the back, aperture broad, margin white, expanded, columellar plait broad.

PARTSCH. Pfeiffer. Mon. Hel. II. 432.

*Clausilia marumata.* Zeigler.

*Clausilia apudancica.* Kutsch.

*Hab. Dalmatin.*

Species 158. (Mus. Brit.)

**CLAUSILIA VETICA.** *Cl. testâ parvâ, tenuiter liratâ, stramineâ, fusiformi; aperturâ subovatâ, superâ sinuatâ, plicâ parietali suturâ approximâtâ, columellâ biplicatâ, labio externo supra medianum sinuato.*

**THE CRUET CLAUSILIA.** Shell small, finely ridged, straw-coloured, fusiform; aperture subovate, sinuous above, parietal plait near the suture,

columella two-plaited, outer lip sinuated above the middle.

BIELTZ. Küster, p. 263.

*Hab. Transylvania.*

Species 159. (Mus. Brit.)

**CLAUSILIA DUBOISII.** *Cl. testâ parvâ, fulvâ, fusiformi, tenuiter laminatim liratâ; aperturâ ovatâ, labio externo supra medianum tumido, sinuato; columellâ infriâ plicâ crenulatâ, plicâ parietali et columellari ad terminum approximatis, plicâ parvâ intermedia.*

**DUBOIS'S CLAUSILIA.** Shell small, fulvous, fusiform, finely laminately ridged; aperture ovate, outer lip tumid and sinuous above the middle, columella crenulated below the plait, parietal and columellar plaits approximated at the ends with a small intermediate plait.

CHARPENTIER. Küster, p. 270.

*Hab. — — ?*

Species 160. (Mus. Sowerby.)

**CLAUSILIA DISTANTILIRATA.** *Cl. testâ brevi, subpyramidalâ, solidâ, latâ, costis distinctis, crassiusculis liratâ, inter costas primâs, anfractibus necatis, apicalibus parvis, rotundis, fuscis, laevibus, albis ad suturam subscaletis, aperturâ subaurantâ, plicâ parietali parvâ, plicâ columellari nullâ.*

**THE DISTANT-RIDGED CLAUSILIA.** Shell short, pyramidal, solid, broad, ridged with distant, rather thick ribs, plum-coloured between the ribs; whorls nine, apical small, round, brown, smooth, others with slight steps at the suture; aperture slightly orange, parietal plait small, columellar plait none.

SOWERBY.

*Hab. — — ?*

Species 161. (Mus. Sowerby.)

**CLAUSILIA KÜSTERI.** *Cl. testâ tenui, corvâ, subfusiformi, laevi, anfractibus duodecim, apicali turbinato, ultimo infriâ subattenuato; aperturâ oblongâ, ad suturam elevatâ, plicâ columellari magis.*

KÜSTER'S CLAUSILIA. Shell thin, horny, subfusiform, smooth, whorls twelve, apical turbinated, last attenuated below; aperture oblong, raised at the suture; columellar plait large.

ROSSMÄSLER. Pfeiffer. Mon. Hel. II. 399.

*Clausilia substriata*. Küster?

Hab. Sardinia, Corsica.

Species 162. (Mus. Brit.)

CLAUSILIA SEPTEMPLICATA. *Cl. testâ fuscâ, levi, fusiformi, mediâ ventricosâ; anfractibus novenis, ad suturam minutè albo tuberculatis, ultimo prolongato, ad dorsum stigmatè albo elongato flexuoso notato; aperturâ magnâ, margine albo, plicâ parietali minutâ, plicâ columellari elongato, plicis internis et subinternis quinis.*

THE SEVEN-PLAITED CLAUSILIA. Shell brown, smooth, fusiform, middle ventricose; whorls nine, with minute white tubercles at the suture, last prolonged, marked at the back with a white, long, flexuous stigma; aperture large, margin white, parietal plait minute, columellar plait elongated, interior and subinterior plaits five.

PHILIPPI. Pflr. Mon. Hel. II. p. 452.

*Clausilia prasina*. Benson.

*Clausilia sublaris*. Zeigler.

*Clausilia sericina*. Rossmäsler.

Hab. Sicily.

Species 163. (Mus. Sowerby.)

CLAUSILIA MONTANA. *Cl. testâ parvâ, pruinosâ, tenuissimè striatâ, fusiformi; anfractu ultimo ad dorsum infusâ subcarinato, ante aperturam tumido, tum concretato, aperturâ fuscâ, oblongâ, plicâ internâ perpendiculari, columellâ buplicatâ.*

THE MOUNTAIN CLAUSILIA. Shell small, plum-

coloured, very finely striated, fusiform: last whorl with a keel at the back below, tumid before the aperture, then drawn in; aperture fulvous, oblong, with a perpendicular internal plait; columella two-plaited.

MOUSSON. —?

Hab. Mountains in Europe.

Species 164. (Mus. Sowerby.)

CLAUSILIA LOWEL. *Cl. testâ parvâ, pruinosâ, subdistanter liratâ, liris filiformibus; anfractibus decenis, medianis inferioribus convexis; aperturâ subauratâ, multiplicatâ.*

LOWE'S CLAUSILIA. Shell small, plum-coloured, rather distantly ridged, ridges filiform; whorls ten, middle and lower convex: aperture pale orange, many-plaited.

ALBENS. Küster, p. 177.

*Clausilia delostoma*. De Paiva.

Hab. Madeira.

Species 165. (Mus. Sowerby.)

CLAUSILIA VIREX. *Cl. testâ brevî, ventricosâ, pallidè pruinosâ; anfractibus novenis, ad suturam vix antissimè plicatis, ultimo profundè rimato, infra subcarinato; aperturâ magnâ, margine tenui, expanso, plicis parietali et columellari crassis; labio externo superne incrassato.*

THE BRUISE-MARK CLAUSILIA. Shell short, ventricose, pale plum-colour; whorls nine, very finely plaited at the suture, last deeply notched, with a slight keel below; aperture large, margin thin, expanded, parietal and columella thick, outer lip thickened above.

ROSSMÄSLER. Pfeiffer. Mon. Hel. II. p. 455.

*Clausilia diplana*. Heutz.

Hab. Central Croatia.

# CLAUSILIA.

|   | Plate. | Species. |   | Plate. | Species. |
|---|--------|----------|---|--------|----------|
| <i>Abdera</i> , Dupuy .....             | IX.    | 77       | <i>Chersanoxis</i> , Ferrussac .....                | V.     | 41       |
| aculus, <i>Abau</i> .....               | X.     | 94       | <i>eimerea</i> , Schmidt .....                      | XVI.   | 146      |
| albocincta, <i>Pfr. Irissiana</i> ..... |        |          | <i>clathrata</i> , Rossmäsler .....                 | III.   | 23       |
| <i>allongatulata</i> , Meyner .....     | VI.    | 56       | <i>claviformis</i> , Pfeiffer .....                 | XII.   | 108      |
| anatolica, <i>Robbiana</i> .....        | II.    | 11       | <i>Cochin-chinensis</i> , Pfeiffer .....            | XVI.   | 147      |
| aneceps, Zeigler .....                  | IV.    | 30       | <i>colbeaniana-plumbea</i> .....                    |        |          |
| angustata, Biolz .....                  | VI.    | 56       | <i>commutata</i> , Rossmäsler .....                 | IX.    | 85       |
| aquilla, <i>Parreys</i> .....           | XV.    | 137      | <i>compressa</i> , Pfeiffer .....                   | XII.   | 113      |
| Arakana, <i>Thobald</i> .....           | IX.    | 78       | <i>conceilians-pagana</i> .....                     |        |          |
| <i>assimilis</i> , Zeigler .....        | XIV.   | 134      | <i>concentanica</i> , Zeigler .....                 | VI.    | 55       |
| bacillum, <i>Benson</i> .....           | VI.    | 48       | <i>conspersa</i> , <i>Parreys</i> .....             | IV.    | 29       |
| Badia, <i>Zeigler</i> .....             | XII.   | 117      | <i>consimilis</i> , <i>Zeigler</i> .....            | IV.    | 30       |
| Bartletti, <i>A. Adams</i> .....        | I.     | 2        | <i>contaminata</i> , <i>Zeigler</i> .....           | XIV.   | 126      |
| Belcheri, <i>Pfeiffer</i> .....         | XII.   | 107      | <i>cornea-binolabra</i> .....                       |        |          |
| Bergeri, <i>Mayer</i> .....             | XI.    | 103      | <i>corpulenta</i> , <i>Katschik</i> .....           | XIII.  | 124      |
| <i>Bengalensis</i> , Busch .....        | VII.   | 61       | <i>corrugata</i> , Menke .....                      | XV.    | 142      |
| bidens, <i>Linnæus</i> .....            | IX.    | 76       | <i>corticina</i> , <i>Von Busch</i> .....           | XIII.  | 123      |
| bidentula, <i>Macch</i> .....           | IV.    | 31       | <i>cocticolla</i> , <i>Parr</i> .....               | XIII.  | 124      |
| Bielzi, <i>Parreys</i> .....            | III.   | 23       | <i>costulata</i> , <i>Wood</i> .....                | I.     | 1        |
| binotata, <i>R. Smasher</i> .....       | VI.    | 55       | <i>crassicostata</i> , <i>Benoit</i> .....          | VIII.  | 74       |
| bilabiata, <i>Wagner</i> .....          | VII.   | 57       | <i>cruculata</i> , <i>Menke</i> .....               | VI.    | 56       |
| bilabrata, <i>Smith</i> .....           | XIV.   | 135      | <i>cruculata</i> , <i>Ferrussac</i> .....           | V.     | 45       |
| biplacata, <i>Moutagne</i> .....        | I.     | 3        | <i>crispa</i> , <i>Loew</i> .....                   | III.   | 26       |
| <i>hipastulata</i> , Küster .....       | VI.    | 55       | <i>critica</i> , <i>Biolz</i> .....                 | XVII.  | 158      |
| Blanda, <i>Zeigler</i> .....            | VIII.  | 68       | <i>cruda</i> , <i>Schmidt</i> .....                 | XIII.  | 117      |
| Blandiana, <i>Pfeiffer</i> .....        | XVI.   | 155      | <i>cyclostoma</i> , <i>Pfeiffer</i> .....           | VIII.  | 63       |
| Boissieri, <i>Charpentier</i> .....     | XVI.   | 151      | <i>cylindrelleformis</i> , <i>Bourguignat</i> ..... | III.   | 22       |
| Borcensis, <i>Pfeiffer</i> .....        | XV.    | 141      | <i>cylindrica</i> , <i>Hanley</i> .....             | VII.   | 65       |
| bulbus, <i>Benson</i> .....             | VI.    | 51       | <i>cylindrica</i> , <i>Gray</i> .....               | II.    | 18       |
| Buschii, <i>Küster</i> .....            | XV.    | 140      | <i>eamingiana</i> , <i>Pfeiffer</i> .....           | X.     | 88       |
| caerulea, <i>Ferrussac</i> .....        | XVII.  | 156      | <i>dacia</i> , <i>Frisvaldsky's</i> .....           | XI.    | 96       |
| calcare, <i>Philippi</i> .....          | XIV.   | 134      | <i>Dalmatina</i> , <i>Partsch</i> .....             | XVII.  | 157      |
| callosa, <i>Muhlfeld</i> .....          | XV.    | 145      | <i>desipiens</i> , <i>Zeigler</i> .....             | III.   | 19       |
| cambojensis .....                       |        |          | <i>desolata</i> , <i>Zeigler</i> .....              | II.    | 15       |
| Cana, <i>Heldmann</i> .....             | XV.    | 138      | <i>Delessertii</i> , <i>Bourguignat</i> .....       | XV.    | 143      |
| canaliculata, <i>Pfeiffer</i> .....     | XIV.   | 128      | <i>deltostoma</i> , <i>Loew</i> .....               | III.   | 28       |
| candidilabris, <i>Porro</i> .....       | II.    | 17       | <i>Democletiana</i> , <i>Menke</i> .....            | VI.    | 54       |
| cattaroensis, <i>Zeigler</i> .....      | VII.   | 64       | <i>desoxybalis</i> , <i>Zeigler</i> .....           | II.    | 14       |
| castanea, <i>Koster</i> .....           | VIII.  | 68       | <i>denticulata</i> .....                            |        |          |
| castalia, <i>Roth</i> .....             | XIII.  | 125      | <i>deplana</i> , <i>Stentz</i> .....                | XVII.  | 165      |
| cecillei, <i>Philippi</i> .....         | IX.    | 80       | <i>derogata</i> , <i>Jeffreys</i> .....             | II.    | 13       |
| cerea, <i>Menke</i> .....               | VI.    | 49       | <i>diligens</i> , <i>Parreys</i> .....              | IV.    | 31       |
| Charpentieri-cattaroensis .....         |        |          | <i>discolor</i> , <i>Pfeiffer</i> .....             | III.   | 20       |



CLAUSILIA.

| Species                           | Author | Year | Page | Plate   | Page |
|-----------------------------------|--------|------|------|---------|------|
| <i>achilae</i> , Muhlfeldt        | V.     | 41   |      | XIV.    | 132  |
| <i>acanthopis</i> , Parreys       | VIII.  | 65   |      | V.      | 44   |
| <i>adumata</i> , Parreys          | III.   | 19   |      | IV.     | 39   |
| <i>adusta</i> , Pfeiffer          | IV.    | 31   |      | VIII.   | 79   |
| <i>adumata</i> , aniceps          | IV.    | 39   |      | VII.    | 58   |
| Olivieri, <i>Roth</i>             | IV.    | 37   |      | III.    | 24   |
| Olympiae, <i>Frischli</i>         | X.     | 95   |      | VIII.   | 67   |
| <i>opulenta</i> , Zeigler         | XVI.   | 116  |      | XII.    | 114  |
| <i>opulenta</i> , Zeigler         | II.    | 17   |      | IX.     | 77   |
| orthostoma, <i>Mörike</i>         | V.     | 3    |      | XIII.   | 11   |
| ovata, <i>Blattfuß</i>            | VII.   | 69   |      | IX.     | 84   |
| <i>pachygastris</i>               |        |      |      | XI.     | 101  |
| <i>pagana</i> , Zeigler           | X.     | 160  |      | IX.     | 83   |
| <i>papillaris</i> , Bruguière     | IX.    | 75   |      | V.      | 41   |
| <i>paradoxica</i> , Zeigler       | IV.    | 39   |      | XI.     | 104  |
| Parreysii, <i>Zeigler</i>         | VI.    | 49   |      | XVII.   | 162  |
| <i>parvula</i> , Stüber           | III.   | 21   |      | XVII.   | 162  |
| perarata, <i>Martini</i>          | XIII.  | 119  |      | V.      | 46   |
| <i>phalacata</i> , Zeigler        | VIII.  | 67   |      | XIV.    | 131  |
| Phaedusa, <i>A. Adams</i>         | I.     | 5    |      | XIII.   | 121  |
| Philippiana, <i>Pfeiffer</i>      | IV.    | 35   |      | XI.     | 98   |
| <i>pikermaniana</i>               |        |      |      | IX.     | 77   |
| <i>petrosa</i> , Parreys          | XII.   | 119  |      | XV.     | 139  |
| <i>plumbalis</i> , Rossmäsler     | VII.   | 57   |      | V.      | 47   |
| Platydera, <i>Martens</i>         | X.     | 99   |      | V.      | 42   |
| <i>plicata</i> , Draparnaud       | IV.    | 39   |      | VIII.   | 66   |
| <i>plicatula</i> , Montagna       | X.     | 86   |      | XIV.    | 133  |
| <i>pliosa</i> , Ferrussac         | IV.    | 39   |      | VIII.   | 68   |
| <i>plebeja</i> , Zeigler          | IV.    | 39   |      | VIII.   | 67   |
| <i>plumbea</i> , Rossmäsler       | V.     | 49   |      | XVII.   | 161  |
| <i>porcata</i> , Zeigler          | VII.   | 73   |      | XVII.   | 162  |
| <i>postica</i> , Benson           | XVII.  | 192  |      | VIII.   | 66   |
| <i>proxima</i> , Wiedlerhoff      | XVI.   | 153  |      | IX.     | 75   |
| <i>prunilla</i> , Parreys         | V.     | 41   |      | XI.     | 97   |
| <i>pulchra</i> , Parreys          | IV.    | 39   |      | VII.    | 59   |
| <i>punctata</i> , Michaud         | VI.    | 55   |      | II.     | 15   |
| <i>pygmaea</i>                    | V.     | 41   |      | III.    | 25   |
| <i>pygmaea</i> , Charpentier      | V.     | 45   |      | XIV.    | 139  |
| <i>rariba</i> , Zeigler           | VIII.  | 73   |      | III.    | 27   |
| Raymondi, <i>Bonigniant</i>       | XVI.   | 150  |      | V.      | 39   |
| <i>Rebonii</i> , Charpentier      | V.     | 45   |      |         |      |
| <i>reflexa</i> , Zeigler          | VII.   | 57   |      |         |      |
| <i>reflexalis</i> , Cantraine     | VII.   | 57   |      |         |      |
| regalis = plumbea.                |        |      |      |         |      |
| Roviana, <i>Kobell</i>            | XIV.   | 129  |      | IX.     | 77   |
| <i>relusa</i> , Parreys           | V.     | 42   |      | II.     | 19   |
| Rolphii, <i>Leich</i>             | III.   | 24   |      | II.     | 13   |
| <i>rudis</i> , Pfeiffer           | XII.   | 189  |      | I.      | 1    |
| <i>rugata</i> , Parreys           | V.     | 41   |      | V, XVI. | 45   |
| <i>rugulabris</i> , Monsson       |        |      |      | XIV.    | 132  |
| <i>rugosa</i> , Draparnaud        |        |      |      | V.      | 44   |
| <i>rustica</i> , Zeigler          |        |      |      | IV.     | 39   |
| Sandbergeri, <i>Monsson</i>       |        |      |      | VIII.   | 79   |
| Sanderii, <i>Kosch</i>            |        |      |      | VII.    | 58   |
| <i>sattels</i> , Schundl          |        |      |      | III.    | 24   |
| <i>sativata</i> , Zeigler         |        |      |      | VIII.   | 67   |
| <i>scalaris</i> , Pfeiffer        |        |      |      | XII.    | 114  |
| <i>Scheibleri</i> , Zschok        |        |      |      | IX.     | 77   |
| Schmidti, <i>Pfeiffer</i>         |        |      |      | XIII.   | 11   |
| Seiversi, <i>Pfeiffer</i>         |        |      |      | IX.     | 84   |
| <i>semidenticulata</i> , Pfeiffer |        |      |      | XI.     | 101  |
| <i>semilamellata</i> , Monsson    |        |      |      | IX.     | 83   |
| <i>semirugata</i> , Zeigler       |        |      |      | V.      | 41   |
| <i>sericata</i> , Pfeiffer        |        |      |      | XI.     | 104  |
| <i>sericina</i> , Rossmäsler      |        |      |      | XVII.   | 162  |
| <i>septemplicata</i> , Philipp    |        |      |      | XVII.   | 162  |
| Shanghaiensis, <i>Pfeiffer</i>    |        |      |      | V.      | 46   |
| <i>sioula</i> , Benoit            |        |      |      | XIV.    | 131  |
| Sieboldii, <i>Pfeiffer</i>        |        |      |      | XIII.   | 121  |
| Somehetica, <i>Pfeiffer</i>       |        |      |      | XI.     | 98   |
| <i>speciosa</i> , Pfeiffer        |        |      |      | IX.     | 77   |
| <i>stigmatica</i> , Zeigler       |        |      |      | XV.     | 139  |
| Stimpsoni, <i>Adams</i>           |        |      |      | V.      | 47   |
| <i>strangulata</i> , Ferrussac    |        |      |      | V.      | 42   |
| <i>strebicollis</i> , Parreys     |        |      |      | VIII.   | 66   |
| <i>stramineicollis</i> , Parreys  |        |      |      | XIV.    | 133  |
| <i>striata</i> , Muhlfeldt        |        |      |      | VIII.   | 68   |
| <i>styracis</i> , Parreys         |        |      |      | VIII.   | 67   |
| <i>subsericata</i> , Küster       |        |      |      | XVII.   | 161  |
| <i>subsericea</i> , Zeigler       |        |      |      | XVII.   | 162  |
| <i>succineata</i> , Zeigler       |        |      |      | VIII.   | 66   |
| <i>sulcatana</i> , Gené           |        |      |      | IX.     | 75   |
| <i>sulcosa</i> , Wagner           |        |      |      | XI.     | 97   |
| <i>sumatrana</i> , Martens        |        |      |      | VII.    | 59   |
| <i>superstrata</i> , Parreys      |        |      |      | II.     | 15   |
| Swinhoei, <i>Pfeiffer</i>         |        |      |      | III.    | 25   |
| <i>syrausana</i> , Philipp        |        |      |      | XIV.    | 139  |
| <i>talida</i> , Küster            |        |      |      | III.    | 27   |
| <i>teniata</i> , Zeigler          |        |      |      | V.      | 39   |
| <i>taurica</i>                    |        |      |      |         |      |
| Taylori, <i>Pfeiffer</i>          |        |      |      | I.      | 6    |
| <i>tenax</i> , Parreys            |        |      |      | III.    | 23   |
| teres, <i>Olivier</i>             |        |      |      | XIII.   | 120  |
| <i>Tetelachiana</i> , Pfeiffer    |        |      |      | IX.     | 77   |
| <i>torticollis</i> , Olivier      |        |      |      | II.     | 19   |
| <i>Transylvania</i> , Stentz      |        |      |      | II.     | 13   |
| <i>tridens</i> , Chemnitz         |        |      |      | I.      | 1    |
| Tristani, <i>Pfeiffer</i>         |        |      |      | V, XVI. | 45   |

CLAUSILIA.

|                                     | Plate. | Species. |                                   | Plate | Species. |
|-------------------------------------|--------|----------|-----------------------------------|-------|----------|
| tuba, <i>Honby</i> .....            | VIII.  | 72       | vetusta, <i>Zeigler</i> .....     | X.    | 93       |
| turritella, <i>Sowerby</i> .....    | VII.   | 65       | viridis, <i>Muhlfeldt</i> .....   | VIII. | 67       |
| vallata, <i>Monsson</i> .....       | V.     | 43       | virgata, <i>Jan</i> .....         | IX.   | 76       |
| valida, <i>Pfeiffer</i> .....       | VI.    | 52       | vitrea, <i>Bielz</i> .....        | VI.   | 54       |
| varians, <i>Zeigler</i> .....       | XVI    | 152      | vitrea, <i>Stentz</i> .....       | IX.   | 76       |
| vellata, <i>Adams</i> .....         | V.     | 43       | Walderdorfii = <i>Gouldiana</i> . |       |          |
| ventricosa, <i>Draparnaud</i> ..... | IV.    | 34       | Yokohamensis, <i>Crosse</i> ..... | IX.   | 82       |
| ventricosa = <i>Montana</i> .       |        |          |                                   |       |          |



MONOGRAPH

OF THE GENUS

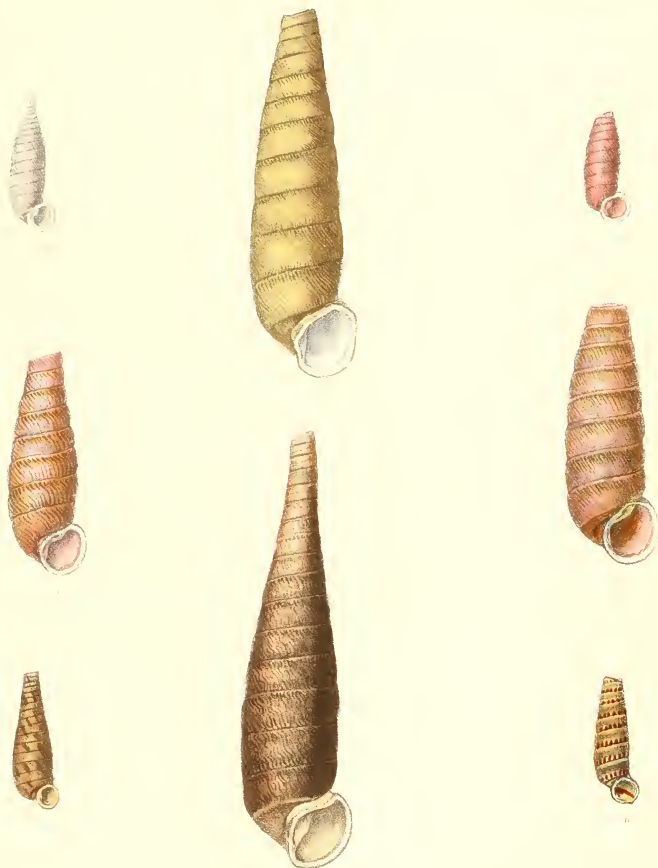
CYLI N D R E L L A.

O LORD of heaven, and earth, and sea,  
To Thee all praise and glory be ;  
How shall we show our love to Thee,  
Who givest all ?

*Bishop Christopher Wordsworth.*







# CYLINDRELLA.

PLATE I.

Genus CYLINDRELLA, Pfeiffer.

*Testa terrestris, elongata-turrita, plerumque dextralis; anfractibus numerosis, apicalibus, deciduis; apertura plerumque ovata, margine continuo.*

Shell terrestrial, elongate-turreted, generally dextral; whorls numerous, apical, deciduous; aperture usually ovate, with continuous margin.

The *Cylindrella* are much more variable in form than the *Chausiis*, and are without the internal plate or *chousium* which distinguish that genus. The first-formed whorls generally fall off when the shell is advanced in growth. In many species the aperture is brought round suddenly, so as to form a sort of evase (*rima*) with the coiled part of the body-whorl. In others the last whorl is distorted or uncoiled (*solutus*), so as to place the aperture at a distance from the body of the shell. In a very few, the margin of the aperture is interrupted by the ventral bulge of the whorl. Considerably more than one-third of the reported species are from the island of Cuba, one-fifth from Jamaica; another fifth would be made up between Haiti and Mexico; leaving very few for a dozen other isolated localities, including Great Britain, which produces four or five.

## Species 1. (Mus. Brit.)

CYLINDRELLA ASPERA. *Cyl. testâ solidâ, pupiformi, albâ vel rosâ, striatâ, versus apicem pyramidatâ; medio et infra cylindricâ; anfractibus scaberrimis, apicalibus inclusis, ultimo rimato; apertura subrotundâ, margine crasso, columellâ intus plicatâ.*

THE ROUGH CYLINDRELLA. Shell solid, pupiform, whitish or rose, striated, pyramidal towards the apex, cylindrical in the middle and below; whorls sixteen (including apical), last notched; aperture rather round, margin thick, columella plated within.

ADAMS. Pfeiffer, Mon. III. p. 564.

Hab. Jamaica.

## Species 2. (Mus. Brit.)

CYLINDRELLA SPECIOSA. *Cyl. testâ magnâ, solidiusculâ, cylindrico-subpyramidatâ, oblique striatâ, olivaceâ,*

*ventricosâ; anfractibus permanentibus undecenis, paulo convexis, ad suturam crevatis, quinque inferioribus subaequalibus, ultimo angulato, contracto, longè rimato, supra aperturam arcuato; apertura auriformi, margine superiori subhyaloso, columellâ rix plicatâ.*

THE SPECIOUS CYLINDRELLA. Shell large, rather solid, cylindrico-subpyramidal, obliquely striated, olive, ventricose; permanent whorls eleven, a little convex, everted at the suture, five lower nearly equal, last angular, contracted, with a long crease, arched above the aperture; aperture auriform, upper margin rather flexuous, columella hardly plicated.

DUNKER. Pfeiffer, Mon. IV. p. 695.

Hab. Columbia.

This handsome species loses its primary whorls far down from the apex, so as to make a broadly-truncated break.

## Species 3. (Mus. Brit.)

CYLINDRELLA SPLENDIDA. *Cyl. testâ ventricosâ, solidiusculâ, oblique costatâ, convexiusculâ; anfractibus permanentibus octonis, mediis inflatis, ultimo contracto, longè rimato, supra marginem aperturae arcuato; apertura auriformi, columellâ leviter biphicatâ.*

THE SPLENDID CYLINDRELLA. Shell ventricose, rather solid, obliquely ribbed, fleshy violet; permanent whorls eight, middle inflated, last contracted, with a long notch, arched above the margin of the aperture; aperture auriform, columella slightly biphicated.

PFEIFFER. Proc. Zool. Soc. 1860, p. 139.

Hab. Mexico.

## Species 4. (Mus. Brit.)

CYLINDRELLA GRANDIS. *Cyl. testâ magnâ, cylindricâ, latâ, tenuiusculâ, tenuiter striatâ, fusco-rubescenti, suturâ albid-marginatâ; anfractibus permanentibus octonis, altis, quateris inferioribus subaequalibus, ultimo contracto, angulato, profundè rimato; apertura magnâ, latè subovata; columellâ rectiusculâ.*

CYLINDRELLA.—PLATE I.

THE LARGE CYLINDRELLA. Shell large, cylindrical, broad, finely striated, reddish-brown, suture bordered with whitish; permanent whorls eight, high, the four lower nearly equal, last contracted, angular, deeply notched; aperture large, broadly subovate; columella rather straight.

PFEIFFER. Proc. Zool. Soc. 1860, p. 139.

Hab. Mexico.

Much more cylindrical than the preceding, and more finely sculptured.

Species 5. (Mus. Brit.)

CYLINDRELLA ARISTISPICA. *Cyl. testâ solidâ, subpyramidatâ, infra medium tumidâ, fusco-olivaceâ, fusco-rubescenti strigatâ, regulariter striatâ, superne contractâ, mediâ et infra subventricosâ; anfractibus permanentibus secedentibus, depressis, ultimo contracto, rimato; aperturâ subrotundâ, margine crasso, rotundo, columellâ subplicatâ.*

THE CORN-SPIKE CYLINDRELLA. Shell solid, rather pyramidal, tumid below the middle, olive-brown, striped with reddish-brown, regularly striated, contracted above, rather ventricose in the middle and below; permanent whorls sixteen, depressed, last contracted, notched; aperture roundish, margin thick, round, columella slightly plaited.

PFEIFFER. ? MS. Mus. Brit.

Hab. — ?

Species 6. (Mus. Brit.)

CYLINDRELLA EXIMA. *Cyl. testâ solidâ, cylindricâ, retigonâ, lorigatâ, griseâ, supra suturam fascia-*

*fulvâ, maculis rubris articulatâ, infra suturam fascia-fulvâ, immaculatâ, ornatâ; anfractibus permanentibus octonis, ultimo angulato, subcontracto; aperturâ subtrapezoidâ.*

THE EXQUISITE CYLINDRELLA. Shell solid, cylindrical, straight-sided, smooth, grey, ornamented above the suture with a fulvous band articulated with red spots, and under the suture with a spotless fulvous band; permanent whorls eight, last angular, rather contracted; aperture subtrapezoidal.

PFEIFFER. Proc. Zool. Soc. 1858, p. 23.

Hab. Haiti.

Species 7. (Mus. Brit.)

CYLINDRELLA GHEISBREGHTI. *Cyl. testâ magnâ, solidâ, fumoso-fuscâ, mediâ et infra latâ, bulbosâ, superne contractâ; sulcis irregulariter undatis rugatâ; anfractibus permanentibus secedentibus, superioribus senis angustis, alteris gradatim crescentibus, ultimo infra contracto, angulato, rimato, supra marginem superiorem aperturæ fornicato; columellâ uniplicatâ.*

GHEISBREGHT'S CYLINDRELLA. Shell large, solid, smoky-brown, broad and bulbous in the middle and below, contracted above, wrinkled with irregular, wavy grooves; permanent whorls sixteen, upper six narrow, others gradually increased, last contracted below, angular, notched, vaulted above the upper margin of the aperture; columella single-plaited.

PFEIFFER. Mon. IV. p. 694.

Hab. Chiapa, Mexico.

A large shell of remarkably bulbous form and wrinkled texture.







# CYLINDRELLA.

PLATE II.

Species 8. (Mus. Brit.)

**CYLINDRELLA FLAMMULATA.** *Cyl. testâ pupæformi, solitâ, grisâ, fusco-corneo-flammulatâ, lævigatâ; anfractibus rectiusculis, ultimo contracto, angustâ, 5 medianis subæqualibus, deinde versûs apicem contractis; labio integro subrotunda, simplici.*

**THE FLAMULD CYLINDRELLA.** Shell pupa-shaped, solid, grey with horn-brown flames, smooth; whorls rather straight, the last contracted, narrow, five middle nearly equal, thence towards the apex contracted; lip entire, rather round, simple.

PEFFER. Monograph ii.

*Cylindrella planulata*, Pfeiffer.

*Hab.* Hayti—St. Domingo.

Species 9. (Fig. a, b, Mus. Brit.)

**CYLINDRELLA CYLINDRUS.** *Cyl. testâ pupæformi, tenuiter striatâ, rosâ, purpureâ vel albâ, anfractibus rectiusculis, ultimis 5 subæqualibus, deinde versûs apicem contractis; aperturâ productâ, labio simplici, columellâ intus planâ.*

**THE CYLINDER CYLINDRELLA.** Shell pupa-shaped, finely striated; pink, purple, or white whorls rather straight, five last nearly equal, thence towards the apex contracted; aperture produced; lip simple; columella flattened within.

CHEMNITZ. Conchological Cabinet.

*Cylindrella purpurea*, Gray.

*Pupa rosea*, Adams.

*Cylindrella rubella*, Adams.

*Cylindrella proceva*, Adams.

*Hab.* Jamaica.

Species 10. (Mus. Brit.)

**CYLINDRELLA ZONATA.** *Cyl. testâ pupæformi, tenuiter striatâ, purpureâ, purpureo-nigrescenti latè zonatâ; anfractibus latis, altis, 5 ultimis subæqualibus,*

*deinde gradatim contractis; aperturâ subproductâ, subpupæformi, intus flexuosa, labio rotundo.*

**THE BANDED CYLINDRELLA.** Shell pupa-shaped, finely striated, purple, broadly banded with blackish-purple; whorls broad, elevated, five last nearly equal, then gradually contracted; aperture rather produced, rather auriform, flexuous within, lip rounded at the margin.

C. B. ADAMS. Pfeiffer's Monograph.

*Hab.* Jamaica.

Species 11. (Mus. Brit.)

**CYLINDRELLA ROSEA.** *Cyl. testâ angustâ, cylindricâ, acutè tenuiter striatâ, rosâ, anfractibus rectiusculis; 5 ultimis subæqualibus, ultimo infirè contracto, aperturâ vir solutâ, aperturâ subquadratâ; columellâ intus latâ.*

**THE PINK CYLINDRELLA.** Shell narrow, cylindrical, sharply and finely striated, pink, whorls rather straight; five last whorls rather equal, last contracted below; aperture scarcely uncoiled, aperture rather square; columella broad within.

CHEMNITZ. Conch. tab. 2. f. 31, 32.

*Hab.* Jamaica.

In this species, as in *C. aspera*, the striae are sharp and fine.

Species 12. (Mus. Brit.)

**CYLINDRELLA SANGUINEA.** *Cyl. testâ subpupæformi, sanguinâ, tenuiter striatâ, medio subinflatâ, versûs apicem contractâ; anfractibus depressis, numerosis; aperturâ subquadratâ, labio incrassato.*

**THE SANGUINEOUS CYLINDRELLA.** Shell rather pupa-shaped, blood-coloured, finely striated, a little inflated in the middle, contracted towards the apex; whorls depressed, numerous; aperture rather square, lip thickened.

CHEMNITZ. Conch. 7, t. 1, figs. 18-20.

*Cylindrella cornua*, Adams.

*Hab.* Jamaica.

CYLINDRELLA.—PLATE II.

Species 13. (Mus. Brit.)

CYLINDRELLA OVIEDOIANA. *Cyl. testâ elongato-cylindricâ, versus apicem gradatim attenuatâ, cornuâ, medio rubrâ, striâ rectiusculis tenuiter liratâ; ultimo anfractu alto; aperturâ lateraliter productâ, rotundâ, margine integro, rotundo.*

THE OVIEDO CYLINDRELLA. Shell elongated-cylindrical, gradually attenuated towards the apex, horny, red in the middle, finely ridged with rather straight striae; last whorl elevated; aperture laterally produced, rounded, margin entire, rounded.

D'ORBIGNY. Mollusca of the Isl. of Cuba, tab. 12, f. 15-17.

*Hab.* Cuba.

Species 14. (Mus. Brit.)

CYLINDRELLA PROCERA. *Cyl. testâ ventricosâ, pupæformâ, tenuissimè striatâ; anfractibus 4 ultimis subæqualibus, altis, latis, deinde alteris gradatim angustioribus; aperturâ rotundo-subquadratâ; columellâ leviter plicatâ, labio crasso, rotundo.*

THE ELEVATED CYLINDRELLA. Shell ventricose, pupa-shaped, very finely striated; four last whorls nearly equal, elevated, broad, thence others gradually narrowing; aperture roundly-subquadrate; columella lightly plaited, lip thick, round.

C. B. ADAMS. Shells of Jamaica.

*Hab.* Jamaica.

Species 15. (Mus. Brit.)

CYLINDRELLA AMETHYSTINA. *Cyl. testâ cylindricâ, rectiusculâ levigatâ, rubro-purpureâ; anfractibus superne fusco fasciatis; aperturâ magnâ, subrotundâ, labio subspanso, profundè incrassato.*

THE AMETHYSTINE CYLINDRELLA. Shell cylindrical, rather straight, smooth, purplish-red; whorls banded above with brown; aperture large, rather rounded, lip somewhat expanded, deeply thickened.

CHITTY. Pfeiffer's Monograph I.

*Hab.* Jamaica.

A more straight-sided shell than others of the same group.

Species 16. (Mus. Brit.)

CYLINDRELLA ADAMSIANA. *Cyl. testâ breviter cylindricâ, tenui, levi, cornu variegatâ, ad suturam fusco alboque articulatâ; aperturâ obliquâ, lateraliter subproductâ, labio rotundo.*

THE ADAMSIAN CYLINDRELLA. Shell shortly cylindrical, thin, smooth, variegated with horn-colour, articulated with brown and white at the suture; aperture oblique, a little produced laterally; lip rounded.

PFEIFFER. Monographia Heliceorum, I.

*Hab.* Hayti.





# CYLINDRELLA.

PLATE III.

Species 17. (Mus. Brit.)

*CYLINDRELLA VENTRIOSA.* *Cyl. testâ brevis, ventricosa, medio inflata, supra inâtrique angustata, anfractibus purpureo alboque strigatis, ultimo brevi, angusto, post columellam excavato; apertura parva, rotunda.*

THE VENTRILOSE CYLINDRELLA. Shell short, ventricose, inflated in the middle, narrowed above and below, whorls striped with purple and white, last short, narrow, hollowed behind the columella; aperture small, round.

GUÉDÉSCHE. Pflr. Novit. Conch. p. 250.

*Hab.* Cuba.

Species 18. (Mus. Brit.)

*CYLINDRELLA GRAVESII.* *Cyl. testâ brevi, subcylindrica, infra fusca, supra albâ, anfractibus rectisæculis, ultimis subæqualibus, diantè versus apicem subito contractis; ultimo rimato, breviter soluto; apertura lateraliter subproductâ, rotundâ, margine rotundo.*

GRAVES'S CYLINDRELLA. Shell short, subcylindrical, brown below, whitish above, whorls rather straight, the last nearly equal, thence towards the apex suddenly contracted; last notched, shortly loosened; aperture rather produced laterally, rounded, with rounded edge.

ADAMS. Pfeiffer, Monographia Helicorum, iii. 570.

*Hab.* Jamaica.

Species 19. (Mus. Brit.)

*CYLINDRELLA SUTURALIS.* *Cyl. testâ brevi, pupæformi, vix rimata, tenuissimè striata, nitens, cornâ, medio ventricosâ, apice attenuata, acuto, suturâ castanea marginatâ; anfractibus 12, convexissimè, ultimo vix soluto, apertura obliquâ, subcirculâri, margine tenui, breviter expanso.*

THE SUTURED CYLINDRELLA. Shell short, pupa-shaped, scarcely notched, rather thin, obliquely very minutely striated, shining, horn-coloured, ventri-

cose in the middle, apex attenuated, sharp, suture bordered with chestnut; whorls twelve, rather convex, last very slightly loosened; aperture oblique, rather circular, with thin edge, slightly expanded.

WINDLAND. Mal. Bl. ix. 1862, p. 194.

*Hab.* Haiti.

Species 20. (Mus. Brit.)

*CYLINDRELLA SOWERBYANA.* *Cyl. testâ subpyramidata, griseo-fusca, subrimata, anfractibus vix convexè elegantè obliquè levatis, versus apicem gradatè attenuatis, ultimo infra subcorcinato; apertura subrotundâ; columellâ intus laminatâ plicatâ.*

SOWERBY'S CYLINDRELLA. Shell subpyramidal, brown grey, slightly notched; whorls scarcely convex, elegantly obliquely ridged, gradually attenuated towards the apex, the last slightly keeled below; aperture rather rounded; columella with a laminar plait within.

PETITFER. Monographia Helicorum, iii. 372.

*Hab.* Isl. of Cuba.

Species 21. (Mus. Brit.)

*CYLINDRELLA CÆRLANS.* *Cyl. testâ angustâ, elongatâ, subcordeâ, fusco-griseo undulatim strigatâ, versus apicem attenuatâ, medio vix inflata, anfractibus convexissimè, numerosis, ultimâ contractâ, apertura subobliquâ, intus uniplicatâ, marginè tenui.*

THE BLUSH CYLINDRELLA. Shell narrow, elongated, bluish, with undulating greyish-brown stripes, attenuated towards the apex, slightly inflated in the middle; whorls rather convex, numerous, last contracted; aperture rather oblique, single-plaited within, margin thin.

POEY. Pfeiffer, Mon. Hel. iv. 700.

*Hab.* Cuba.

## Species 22. (Mus. Brit.)

CYLINDRELLA DENTICULATA. *Cyl. testâ angustâ, attenuatâ, elongatâ, fusco strigatâ, ad suturam denticulatâ, versûs spiram contractâ, suprâ medianâ et infrâ rectiusculo, cylindraco; aperturâ suboblîquâ productâ.*

THE DENTICULATED CYLINDRELLA. Shell narrow, attenuated, elongated, striped with brown, denticulated at the suture, contracted towards the spire, rather straight and cylindrical above the middle and below, aperture rather obliquely produced.

PFEIFFER. Chem. p. 65.

Hab. Mexico.

The suture is denticulated with little white points.

## Species 23. (Mus. Brit.)

CYLINDRELLA SHUTTLEWORTHIANA. *Cyl. testâ elongatâ, angustatâ, cylindraccâ, subpellucidâ, pallidâ fulvâ; anfractibus sublisteranter obliquè liris, superioribus contractis, medianis et inferioribus subequalibus, rectiusculis; ultimo elongato, infrâ subcorinato, soluto; aperturâ subtrigona, obliquè productâ.*

SHUTTLEWORTH'S CYLINDRELLA. Shell elongated, narrow, cylindrical; rather pellucid, pale fulvous, whorls rather distantly obliquely ridged, the upper ones contracted, middle and lower ones rather equal, rather straight, last elongated, slightly keeled below, loosened; aperture subtrigonal, obliquely produced.

POEY. Chemnitz, p. 18.

Hab. Cuba.

## Species 24. (Mus. Brit.)

CYLINDRELLA PUNCTURATA. *Cyl. testâ pupæformi, brevî, suprâ subrosâ, infrâ albidâ, medio inflato, versûs apicem gradatim contracto; suturâ articulatim punctatâ; anfractibus rectiusculis, ultimo subcontracto; aperturâ magnâ, subcontractâ, margine rotundo.*

THE PUNCTURED CYLINDRELLA. Shell pupa-shaped, short, rather pink above, whitish below, inflated in the middle, gradually contracted towards the apex, suture marked with articulated spots; whorls rather straight, the last a little contracted; aperture large, somewhat contracted, margin rounded.

PFEIFFER. Proc. Zool. Soc., 1852.

Hab. St. Domingo.

## Species 25. (Mus. Brit.)

CYLINDRELLA HUMBOLDTIANA. *Cyl. testâ sinistrorsâ, subcylindricâ, pallidâ fulvâ, tenuissimè striatâ; anfractibus rectiusculis versûs spiram angustatis; ultimo elongato; aperturâ obliquâ, columellâ uniplicatâ.*

HUMBOLDT'S CYLINDRELLA. Shell sinistral, subcylindrical, pale fulvous, very finely striated; whorls rather straight, narrowed towards the spire, last elongated; aperture oblique, with one plait on the columella.

PFEIFFER. Chem. p. 14, t. 2, f. 20, 24.

Hab. Columbia, Ferr.

Hab. Cuba.

## Species 26. (Mus. Brit.)

CYLINDRELLA MACROSTOMA. *Cyl. testâ brevî, profundè rimatâ, solidâ, confertè striatâ, spirâ sursum attenuatâ, medio et infrâ subventricosâ; anfractibus vir convexis, ultimo infrâ subattenuato, basi corinato; aperturâ ovatâ, labio albo, incrassato, expanso.*

THE LARGE-MOUTHED CYLINDRELLA. Shell short, deeply notched, solid, closely striated, spire attenuated above, rather ventricose above and below; whorls scarcely convex, the last a little lengthened below, keeled at the base, aperture ovate, lip white, thickened, expanded.

PFEIFFER. Chemn. p. 73.

Hab. Jamaica.





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# CYLINDRELLA.

PLATE IV.

Species 27. (Mus. Brit.)

**CYLINDRELLA ALBO-CRENATA.** *Cyl. testis brevis, subcylindrica, solidula, obliquè striatà, conico et albidis variegatà; spirà medio subinflatà, versùs apicem attenuatà, anfractibus superiè ad suturam nodulis albis crenatis, ultimo angustato, subsolato, infra curvato; aperturà obliquè subrotundà, columellà uniplicatà.*

**THE WHITE-CRENATED CYLINDRELLA.** Shell small, rather ventricose, rather solid, obliquely striated, variegated with horn-colour and white; spire a little inflated in the middle, attenuated towards the apex; whorls crenated above at the suture with white nodules, last narrow and somewhat uncoiled, keeled at the bottom; aperture obliquely somewhat rounded; columella single-plaited.

GÜNDLACH. Pfeiffer, Malak. Bl. xi. 1863, p. 7.  
*Hab.* Isl. Cuba.

Species 28. (Mus. Brit.)

**CYLINDRELLA OBLIQUA.** *Cyl. testis angustà, subcylindricà, fulvè albique mchulatà, fusco-griseoscenti lineis illis strigatà, obliquè liratà, ad suturam crenulatà, anfractibus rectis aculis angustis, penultimo et supra quoque subequalibus, spirà versùs apicem attenuatà; aperturà perobliquè ovatà, labio externo producta.*

**THE OBLIQUE CYLINDRELLA.** Shell narrow, subcylindrical, clouded with brown and white, striped here and there with greyish brown, obliquely ridged, crenulated at the suture, whorls rather straight, narrow, the penultimate and five above nearly equal; spire attenuated towards the apex; aperture very obliquely ovate, outer lip produced.

PFEIFFER. Malak. Bl. xi. 1863.  
*Hab.* Isl. of Cuba.

Species 29. (Mus. Brit.)

**CYLINDRELLA PERPLICATA.** *Cyl. testis subfusiformi, angustè, cornè, anfractibus convexis plicatis apicalibus angustatis, medianis inflatis, ultimo convexato, longè levato, plicis anfractuam obliquis, distantibus, prominentibus, medio depressis; aperturà renatà, subrotundà, margine rotundo, columellà haud plicatà.*

**THE WELL-PLAITED CYLINDRELLA.** Shell rather fusiform, narrow, horny; whorls convex, plaited, the apical ones narrow, middle ones inflated, last contracted, much uncoiled, plaits of the whorl-oblique, distant, prominent, depressed in the middle; aperture remote, a little rounded, margin round, columella not plaited.

FERRUSSAC. Pfeiffer, Mon. Helic. ii.  
*Hab.* West Indies.

Species 30. (Mus. Brit.)

**CYLINDRELLA PALLIDA.** *Cyl. testis parvè pallidà, fusiformi, versùs apicem attenuatà, medio inflato; anfractibus raris convexis, ultimo infra angustato, longè levato, plicis anfractuam arcuatis, acutis subultrastantibus; aperturà renatà, rotundà; columellà haud plicatà.*

**THE PALE CYLINDRELLA.** Shell small, pale, fusiform, attenuated towards the apex, inflated in the middle; whorls scarcely convex, the last narrow beneath, a long portion unrolled; plaits of the whorls curved, sharp, rather distant; aperture remote, rounded, columella not plaited.

GÜLDING. Bland in Adams's Contributions to Conchology.

*Brechypus costatus*, Gray.  
*Cylindrella costulosa*, Adams.  
*Hab.* Porto Rico, Isl. St. Thomas.

Species 31. (Mus. Brit.)

**CYLINDRELLA PURPURA.** *Cyl. testis pallidè purpurei, elongatè, angustatè, superiè medium paulò inflatè, anfractibus distanter fusco strigatis, plicis eleganter arcuatis, tenibus numerosis lyratis, ultimo elongato, paulò obliquè soluto; aperturà obliquè, ovatà, columellà uniplicatà.*

**THE PURPLE-COLOURED CYLINDRELLA.** Shell pale purple, elongated, narrow, a little inflated above the middle, whorls distantly striped with brown, ridged with elegantly curved, thin, numerous plaits; the last elongated, a little obliquely loosened; aperture oblique, oval.

MORELET. In Chemnitz, p. 39.  
*Hab.* Isl. of Pines, near Cuba.

## Species 32. (Mus. Brit.)

CYLINDRELLA HERORATA. *Cyl. testâ cylindricâ, angustâ, rectâ, elongatâ, strigis undulatis parvis, interruptis variegatâ, anfractibus rectis, altis, versûs apicem contractis; aperturâ magnâ, auriformi, obliquâ, labio exte: no anticè producto, superne depresso; columellâ uniplicatâ.*

THE SPEINKLED CYLINDRELLA. Shell cylindrical, narrow, straight, elongated, variegated with undulating, small, interrupted stripes; whorls straight, elevated, contracted towards the apex; aperture large, auriform, oblique, outer lip produced anteriorly, depressed above; columella with one plait.

GUNDLACH. Chem. p. 64.

Hab. Cuba.

## Species 33. (Mus. Brit.)

CYLINDRELLA ELONGATA. *Cyl. testâ sinistrâ, albâ, tenuiter striatâ, gracile, fusiformi; anfractibus 14, convexis, altis, versûs apicem contractis, infrâ medium inflatis, ultimo brevi, infrâ validè carinato; aperturâ magnâ, ovatâ, infrâ subacuminatâ, labio exte: no expanso, infrâ vix plicatâ.*

THE ELONGATED CYLINDRELLA. Shell sinistral, white, finely striated, slender, fusiform; whorls fourteen, convex, elevated, contracted towards the apex; inflated towards the middle, the last short, with a strong keel below; aperture large, oval, rather acuminated below, inner lip expanded, with a very slight plait below.

CHEMNITZ. Conch. Cab. p. 58.

*Helix Chemnitziana*, Ferrussac.

*Pupa gracilis*, Sowerby.

*Cylindrella Cumingii*, Adams.

Hab. Jamaica.

## Species 34. (Mus. Brit.)

CYLINDRELLA FASTIGIATA. *Cyl. testâ breviter rotatâ, subulatâ, solidulâ, subtiliter validè costatâ, griseo-albidâ; inter costas purpureo; spirâ gracile, longè productâ, anfractibus brevibus, numerosis, rotundis, ultimo infrâ validè compresso, carinatâ, infrâ carinam striatâ, breviter saluto; aperturâ subtrigonâ, lateraliter breviter productâ, columellâ vix plicatâ.*

THE BOUND CYLINDRELLA. Shell shortly notched, subulate, rather solid, rather distantly strongly ribbed, greyish white, purple between the ribs; spire slender, much produced, whorls short, numerous, rounded; last much compressed beneath, keeled, striated below the keel, shortly produced; columella very slightly plaited.

GUNDLACH. MS. Pfeiffer in Malak. Bl. viii. 1860. p. 20.

Hab. Baracoa, Cuba.

## Species 35. (Mus. Brit.)

CYLINDRELLA GOSSEL. *Cyl. testâ pallidè fulvâ; tenuiter acutè striatâ, subpyramidatâ, versûs apicem gradatim attenuatâ, infrâ medium vix inflatâ; anfractibus rectiusculis, ultimo infrâ carinato, subcontracto, infrâ carinam subexcavato; aperturâ magnâ, ovatâ, columellâ plicatâ.*

GOSSE'S CYLINDRELLA. Shell pale fulvous; finely acutely striated, subpyramidal, gradually attenuated towards the apex, very little inflated below the middle; whorls rather straight, the last keeled below, slightly contracted, somewhat excavated below the keel; aperture large, ovate, columella plaited.

PFEIFFER. Chem. p. 70.

Hab. Jamaica.

## Species 36. (Mus. Brit.)

CYLINDRELLA ELEGANS. *Cyl. testâ subfusiformi, rubro-fulvâ, levi, medio subinflatâ; anfractibus brevibus, paulò convexis, ultimo obliquè saluto, declivi; aperturâ obliquè ovatâ, margine incrassato, expanso, columellâ intus leviter plicatâ.*

THE ELEGANT CYLINDRELLA. Shell subfusiform, reddish-brown, smooth, slightly inflated in the middle, whorls short, a little convex, the last obliquely uncoiled, sloped downwards; aperture obliquely ovate, margin thickened, expanded; columella very slightly plaited within.

PFEIFFER. Chem. p. 23.

*Pupa obtorta*, Menke.

*Pupa lituus*, Gould.

*Pupa Auberiana*, Orbigny.

*Cylindrella nobilis*, Steutz.

Hab. Western part of Cuba.





# CYLINDRELLA.

PLATE V.

Species 37. (Mus. Brit.)

CYLINDRELLA HANLEYANA. *Cyl. testâ parvâ, tenui, conoide, subpyramidalâ, angustâ, nuda, rixâ (rad.) variâ apicem contractâ. asfractibus angustis, convexis, rectiusculis. 17.5. Tepalâs, acutis, angulis; ultimo convexiusculo, infra acutè emarginato, versus aperturam longè soluto; aperturâ remota, subquadratâ, declivâ.*

HANLEY'S CYLINDRELLA. Shell small, thin, brown, rather pyramidal, narrow, scarcely inflated in the middle, contracted towards the apex; whorls narrow, numerous, rather straight, sculptured with fine curved ridges; the last rather convex, sharply keeled below, much uncoiled; aperture remote, rather square, sloped downward.

PFEIFFER, Chemnitz, p. 42, Monog. iv. 152.

Hab. Venezuela, New Grenada.

A neatly sculptured little shell.

Species 38. (Mus. Brit.)

CYLINDRELLA CORDATA. *Cyl. testâ parvâ, albâ, tenui, subpyramidi, angustâ, medio inflatâ; asfractibus 14. liris obliquè subarcuatis distantibus rotulis sculptis, ultimo longè soluto, infra rotulâ carinato, versus aperturam declivi; aperturâ anticè biangulatâ, superiâ rectâ.*

THE CORDED CYLINDRELLA. Shell small, white, thin, rather fusiform, narrow, inflated in the middle; whorls fourteen, sculptured with obliquely rather arched, distant, strong ridges; the last much uncoiled, sloped downwards towards the aperture; aperture anteriorly biangular, straight above.

PFEIFFER, Chem. p. 48, Monog. 1866, No. 202.

Hab. Isl. St. Croix.

An exquisitely beautiful little white species.

Species 39. (Mus. Brit.)

CYLINDRELLA CRISPULA. *Cyl. testâ pyramiformi, fuscâ, regulariter lirata, superiâ mediâ inflatâ, infra rotulâ ad ultimam asfractum gradatim attenuatâ; ultimo asfractu parvâ, rotulâ soluto; aperturâ obliquè oblongâ, quadrangulatâ.*

THE LITTLE CRISP CYLINDRELLA. Shell fusiform, low, with regularly ridged, inflated above the middle; thence gradually attenuated towards the last whorl; last whorl small, slightly uncoiled; aperture obliquely oblong, with four angles.

PFEIFFER, Monograph ii. 377.

Hab. Cuba.

Species 40. (Mus. Brit.)

CYLINDRELLA SALLEANA. *Cyl. testâ elongatâ, subpyramidalâ, fusco-cornuâ, tenuiter obliquè striatâ, asfractibus angustis 18, quorum 6 apicalibus albis, convexis, medianis convexiusculis, alteris versus aperturam rix angustatis; ultimo contracto, sub-soluto, infra carinato; aperturâ productâ, angulâ, labio expanso, infra biangulatâ.*

SALLE'S CYLINDRELLA. Shell elongated, subpyramidal, horny brown; finely obliquely striated; whorls narrow, eighteen, of which the six apical are white and narrowed, rather convex, the middles a little convex, the others slightly narrowed towards the aperture; aperture produced, large, with expanded lip, biangular below.

PFEIFFER, Chem. p. 38.

Hab. Haiti.

Species 41. (Mus. Brit.)

CYLINDRELLA TRINITARIA. *Cyl. testâ succineo-cornuâ, tenui, gracili, subdiaphanâ, medio subinflatâ, superiâ attenuatâ; asfractibus, angustis, convexis, tenuiter liratis; ultimo basi acutè carinato, infra carinam convexâ, anticè longè soluto, obliquè declivâ; aperturâ remotâ obliquè acutâ, anticè biangulatâ.*

THE TRINITY ISLAND CYLINDRELLA. Shell amber-horn, thin, slender, rather diaphanous, slightly inflated in the middle, attenuated above, whorls narrow, convex, finely ridged; the last sharply keeled at the base, concave below the keel, anteriorly much uncoiled, obliquely bent downwards.

PFEIFFER, In Malak. Bl. vii. 1860.

Hab. Trinity Island.

April, 1875.

CYLINDRELLA.—PLATE V.

Species 42. (Mus. Brit.)

CYLINDRELLA MICROSTOMA. *Cyl. testâ subperforatâ, pupæformi, cretaceâ; suprâ mediâ inflatâ, inde versus ultimum anfractum gradatim attenuatâ; anfractibus angustis, numericis, ultimo contracto, infrâ excavato; aperturâ parvâ, verticali, subtrigonalâ.*

THE SMALL-MOUTHED CYLINDRELLA. Shell slightly perforated, pupa-shaped, chalky; inflated above the middle, thence gradually attenuated towards the last whorl; whorls narrow, numerous, the last contracted, excavated below; aperture small, vertical, subtrigonal.

PEIFFER. Proc. Zool. Soc. 1861, p. 27.

Hab. —?

A curious little pupæform shell, which has the greatest inflation above the middle of its length.

Species 43. (Mus. Brit.)

CYLINDRELLA AGNESIANA. *Cyl. testâ elongatâ, cylindricâ, angustâ, albâ, tenuiter striatâ; anfractibus 18, sinistrorsis, convexiusculis; ultimo recto, infrâ carinato, infrâ carinam excavato, versus aperturam longè soluto, bicarinato, valdè deflexo, aperturâ remotâ, obliquè subquadratâ, margine interno rotundo, labio externo biangulatâ.*

THE AGNESIAN CYLINDRELLA. Shell elongated, cylindrical, narrow, whitish, finely striated; whorls eighteen, sinistral, rather convex; the last straight, keeled below, excavated below the keel, uncoiled some length towards the aperture, much bent downwards; aperture remote, obliquely subquadrate, inner margin round, outer lip biangular.

ADAMS, C. B. Chem. p. 38.

Hab. Jamaica.

A graceful white shell.

Species 44. (Mus. Brit.)

CYLINDRELLA MONTANA. *Cyl. testâ brevi, rectiusculâ, rosâ, tenuiter striatâ; ultimo anfractu angustato,*

*rotundato, latèraliter soluto; aperturâ subrotundâ, subrenatâ, margine crassiusculo, rotundo.*

THE MOUNTAIN CYLINDRELLA. Shell short, rather straight, pink, finely striated; last whorl narrow, rounded, laterally uncoiled; aperture rather round, rather distant, margin rather thick, round.

C. B. ADAMS. Chem. p. 29.

*Cylindrella rosea*, var., Pfeiffer.

Hab. Jamaica.

Species 45. (Mus. Brit.)

CYLINDRELLA TERES. *Cyl. testâ crassiusculâ, levigatâ, subpyramidatâ, albâ, supernè fuscâ, attenuatâ; anfractibus convexiusculis, ultimo paulò angustato, infrâ subcarinato, infrâ carinam excavato; aperturâ proximâ magnâ, subrotundâ; columellâ supernè subcylindricâ.*

THE TAPER CYLINDRELLA. Shell rather thick, smooth, rather pyramidal, white; brown above, attenuated; whorls rather convex, the last a little narrowed, slightly keeled beneath, hollowed beneath the keel; aperture approximate, large, rather rounded; columella with a slight callosity above.

MEXEL. (Holospira) Chem. p. 56.

Hab. Cuba.

Species 46. (Mus. Brit.)

CYLINDRELLA SEMINUDA. *Cyl. testâ parvâ, gradato-turritâ, pupæformi; anfractibus scalariformibus supernè angulatis; ad angulum prominentè noduloso-squamatis; ultimo infrâ angustato, lateraliter longè soluto; aperturâ remotâ, latere columellari rotundâ, latere externo angulatâ acuminatâ.*

THE HALF-NUDE CYLINDRELLA. Shell small, pupa-shaped; whorls angular above, prominently nodosely squamose at the angle; the last narrowed below, laterally much uncoiled; aperture remote, rounded on the columellar side, angularly acuminate at the inner side.





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# CYLINDRELLA.

PLATE VI.

Species 47. (Fig. a, b. Mus. Sowerby.)

CYLINDRELLA ELLIOTI. *Cyl. testā angustissimā cylindricā, purpureo-fusca, tubulis albis angularibus supra medium anfractuum prominentibus confinis ornata; anfractibus numerosis, angustis; ultimo lateraliter obliquē soluto; aperturā remotā, parvā, subrotundā.*

ELLIOT'S CYLINDRELLA. Shell very narrowly cylindrical, purple-brown, ornamented with white angular tubes, prominent above the middle of the whorls; whorls numerous, narrow; last laterally obliquely uncoiled; aperture remote, small, rather round.

POLY. Mon. Cuba.

Hab. Cuba.

The tubes or hollow varices continued from whorl to whorl up the spire of this shell make it a remarkable interesting species.

Species 48. (Mus. Sowerby.)

CYLINDRELLA PILOCEL. *Cyl. testā subceruleo-albi, tenuiter lirata, pupiformi, medio et infri rectā, supra medium inflatā, inde versus apicem contractā, anfractibus numerosis, angustis, ultimo parvo, infri angulato, infri angulum laevigato, medio rimato; aperturā proximā, majusculā, superius subquadratā.*

PILOCEL'S CYLINDRELLA. Shell bluish-white, finely ridged, pupa-shaped, straight at the middle and below; inflated above the middle, thence contracted towards the apex; whorls numerous, narrow; the last small, angular below, smooth below the angle, notched in the middle; aperture near, rather large, rather square above.

PFEIFFER. Chem. p. 64, Mon. ii. 382.

Hab. Mexico.

Species 49. (Mus. Sowerby.)

CYLINDRELLA ARCATA. *Cyl. testā brevi, ventricosa, liris tenuibus, sublistantibus, eleganter arcuatis*

*ornati superi medium inflatā; anfractibus 8, riu concavis; suturā profundē excavatā; ultimo anfractu angusto, crenulatiā carinato, infri carinam concava, medio rimato; aperturā subquadratā, marginē expanso.*

THE ARCHED CYLINDRELLA. Shell short, ventricose, ornamented with thin, rather distant elegantly curved ridges; inflated above the middle; whorls eight, scarcely convex, with deeply excavated suture; last whorl narrow, crenulated, keeled, concave below the keel, notched in the middle; aperture rather square, with expanded margin.

WEINLAND AND MARTENS. Malak. Bl. vi. 1859.

Hab. Haiti.

Species 50. (Mus. Sowerby.)

CYLINDRELLA SAUVALLIANA. *Cyl. testā levigatā, fusco-cornea, angustē cylindricā, propē apicem pyramidalitē; anfractibus altis, infri lineā rubrā angulatā; aperturā proximā, magnā, marginē tenui, expanso.*

SAUVALL'S CYLINDRELLA. Shell smooth, horny-brown, narrowly cylindrical, pyramidal near the apex; whorls elevated, belted below with a red line; aperture near, large, margin thin, expanded.

GUNDLACH. Chem. p. 64, Pflr. Monog. iv. 710.

Hab. Cuba.

A smooth elevated species with a pretty red line at the bottom of the whorls partly hidden by the suture.

Species 51. (Mus. Sowerby.)

CYLINDRELLA WALPOLEI. *Cyl. testā magis, epidermide olivaceo-fusco indutā, cylindraceo-subpyramidalitē, tenuiter obliquē striatā, anfractibus altis paulo concavis; ultimo declivi, celsius acem angustatā, post aperturam profundē rimato; aperturā paulo laevā, perpendiculariter oratā, columellā multipliatā.*

WALPOLE'S CYLINDRELLA. Shell large, covered with an olive-brown epidermis, cylindrically subpyrami-

dal, finely obliquely striated; whorls elevated, a little convex; last sloped, narrowed towards the axis, deeply notched behind the aperture; aperture a little uncoiled, perpendicularly ovate; columella with a plait.

SOEWERBY.

*Hab.* — ?

Species 52. (Mus. Sowerby.)

CYLINDRELLA BROOKESIANA. *Cyl. fusiformi, tenui, gracili, corned, oblique tenuiter striatâ; anfractibus convexiusculis, ultimo longissimè soluto, carinato, flexuoso, subspiratèr descendenti; aperturâ longè rotatâ, subcirculari, margine expanso.*

THE BROOKESIAN CYLINDRELLA. Shell fusiform, thin, slender, horny, obliquely finely striated; whorls rather convex, the last uncoiled a great length. keeled, flexuous, rather spirally descending; aperture very remote, rather rounded, with expanded margin.

GUNDLACH. MS. Pfeiffer in Malak. Bl. vi. 1859.

*Hab.* Monte Libano, Isl. of Cuba.

Species 53. (Mus. Sowerby.)

CYLINDRELLA NOBILIOR. *Cyl. testâ cylindricâ, tenuiter striatâ, corneo-subrosâ; anfractibus vix convexis,*

*superne ad suturam rubro tenuatis; anfractu ultimo brevi, infra rimato, breviter soluto; aperturâ productâ, fulvâ, ad marginem subexpansâ, columellâ internè latâ, subplicatâ.*

THE NOBLER CYLINDRELLA. Shell cylindrical, finely striated, horny-pinkish; whorls scarcely convex, banded with pink above at the suture; last whorl short, notched below, shortly uncoiled; aperture produced, fulvous, a little expanded at the margin, columella broad within, with a slight plait.

ADAMS. Chém. p. 9.

*Cylindrella Dinneyana*, Pfeiffer.

*Hab.* Jamaica.

Species 54. (Mus. Sowerby.)

CYLINDRELLA MEGACHEILA. *Cyl. testâ roseo-corned, cylindricâ, ventricosâ, tenuissimè striatâ; anfractibus brevibus, superne ad suturam rubro tenuatis, ultimo profundè rimato; aperturâ annexâ, magnâ, superne subquadratâ; marginè rotundo, expanso.*

THE LARGE-THROATED CYLINDRELLA. Shell horny-rose, cylindrical, ventricose, very finely striated; whorls short, with a red band above at the suture; last whorl deeply notched; aperture annexed, large, rather square above, margin rounded, expanded.

CRITTY. Shells of Jamaica.

*Hab.* Jamaica.





# CYLINDRELLA.

PLATE VII.

Species 55. (Mus. Brit.)

**CYLINDRELLA STRIATELLA.** *Cyl. testā rimatā, pyramidato-cylindraceā, solidulā, tenuissimē obliquē striatā, laevi, corneā, medio rubescenti, usque ad medium subcylindricā, diante ad apicem lentē attenuatā, anfractibus brevissimulis; recurvis; columellā subtortulā, intūs subrossā; columellā rē plicatā.*

**THE FINELY STRIATED CYLINDRELLA.** Shell notched, pyramidal, cylindrical, rather solid, very finely obliquely striated, smooth, horny, a little red in the middle; cylindrical up to the middle, afterwards slowly attenuated; whorls rather short, rather straight; aperture rather rounded, a little bossy within; columella scarcely plicated.

WRIGHT. MS. Pfeiffer, Mak. Bl. xi. p. 246.

*Hab.* The western part of the Isl. of Cuba.

Species 56. (Mus. Sowerby.)

**CYLINDRELLA LAVALLIANA.** *Cyl. testā fulvo-corneā, tenui, semiplicatā, angustā, elongatā, cylindricā, rimatā; anfractibus hincobis, numerosis, convexiusculis; ultimo rotundō, contracto, soluto; aperturā subemulatā, columellā rotundisculā.*

**LAVALLI'S CYLINDRELLA.** Shell fulvous horn, thin, semi-plicate, narrow, elongated, cylindrical, notched; whorls short, numerous, rather convex; the last rounded, contracted, uncoiled; aperture rather distant, columella rather straight.

OREIGNY. Shells of the Isl. of Cuba.

*Hab.* Cuba.

The whorls of this cylindrical little species are peculiarly short.

Species 57. (Mus. Sowerby.)

**CYLINDRELLA POLYGYRA.** *Cyl. testā parvā, fuscā, elongatā, angustissimā, versū apicem fuscā, gradatim attenuatā, medio paulō inflato, anfractibus 20, brevibus, liris arcuatis ornatis, ultimo rimato, longē soluto; aperturā subtrigonā remotā, margine sigmoidē recto.*

**THE MANY-WHOLED CYLINDRELLA.** Shell small, elongated, very narrow, gradually attenuated towards the apex, a little inflated in the middle; whorls twenty, short, ornamented with curved ridges; last notched, with a long portion uncoiled; aperture rather trigonal, remote, margin straight above.

PFEIFFER. Monog. iv. p. 206.

*Hab.* Cordova, Mexico.

Species 58. (Mus. Sowerby.)

**CYLINDRELLA LAIA.** *Cyl. testā rimatā, cylindricā, ventriosā, corneo-rubescenti, tenuiter obliquē limatā. anfractibus brevissimulis, tenui rubri superni ad suturam cinctis, ultimo soluto, infusā carinato; aperturā disjunctā, productā, fidei, columellā multiplicatā, marginē rotundē v. fl. co. expanso.*

**THE BEAD CYLINDRELLA.** Shell notched, cylindrical, ventriose, reddish-horn, finely obliquely ridged; whorls rather short, beaded above at the suture with a red band, last uncoiled, keeled below; aperture disconnected, produced, fulvous, columella single-plicated, margin roundly reflected, expanded.

A. B. ADAMS. Chemn. 22. Pfeiffer. Monog. iii. 567.

*Hab.* Jamaica.

Resembling *Cylindrella Binneyana* and others in general appearance, but with the mouth detached and produced.

Species 59. (Mus. Brit.)

**CYLINDRELLA MORELETI.** *Cyl. testā elongato-cylindricā, angustā, rē rimatā, corneo-rubescenti, pallidē variegatā, tenuiter undatim rugatā, anfractibus sublevis, convexiusculis, infusā limā rubrā tenuis, ad suturam crenatis; aperturā obliquā; columellā multiplicatā.*

**MORELET'S CYLINDRELLA.** Shell elongate-cylindrical, narrow, scarcely notched, reddish-horn, pale-variegated, finely wavy wrinkled, whorls rather raised, rather narrow, banded at the lower part

with a red line, crenated at the suture: aperture oblique, columella single-plaited.

PFEIFFER. Chemn. p. 16. Monograph iii. 566.

Hab. — ?

Species 60. (Mus. Brit.)

CYLINDRELLA VIOLACEA. *Cyl. testâ solidiusculâ, sub-cylindricâ, angustâ, purpureo-variegatâ, filo-lirâtâ, infrâ rimatâ, anfractibus connexis, distinctis; ultimo obliquè soluto; aperturâ semicirculari, margine interno .ctâusclo; columellâ leviter uniplicatâ.*

THE VIOLET CYLINDRELLA. Shell rather solid, rather cylindrical, narrow, variegated with purple, with thread-like ridges; notched below, whorls convex, distinct; the last obliquely uncoiled; aperture semicircular; inner margin nearly straight; columella with a slight plait.

WRIGHT. MS. Pfeiffer, Malak. Bl. xi. 1864, p. 128.

Hab. West Cuba.

Species 61. (Mus. Brit.)

CYLINDRELLA MEXICANA. *Cyl. testâ magnâ, cylindrico-subpyramidatâ, stramineâ, ventricosâ, tenuiter striatâ; anfractibus rectiusculis, paulò convexis, ultimo infrâ subvarinato, infrâ carinam levigatâ; aperturâ subauriformi, infrâ cuneatâ, columellâ tortuâ, plicatâ.*

THE MEXICAN CYLINDRELLA. Shell large, cylindrical, subpyramidal, straw-coloured, ventricose, finely ridged; whorls rather straight, a little convex, the last keeled below, smooth below the keel; aperture somewhat auriform, cuneate below, columella tortuous, plaited.

CUMING. MS. Pfeiffer. Proc. Zool. Soc. 1860.

Hab. Mexico.

Species 62. (Mus. Brit.)

CYLINDRELLA ACUS. *Cyl. testâ corneâ, semipellucidâ, angustâ cylindricâ, versis apicem pyramidatâ, lævigatâ; anfractibus superioribus lævissimis inferiori-*

*bus filo-lirâtis. ultimo infrâ validè carinato, infrâ carinam rimato, excavato; aperturâ subquadratâ infrâ labium externum cuneato, columellâ leviter uniplicatâ.*

THE SPEAR CYLINDRELLA. Shell horny, semipellucid, narrowly cylindrical, pyramidal towards the apex, smooth, upper whorls very smooth, lower with thread-like ridges; last strongly keeled below, notched below the keel, excavated; aperture rather square, outer lip cuneate below, columella with a slight plait.

PFEIFFER. Monograph ii. No. 383.

Hab. Cuba.

Species 63. (Mus. Brit.)

CYLINDRELLA AUGUSTE. *Cyl. testâ cylindricâ, angustâ, subrosâ, tenuissimè striatâ, anfractibus rectiusculis, infrâ angustè lævissimè; aperturâ connexâ, margine albido, rotundo.*

AUGUSTA'S CYLINDRELLA. Shell cylindrical, narrow, rather rose-coloured, very finely striated, whorls rather narrow, with a narrow band below; aperture connected, margin white, rounded.

C. B. ADAMS. Pfr. Monog. iii.

Hab. Jamaica.

Species 64. (Mus. Brit.)

CYLINDRELLA INTUSMALLEATA. *Cyl. testâ subfusiformi, albâ, angustâ, elongatâ, medio paulò ventricosâ; anfractibus brevibus, distanter validè costatis, costis subinæquantibus, medio anfractuum valentis; ultimo anfractu infrâ carinato, subrimato, obliquè soluto; aperturâ remotâ, obliquè ovatâ, margine rotundo.*

THE HAMMERED CYLINDRELLA. Shell somewhat fusiform, white, elongated, a little ventricose in the middle; whorls short, distantly strongly ribbed; ribs rather distant, flattened in the middle of the whorls; last whorl keeled below, with a slight notch; aperture removed, obliquely ovate with rounded margin.

GUNDLACHEE.—Pfeiffer, Monog. iv. 705.

Hab. Cuba.





Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.



Fig. 9.



Fig. 10.



Fig. 11.



Fig. 12.



Fig. 13.



# CYLINDRELLA.

PLATE VIII.

Species 65. (Mus. Sowerby.)

CYLINDRELLA TUMIDIORA. *Cyl. testâ tenui, fulvâ, fusco-corneo variegatâ, subpyramidatâ; anfractibus brevibus, converisculis ad suturam leviter crenatis, infra angustissimè rubro tenatis, ultimo rimato; aperturâ aenarâ, anticè productâ, expansâ, supra medium subcontractâ.*

THE MORE TUMID CYLINDRELLA. Shell thin, fulvous, variegated with horny brown, rather pyramidal; whorls short, rather convex, slightly crenated at the suture, with a very narrow red band below, the last notched; aperture connected, anteriorly produced, expanded, a little contracted above the middle.

SOWERBY.

Hab. Cuba.

The whorls are much shorter and more convex than in *Cylindrella orvata*.

Species 66. (Fig. a, b, Mus. Brit.)

CYLINDRELLA GARCIANA. *Cyl. testâ brevi, cylindricâ, minutè lividâ, fulvâ et albâ; anfractibus rectisculis, mediânis vicè inflatis, ultimo infra callidè carinato, infra carinam excavato, vicè rimato, brevissimè solato; aperturâ magnâ, oratâ, sublivis-junctâ, columellâ simplicî.*

GARCIA'S CYLINDRELLA. Shell short, cylindrical, minutely ridged, fawn-coloured or white; whorls rather straight, the middle ones very little inflated in the middle, the last strongly keeled, hollowed below the keel, scarcely notched, very shortly uncoiled; aperture large, oval, a little disjointed, columella simple.

WRIGHT. MS. Pflr. Mal. Bl. xiii.

Hab. Isl. of Cuba.

Species 67. (Mus. Brit.)

CYLINDRELLA CARINATA. *Cyl. testâ angustâ, elongatâ, subcylindricâ, corneo-rubescenti, levigatâ; anfractibus elevatis, rectisculis, tenuiter striatis, ultimo breviter solato, infra subcontracto, callidè carinato, infra carinam excavato, rimato; aperturâ obliquè oratâ, productâ.*

THE KEELED CYLINDRELLA. Shell narrow, elongated, subcylindrical, reddish-horn, smooth; whorls elevated, rather straight, finely striated, the last shortly uncoiled, a little contracted below, with a strong keel, excavated, notched; aperture obliquely ovate, produced.

PEIFFER. Monographia Heliceorum, iii. p. 574.

Hab. — ?

The last whorl is rather rounded, then contracted and terminated by a very strong keel, between which and the inner edge of the aperture there is a narrow excavation.

Species 68. (Mus. Brit.)

CYLINDRELLA CYLINDRUS. *Cyl. testâ angustâ, elongatâ, rubrâ, supra medium lentissimè attenuatâ; anfractibus elevatis, levibus, ad latera rectissimis, ultimo converisculo, infra carinam excavato; aperturâ perpendiculariter oratâ.*

THE CYLINDER CYLINDRELLA. Shell narrow, elongated, red, very slowly attenuated; whorls raised, smooth, very straight, the last rather convex, keeled below, excavated under the keel, aperture perpendicularly ovate.

CHEMNIUS. New Ed. p. 6. Pfeiffer Monog. ii. p. 6.

*Pupa cylindra, purpurea*, Gray.

*Pupa rubilla, rosea*, C. B. Adams.

*Cylindrella proccra*, C. B. Adams.

Hab. Jamaica.

A narrow shell with straighter whorls than *Cylindrella carinata*, with the keel on the last whorl less prominent.

Species 69. (Mus. Brit.)

CYLINDRELLA DUNKERIANA. *Cyl. testâ angustissimâ, elongatâ, corneo-rubescenti, levigatâ, mediâ vicè inflatâ; anfractibus elevatis, ad latera rectisculis, ultimo elevatissimo, ad latera concavo, subcontracto, infra angulatò; aperturâ concavâ, obliquè oratâ, anticè subproductâ, subacuminatâ.*

April, 1875.

CYLINDRELLA.—PLATE VIII.

DUNKEE'S CYLINDRELLA. Shell very narrow, elongated, reddish-horn, smooth, very little inflated in the middle; whorls elevated, rather straight at the sides, the last very elevated, concave at the sides, a little contracted, angular below; aperture connected, obliquely ovate, anteriorly a little produced and acuminate.

DUNKEE. Chemn. p. 67.

Hab. Jamaica.

Species 70. (Mus. Brit.)

CYLINDRELLA FABREANA. *Cyl. testâ albâ, diaphanâ, subpupæformi, medio subinflato, anfractibus convexisculis, iris tenuibus obliquè arcuatis, distantibus, ornatis, ultimo elevato, subcontracto, subrotundo, rimato, breviter soluto, tenuiter unicarinato; aperturâ subrenotâ, obliquè producta, margine nulloque expenso, columellâ obliquè uniplicatâ.*

FABRE'S CYLINDRELLA. Shell white, transparent, rather pupæform, a little inflated in the middle; whorls convex, ornamented with thin, obliquely curved, distant ridges; last elevated, a little contracted, a little rounded, notched, shortly uncoiled, with a thin keel; aperture a little removed, obliquely produced, margin expanded all round, columella with an oblique fold.

POEY. MS. Pfeiffer. Malak. Bl. vi. 1859.

Hab. "Leboruac de San Antonio." Cuba.

Species 71. (Mus. Brit.)

CYLINDRELLA INTERRUPTA. *Cyl. testâ fuscâ, cylindricâ, subpupæformi, supra medium subinflatâ, infra paulò contractâ, anfractibus brevibus, convexisculis, costis distantibus prominentibus, medio anfractu interruptis sculptis; ultimo anfractu parvo, rimato, obliquè longè soluto; suturâ profundi; aperturâ obliquè ovali, parvâ, margine subexpenso.*

THE INTERRUPTED CYLINDRELLA. Shell brown, cylindrical, slightly pupa-shaped, a little inflated above

the middle; a little contracted below; whorls short, rather convex sculptured with distant prominent ribs interrupted in the middle of the whorls, last whorl small, notched, with a large part obliquely uncoiled; suture deep, aperture obliquely ovate, small, with expanded margin.

GUNDLACH. Chemn. p. 29, Pfeiffer. Mon. iv. 705.

Hab. Cuba.

The rib is nearly, if not quite obliterated in the middle of each whorl.

Species 72. (Mus. Brit.)

CYLINDRELLA GONISTOMA. *Cyl. testâ, pupæformi, elongatâ, cornâ, tenuiter, distanter et obliquè fibriatâ; supra medium paulò inflatâ; apice obtuso, infra subattenuatâ; anfractibus convexisculis, brevibus, ultimo rimato, soluto; aperturâ subtriangulâ, supernè biangulatâ; margine angusto, rotundo.*

THE ANGLE-MOUTHED CYLINDRELLA. Shell pupa-shaped, long, horny, with fine, distant, oblique thread-like striae, a little inflated above the middle; apex obtuse, a little attenuated beneath; whorls a little convex, short, the last notched, uncoiled; aperture rather trigonal, with two angles above; margin narrow, rounded.

PFEIFFER. Chemn. p. 63. Monog. iv. p. 740.

Species 73. (Mus. Brit.)

CYLINDRELLA ORESA. *Cyl. testâ brevi, ventricosâ, solidisculâ, rubro-succinâ, tenuiter striatâ, anfractibus 5, convexisculis; aperturâ magnâ, rotundâ, connexâ margine crasso, rotundâ.*

THE STOUT CYLINDRELLA. Shell short, ventricose, rather solid, reddish-amber, finely striated, whorls five, rather convex; aperture large, rounded, connected with thick, rounded margin.

WEINLAND AND MARTENS. Malak. Bl. vi. 1859, p. 55.

Hab. Haiti.





74



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# CYLINDRELLA.

PLATE IX.

## Species 74. (Mus. Sowerby.)

**CYLINDRELLA SCALARIXA.** *Cyl. testâ pallidâ fulcâ, pupaformi; anfractibus 12, costis obliquis, crassis, approximatis minutis, superioribus parvis, medianis latis, inflatis, inferioribus angustis; ultimo longè lacato; apertura subtransversâ, marginè crasso, rotundo.*

**THE SCALARIFORM CYLINDRELLA.** Shell pale fulvous, pupa-shaped; whorls 12, provided with oblique, thick, approximate ribs, superior small, middle broad, inflated, lower narrow; last much uncoiled; aperture subtransverse, margin thick, rounded.

SHUTTLEWORTH. Pfl. Mon. VI., No. 209.

*Hab.* Cuba.

## Species 75. (Mus. Sowerby.)

**CYLINDRELLA SOLUTA.** *Cyl. testâ fusiformi, solidiusculâ, minutè striatâ, pallidè cæcâ; anfractibus 11, concentricis; ultimo inflexè angustato, longè lacato, apertura obliquâ, circulari, margine subcapitato.*

**THE UNCOILED CYLINDRELLA.** Shell fusiform, rather solid, finely striated, pale horn; whorls 11, rather convex; last narrowed below, uncoiled some length, aperture oblique, circular, margin slightly expanded.

PFEIFFER. Malak. Vol. XI., 1863.

*Hab.* West Cuba.

## Species 76. (Mus. Brit.)

**CYLINDRELLA HOLLANDI.** *Cyl. testâ rectiusculâ, subcylindricâ, pallidâ fulcâ, medio anfractuâ fusca fasciatâ; anfractibus permanentibus decem, altiusculis, rectilateralibus; apertura approximâtâ, perpendicularitèr oblongâ.*

**HOLLAND'S CYLINDRELLA.** Shell rather straight, rather cylindrical, pale fulvous, banded with brown in the middle of the whorls; permanent whorls ten, rather high, straight-sided; aperture approximate, perpendicularly oblique.

ADAMS, C. B. Pfl. Mon. VI., p. 369.

*Hab.* Jamaica.

## Species 77. (Mus. Sowerby.)

**CYLINDRELLA TRANSAPERTA.** *Cyl. testâ latâ, subcylindricâ, subfusâ, tenuissimè striatâ; anfractibus permanentibus 9-10, rectilateralibus, superioribus angustatis; ultimo subquadrato, longè crassè, apertura transversè oblongatâ; labiis interocculantibus, crasso, albo.*

**THE CROSS-MOUTHED CYLINDRELLA.** Shell broad, subcylindrical, brownish, very finely striated; permanent whorls 9 or 10, straight-sided, upper narrow; last rather square, with a long notch; aperture transversely oblong; inner lip touching, thick, white.

SOWERBY.

*Hab.* —?

The inner margin of the mouth touches the middle of the last whorl, across which it is extended.

## Species 78. (Mus. Sowerby.)

**CYLINDRELLA GRACILIS.** *Cyl. testâ sinistrali, albâ, altissimâ, elongatâ, subfusiformi, tenuissimè striatâ; anfractibus 18, obliquis, concentricis, gradatim crescentibus; ultimo subcavitato; apertura magnâ, ovatâ, columellâ pliatâ.*

**THE SLENDER CYLINDRELLA.** Shell sinistral, white, very high, elongated, subfusiform, very finely striated; whorls 18, oblique, convex, gradually increasing; last slightly keeled; aperture large, ovate, columella plaited.

WOOD. Pfl. Monog. VI., p. 383.

*Hab.* Jamaica.

Mentioned at No. 33 as a var. of *Cy. oblonga*; but it is much more elongated.

## Species 79. (Mus. Sowerby.)

**CYLINDRELLA MULTISPIRALIS.** *Cyl. testâ elongatissimâ, angustâ, fulcâ; anfractibus 24, rectiusculis; ultimo longè lacato; apertura distinctâ, subovâtâ.*

**THE MULTISPIRAL CYLINDRELLA.** Shell very long.

narrow, fawn; whorls 24, rather straight; last loosened some length; aperture distant, subovate.

SOWERBY ?

*Hab.* — ?

The writer has the name with the shell in MS., but does not find it in Pfeiffer's Monograph.

Species 80. (Mus. Sowerby.)

CYLINDRELLA TROCHEIFORMIS. *Cyl. testá brevi, latá, densè striatá, rosá, spirá subconicá; anfractibus permanentibus 7, tribus inferioribus latissimis; ultimo longè rimato; aperturá magná, obliquá, labio interno producta.*

THE TROCHEIFORM CYLINDRELLA. Shell short, broad, closely striated, pink, spire subconical; permanent whorls 7, three lower very broad; last with a long notch; aperture large, oblique, inner lip produced.

SOWERBY.

*Hab.* — ?

Species 81. (Mus. Sowerby.)

CYLINDRELLA ALABASTRINA. *Cyl. testá albá, cylindricá, semipellucidá, gradatim attenuatá; anfractibus permanentibus 12, rectilateralibus; ultimo infra angulato, longè laxato; aperturá magná, subrotundá, distantí, margine rotundo.*

THE ALABASTER CYLINDRELLA. Shell white, cylindrical, semipellucid, gradually attenuated; permanent whorls 12, straight-sided; last angular be-

low, with a long notch; aperture large, rather rounded, distant, margin rounded.

PFEIFFER. Monog. VI, p. 375.

*Hab.* Jamaica.

Species 82. (Mus. Sowerby.)

CYLINDRELLA CLARA. *Cyl. testá fulrá, lævigatá, subfusiformi, cæcis apicem attenuatá; anfractibus melio et infra subopaculis, convexiusculis; ultimo costulato breviter laxato, longè rimato; aperturá obliquá, majusculá; margine rotundo, columelli lamellatá.*

THE CLEAR CYLINDRELLA. Shell fulvous, smooth, subfusiform, attenuated towards the apex; whorls nearly equal at the middle and under, rather convex; last ribbed, shortly uncoiled, with a long notch; aperture oblique, rather large; margin rounded, columella lamellated.

WEIGHT. Pfeiffer Mon. VI, p. 363.

*Hab.* Cuba.

Species 83. (Mus. Sowerby.)

CYLINDRELLA VIGNALENSIS. *Cyl. testá breviusculá, subventricosá, carneo-cornúá, sursùm subattenuatá, obliquè costellatá; anfractibus permanentibus septem, altis; ultimo infra contracto; aperturá magná, subopaculatá; margine tenui.*

VIGNAL'S CYLINDRELLA. Shell rather short, rather ventricose, ashy-flesh, slightly attenuated upwards, obliquely ribbed; permanent whorls seven, raised; last contracted below; aperture large, rather square; margin thin.

WEIGHT. Pfeiffer Monog. VI, p. 367.

*Hab.* Cuba.





85



84



86



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92



# CYLINDRELLA.

PLATE X.

Species 84. (Mus. Sowerby.)

**CYLINDRELLA TENERIENSIS.** *Cyl. testâ subvariegatâ, seu albâ, solidiusculâ, confertim arcuat-convolutâ, spirâ supra medium et infra inflatâ; anfractibus permanentibus 11, angustatis, ad suturam crassulatis; ultimo angustato, obliquè rimato, longè soluto; apertura distantè, obliquè suboblongâ.*

**THE TENERIAN CYLINDRELLA.** Shell rather variegated, or white, rather solid, closely curve-ribbed, spire inflated above the middle and below: permanent whorls 11, narrow, crenulated at the suture; last narrow, obliquely notched, with long part uncoiled: aperture distant, obliquely rather oblong.

WRIGHT. Pfr. in Malak. Bl. Monog. VI., p. 387.

*Hab.* La Teneria, West Cuba.

Species 85. (Mus. Sowerby.)

**CYLINDRELLA WRIGHTII.** *Cyl. testâ albâ, attenuatâ, subfusiformi, obliquè leviter striatâ; anfractibus 20, superioribus angustissimis, mediis convexiusculis; ultimo elongato, infra angustato, longè soluto; apertura distantè, rotundâ, magnâ; margine crassiusculo.*

**WRIGHT'S CYLINDRELLA.** Shell high, attenuated, subfusiform, obliquely slightly striated; whorls 20, upper very narrow, middle rather convex; last elongated, narrow below, with a lengthened uncoiled portion; aperture distant, rounded, large; margin rather thick.

PEIFFER. Malak. Bl. 1852, p. 132.

*Hab.* Cayo del Ray, Cuba.

Species 86. (Mus. Sowerby.)

**CYLINDRELLA LATERADI.** *Cyl. testâ elongatâ, sordidè fuscâ; anfractibus permanentibus 14, angustis, tenuiter striatis; ultimo subcylindrico; infra angustato; apertura subtrigoniâ; margine tenui.*

**LATERAD'S CYLINDRELLA.** Shell elongated, dull brown; permanent whorls 14, narrow, finely striated; last rather expanded, angular below; aperture subtriangular; margin thin.

GRAVELL (Clausilia). Pfr. Mon. III., p. 574.

*Hab.* Haiti.

Species 87. (Mus. Sowerby.)

**CYLINDRELLA ILAMELLATA.** *Cyl. testâ subfusiformi, diaphanâ, pallidè corneâ, obliquè striatâ; anfractibus permanentibus 10, mediis et inferioribus inflatis; ultimo parvè contracto; apertura obliquè oratâ; margine crassiusculo; columellâ intè simplici.*

**THE UNAMELLATED CYLINDRELLA.** Shell subfusiform, diaphanous, pale horn, obliquely striated; permanent whorls 10, middle and lower inflated; last a little contracted; aperture obliquely ovate, margin rather thick; columella simple within.

WRIGHT. Pfeiffer Mon. Vol. VI., p. 373.

*Hab.* La Palma, West Cuba.

Species 88. (Mus. Sowerby.)

**CYLINDRELLA PERLATA.** *Cyl. testâ brevi, cylindricâ, albâ, tenui, semipellucidâ; anfractibus permanentibus novem ad decem rectilat-radiatis, suturâ crenulatâ; ultimo anfractu subcontracto, rimato; apertura majusculâ, obliquè subovatâ.*

**THE BROAD CYLINDRELLA.** Shell short, cylindrical, whitish, thin, semipellucid; permanent whorls nine or ten, straight-sided, suture crenulated; last whorl subcontracted, notched; aperture rather large, obliquely semiovate.

GUNDLACH. Pfeiffer Malak. Bl. VI., 1859.

*Hab.* Yateras, Cuba.

Species 89. (Mus. Sowerby.)

**CYLINDRELLA PRODUCTA.** *Cyl. testâ subfusiformi, fuscocorneâ, brevitatâ; anfractibus permanentibus 13, medio et infra suboppositis, convexiusculis, superioribus angustis; ultimo leviter soluto; apertura majusculâ, subobstanti.*

**THE PRODUCED CYLINDRELLA.** Shell rather fusiform, brownish horn, smooth; permanent whorls 13,

CYLINDRELLA.—PLATE X.

middle and lower nearly equal, rather convex, upper narrow; last slightly unwound; aperture rather large, distant.

GUNDLACH. Pfeiffer Mon. Vol. VI., p. 361.

Hab. Cuba.

Species 90. (Mus. Sowerby.)

CYLINDRELLA NOBILIOR. Adams. Species 53. var.

*C. Binneyana*, Adams.

Species 91. (Mus. Sowerby.)

CYLINDRELLA INTERMEDIA. *Cyl. testā cylindricā, altā, angustā, fuscā, versus apicem contractā; anfractibus permanentibus undecim, striatis, reclinatis; aperturā paulō disjunctā, magnā, obliquē ovatā; margine crasso.*

THE INTERMEDIATE CYLINDRELLA. Shell cylindrical, high, narrow, brown, contracted towards the apex; permanent whorls eleven, striated, rather straight; aperture a little disjoined, large, obliquely ovate; margin thick.

SOWERBY?

Hab. — ?

The writer is obliged to adopt the name, not having the authority.

Species 92. (Mus. Sowerby.)

CYLINDRELLA BRUNNESCENS. *Cyl. testā subfusiformi, fuscā, tenuiter striatā, solidiusculā; anfractibus permanentibus 14, angustis, convexiusculis; ultimo rimato, ad aperturam leviter soluto.*

THE BROWNISH CYLINDRELLA. Shell subfusiform, brown, finely striated, rather solid; permanent whorls 14, narrow, rather convex; last notched, slightly unwound at the aperture.

GUNDLACH. Pfeiffer Mon. Vol. VI., p. 376.

Hab. Cuba.

Species 93. (Mus. Sowerby.)

CYLINDRELLA INTEGRΑ. *Cyl. testā levigatā, altā, attenuatā, fulvo-corneā; anfractibus sexdecim, convexis, obliquis, ultimo soluto; aperturā majusculā, distantī; margine crasso.*

THE ENTIRE CYLINDRELLA. Shell smooth, raised, attenuated, fulvous-horny; whorls sixteen, convex, oblique; last unwound; aperture rather large, distant; margin thick.

PFEIFFER. Mon. Vol. VI., p. 379.

Hab. Cuba.





95.



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101.



103.



102.

# CYLINDRELLA.

PLATE XI.

Species 94. (Mus. Sowerby.)

**CYLINDRELLA RÜSEL.** *Cyl. testâ aculeatâ, coracâ, sursum attenuatâ, medianis infra costigatâ; anfractibus superioribus septenis, angustis, inferioribus septenis subaequalibus, obliquè costatis; costis ad suturam tuberculatis; anfractu apicali papilloso, ultimo infra unguato, soluto; aperturaâ superâ subquadratâ, infra obliquè subacuminatâ.*

**RÜSE'S CYLINDRELLA.** Shell aculeated, horny, attenuated above, straight-sided at the middle and under; upper whorls seven, narrow, lower seven nearly equal, obliquely ribbed; ribs tuberculated at the suture; apical whorl papillary, last angular below, unwound; aperture squared above, obliquely acuminated below.

PFEIFFER. Mon. III. p. 378.

Hab. Porto Rico.

Species 95. (Mus. Sowerby.)

**CYLINDRELLA COLLARIS.** *Cyl. testâ fusâ, subfusiformi, obliquè densè costatâ; anfractibus permanentibus 15, conoideis, medianis latiusculis, ultimo longè soluto; aperturaâ rotundâ, margine crasso, rotundo.*

**THE NECKED CYLINDRELLA.** Shell brown, subfusiform, obliquely closely ribbed; permanent whorls 15, convex, middle rather broad, last with a long uncoiled piece; aperture round, margin thick, round.

FERRUSSAC. Pfr. Mon. II. 375.

*Cylindrella antipereira.* Pfeiffer.

*Pupa truncatula.* Sowerby.

Hab. Guadeloupe.

Species 96. (Mus. Sowerby.)

**CYLINDRELLA HILLERI.** *Cyl. testâ coracâ, fuscis fuscis semilunariibus variegatâ, tenuiter striatâ, fusiformi, gracili; anfractibus permanentibus quindecim, superioribus angustissimis, retiusculis, medianis subinglatis; ultimo parvo, longissimè soluto; aperturaâ rotundâ, distinctâ, margine subcapitato.*

**HILLER'S CYLINDRELLA.** Shell horny, variegated with brown semilunar bands, finely striated, fusiform, slender; permanent whorls fifteen, upper very

narrow, rather straight, middle rather inflated, last small, with very long portion unwound; aperture round, distant, margin a little expanded.

PFEIFFER. Malak. Bl. IX. 1862, p. 132.

Hab. Cuba.

Species 97. (Mus. Sowerby.)

**CYLINDRELLA ANGSTIOR.** *Cyl. testâ subcylindricâ, leviusculâ, coracâ, anfractibus 19, rectilateribus, superioribus contractis, medianis inferioribusque altis, subaequalibus, ultimo infra rimato, unguato, aperturaâ unguâ, notrygie rotundâ.*

**THE NARROWER CYLINDRELLA.** Shell subcylindrical, rather short, horny; whorls 19, straight-sided, upper contracted, middle and lower high, nearly equal, last notched below, angular; aperture large, margin rounded.

WRIGHT. Pfeiffer. Mon. Vol. VI. p. 384.

Hab. Cayo de San Felipe, Cuba.

Species 98. (Mus. Sowerby.)

**CYLINDRELLA ASPERA.** *Cyl. testâ fulvâ, fusiformi, superâ contractâ, medio ingulatâ, infra subangustatâ; anfractibus quindecim, obliquè densè striatis, ultimo paulo soluto; aperturaâ obliquè oblongâ, subdistinctâ, margine rotundo.*

**THE ROUGH CYLINDRELLA.** Shell fulvous, fusiform, contracted above, inflated in the middle, a little narrowed below; whorls 15, obliquely densely striated, last a little unwound; aperture obliquely oblong, rather distant, margin rounded.

ADAMS. Shells of Jamaica. Pfeiffer. Mon. Vol. VI. p. 359.

Hab. Jamaica.

Species 99. (Mus. Sowerby.)

**CYLINDRELLA INORNATA.** *Cyl. testâ brevi cylindricâ, perobliquè striatâ; anfractibus nuceis, rectilateribus, tribus superioribus subangustatis, alteris subaequalibus, ultimo rimato; aperturaâ approximâtâ, unguâ, rotundâ, margine rotundo.*

**THE PLAIN CYLINDRELLA.** Shell short, cylindrical, very obliquely striated; whorls nine, straight-sided, three upper rather narrow, others nearly

CYLINDRELLA.—PLATE XI.

equal, last notched; aperture approximate, large, rounded, margin round.

ADAMS. Sh. of Jamaica. Pfeiffer. Mon. Vol. VI. p. 377.  
Hab. Jamaica.

Species 100. (Mus. Sowerby.)

CYLINDRELLA FORRECTA. *Cyl. testâ fulvâ, gracili, fusiformi, levigatâ; anfractibus 17, superioribus sensu angustissimis, pellucidis, alteris subinflatis, ultimo subcontracto, longè soluto; aperturâ obliquâ distanti, rotundo.*

THE UPRIGHT CYLINDRELLA. Shell fulvous, slender, fusiform, smooth, whorls 17, upper 6 very narrow, pellucid, others a little inflated, last rather contracted, unwound some length; aperture oblique, distant, round.

GOULD. Pfeiffer. Mon. Vol. VI. p. 384.  
Hab. Cuba.

Species 101. (Mus. Sowerby.)

CYLINDRELLA TENELLA. *Cyl. testâ fulvâ, levigatâ, cylindricâ, superiù subattenuatâ; anfractibus permanentibus duodecim, rectilateralibus, lentissimè crescentibus, ultimo alto; aperturâ magnâ, approximâtâ, obliquè subquadratâ.*

THE THIN LITTLE CYLINDRELLA. Shell fulvous, smooth, cylindrical, rather narrowed above; permanent whorls twelve, straight-sided, slowly increased, last high; aperture large, approximate, almost obliquely square.

ADAMS. Pfeiffer. Mon. Vol. VI. 359.  
Hab. Jamaica.

Species 102. (Mus. Sowerby.)

CYLINDRELLA NOTATA. *Cyl. testâ gracillimâ, fusiformi, pellucidâ, sublevigatâ, cornéâ; anfractibus 17, angustis, convexis, superioribus contractis, apicali rotundo, ultimo viz soluto; aperturâ obliquâ; margine rotundo.*

THE MARKED CYLINDRELLA. Shell very slender, fusiform, pellucid, rather smooth, horny; whorls 17, narrow, convex, upper contracted, apical round, last hardly unwound; aperture oblique; margin round.

GUNDLACH. MS. Pfeiffer in Malak. Bl. XI. 1863, p. 10.

Hab. — 'Sierra de Guaira.' Cuba.

The spiral band above the suture, spoken of in the description, and whence the species derives its name, is not visible in the specimen in our hands.

Species 103. (Mus. Sowerby.)

CYLINDRELLA BULIFORMIS. *Cyl. testâ breviter fusiformi, rosâ, tenuissimè striatâ, ventricosâ; anfractibus apicalibus contractis, medianis convexis, inflatis, ultimo angustato, rimato, viz soluto; aperturâ magnâ subrotundâ; margine rotundo.*

THE BULB-SHAPED CYLINDRELLA. Shell shortly fusiform, pink, very finely striated, ventricose; apical whorls contracted, middle convex, inflated, last narrow, notched, hardly unwound; aperture large, rather round; margin round.

SOWERBY.

Hab. — ?





105.



104.



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107.



108.



109.



110.



111.



112.



113.



# CYLINDRELLA.

PLATE XII.

## Species 104. (Mus. Sowerby.)

**CYLINDRELLA COSTULATA.** *Cyl. testā brevi, pyramidalē, rotulā distanter costatā, albida; anfractibus novenis, aequaliter crescentibus, convexis; ultimo longissime soluto et producto; aperturā distantī, subquadri-laterā.*

**THE SMALL RIBBED CYLINDRELLA.** Shell short, pyramidal, strongly distantly ribbed, whitish; whorls 9, equally increasing, convex; aperture distant, subquadri-lateral.

**ABAMS.** Sh. of Jamaica. Pfeiffer. Mon. Vol. VI. p. 381.  
*Hab.* Cuba.

## Species 105. (Mus. Sowerby.)

**CYLINDRELLA PLICATA.** *Cyl. testā brevi, albida, pyramidalē-fusiformē, tenuiter et tri-costatā; anfractibus superioribus rotulā attenuatis, novenis et inferioribus costis siccis, ultimo sublonge-statis, soluto; aperturā distantī, r. rotundā.*

**THE PLEATED CYLINDRELLA.** Shell short, whitish, pyramidal-fusiform, finely closely ribbed; upper whorls much attenuated, middle and lower ventricose, last rather narrow, unbound; aperture distant, rounded.

**POER.** Pfeiffer. Mon. Vol. VI. p. 389.  
*Hab.* Cuba.

## Species 106. (Mus. Sowerby.)

**CYLINDRELLA ARTEMESIE.** *Cyl. testā roseo-fusidā, sub-fusiformi, solidiusculā, obliquē striatā; anfractibus permanentibus decenis, subrectilateralibus, ultimo subcontracto, breviter soluto; aperturā subapprecimata, rotundā, margine rotundā.*

**THE ARTEMESIAN CYLINDRELLA.** Shell pinkly-fulvous, rather fusiform, rather solid, obliquely striated; permanent whorls ten, nearly straight-sided, last a little contracted, with a short unwinding; aperture rather near, round, margin round.

**GÜNDLICH.** Pfeiffer. Mon. Vol. VI. p. 380.  
*Hab.* Artemesia, Cuba.

## Species 107. (Mus. Sowerby.)

**CYLINDRELLA FILIFORMISATA.** *Cyl. testā fusiformi, purpureo-fusidā, ventricosā, costis filiformibus permanentibus, albis rotundā; anfractibus permanentibus 19, superioribus angustatis, medio-lanis sublingatis, ultimo rimato, laxato; aperturā pyriformā, superne vix emarginatā.*

**THE THREE-ANG-RIBBED CYLINDRELLA.** Shell fusiform, purple-brown, ventricose, ornamented with numerous filiform ribs; permanent whorls 19, upper narrow, middle rather inflated, last notched, unbound; aperture pyriform, acuminate above.

**SHUTTLEWORTH.** Pfeiffer. Mon. Vol. VI. p. 378.  
*Hab.* Mexico.

## Species 108. (Mus. Sowerby.)

**CYLINDRELLA CORONADOL.** *Cyl. testā sinistrali, sub-cylindricā, albida, solidiusculā, costalis tenuibus, subremotis sculptā; anfractibus permanentibus decenis, superioribus angustatis, ultimo rimato; aperturā approximata, rotundā, margine rotundā.*

**THE CORONADO CYLINDRELLA.** Shell sinistral, sub-cylindrical, whitish, rather solid, sculptured with thin rather remote ribs; permanent whorls ten, superior narrow, last notched; aperture approximate, rounded, margin rounded.

**ARANGO.** Pfeiffer. Mon. Vol. VI. p. 379.  
*Hab.* Near Havana, Cuba.

## Species 109. (Mus. Sowerby.)

**CYLINDRELLA COSTATA.** *Cyl. testā brevi, stramineā, subcylindricā, sursum subattenuatā; anfractibus permanentibus novenis, subrecte striatis, sub-rectilateralibus, ultimo longē rimato; aperturā subobliquē productā.*

**THE RIBBED CYLINDRELLA.** Shell short, straw, sub-cylindrical, attenuated upwards; permanent whorls nine, with rather straight striae, nearly straight-sided, last with a long notch; aperture rather obliquely produced.

**GÜLDING.** Pfeiffer. Mon. Vol. VI. 381.  
*Hab.* —?

## Species 110. (Mus. Brit.)

CYLINDRELLA HYALINA. *Cyl. testâ pupæformi, ventricosâ, albâ, semipellucidâ; anfractibus permanentibus decenis, subobliquè costatis, tribus superioribus sensim contractis, alteris subæqualibus, ultimo contracto, longè rimato, breviter soluto; aperturâ magnâ, superne subacuminatâ.*

THE HYALINE CYLINDRELLA. Shell pupa-shaped, ventricose, whitish, semipellucid; permanent whorls ten, rather obliquely ribbed, three upper sensibly contracted, the others nearly equal, last contracted with a long notch, shortly unwound; aperture large, ovate, subacuminated above.

PFEIFFER. Mon. Hel. Vol. VI. p. 359.

Hab. Mexico.

## Species 111. (Mus. Sowerby.)

CYLINDRELLA ROBERTSII. *Cyl. testâ brevi, cylindraceâ, fuscâ, striatâ; anfractibus permanentibus septenis, subæqualibus, superioribus vix angustatis, ultimo infra angulato, longè soluto; aperturâ distantî, subtriangulâ, superne lato, infra subacuminatâ.*

ROBERTS'S CYLINDRELLA. Shell short, cylindrical, brown, striated; permanent whorls seven, nearly equal, upper scarcely narrowed, last angular below, unwound for a long part; aperture distant, subtriangular, broad above, rather acuminated below.

ADAMS. Pfeiffer. Mon. Vol. VI. p. 383.

Hab. Jamaica.

## Species 112. (Mus. Sowerby.)

CYLINDRELLA ORNATA. *Cyl. testâ cylindricâ, griseâ, sparsim tenuiter costatâ, costis ad suturam in tuberculis regularibus terminatis; anfractibus permanentibus decenis, superioribus tribus contractis, alteris subæqualibus, ultimo alto, rimato, breviter soluto; aperturâ subtiliter obliquè productâ.*

THE ADORNED CYLINDRELLA. Shell cylindrical, grey, sparsely thin-ribbed, ribs terminating at the suture in regular tubercles; permanent whorls ten, upper three contracted, others nearly equal, last high, notched, shortly uncoiled; aperture rather distantly obliquely produced.

GÜNDLACH. Pfeiffer. Mon. Vol. VI. p. 382.

Hab. Yateras, Cuba.

## Species 113. (Mus. Sowerby.)

CYLINDRELLA CONCRETA. *Cyl. testâ brevi, subfusiformi, lævi, albâ, semipellucidâ, medio ventricosâ, infra paulo contractâ; anfractibus decenis, ultimo subangustato, rimato; aperturâ approximâtâ, subrotundâ.*

THE CONCRETE CYLINDRELLA. Shell short, subfusiform, smooth, whitish, semipellucid, ventricose in the middle, a little contracted below; whorls 10, last rather narrow, notched; aperture near, rather rounded.

GÜNDLACH. Pfeiffer. Mon. Vol. VI. p. 363.

Hab. Cuba.





115 a



114.



115 b



116.



117



119.



118.

# CYLINDRELLA.

PLATE XIII.

## Species 114. (Mus. Brit.)

**CYLINDRELLA PETERERANA.** *Cyl. testi brevissimâ, solidâ, cylindricâ, albâ; anfractibus perenniâ dibus septem, lentissimè cœscutibus, nodulâtim costatis; inter costas angulatim et nodulâtim irregulariter sculptis; ultimo subovato, cœmato, aperturâ obliquâ subovâ, marginâ duplicatâ.*

**PETERER'S CYLINDRELLA.** Shell rather short, solid, cylindrical, whitish; permanent whorls seven, very slowly increased, with wavy ribs, angularly and wavyly sculptured between the ribs; last rather angular, notched; aperture obliquely subovate, margin double.

**FERE SSAC.** Pfeiffer, Mon. Vol. VI, p. 391.

*Hab.* Antilles.

## Species 115. (Fig. a, b, Mus. Brit.)

**CYLINDRELLA CLAVA.** *Cyl. testi succinofusâ seu albâ, tenui, altissimâ, graciliformi, supra mediam gradatim attenuatâ; anfractibus depressis, tenuissimè striatis, perenniâtim viginti, deciduis decem, ultimo infusâ angulatâ, longè cœmato, soluto; aperturâ subobliquâ, obliquè ovatâ, superâ subacuminatâ.*

**THE KEY CYLINDRELLA.** Shell amber brown or whitish, thin, much raised, slender, gradually attenuated above the middle; whorls depressed, very finely striated, twenty permanent, ten deciduous, last angular below, with a long notch; aperture rather distant, obliquely ovate, slightly acuminated above.

**PFEIFFER.** Mon. Vol. VI, p. 365.

*Hab.* Chiappa, Mexico.

## Species 116. (Mus. Brit.)

**CYLINDRELLA LEHMANNI.** *Cyl. testâ solidâ, ventricosisimâ, brevitatâ, floridâ-cuffiâ, propè suturas densiori; anfractibus permanentibus octo, cœscutibus, medio latissimis; superâ infusâque gradatim angustioribus, ultimo cœmato ad aperturam, paulo soluto; aperturâ obliquâ pyriformi, superâ subacuminatâ.*

**LEHMANN'S CYLINDRELLA.** Shell solid, very ventricose, smooth, yellowish-coffee, more dense at the sutures; permanent whorls eight, convex, very wide in the middle, gradually narrower above and below; last notched at the aperture, a little inbowed; aperture obliquely pyriform, slightly acuminated above.

**PFEIFFER.** Mon. H, p. 370.

*Hab.* Mexico.

## Species 117. (Mus. Brit.)

**CYLINDRELLA TURRIS.** *Cyl. testâ altâ, ventricosâ, superâ attenuatâ, cuffiâ, tenui striatâ; anfractibus circa viginti, infusâtim duodecim subequalibus, rectilaberculibus, latis; ultimo truncato, cœmato; aperturâ approximatâ, subobliquâ, latâ, columella latâ, infusâ canaliculatâ.*

**THE TOWER CYLINDRELLA.** Shell high, ventricose, attenuated above, coffee-coloured, finely striated; whorls about thirty, lower twelve rather equal, straight-sided, broad; last truncated, notched; aperture near, rather oblique, broad, columella broad, with a channel below.

**PFEIFFER.** Mon. IV, p. 696.

*Hab.* Chiappa, Mexico.

## Species 118. (Mus. Brit.)

**CYLINDRELLA BOUCARDI.** *Cyl. testâ altâ, cylindricâ, subequaliter ventricosâ, stramineâ; anfractibus permanentibus novem, altis, rectilaberculibus, ultimo infusâ contracto, rimatâ, supra marginem aperturâ arcuatâ; aperturâ obliquè subpyriformi, superâ subacuminatâ.*

**BOUCARD'S CYLINDRELLA.** Shell high, cylindrical, rather equally ventricose, straw; permanent whorls nine, high, rectifilaral, last contracted below, notched, arched above the margin of the aperture; aperture obliquely subpyriform, slightly acuminated above.

**SALLÉ.** Proc. Zool. Soc. 1853, T. XXXIII, f. 1.

*Hab.* Cordova and Orizaba, Mexico.

CYLINDRELLA.—PLATE XIII.

Species 119. (Mus. Brit).

CYLINDRELLA RECTICOSTA. *Cyl. testâ albidâ, costis solidis, rectis, distantibus sculptâ, medio infrâque cylindricâ, superne sensim contractâ; anfractibus permanentibus tredecim, septenis inferioribus sub-æqualibus, vix conceis; suturâ profundâ, ultimo rimato; aperturâ approximati, latâ, margine crasso.*

THE STRAIGHT-RIBBED CYLINDRELLA. Shell whitish, sculptured with solid, straight, distant ribs, cylindrical in the middle and below, sensibly contracted above; permanent whorls thirteen, seven lower nearly equal, hardly convex; suture deep, last notched; aperture approximate, broad, margin thick.

PFEIFFER, *Mon.* II, p. 369.

*Hab.* Oajaca, Mexico.





120a



120b



121a



122a



122b



123a



123b



124a



124b



125a



# CYLINDRELLA.

PLATE XIV.

Species 120. (Mus. Soub.)

**CYLINDRELLA DOMINICENSIS.** *Cyl. testâ brevi, fulvâ, subfusiformi; anfractibus novem, subconvexis, ultimâ longè solutâ; aperturâ distant, parvâ, obliquè subovata, marginè rotundâ.*

**THE DOMINICAN CYLINDRELLA.** Shell short, fulvous, subfusiform; whorls nine, rather convex, last with long part unwoined; aperture distant, small, obliquely subovate, margin rounded.

PFEIFFER. Mon. III. p. 574.

*Hab.* Haiti, Peru.

Species 121. (Fig. a, b. Mus. Brit.)

**CYLINDRELLA VOLPELIS.** *Cyl. testâ altâ, fulvâ, semipellucidâ, angustè cylindricâ, levigatâ, nitentâ; anfractibus octodecim, inferioribus decem subaequalibus, rectilateralibus; ultimâ solutâ, obliquè ad aperturam obliquâ; aperturâ obliquè ovata.*

**THE VOLUBLE CYLINDRELLA.** Shell high, fulvous, semipellucid, narrowly cylindrical, smooth, shining; whorls eighteen, lower ten nearly equal, straight-sided; last unwoined, sloped down obliquely towards the aperture; aperture obliquely ovate.

MORELET. Pfeiffer. Mon. III. p. 576.

*Cylindrella sarosa.* Poey.

*Hab.* Cuba.

Species 122. (Fig. a, b. Mus. Brit.)

**CYLINDRELLA SCEVA.** *Cyl. testâ sinistrâ, pupiformi, tenuissimè striatâ, coffeâ; anfractibus periancylindricis decem, convexissimis, superiorem contractis, aequalis inflatis, inferioribus subangustatis; aperturâ subdistanti, lata.*

**THE LEFT-HANDED CYLINDRELLA.** Shell sinistral, pupa-shaped, very finely striated, coffee-coloured; permanent whorls ten, rather convex, upper contracted, middle inflated, lower rather narrowed; aperture a little distant, broad.

GRUNDLACH. Pfeiffer. Malak. Bl. 1863.

*Hab.* Near Matanzas, Cuba.

Species 123. (Mus. Brit.)

**CYLINDRELLA ARCTIPILA.** *Cyl. testâ altâ, solidâ, albâ, cylindricâ, medio subinflata; anfractibus periancylindricis quindecim, compressis, cili convexissimis, costis calidis, acutis, crebris, sculptis; ultimâ rimatâ; aperturâ magna, rotundâ, marginè crasso.*

**THE BOW-SPEED CYLINDRELLA.** Shell raised, solid, white, cylindrical, middle rather inflated; permanent whorls fifteen, compressed, very convex, sculptured with strong, arched, numerous ribs; last notched; aperture large, rounded, margin thick.

PETITIE. Proc. Zool. Soc. 1864, p. 139.

*Hab.* Juquila, Mexico.

Species 124. (Mus. Brit.)

**CYLINDRELLA TOMATELLA.** *Cyl. testâ altâ, subcylindricâ, tenuissimè striatâ, succineo-cuboventi; anfractibus periancylindricis duodecim, octo inf. riuibus subaequalibus, rectilateralibus; ultimâ subcontractâ, rimatâ, solutâ; aperturâ obliquè subpyriformi, distanti, superiè subconvexatâ.*

**THE LONG-PUDDING CYLINDRELLA.** Shell high, subcylindrical, very finely striated, reddish amber; permanent whorls twelve, eight lower nearly equal, rectilateral, last a little contracted; notched, unwoined; aperture obliquely subpyriform, distant, acuminated above.

MORELET. Pfeiffer. Mon. III. p. 568.

*Cylindrella Moreletii.* Deshayes.

*Hab.* Guatemala.

Species 125. (Mus. Brit.)

**CYLINDRELLA STUBBIS.** *Cyl. testâ gracili, altâ, subfusiformi, griseofusâ, levigatâ, superiè longè contractâ, infra medium subconvexâ; anfractibus viginti, inf. riuibus quinque semis, superiè riuibus quindecim angustissimis, ultimâ inf. attenuatâ, solutâ; aperturâ majusculâ, ovata, distanti, marginè replato.*

CYLINDRELLA.—PLATE XIV.

THE SUBTLE CYLINDRELLA. Shell slender, high, rather fusiform, grey-brown, smooth, with a long part contracted above, rather ventricose below the middle; whorls twenty, lower five full, upper fifteen extremely narrow, last attenuated below, unwound; aperture rather large, oval, distant, margin reflected.

MORELET. Pfeiffer. Mon. III. p. 577.

Hab. Guatemala.

Species 126. (Mus. Brit.)

CYLINDRELLA CINEREA. *Cyl. testâ fusiformi, altâ, griseâ, obliquè costatâ, ultimo anfractu medio torto, contracto, elongato, longè soluto; aperturâ rotundâ, distantî, declivi.*

THE CINEREOUS CYLINDRELLA. Shell fusiform, high, grey, obliquely ribbed, last whorl tortuous in

the middle, contracted, lengthened, much unwound; aperture rounded, distant, sloped.

PFEIFFER. Mon. III. p. 578.

Hab. Cuba.

Species 127. (Mus. Brit.)

CYLINDRELLA ZEBRINA. *Cyl. testâ solidiusculâ, subventricosâ, subpyramidalâ, fulvâ, fasciis perpendicularibus fuscis pictâ; anfractibus permanentibus novem, brevibus, convexis; aperturâ ovatâ, murine crasso.*

THE ZEBRA CYLINDRELLA. Shell rather solid, rather ventricose, subpyramidal, fulvous, painted with perpendicular brown bands; permanent whorls nine, smooth, convex; aperture ovate, margin thick.

PFEIFFER. Mon. III. p. 584.

Hab. Jamaica.





129



128



130



132



131



133



134 b



134 a



134 c



134 d

# CYLINDRELLA.

PLATE XV.

Species 128. (Mus. Brit.)

CYLINDRELLA SEXDECIMALIS. *Cyl. testâ gracillimâ, fusiformi, fulvâ, tenui, semipellucidâ, levigatâ; anfractibus sexdecem, convexis; apicali globoso, sequentibus senis attenuatis, medianis inflatis, ultimo longissimè obliquè soluto, striato; apertura distant, rotundâ, margine crasso.*

THE SIXTEEN-WHOOLED CYLINDRELLA. Shell very narrow, fusiform, fulvous, thin, semipellucid, smooth; whorls sixteen, convex; apical subglobose, six following attenuated, middle inflated, last with a long piece uncoiled, striated; aperture distant, rounded, margin thick.

JAMESON. MS. Pitt. Mon. Vol. VI. p. 384.

Hab. Bermeja vieja, Cuba.

The variegation spoken of in the original description is not perceptible in the British Museum specimens.

Species 129. (Mus. Brit.)

CYLINDRELLA APIOSTOMA. *Cyl. testâ gracillimâ, subcylindricâ, fulvâ; anfractibus octodecem, supra medianam attenuatis, infra subæqualibus, ultimo distorto, striato, soluto; apertura subultranti, subtrigona, superne latâ, infra subcontractâ.*

THE DESCENDING-MOUTHED CYLINDRELLA. Shell very slender, subcylindrical, fulvous; whorls eighteen, attenuated above the middle, nearly equal, last distorted, striated, uncoiled; aperture rather distant, subtrigonal, broad above, rather contracted below.

PFEIFFER. Mon. IV. p. 703.

Hab. Cordova, Mexico.

Species 130. (Mus. Brit.)

CYLINDRELLA GRACILLIMA. *Cyl. testâ gracillimâ, fulvâ, prope apicem contractâ, supra medianam subinflatâ, medio et infra subcontractâ; ultimo extracto elongato, infra attenuato, perobliquè soluto; apertura latâ, margine subæquali.*

THE VERY SLENDER CYLINDRELLA. Shell very thin, fulvous, contracted near the apex, somewhat inflated above the middle, rather contracted at

and below the middle; last whorl elongated, attenuated below, very obliquely uncoiled; aperture broad, margin a little expanded.

POEY. Pfeiffer, Mon. III. p. 576.

Hab. Cuba.

The swelled portion of this narrow shell is above the middle of the lengthened spire.

Species 131. (Mus. Brit.)

CYLINDRELLA VARIEGATA. *Cyl. testâ breviusculâ, latiusculâ, cylindricâ, tenuiter striatâ, fulvâ et subrosâ, obliquè fasciis fasciis variegatâ; anfractibus per-ovocantibus novem, moderate convexis, supra medianam gradatim attenuatis, ultimo rimato, bis citè soluto; apertura subultranti, ovatâ, obliquâ, margine subrotundo.*

THE VARIEGATED CYLINDRELLA. Shell rather short, rather broad, cylindrical, finely ridged, fulvous and pinky, variegated with oblique brown bands; permanent whorls nine, moderately convex, gradually attenuated above the middle, last notched, shortly uncoiled; aperture rather distant, ovate, oblique, margin rather rounded.

PFEIFFER. Mon. II. p. 374.

Hab. Cuba, Florida.

Species 132. (Mus. Brit.)

CYLINDRELLA PHILIPPANA. *Cyl. testâ gracili, fusiformi, fulvâ, regulariter, subultrante, tenuiter costatâ; anfractibus octodecem, apicalibus inflatis, globosis, sequentibus septem angustis, medianis subinflatis, ultimo subcontracto, longè soluto; apertura obliquè ovatâ, margine crasso.*

PHILIPPI'S CYLINDRELLA. Shell slender, fusiform, fulvous, regularly, rather distantly, finely ribbed; whorls eighteen, apical inflated, globose, seven following narrow, middle rather inflated, last rather narrowed, with long unwinding; aperture obliquely ovate, margin thick.

PFEIFFER. Mon. II. p. 378.

*Cylindrella aculeus.* Morelet.

Hab. Cuba.

CYLINDRELLA.—PLATE XV.

Species 133. (Mus. Brit.)

CYLINDRELLA CUMINGIANA. *Cyl. testâ brevi, pupiformi, levigatâ, versus apicem inflatâ, infrâ attenuatâ; anfractibus octonis, ultimo contracto, rimato, longè soluto; apertura auriformi, superè subacuminato.*

CUMING'S CYLINDRELLA. Shell short, pupa-shaped, smooth, inflated towards the apex, attenuated below; whorls eight, last contracted, notched, with lengthened portion un wound; aperture ear-shaped, rather acuminated.

PEIFFER. *MOB.* II. p. 385.

*Hab.* Philippine Islands.

Species 134. (Fig. a, b, c, d, Mus. Brit.)

CYLINDRELLA MAUGERI. *Cyl. testâ pyramidatâ, brevi-*

*gatâ, albâ, vel flavidâ, ad aperturam rosâ, vel fusco-nigrescenti, ad suturam albo fusciatâ, medio parvè inflatâ; anfractibus circâ decenis, ultimo contracto; apertura subovata, marginè reflexo, interrupto, columellâ flexuosa.*

MAUGER'S CYLINDRELLA. Shell pyramidal, smooth, white or yellowish-pink at the aperture, or blackish-brown, with white banded suture, a little inflated in the middle; whorls about ten, last contracted; aperture subovate, margin reflected, interrupted, columella flexuous.

WOOD (Helix). *Index Testaceologiens.*

*Pupa splendens.* Menke.

*Helix ignifera.* Ferrussac.

*Pupa fusiformis.* Adams.

*Hab.* Jamaica.





136



135



137



139



138



140



a



141



b



142



144



143



# CYLINDRELLA.

PLATE XVI.

## Species 135. (Mus. Brit.)

**CYLINDRELLA LUCENS.** *Cyl. testâ subpyramidatâ, angustâ; albâ, semipellucidâ, anfractibus duodecimis, gradatim crescentibus, convexis, ultimo angustissimo, paulo soluto; aperturâ subrotundâ, supernè depressâ, cuneatâ.*

**THE LUCID CYLINDRELLA.** Shell subpyramidal, narrow, whitish, semipellucid, whorls twelve, gradually increased, convex, last rather narrow, a little unwound; aperture rather round, depressed above, cuneate.

WRIGHT. MS. Brit. Mus.

Hab. Cuba.

## Species 136. (Mus. Brit.)

**CYLINDRELLA MORINI.** *Cyl. testâ fuscâ, pyramidato-fusiformi; anfractibus quindecimis, brevibus, perobliquè liris, superioribus attenuatis, inferioribus paulo magis ventricosis, ultimo longè soluto, subrotundo; aperturâ distinctâ, transversè oblongâ, utrinque subcuneatâ.*

**MORINI'S CYLINDRELLA.** Shell brown, pyramido-fusiform; whorls fifteen, short, very obliquely ridged, upper attenuated, lower a little more ventricose; last with a long unwinding, a little twisted; aperture distant, transversely oblong, slightly acuminate on each side.

MORELET. Pfeiffer, Mon. Helic. VI. p. 388.

Hab. Verapaz, Guatemala.

## Species 137. (Mus. Brit.)

**CYLINDRELLA PLANOSPIRA.** *Cyl. testâ angustâ, cylindricâ, semipellucidâ, pallidè succineo-corneâ; anfractibus permanentibus, undecimis brevibus, convexissimis; aperturâ distinctâ, supernè infrâque angulatâ.*

**THE PLAINSPIRED CYLINDRELLA.** Shell narrow, cylindrical, semipellucid, pale horny amber; permanent whorls eleven, rather short, a little convex; aperture distant, angular above and below.

PFEIFFER. Mon. Helic. p. 371.

Hab. Monte Cuzco, Cuba.

## Species 138. (Mus. Brit.)

**CYLINDRELLA MALLEATA.** *Cyl. testâ solidâ, albâ, fuscâ, distanter strigatâ, irregulariter rugis punctulatis angulatis sagittatâ, ventricosâ, medio inflatâ; anfractibus octonis, latis, brevissimis; ultimo infrâ subangustato, carinato; aperturâ irregulariter subquadrato, margine crasso, rotundo, inequali.*

**THE HAMMEED CYLINDRELLA.** Shell solid, whitish, distantly striped with brown, irregularly shagreened with punctured angular wrinkles, ventricose, inflated in the middle; whorls eight, broad, rather short, last a little narrowed and keeled below; aperture irregularly subquadrate, margin thick, round, unequal.

PFEIFFER. Mon. Helic. VI. p. 363.

Hab. St. Domingo.

## Species 139. (Mus. Brit.)

**CYLINDRELLA CAMOENSIS.** *Cyl. testâ fusiformi, attenuatâ, altissimâ, fucosocastaneâ, anfractibus viginti, brevibus, medio subinflatis, lamina crebris ad suturam supra infrâque prominentibus, medio obsolete, sculptis; ultimo angustato, soluto; aperturâ rotundâ.*

**CAMOENS' CYLINDRELLA.** Shell fusiform, attenuated, much elevated, smoky chestnut, whorls twenty, short, a little inflated in the middle, sculptured with numerous laminae, prominent above and below, and obsolete in the middle; last narrow, unwound; aperture rounded.

PFEIFFER. Mon. Helic. VI. p. 388.

Hab. Cuba.

The fine laminated ridges form rounded scales at the top and bottom of each whorl, and are almost lost in the middle.

## Species 140. (Mus. Brit.)

**CYLINDRELLA BEARDSLEYANA.** *Cyl. testâ pallidè fuscâ, tenuiter liratâ, subpyramidatâ; anfractibus novenis, subconvexis, gradatim crescentibus, liris frequentibus, curvis, intervalliis latioribus.*

CYLINDRELLA.—PLATE XVI.

BEARDSLEY'S CYLINDRELLA. Shell pale brown, finely ridged, somewhat pyramidal; whorls nine, rather convex, gradually increased, ridges numerous, curved, interstices wider.

C. B. ADAMS. — ?

Hab. Jamaica.

Species 141. (Mus. Brit.)

CYLINDRELLA TURKASIANA. *Cyl. testâ fusiformi, angustâ, semipellucidâ, lavi, pallidè succinèâ; anfractibus septemdecenis, superioribus inferioribusque attenuatis, medianis subinflatis, ultimo longissimè soluto, declivi, rugato, tortuoso; apertura parvâ, distantissimâ.*

THE TURKASIAN CYLINDRELLA. Shell fusiform, narrow, semipellucid, smooth, pale amber; whorls seventeen, upper and lower attenuated, middle a little inflated, last with a long piece unwound, sloped downward, wrinkled, twisted; aperture small, very distant.

GUNDLACH. Pfeiffer Mon. Helic. VI. p. 385.

*Lesallei.* Gandlach ?

Hab. Monte Toro, Cuba.

Species 142. (Mus. Brit.)

CYLINDRELLA REGELIANA. *Cyl. testâ parvâ, angustè pyramidatâ, opacâ, fulvâ, distanter strigatâ; anfractibus quatuordecenis, tenuiter acutè liris, brevissimis ultimo longè soluto, tortuoso; apertura parvâ, distantè; apice attenuato, acuminato.*

REGEL'S CYLINDRELLA. Shell small, narrowly pyramidal, opaque, fulvous, distantly striped; whorls fourteen, finely, acutely ridged, very short, last with long portion unwound, twisted; aperture small, distant; apex attenuated, acuminated.

SHUTTLEWORTH. Pfeiffer. Mon. Hel. VI. p. 368.

Hab. Cuba.

Species 143. (Mus. Brit.)

CYLINDRELLA PUPIFORMIS. *Cyl. testâ brevi, lavi, cylindricâ, semipellucidâ, albâ, vel castaneâ; anfractibus permanentibus sexis, brevibus, convexis; ultimo breviter soluto, apertura subdistanti, magud, margine crasso, subrotundo.*

THE PUPA-SHAPED CYLINDRELLA. Shell short, smooth, cylindrical, semipellucid, white or chestnut; permanent whorls six, short, convex; last with short unwinding; aperture rather distant, large, margin thick, rather rounded.

C. B. ADAMS. Pfeiffer, Mon. Helic. VI. p. 370.

Hab. Jamaica.

Species 144. (Mus. Brit.)

CYLINDRELLA UNCATA. *Cyl. testâ cylindricâ, solidiusculâ, latiusculâ, pallidè corneâ, medio paulo inflata; anfractibus undecenis, brevibus, subdistanter liris; ultimo subangustato, soluto, versus aperturam coarctato; liris anfractuum ad suturam supra infriorque quasi uncinatis, apertura distantè, subtrigona.*

THE HOOKED CYLINDRELLA. Shell cylindrical, very solid, rather broad, pale horn; a little inflated in the middle; whorls eleven, short, rather distantly ridged, last rather narrow, unwound, contracted towards the aperture; ridges of the whorls, as it were, hooked at the suture above and below; aperture distant, subtrigonal.

GUNDLACH. Pfeiffer. Mon. Helic. VI. p. 382.

Hab. Yateras, Cuba.

The tubercles formed at the sutures on the ridges have the appearance of little hooks.

## CYLINDRELLA.

|                                     | Plate. | Species. |                             | Page.     |
|-------------------------------------|--------|----------|-----------------------------|-----------|
| <i>aculeus</i> , Morelet            | XV.    | 132      | Cuningiana, Pfeiffer        | XV. 132   |
| <i>aeneus</i> , Pfeiffer            | VII.   | 62       | cylindrus, Chennitz         | II. 36    |
| Adamsiana, Pfeiffer                 | II.    | 16       | <i>cylindrus</i> , See alta | VIII. 58  |
| Agnesiana, Adams                    | V.     | 43       | denticulata, Pfeiffer       | III. 22   |
| alabastrina, Pfeiffer               | IX.    | 81       | Dominicensis, Pfeiffer      | XIV. 129  |
| albo-remata, Pfeiffer               | IV.    | 27       | Dunkeriana, Pfeiffer        | VIII. 39  |
| alta, Sorechy (cylindrus by error)  | VIII.  | 58       | elegans, Pfeiffer           | VIII. 36  |
| amethystina, Chilly                 | II.    | 15       | Ellioti, Pogy               | VI. 47    |
| angusta, Adams                      | VII.   | 63       | elongata, Chennitz          | IV. 33    |
| angustior, Wright                   | XI.    | 97       | eximia, Pfeiffer            | I. 6      |
| <i>antipræcox</i>                   | XI.    | 35       | Fabreana, Pogy              | VIII. 79  |
| apiostoma, Pfeiffer                 | XV.    | 129      | fastigiata, Guadluch        | IV. 34    |
| arctispira, Pfeiffer                | XIV.   | 123      | fibrosa                     | XII. 107  |
| arcuata, Mortens                    | VI.    | 49       | filicostata, Shuttleworth   | II. 8     |
| aristipica, Pfeiffer                | I.     | 5        | flamulata, Pfeiffer         | XV. 134   |
| artemesia, Guadluch                 | XII.   | 106      | <i>fasificaria</i> , Adams  | VIII. 66  |
| asperata, Sorechy (aspera by error) | XI.    | 98       | Garciana, Wright            | I. 7      |
| aspera, Adams                       | I.     | 1        | Gheisbrighiti, Pfeiffer     | VII. 72   |
| <i>Auberiana</i> , Orbigny          | IV.    | 36       | goniostoma                  | IV. 35    |
| Beardsleyana, Adams                 | XVI.   | 149      | Gossi, Pfeiffer             | IX. 78    |
| <i>Bianeyana</i> , Pfeiffer         | VI.    | 53       | gracilis, Wood              | XV. 139   |
| Boucardi, Sallé                     | XIII.  | 118      | gracillima, Pogy            | I. 4      |
| Brookesiana, Guadluch               | VI.    | 52       | grandis, Pfeiffer           | III. 18   |
| brunnescens, Guadluch               | X.     | 92       | Gravesii, Adams             | V. 37     |
| bulbiformis, Sorechy                | XI.    | 103      | Hanleyana, Pfeiffer         | XI. 96    |
| carinata, Pfeiffer                  | VIII.  | 67       | Hilleri, Pfeiffer           | IX. 76    |
| camoensis, Pfeiffer                 | XVI.   | 139      | Hollandi, Pfeiffer          | III. 25   |
| caerulans, Pogy                     | III.   | 21       | Humboldtiana, Pfeiffer      | XII. 119  |
| Chennitziana, Ferrussac             | IV.    | 33       | hyalina, Pfeiffer           | XV. 134   |
| chorlata, Pfeiffer                  | V.     | 38       | <i>ignifera</i> , Ferrussac | XI. 99    |
| cimera, Pfeiffer                    | XIV.   | 126      | illamellata, Wright         | X. 93     |
| clara, Wright                       | IX.    | 82       | inornata, Adams             | X. 91     |
| clava, Pfeiffer                     | XIII.  | 115      | integra, Pfeiffer           | X. 91     |
| <i>collaris</i> , Ferrussac         | XI.    | 95       | intermedia, Sorechy         | VIII. 71  |
| <i>collanella</i>                   | III.   | 25       | interrupta, Guadluch        | VII. 64   |
| concreta, Guadluch                  | XII.   | 113      | intusmalleata, Guadluch     | IV. 32    |
| <i>cornua</i> , Adams               | II.    | 12       | irrorata, Guadluch          | X. 86     |
| Coronadoi, Arango                   | XII.   | 108      | lata, Adams                 | VII. 56   |
| costata, Guilding                   | XII.   | 109      | Lateradii, Grateboop        | VII. 56   |
| <i>costatus</i> , Gray              | IV.    | 39       | Lavalliana, Orbigny         | XIII. 116 |
| costulata, Adams                    | XII.   | 104      | Leibmani, Pfeiffer          | XVI. 141  |
| <i>costulosa</i> , Adams            | IV.    | 39       | Lescaiiei                   | IV. 36    |
| crispula, Pfeiffer                  | V.     | 39       | lituus, Gould               | XVI. 135  |
| Cuningii, Adams                     | IV.    | 33       | lucens, Wright              | XVI. 135  |

CYLINDRELLA.

|                         | Plate. | species. |                         | Plate. | Species. |
|-------------------------|--------|----------|-------------------------|--------|----------|
| macrostoma, Pfeiffer    | III.   | 26       | Rüsci, Pfeiffer         | XI.    | 94       |
| malleata, Pfeiffer      | XVI.   | 138      | Salleana, Pfeiffer      | V.     | 40       |
| maugerii, Wood          | XV.    | 134      | sanguinea, Chermnitz    | II.    | 12       |
| megacheila, Chittly     | VI.    | 54       | Sauvalliana, Gaudlach   | VI.    | 50       |
| Mexicana, Pfeiffer      | VII.   | 61       | sacosa, Poey            | XIV.   | 121      |
| microstoma, Pfeiffer    | V.     | 42       | sceva, Gaudlach         | XIV.   | 122      |
| montana, Adams          | V.     | 44       | scalarina, Shuttleworth | IX.    | 74       |
| Moreleti, Pfeiffer      | VII.   | 59       | seminuda, Adams         | V.     | 46       |
| Morini, Morelet         | XVI.   | 136      | sexdecimalis, Jimeno    | XV.    | 128      |
| multispiralis, Sowerby  | IX.    | 79       | Shuttleworthiana, Poey  | III.   | 23       |
| nobilior, Adams         | VI.    | 53       | soluta, Pfeiffer        | IX.    | 75       |
| nobilis, Heutz          | IV.    | 36       | Sowerbiana, Pfeiffer    | III.   | 20       |
| notata, Gaudlach        | XI.    | 102      | speciosa, Dunker        | I.     | 2        |
| obesa, Martens          | VIII.  | 73       | splendens, Menke        | XV.    | 134      |
| obliqua, Pfeiffer       | IV.    | 28       | splendida, Pfeiffer     | I.     | 3        |
| aborta, Meuke           | IV.    | 36       | striatella, Wright      | VII.   | 55       |
| ornata, Gaudlach        | XII.   | 112      | subtilis, Morelet       | XIV.   | 125      |
| ovideoiana, D'Obigny    | II.    | 13       | suturalis, Weindand     | III.   | 19       |
| pallida, Guibling       | IV.    | 30       | teneila, Adams          | XI.    | 101      |
| perlata, Pfeiffer       | X.     | 88       | teres, Menke            | V.     | 45       |
| perplicata, Ferrussac   | IV.    | 29       | tonacella, Morelet      | XV.    | 124      |
| Petiveriana, Ferrussac  | XIII.  | 114      | Teneriensis, Wright     | X.     | 84       |
| Philippiana, Pfeiffer   | XV.    | 132      | transaperta, Sowerby    | IX.    | 77       |
| Piloceri, Pfeiffer      | VI.    | 48       | Trinitaria, Pfeiffer    | V.     | 41       |
| planospira, Pfeiffer    | XVI.   | 137      | trochaeiformis, Sowerby | IX.    | 80       |
| planulata               | II.    | 8        | truncatula              | XI.    | 35       |
| plicata, Poey           | XII.   | 105      | tumidiora, Sowerby      | VIII.  | 65       |
| polygyra, Pfeiffer      | VII.   | 57       | turris, Pfeiffer        | XIII.  | 117      |
| porrecta, Gaudl.        | XI.    | 100      | Turkassiana, Gaudlach   | XVI.   | 141      |
| procrea, Adams          | II.    | 14       | uncata, Gaudlach        | XVI.   | 144      |
| producta, Gaudlach      | X.     | 89       | variegata, Pfeiffer     | XV.    | 131      |
| pruinosa, Morelet       | IV.    | 31       | Vignalensis, Wright     | IX.    | 83       |
| puncturata, Pfeiffer    | III.   | 24       | violacea, Wright        | VII.   | 60       |
| pupaeformis, Adams      | XVI.   | 143      | ventricosa, Gaudlach    | III.   | 17       |
| purpurea, Gray          | II.    | 9        | volubilis, Morelet      | XIV.   | 121      |
| reticosta, Pfeiffer     | XIII.  | 119      | Walpolei, Sowerby       | VI.    | 51       |
| Robertsi, Adams         | XIII.  | 111      | Wrightii, Pfeiffer      | X.     | 85       |
| rosae, Adams            | II.    | 11       | zabrina, Pfeiffer       | XIV.   | 127      |
| rubella, Adams          | II.    | 9        | zonata, Adams           | II.    | 10       |
| Rugeliana, Shuttleworth | XVI.   | 142      |                         |        |          |

# MONOGRAPH

OF THE GENUS

# P U P A .

Things that were not, at Thy command  
In perfect form before Thee stand;  
And all to their Creator raise  
A wondrous harmony of praise.







2 a



1



2 b



4 a



3 a



4 b



5



3 b



6



7



# P U P A.

PLATE I.

## Genus PUPA. *Incompleta*.

*Testa breviter, cylindrica, rimata, plerumque deorsum  
nonnihil sinistralis plerumque chrysalidiformis  
multispiculis, apice obtuso. Apertura frequenter  
plurata et dentata, margine reflexo, continuo.  
Operculum nullum.*

**SHELL TERRESTRIAL.** Cylindrical, creased, generally  
chrysalis-shaped, with many whorls and obtuse  
apex. Aperture frequently plaited and toothed,  
margin reflected, continuous. Operculum none.

In the following monograph, which cannot be  
made absolutely complete in this work, the genera  
GIBBS, ENNEA, and VERIGO are included with the  
undisputed Pupa. The species are found on most  
European continents and islands, particularly the  
more southern parts, and are also abundant in the  
East and West Indies, South Sea Islands, and other  
localities too numerous to mention. They are only  
wanting or rare in the colder climates. The *rima* in  
this and other genera of pupa-shaped land shells is  
a crease formed by an abnormal doubling as it were of  
the last whorl, bringing the mouth by a somewhat  
sudden turn to the front.

## Species 1. (Mus. Sowerby.)

**PUPA BRYANTI.** *Pap. testâ breviter cylindrica, breviter  
rimata, albida, costis nonnihil; auriferibus  
obtusis, plicis solidis, subtilissimis, retinaculis  
nullis; apertura ovata, margine reflexo, rufescente,  
columnella bispicata.*

**BRYANTI'S PUPA.** Shell shortly cylindrical, shortly  
creased, whitish, mottled with chestnut; whorls  
eight, strengthened with solid, rather distant,  
rather straight ribs; aperture ovate, margin  
bowed, reflected; columella with two plaits.

PEIFFER. Mon. Hel. VI. p. 92.

*Hab.* South Magna, Bahamas.

From its form and mottled colouring, this species  
would seem to resemble Pupa Chrysalis with its  
whorls vertically depressed, but with the addition of  
two plaits on the columella.

## Species 2. (Fig. a, b. Mus. Brit.)

**PUPA GLANS.** *Pap. testâ oblonga chrysalidiformi, solida,  
subreticulata, nonnihil costis cariepati, costis  
apicem acuminata, auriferibus decens,  
costis calidis nullis; apertura latius costata,  
margine aureo, columella crassa, calidi bispicata.*

**THE ACORN PUPA.** Shell obese, chrysalis-shaped,  
solid, bluish, sometimes varied with chestnut,  
acuminated towards the apex; whorls ten,  
strengthened with strong ribs; aperture chest-  
nut within, margin golden, columella thick,  
strongly bispicate.

KÜSTER. Pfeiffer, Mon. Hel.

*Hab.* New Providence, Bahamas.

## Species 3. (Fig. a, b. Mus. Brit.)

**PUPA MUMIA.** *Pap. testâ oblonga chrysalidiformi, sub-  
cylindrica, nonnihil costis cariepati, costis  
apicem acuminata, subrecte costata, apertura  
aurea, margine crassius, columella calidi bispicata,  
inter plicis profundi sinuata.*

**THE MUMMY PUPA.** Shell oblong-chrysalis-shaped,  
bluish, sometimes mottled with chestnut, acu-  
minated towards the apex, rather lightly ribbed;  
aperture golden; margin very thick, columella  
with two strong plaits, deeply sinuated between  
the plaits.

BRUGIENE. Enc. Met.

*Pupa sculpta*, Poy (var.)

*Pupa mumiata*? Pfeiffer.

*Hab.* Cuba.

## Species 4. (Mus. Brit.)

**PUPA PRÆTUS.** *Pap. testâ latissima, breviter cylin-  
drica, subreticulata, costata, solida; auriferibus  
decens, superioribus depressis, alteris costis, costis  
subultrastantibus nullis; apertura latâ, latius aurea,  
margine crasso, albida, supra columellam im-  
plicata.*

THE PROTEUS PUPA. Shell very wide, shortly cylindrical, somewhat truncated, bluish, solid; whorls ten, upper depressed, others strengthened with slightly distant strong ribs; aperture broad golden within, margin thick, whitish, with a plait above the columella.

GÜNDLACH MS. Pfeiffer, VI, p. 291.

*Pupa dimidiata*, Pfeiffer (*olim*).

*Hab.* Cuba.

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Species 5. (Mus. Brit.)

PUPA CHEYSSALIS. *Pup. testâ elongato-chrysalidiformi, tubi castaneo-marmoratâ; costis distantibus, culicibus; spirâ obtusâ; infractibus undecenis, inflexibus altis, rectilateralibus; aperturae marginis auriformi, albo, rotundo, columellâ edentulâ.*

THE CHEYSSALIS PUPA. Shell elongated, chrysalis-shaped, fulvous, marbled with chestnut; ribs distant, strong; spire obtuse; whorls eleven, lower high, straight-sided; margin of aperture ear-shaped, white, rounded; columella without teeth.

BECK, Pfeiffer, Mon. II. p. 314.

*Hab.* Cuba.

Of a more straight and lengthened cylindrical form than *Pupa Mumia* and without plaits on the columella.

Species 6. (Mus. Brit.)

PUPA INCRASSATA. *Pup. testâ obesâ, cylindricâ, subtruncatâ, subcavâ; costis subobliquis, distantibus, brevibus; apertura auriformi, flexuosâ; margine albido, crassissimo; labio estereo superâ flexuoso, labio interno validè blicato.*

THE THICKENED PUPA. Shell obese, cylindrical, slightly truncated, bluish; ribs rather oblique, distant, smooth; aperture auriform, flexuous; margin whitish, very thick; outer lip flexuous above, inner lip with two strong folds.

SOWBRY.

*Hab.* Cuba.

The writer having figured this shell under the name of *P. tumida*, and finding that name already used for another species, is obliged to re-name it. It resembles *P. proteus*, but its chief peculiarity is a much thickened and flexuous margin.

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Species 7. (Mus. Brit.)

PUPA UVA. *Pup. testâ chrysalidiformi, cœrulea, crassiusculâ; infractibus undecenis, rectilateralibus; aperturae subovatâ, aurâ, margine interno rîc plicato.*

THE GRAPE PUPA. Shell chrysalis-shaped, bluish, thick-ribbed; whorls eleven, straight sided; aperture subovate, golden, inner margin scarcely plaited.

LINNEUS. Syst. Nat.

*Hab.* Guadaloupe.





11



10



11



12 a



11



12 b



14



13



16



15

# PUPA.

PLATE II.

## Species 8. (Mus. Brit.)

PUPA MEGALOSTOMA. *Pup. testis brevis, acuminatâ, tenuiter liratâ, grisâ, fusco nebulatâ; apice attenuato, flavido; apertura parvâ, intus castaneâ, margine crasso, rotundâ, plicâ superiori crasso, plicâ columellari parvâ.*

THE SMALL-MOUTHED PUPA. Shell short, acuminated, finely ridged, grey, clouded with brown; apex attenuated, yellowish; aperture small, chestnut within, margin thick, rounded; upper plait thick, columellar plait small.

PFEIFFER. Monographia Heliceorum, vol. iv. p. 659.

Hab. Haïti.—Porto Rico.—Cuba.

## Species 9. (Mus. Sowerby.)

PUPA ANTONI. *Pup. testâ profundè rimatâ, umbilicatâ, brevî, obtusâ, tenuiter liratâ griseo-rubescenti marmoratâ; apertura majusculâ, intus castaneâ, margine albo, sub-apice, plicis duobus parvis armato.*

ANTON'S PUPA. Shell deeply notched, umbilicated, short, obtuse, finely ridged, marbled with reddish-grey; aperture rather large, chestnut within, margin white, rather expanded, armed with two small plaits.

KÜSTER. Pfeiffer, Mon. III. p. 539.

Hab. Berbice.

## Species 10. (Mus. Sowerby.)

PUPA MARMORATA. *Pup. testâ brevî, levigatâ, angustè rimatâ fulcâ, flammis undulatis albidis variegatâ; apice pyramidalâ; apertura magnâ, suprâ columellam uniplicatâ.*

THE MARBLED PUPA. Shell short, smooth, narrowly notched; fulvous, variegated with white flames and waves; apex pyramidal; aperture large, with a single plait above the columella.

PFEIFFER. Monograph. III. 323.

Hab. Cuba.—Bahamas.

Very beautifully ornamented with enamelled white markings over a pinky-fawn ground.

## Species 11. (Mus. Sowerby.)

PUPA INFANDA. *Pup. testâ cylindricâ, profundè rimatâ; umbilicatâ, solidâ, albâ, latâ; anfractibus superioribus brevè levigatis, ultimis costis regularibus, subdistentibus, sculptis; apertura magnâ, intus fulvâ, suprâ columellam plicâ dentiformi parvè munitâ.*

THE UNDESCRIBED PUPA. Shell cylindrical, deeply notched, umbilicated, solid, white, broad; upper whorls almost smooth; the last sculptured with regular ribs; aperture large, fulvous within; provided with tooth-like plait above the columella.

SHUTTLEWORTH, Pfeiffer, Mon. VI. vol. vi. p. 288.

*Pupa decemana*, Poey.

Hab. Cuba.

This shell differs from *Pupa nannia* in the first whorls being partially denuded of ribs.

## Species 12. (Fig. a, b, Mus. Brit.)

PUPA ZEBRA. *Pup. brevissimâ, rimatâ, tenuiliratâ, fulvescenti, strigis undulatis fuscis longitudinaliter ornatâ; spirâ cœcis apice pyramidalâ, apertura parvâ, labio interno angustò, uniplicatò, columellâ obliquè uniplicatâ.*

THE ZEBRA PUPA. Shell very short, notched, finely ridged, rather fulvous, longitudinally ornamented with undulated brown stripes; spire pyramidal towards the apex, aperture small, inner lip

PUPA.—PLATE II.

narrow, with one plait, columella obliquely one-plaited.

WEINLAND. MS. Brit. Mus.

Hab. Bahamas.

Species 13. (Mus. Brit.)

PUPA MULTICOSTATA. *Pup. testā oblongā, albo-griseo-secenti, rimatā, liris validis, crebris, longitudinaliter sculptis; aperturā subquadratā, margine crasso, intus castaneo, columellā latā, obliquē uniplicatā, labio interno supra columellam uniplicato.*

THE MANY-RIBBED PUPA. Shell oblong, greyish-white, notched, sculptured longitudinally with strong close ridges; aperture rather square, margin thick, chesnut within, columella broad, obliquely single-plaited, inner lip with one plait above the columella.

KÜSTER. Pfeiffer, Mon. II. p. 323.

Hab. Cuba.

Species 14. (Mus. Brit.)

PUPA CRASSILABRIS. *Pup. testā subcylindricā, obtusā, roseo-albidā, fusco nebulatā, tenuiter liratā; aperturā subauriformi, plicatā, margine duplicato.*

THE THICK-LIPPED PUPA. Shell subcylindrical, obtuse, pinky-whitish, clouded with brown, finely ribbed; aperture somewhat auriform, two-plaited, margin doubled.

SHUTTLEWORTH. — ?

Hab. India.

Species 15. (Mus. Brit.)

PUPA MARTENSI. *Pup. testā cylindricā, rimatā, tenuissimē liratā, albidā, fusco nebulatā; apice obtuso; aperturā magnā, auriformi, bicipitatā, margine crasso.*

MARTEN'S PUPA. Shell cylindrical, notched, very finely ridged, whitish, clouded with brown; apex obtuse; aperture large, ear-shaped, with two plaits, margin thick.

WEINLAND. Malak. Bl. ix. 1862.

Hab. Bahamas.

Species 16. (Mus. Sowerby.)

PUPA MARTINIANA. *Pup. testā brevissimā, obscuri rosā, breviter profundē rimatā, subpyramidatā liris distantibus, subarcuatis, propē suturam nodulosā sculptā; aperturā subauriformi, margine crasso, superne angulatā, labio interno ad anfractum ultimum uniplicato, columellā vix plicatā.*

MARTIN'S PUPA. Shell very short, dull rose, shortly, deeply notched, subpyramidal; sculptured with distant ridges, nodulous near the suture; aperture rather auriform, margin thick, angular above, inner lip with a plait on the last whorl, columella scarcely plaited.

KÜSTER. Pfeiffer, Mon. II. p. 317.

Hab. — ?

This shell is remarkable for having a little knob on the top of each rib at the suture.







# P U P A.

PLATE III.

## Species 17. (Mus. Brit.)

**PUPA OBTUSA.** *Pup. testā brevī, tenui, cylindrica, profunde rimatā, pallidā; apice obtuso, glaberrimā; apertura anteriori obliquē productā; labio interno brevi, plati minutā, columella subrectā.*

**THE WORN PUPA.** Shell smooth, thin, cylindrical, deeply notched, pale; apex obtuse, yellowish; aperture anteriorly obliquely produced; inner lip thin, provided with a very small plait, columella rather straight.

**SHUTTLEWORTH.** *Pflr. Mon. VI. as incana* var.

*Hab.* Florida.

## Species 18. (Fig. a. b. Mus. Sowerby.)

**PUPA STRIATELLA.** *Pup. testā brevi, pallidā griseo-oculā, col. subrosā, fusco-rubescuntē variegatā; tenuit. et regularit. limatā, profunde rimatā; labio interno plati difformi ciliatā minuto, columella profundā, brevi, unijliatā.*

**THE SMALL-STRIATED PUPA.** Shell short, pale greyish or slightly pink, variegated with reddish brown, finely and regularly ridged; deeply notched; inner lip provided with a strong tooth-like plait, columella deep, short, with one fold.

**FERRISSAC.** *Pfeiffer Mon. VI. p. 292.*

*Hab.* Cuba, Haiti, Porto Rico, &c.

## Species 19. (Mus. Sowerby.)

**PUPA SAGRAIANA.** *Pup. testā breviusculā, subcylindricā, griseo-rubescuntē, rubro-fuscescentē marmoratā, profunde rimatā; apertura auriformi, magnā, margine crasso, labio interno et columella unijliatā.*

**SAGRA'S PUPA.** Shell rather short, rather smooth, greyish-red marbled with brownish-red, deeply

notched; aperture auriform, large, margin thick, inner lip and columella with one plait each.

**PREIFFER.** *Monographia Helicorum II. p. 322.*

*Hab.* Cuba.

## Species 20. (Mus. Sowerby.)

**PUPA MARITIMA.** *Pup. testā pallidā arenolā, subpyramidalā, distanter, leviter costatā, inter costas planulatā, longē ciliatā, profunde unijliatā; apertura intūs griseo-fusca, profundā, subtrigona, margine crasso, latē reflexa, columella profundissimā, intūs leviter plicatā, labio interno tenuiter unijliatā.*

**THE MARITIME PUPA.** Shell pale blueish, rather pyramidal, distantly, lightly ribbed, flattened between the ribs; with a long notch, and deep unilobed; aperture fulvous grey within, deep, almost trigonal, margin thick, broadly reflected, columella very deep, slightly plaited within; inner lip with a thin plait.

**PREIFFER.** *Monographia II. p. 322.*

*Hab.* Cuba.

## Species 21. (Mus. Sowerby.)

**PUPA RUDIS.** *Pup. testā obovā, albidā, tenui, costellis acutis, distantibus limatā, obliquē rimatā; apertura magnā, superā infraque acuminatā, margine angustā, reflexa, labio interno plati elongatā ciliatā minuto; columella rē plicatā.*

**THE ROUGH PUPA.** Shell obese, whitish, thin, ridged with sharp, distant riblets, obliquely notched; aperture large, acuminated above and below, margin narrow, reflected, inner lip provided with an elongated strong plait, columella scarcely plaited.

**PREIFFER.** *Monographia Helicorum IV. 657.*

*Hab.* — ?

## Species 22. (Mus. Brit.)

PUPA IOSTOMA. *Pup. testâ cylindricâ, latâ, distanter leniter liratâ, cæruleo-albidâ, rubro-purpurascenti marmoratâ et strigatâ, anfractibus albis, rectis, apicè acuminatâ, aperturâ crassâ violaceâ, biplicatâ.*

THE PURPLE-MOUTHED PUPA. Shell cylindrical, broad, distantly lightly ridged, blueish-white marbled or striped with reddish-purple, whorls elevated, straight, apex acuminate, aperture thick, violet, two-plaited.

PREIFFER. Monographia Helicorum IV. p. 656.

Hab. Cuba.

The violet colour of the interior of the mouth is very peculiar.

## Species 23. (Fig. a, b, Mus. Brit.)

PUPA ALVEARIA. *Pup. testâ subcylindricâ, angustâ, griseo-roseoscenti, vel purpureo inter costas, versâs apicem attenuatâ, acuminatâ, costis crassiusculis numerosis: aperturâ brevi, subrotundâ, labiâ interna acutè et minutè unijlicatâ.*

THE BEEHIVE PUPA. Shell cylindrical, narrow, grey-

ish-pink or purple between the ribs, attenuated towards the apex, acuminate, with rather thick, numerous ribs, aperture short, rather round, inner lip with a sharp, small plait.

DILWYN (Turbo). Pfeiffer II. 315.

*Bulinus fusus*, Bruguière.

*Pupa fusus*, Lamarck.

*Pupa rubicunula*, Mentse.

Hab. Bahamas.

## Species 24. (Mus. Brit. and Sowerby.)

PUPA WEINLANDI. *Pup. testâ elevatâ, cylindricâ, leniter liratâ, pallidè rubescenti, fusco strigatâ; apicè attenuatâ, anfractâ ultimè obliquè breviter rimatâ; aperturâ magnâ, intus fuscâ, labiâ interna vicè plicatâ.*

WEINLAND'S PUPA. Shell elevated, cylindrical, finely ridged, pale reddish, striped with brown, apex attenuated; last whorl obliquely, shortly notched; aperture large, brown within, inner lip scarcely plaited.

KÜBE, MS. Pfeiffer, Mon. VI. p. 290.

Hab. Crooked Island, Bahamas.





# P U P A.

PLATE IV.

Species 25. (Mus. Brit.)

*PUPA UMBILICATA*. *Pap. testis parvis, laevi, umbilicatissimi, arvensis apicem obtusum, coracis, sed juvenis peripus umbilicis, ubi quoque rivulosis; apertura subquadrata; marginis lateralis quinqueplicatis.*

THE GREAT PUPA. Shell small, thin, subcylindrical, attenuated towards the apex, horny or purplish-brown, obliquely notched; aperture rather square, inner margin five-plaited.

DRAPERNA D. Mol. Fluv. et Ter.

*Papa juniperi*, Fleusing.

*Helix cylindrica*, Studer.

Hab. Europe.

Species 26. (Mus. Theobald.)

*PUPA TETRAIDICA*. *Pap. testis parvis, pallidus, cylindricus, tenuiter laticus, supra medium tumidissimus, rivulosis, apertura subcylindrica; labio infero uniplicato, labio externo supra medium sinuatum contorto.*

THE FIVE PUPA. Shell small, pale, cylindrical, finely ridged, rather more tumid above the middle, notched, aperture somewhat auriform; inner lip single-plaited, outer lip sinuously contracted above the middle.

THEOBALD. Journ. Asiat. Soc. Beng. 1870.

Hab. Shan Provinces.

A little like *P. Blanfordi*, but not so tapering downwards, and quite different in the plaits of the mouth.

Species 27. (Mus. Sievers.)

*PUPA PHASIANUS*. *Pap. testis albi, parvis, brevis, laevi, labii rivulosis, cervice apicem subattenuata; anfractibus quinque, ultimo magno; apertura subquadrata, marginis lateralis serpicato.*

THE PHASIAN PUPA. Shell white, small, short,

smooth, broad, a little attenuated towards the apex; whorls five, the last large, notched; aperture rather square, inner margin of the lips with six plaits.

DEBOIS. Journ. de Conch. 1873.

Hab. Central Russia.

Species 28. (Mus. Gassies.)

*PUPA LAFONIANA*. *Pap. testis minutis, latè, latè umbilicatis, tenuissimis et regulariter striatis, nitenti, coracis, ultimo anfracta ad medium fusco unifasciata; suturae minutissimè crenulatis, anfractibus 6, superioribus brevibus, inferioribus altis; apertura obliqua, quadruplicata, plicis parietalibus, una superioris maximè, altera parvis plicis columellari et labiali parvis.*

THE LAFON PUPA. Shell minute, broad, broadly umbilicated, very finely and regularly striated, shiny, horny, and with a brown band in the middle of the last whorl; suture very finely crenulated; whorls 6, upper ones short, lower ones high; aperture oblique, with four plaits: parietal plaits, one superior, very large, the other small; columellar and labial plaits small.

GASSIES. Fauna Caledonia, Pt. 2, p. 98. 1871.

Hab. Lifou, of the Loyalty Group.

Species 29. (Mus. Sievers.)

*PUPA SIEVERSI*. *Pap. testis cylindricus, angustis, pallidissimè fulvis, anfractibus 7, ultimo alto, rivulosis, subperforatis, medianis subequalibus; apice obtuso; apertura trigona, triplicata.*

SIEVERS' PUPA. Shell cylindrical, narrow, very pale fulvous, whorls 7, the last high, notched. Slightly perforated, middle ones nearly equal; apex obtuse; aperture trigonal, three-plaited.

MOUSSON. Journ. de Conchylogie, Pl. VII. f. 6.

Hab. Alluvial sands of Asia.

Species 30. (Mus. Hanley.)

PUPA BLANFORDI. *Pupa testâ cylindrica, albida, rimata, prope apicem ventricosa, infra attenuata, tenuiter striata, anfractibus 8, ultimo angulato; apertura subquadrate, plieis parietali, columellari et labiali medioventris.*

BLANFORD'S PUPA. Shell cylindrical, whitish, notched, ventricose near the apex, attenuated below, finely ridged, whorls 8, the last narrow; aperture rather square, parietal, columellar and labial plaits middle-sized.

GODWIN AUSTIN. Proc. Zool. 1872.

Hab. Khasi Hills.

Species 31. (Fig. a, b, Mus. Crosse.)

PUPA MARIEI. *Pupa testâ minutâ, fuscocornâ, heri, inflatâ, tenui; anfractibus 4, ultimo subumbilicato, superâ medium subcontracto; apertura obliquâ, margine reflexo, tenui, superâ medium sinuatim contracto, plieis parietalibus duabus, parvis.*

MARIE'S PUPA. Shell minute, brown-horny, short, inflated, thin; whorls 4, last slightly umbilicated, a little contracted above the middle; aperture oblique, margin reflected, thin, sinuously contracted above the middle, parietal plait two, small.

CROSSE. Journ. Comch. 1871, p. 202.

Hab. Environs of Noumea.

Species 32. (Mus. Hutton.)

PUPA LAPIDARIA. *Pupa testâ parvâ, cornâ, albi, rimatâ, cylindricâ, leviter striatâ, anfractibus 7, inferioribus altis, rectis, subequalibus, apicem obtuso; apertura subovata, obliquâ, anticâ protractâ, plieis 4, parietali elongata, valido, columellari et labiali superioribus parvis, inferiori elongata.*

THE SPINY PUPA. Shell small, horny, high, notched, cylindrical, smoothly striated, whorls 7, lower

ones high, straight, nearly equal, apex obtuse; aperture rather oval, oblique, anteriorly produced, plaits 4, parietal one elongated, strong, columellar and upper labial small, lower elongated.

HUTTON. Asiatic Society of Bengal, 1870, p. 400.

Hab. Affghanistan.

Species 33. (Mus. Hanley.)

PUPA BATHYBOS. *Pupa testâ minutâ, brevigatâ, fusca, heri, ventricosa, subpyramidalâ, spirâ versus apicem attenuatâ, anfractibus 5; rotundis, ultimo rimato, apicem obliquâ, subovata, margine rubro, plieis uno parietali, duabus columellaribus, duabus labialibus; columella obliquâ.*

THE DEEP-TOOTHED PUPA. Shell minute, smooth, brown, rather short, rather pyramidal, spire attenuated towards the apex, whorls 5, rounded, last notched, aperture oblique, rather ovate, margin red, plaits one parietal, two columellar, two labial; columella oblique.

BENSON. Annals of Natural History, 1848.

Hab. Nerbudda.

Species 34. (Mus. Gassies.)

PUPA OBLIQUA. *Pupa testâ albida, minutâ, subovata, heri, leviter umbilicata, anfractibus 5, convexis, ultimo inflato, alto; apicem pyramidalâ, obtuso; apertura subtrigona, plieis parietali, unguâ, perpendicularitari, valido.*

THE OBLIQUE PUPA. Shell whitish, minute, subovate, smooth, slightly umbilicated, whorls 5, convex, last inflated, high; apex pyramidal, obtuse; aperture subtrigonal, parietal plait large, perpendicular, strong.

GASSIES. Fauna Caledonia, 1871, p. 97.

Hab. Environs of Noumea and Conception.







# P U P A.

PLATE V.

Species 35. (Mus. Hanley.)

**PUPA MICROTRAGES.** *Pup. testis breviss., post tubum accumbens cinctis, crenatis, leviss., uniserialibus; altilis angustis cinctis; aperturæ albæ, 6, 7, contractæ; labia subpeltatis; marginibus supra columellam nudi, parvis cinctis, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.*

**THE FRAGMENT PUPA.** Shell short, notched in a curve behind the lip, horny, thin, semi-pellucid; last whorl elevated; aperture white, contracted within; lip rather flattened; teeth, one above the columella perpendicular, acute; one on the columella sloped upwards; one on the inner margin of the outer lip, broadly flattened.

**PARFENS** (Bulimus). Pfe. Bl. Malak. 12, 1865.  
*Hab.* Greece.

Species 36. (Mus. Hanley.)

**PUPA TRIC-SPIS.** *Pup. testis tenuis, crenatis, leviss., hexactis cinctis, leviss., uniserialibus; altilis subulatis, aperturæ albissimæ, contractæ; labia, altilis, dentibus tribus minus minus minus minus.*

**THE TRIL-SPINAL PUPA.** Shell thin, horny, shortly notched, short, whorls six, the last rather raised, aperture rather broad, margin thin, white, armed with three conspicuous teeth.

**ROS-MÛSLEK** (Bulimus). Pfe. Mon. Helicorum — 1868, p. 68.

*Hab.* Asia Minor.

This species has been placed with *Pupæ Borealis*, as a variety, but is much shorter, with fewer whorls and a thinner peritreme.

Species 37. (Mus. Hanley.)

**PUPA BERGERII.** *Pup. testis elati, subulatis, altilis, altilis purpureis, leviss., cinctis, uniserialibus 8, gradatim crenatis; aperturæ albæ, uniserialibus, supra altilis, marginibus crassis, dentibus tribus crassis acutis acutis.*

**BERGERI PUPA.** Shell elevated, rather ventricose, white or purple, shortly notched, whorls 8, gradually increasing; aperture white, ear-shaped, pointed above, margin thick, armed with three thick and sharp teeth.

**ROHMANN** (Bulimus). Pfeiffer, Monographia Helicorum, 1868, p. 68.

*Chondrus Bergeri*, Moisson.

*Hab.* Southern Europe.

See observation on the preceding species.

Species 38. (Mus. Hanley.)

**PUPA SUBULATA.** *Pup. testis ventricosa, crassiuscula, crenatis; spiræ obtusa, trochiformi, uniserialibus aquiliter crenatis, obliquè leviss., suturæ profundis; altilis contracta planiuscula, transversa cinctis, aperturæ obliquè producta; superior subquadrata, marginibus crassis, reflexis; columellæ crenatis.*

**THE GROOVED PUPA.** Shell ventricose, rather thick, horny; spine obtuse, trochiform, whorls equally increasing, obliquely ridged, suture deep; last whorl rather smooth, transversely notched, aperture obliquely produced, rather square above, margin thick, reflected; columella rather straight.

**BEUGÈRE** (Bulimus). Eur. Mel.

*Ullus Guadonius*, Adams.

*Hab.* Mauritius.

Species 39. (Mus. Hanley.)

**PUPA ELATA.** *Pup. testis subfusiformi, purpureo-caracæ; spiræ leviss., uniserialibus 7, leviss., crenatis, crenatis, altilis elata, crenatis; aperturæ subulatis, marginibus albibus, crassiusculis, subpeltatis, dentibus duobus, parvis, uno supra columellam acuto, uno ad marginem internam latius crenatis leviss.; columellæ elatissimæ.*

**THE ELATED PUPA.** Shell subfusiform, purplish-horny; spine elevated, whorls 7, slowly increasing, rather convex, the last raised, scarcely notched; aperture rather oval, margin whitish, rather thick, rather flattened, teeth two, small, one above the columella, sharp; one on the inner margin of the outer lip, elevated; columella without teeth.

**SCHMIDT.** —? MS.

*Hab.* Carinthia.

This species belongs to the 'Chondrus' group.

## Species 40. (Mus. Hanley.)

PUPA QUADRIBENS. *Pup. testā elati, subcylindrica, purpureo-fusca, tenui, angustā, sinistra; spirā elevatā, anfractibus 8, rectisensilis, levē cressentibus; apertura brevi, subtrigoni; margine albo, planulato; dentibus labii exteriori uno, anfractibus ultimi uno, columellā duobus.*

THE FOUR-TOOTHED PUPA. Shell raised, subcylindrical, purple-brown, thin, narrow, sinistral; spire raised, whorls 8, rather straight, slowly increasing; aperture short, rather trigonal; margin white, flattened; teeth, one on the body whorl, one on the outer lip, and two on the columella.

MILLER (Pupa). Pfr. (Balimus), Mon. Hel. 1868, p. 69. Genus 'chondrula.'

Hab. Southern Europe.

## Species 41. (Mus. Hanley.)

PUPA PAGODA. *Pup. testā solidiusculā, riccilijsca, costato-lineatā, tenuiter levatā, ventricosā, latā; spirā trochiformi; ultimo anfractu ad suturam gibbo, tūa declivē, infra profunde, longe et transversē rimato; apertura albā, obliquē productā, subquadrata, margine incrassato, edentata.*

THE PAGODA PUPA. Shell rather solid, greenish-brown, with chestnut lines, finely ridged, ventricose, broad; spire trochiform; last whorl gibbous at the suture, then sloped downwards, with a deep, long, and transverse notch below; aperture white, obliquely produced, rather square, margin thickened, toothless.

FERRUSSAC (Helix), Pfr. (Pupa), Mon. Hel. 1868, p. 287.

*Helix concamerata*, Wood.

*Pupa Helix*, Mentze.

Hab. Mauritius.

Belonging to the 'Gibbus' or 'Gonidomus' section.

## Species 42. (Mus. Hanley.)

PUPA VARIABILIS. *Pup. testā elongato-cylindrica, purpureo-fusca, solidiusculā, spirā elevatissimā, anfractibus 13, rectisensilis, levē cressentibus, ultimo transverse rimato; apertura marginē; margine albo, subincrassato, labiō exteriori supra medium tumido, plicis anfractibus ultimi minutā, plicis columellaribus duabus, minutis, plicis interioris duabus, lamelliformibus.*

THE VARIABLE PUPA. Shell elongated-cylindrical, purple-brown, rather solid, spire much raised, whorls 13, rather straight, slowly increasing, the last transversely notched; aperture large; margin white, rather thickened, outer lip tumid above the middle, fold of the body whorl minute, columellar folds two, small, interior folds two, lamelliform.

DEAPENAUD. Coq. Fluv. et Terr.

*Helix variabilis*, Ferrussac.

*Pupa multidentata*, Olivier.

Hab. France, Spain, Greece.

## Species 43. (Mus. Hanley.)

PUPA QUINQUEDESTATA. *Pup. testā subfusiformi, elongatā, grisea, fusco-variegatā, levigatā; spirā elevatissimā, medio subangulatā, anfractibus 10, concressentibus; ultimo obliquē rimato; apertura ovatā, plicis interioris tribus, plicē columellarē unā, plicis anfractibus ultimi parvā, margine tenui.*

THE FIVE-TOOTHED PUPA. Shell rather fusiform, elongated, grey, variegated with brown, smooth; with elevated spire; a little inflated in the middle; whorls ten, rather convex; the last obliquely notched; aperture ovate, interior folds three, columellar fold one, fold on the body-whorl small; margin thin.

BOEN. — ? Pfr. Mon. Hel.

*Balimus similis*, Brugnière.

*Javanica quinquecostata*, Risso.

Hab. Southern Europe.

## Species 44. (Mus. Hanley.)

PUPA FRUMENTUM. *Pup. testā parvā, subfusiformi, fusca, levigatā; spirā levatā, medio subangulatā; anfractibus 11, levē cressentibus; ultimo longē rimato; apertura latiusculā, columellā profundā, latissimā, intus bidentatā; deute anfractibus ultimi parvā, plicis interioris quatuor, lamelliformibus, ad dorsum apparentibus.*

THE CORN PUPA. Shell small, rather fusiform, brown, smooth; spire elevated, a little inflated in the middle; whorls 11, slowly increasing; the last with a long notch; aperture rather broad, columella deep, very broad, with two interior teeth; tooth of the body whorl small, interior folds four, lamelliform.

DEAPENAUD. Coq. Fluv. et Terr.

*Pupa curta*, Potiez et Michaud.

Hab. Southern Europe.





# P U P A.

PLATE VI.

Species 45. (Mus. Hanley.)

**PUPA SUCTUMUNDATA.** *Pap. testâ brevis, multicaesi, albi, laevigatâ; spirâ brevissimâ, angustatâ 4, capiti crescentibus, angustis, constrictis; ultimâ rectiusculâ, clava, post labium ciliatâ obliquâ breviter ciliatâ; aperturâ brevâ, subovatâ, marginâ internâ septidentatâ, marginâ externâ acutâ.*

**THE SEVEN-TOOTHED PUPA.** Shell short, ventricose, white, smooth; spire very short, whorls 4, quickly increased, narrow, rather convex; the last rather straight, elevated, with a short oblique notch behind the inner lip; aperture short, rather ovate; inner margin seven-toothed, outer margin sharp.

ROHMANN. —? Pfr. (Balimus). Mon. Hel. 1868, p. 79.

*Hab.* SYRIE.

Belonging to the 'Chondrus' group of species.

Species 46. (Mus. Hanley.)

**PUPA GLABRIS.** *Pap. testâ parvâ, fuscâ, laevigatâ, cylindricâ; spirâ obtusâ, elongatâ, angustatâ 7, multicaesiâ crescentibus; ultimâ profundè ciliatâ, aperturâ brevâ, angustatâ, labiâ ciliatâ intus incassatâ, columellâ multiplicatâ, angustâ ultimâ separè distinctâ pliatâ elongatâ acutâ.*

**THE THREAT PUPA.** Shell small, brown, smooth, cylindrical; spire obtuse, elongated, whorls 7, middle ones scarcely increasing; last deeply notched; aperture short, narrow, outer lip thickened within, columella with one plait; last whorl provided with one plait above the columella.

ROSSMÄLER. Pfr. Mon. Hel. 1868, vol. 6, p. 305.

*Hab.* TRANSYLVANIA, &c.

Species 47. (Mus. Hanley.)

**PUPA TRIDENS.** *Pap. testâ subovatâ, pallidissimâ robustâ, spirâ elevatâ, angustatâ 6, superioribus 5 angustis, subangustâ, ultimâ elevatâ, breviter ciliatâ; aperturâ subovatâ, marginâ reflexâ, subplumulatâ, intus tridentatâ.*

**THE THREE-TOOTHED PUPA.** Shell subovate; very pale reddish, spire raised, whorls 6, upper 5 narrow, rather inflated, last raised, with a short notch; aperture rather oval, margin reflected, rather flattened, three-toothed within.

MILLER (Helix). Pfr. (Balimus). Mon. Hel. 1868, vol. 6, p. 69.

*Hab.* Central Europe.

Belongs to the 'Chondrus' group.

Species 48. (Mus. Hanley.)

**PUPA PALANGA.** *Pap. testâ elongatâ-cylindricâ, epidermidè cornea intus, solidâ, regulariter obliquè liscâ; spirâ elevatâ, obtusissimâ; angustatâ 7, medianis levè crescentibus, ultimâ elongatâ, breviter ciliatâ; aperturâ subquadratâ; pericostâ continua, marginè rotundâ, superè angustâ ultimâ multiplicatâ.*

**THE CLUB PUPA.** Shell elongated, cylindrical, covered with horny epidermis, solid, regularly obliquely ridged; spire elevated, very obtuse; whorls 7, the middle ones slowly increasing, last elongated, shortly notched; aperture rather square; peritreme continuous, margin rounded with a single tooth upon the last whorl.

LESSON. —? Pfr. Mon. Hel. 1868, vol. 6, p. 293.

*Papa fuscâ, Potiez et Mich.*

*Hab.* Isle of France.

Species 49. (Mus. Hanley.)

**PUPA QUINQUEIDENTATA.** *Pap. testâ pallidè fuscâ, subovatâ, laevigatâ; spirâ elevatâ, pupiformi, inflatâ; angustatâ 7, levè crescentibus, ultimâ longè ciliatâ; aperturâ subtriangulâ, marginè albâ, corneâ, crassa, reflexâ, ad suturam callusâ; pliatâ dentiferâ quinq; minutâ.*

**THE FIVE-TOOTHED PUPA.** Shell pale fulvous, subovate, smooth; spire elevated, pupa-shaped, inflated; whorls 7, slowly increasing, the last with a long notch; aperture subtriangular, margin white, continuous, thick, reflected, callous at the suture, provided with five tooth-shaped plaits.

MULFELDT.—Pfr. Mon. Hel. 1868, vol. 6. (Balimus), p. 68.

*Pupa quinqueplicata*. Potiez et Michaud.

*Hab.* Dalmanata.

A species of the 'Chondrus' or 'Chondrula' group, resembling *Pupa tricuspis*, but having a second small plate on the body whorl, and the same on the columella, making, with the large one on the outer lip, five tooth-like projections.

Species 50. (Mus. Hanley.)

PUPA SPRETA. *Pup. testâ ovato-acuminatâ, pallidè fulvâ, tenuiter striatâ; spirâ elevatâ, anfractibus 6, concaevâsculis, tribus apicalibus rapidè crescentibus, medianis subæqualibus, ultimo alio breviter rimato; aperturâ breviusculâ, subærciformi, margine albo, crasso, reflexo, lato, subplanulato, intus tridentato.*

THE SLIGHTED PUPA. Shell ovate-acuminated, pale fulvous, finely striated; spire elevated, whorls 6, rather convex, the three of the apex quickly enlarging, the middle nearly equal, the last high, with a short notch; aperture rather short; rather auriform, margin white, thick, reflected, broad, rather flattened, three-toothed within.

REVEE (*Bulimus spreatus*). *Coch. Leon. Monog. Bulimus.*

It was not observed, till after figuring this shell, that it had been admitted among the *Bulimi*. It belongs to the 'Chondrus' group.

Species 51. (Mus. Hanley.)

PUPA NEWTONI. *Pup. testâ obliquè elongato-ovatâ, obliquè costatâ, pallidè luteâ; spirâ subtrachiformi, suturâ profundâ, anfractibus 6, concaevâsculis, ultimo profundè rimato, anticè ascendenti; aperturâ obliquè oblongâ, margine breviter expanso, tenuiter rotundo, per callum super anfractum ultimam continens, columellâ obliquâ.*

NEWTON'S PUPA. Shell obliquely elongated ovate, obliquely ribbed, pale yellowish; spire rather trachiform, with a deep suture; whorls 6, rather convex, the last with a deep notch, anteriorly ascending; aperture obliquely oblong, margin shortly expanded, thinly rounded, continued by a callus on the last whorl, columella oblique.

H. ADAMS (*Gilbus*). *Proc. Zool. Soc. 1867*, p. 305.

*Hab.* Stag's Cave in the Mauritius.

Thinner, narrower, and more finely sculptured than *Pupa sulcata*.

Species 52. (Mus. Hanley.)

PUPA DEARBATA. *Pup. testâ oblongâ, obtusissimè cylindricâ, albâ, tenuissimè striatâ; spirâ truncatâ, anfractibus 5, superioribus inflatis; ultimo profundè rimato, subangustato; aperturâ subquadratâ, latâ, anticè rotunda, posticè subtruncatâ.*

THE WHITENED PUPA. Shell oblong, very obtusely cylindrical, white, very finely striated; spire truncated, whorls 5, the upper ones inflated, last with a deep notch, rather narrow; aperture subquadrate, broad, anteriorly rounded, posterior rather truncated.

WEBBS. *Pfr. Mon. Hel. 1868*, vol. 6, p. 287.

*Hab.* Canary Islands.

Differing from '*P. modiolus*' (Sp. 54) in the enlargement of the upper whorls.

Species 53. (Mus. Hanley.)

PUPA SEDUCTILIS. *Pup. testâ sinistrorsâ pallidè, fulvâ, cylindricâ, brevè, spirâ elevatâ, anfractibus 8, medianis lentè crescentibus subæqualibus, ultimo indistinctè rimato; aperturâ brevè, margine crasso, intus validè tridentatâ.*

THE SEDUCTIVE PUPA. Shell pale fulvous, cylindrical, smooth, spire elevated, whorls 8, middle ones slowly increasing, nearly equal, last with an indistinct notch; aperture short, margin thick, strong, with three strong teeth within.

ZEIGLER.—*Pfr. Mon. Hel. (Bulimus)*, 1868, vol. 6 (Bulimus), p. 69.

*Bulimus Niso*, Pfeiffer. *Olim.*

*Hab.* Central Europe.

Of the 'Chondrus' group.

Species 54. (Mus. Hanley.)

PUPA MODIOLUS. *Pup. testâ breviter cylindricâ, albâ, tenuiter obliquè striatâ, spirâ cæcis apicem paulo attenuatâ, anfractibus 6, apicalibus obtusis, ultimo profundè rimato; aperturâ anticè ascendenti subquadratâ, margine albo, subexpanso, brevi.*

THE BUCKEL PUPA. Shell shortly cylindrical, whitish, finely obliquely striated, spire a little tapering towards the apex, whorls 6, apical ones obtuse, the last deeply notched; aperture raised in front, rather square, margin white, rather expanded, smooth.

FERRUSSAC.—*Pfr. Mon. Hel. 1868*, vol. 6, p. 293.

*Hab.* Isle of France (Bourbon).

Of the 'Gibbus' group, much shorter than '*Pupa palanga*.'







# P U P A.

## PLATE VII.

Species 76. (Mus. Hanley.)

**PUPA DOLIPHEM.** *Pup. testis corvati, hauberi, deltopi, stricklandi, cyathoides, albida; contractilis, tumida, compressa, in die tertia deorsum, superioribus umbilicis contractis, ultimis basi expansis, aperturâ subquadrata, aperturâ antea attenuata, angustata, ciliatâ, marginibus albis; columella biplicatâ, ultimâ angustata, prope tubum lateralem expansâ.*

**THE SIX PUPA.** Shell horny, finely obliquely striated, cylindrical, rounded. Whorls ten, depressed, middle nearly equal, the upper ones suddenly contracted, the last with a long notch, spire obtuse, aperture raised on the last whorl, margin white; columella two-plaited, last whorl with a single plait near the outer lip.

**DRAPARNAUD.** Mol. Terest. et Fluv.

*Hab.* Spain, France, Germany.

Species 56. (Mus. Hanley.)

**PUPA MUSCIDA.** *Pup. testis fuscescens, viridescens, alba, subcylindrica; contractilis, tumida, compressa, ciliatâ, umbilicis, penultima inflata, superiorem gradatim attenuata, apice obtusa; aperturâ subquadrata, platis tribus, una ad medium latius latioribus, una ad medium ciliatâ, umbilicibus aperturâ contractis, platis columellari crassa, quasi biplicatâ.*

**THE MUSCIDA PUPA.** Shell horny-brown, rather smooth, elevated, subcylindrical; whorls five, last deeply notched, penultimate inflated, upper gradually attenuated, apex obtuse; aperture subquadrate, plaits three, one placed at the middle of the inner lip, one at the middle of the columella, and one within the aperture.

**BENSON, v. Hanley's Indian Shells.**

*Hab.* Ceylon.

Species 57. (Mus. Hanley.)

**PUPA PLANGUNTULA.** *Pup. testis alba, polita, pellucidâ, albâ, cylindricâ; contractilis, quinque, ciliatâ, ciliatâ, penim obtusissimè compressa, ultimâ obliquè ciliatâ, umbilicibus, suturâ profunda; aperturâ contractâ, platis columellari crassâ, quasi*

*duplicatâ, albâ, tubi, albâ, mucosa, tubi contractilis, contractis, quinque, umbilicibus ciliatâ, ciliatâ, ciliatâ, ciliatâ, ciliatâ, ciliatâ, ciliatâ, ciliatâ, ciliatâ, ciliatâ.*

**THE WHITE PUPA.** Shell white, polished, pellucid, elevated, cylindrical; whorls five, straight-sided, the first very obtusely compressed, the last obliquely notched, umbilicated; suture deep; aperture contracted, columellar fold thick, as it were duplicated, callus of the inner lip very large, outer lip neatly bordered, sinuously contracted in the middle, with three plaits inside, the middle plait elongated, acute.

**BENSON, v. Hanley's Ind. Shells.**

*Hab.* Kannah Hills.

Species 58. (Mus. Hanley.)

**PUPA SCLIPHA.** *Pup. testis angusta, attenuatâ, albida, contractilis, tumida, apice obtusa, breviter, mediâ et inférieure contractâ et ciliâ plicatâ, ad suturam ciliatâ; ultimâ ciliatâ, aperturâ latiusculâ, platis suturâ, maximâ, platis columellari lamelliformi, platis laterali validâ.*

**THE SCLIPHA PUPA.** Shell narrow, attenuated, whitish; whorls eight, those at the apex smooth, middle and lower neatly and closely plaited, crenulated at the suture; the last notched; aperture rather broad, sutural plait very large, columellar plait lamelliform, inner plait strong.

**BENSON, v. Hanley's Ind. Shells.**

*Hab.* — ? India.

Species 59. (Mus. Hanley.)

**PUPA FIBOSA.** *Pup. parva, fuscescens, angustâ, contractilis, tumida, inflatis, rapidè crescentib., fibrostriatâ, ultimâ brevissimâ, breviter ciliatâ, aperturâ auriformi, quinque, plicatâ.*

**THE THREADED PUPA.** Shell small, blackish brown, whorls four, three inflated, rapidly increased, with thread-like striae, the last rather short, shortly notched; aperture ear-shaped, five-plaited.

**THEOBALD, Hanley's Indian Shells.**

*Hab.* India.

Species 60. (Mus. Hanley.)

PUPA AVANICA. *Pup. pellucidâ, parvâ, levî, subcylindricâ; infractibus quinque, depressisculis, rotundis, convexissimis; ultimo breviter rimato, ascendenti; apertura latiusculâ, callo crasso, magno, bifido, parietali prope suturam infractibus ultimâ, columnellâ biplicatâ; labio externo albo, lato; plâcis palatalibus tribus.*

THE AVA PUPA. Shell pellucid, small, smooth, subcylindrical; whorls five, rather depressed, round, very convex; the last shortly notched, ascending; aperture rather broad, with a thick, large, divided parietal callus near the suture of the last whorl, columnella with two plaits, outer lip white, broad; palatal plaits three.

BENSON. Ann. and Mag. of Nat. Hist. Dec. 1863, p. 424.

Hab. Ava. Blanford.

Species 61. (Mus. Hanley.)

PUPA MIMULA. *Pup. testâ minutâ, ventricosâ, subviridi-ârnâ, tenuiter striatâ, infractibus quatuor, convexis, apicali obtusissimâ, ultimo rivo ascendenti, brevissimè rimato; apertura subquadratâ, acutissimè quinque-dentatâ.*

THE MIMIC PUPA. Shell minute, ventricose, greenish-horn, finely striated, whorls 4, convex, the apical one very obtuse, the last scarcely raised, very shortly notched, very sharply five-toothed.

BENSON, Hanley's Indian Shells.

Hab. Ceylon.

The five tooth-like plaits, one on the body-whorl, two on the columnella, and two on the outer lip, nearly meet in the middle.

Species 62. (Mus. —? Copied.)

PUPA SALEMANENSIS. *Pup. testâ minutissimâ, conicâ, costellatâ, infractibus quinque, gradatim crescentibus, ultimo profundè rimato; apertura auriformi, plâcis dentiformibus, duabus parietalibus, uni medio labii externi prominenti armatâ.*

SALEMAN'S PUPA. Shell very minute, conical, finely ribbed, whorls five, gradually increasing, the last deeply notched; aperture ear-shaped, armed with

tooth-like plaits, two parietal, one prominent on the outer lip.

BLANFORD (Einea). Contributions to Ind. Mal. No. 2, 1863, p. 13, t. 2, f. 8.

Hab. India.

Species 63. (Mus. Brit.)

PUPA INDICA. *Pupâ testâ parvâ, subcylindricâ, coracâ, semipellucidâ, infractibus quinque, levissculis, tribus superioribus rapidè crescentibus, rotundis, paucialveis et ultimo erectisculis, ultimo sublongato, breviter rimato; apertura subquadratâ, marginè crasso, reflexo, quadridentatâ.*

THE INDIAN PUPA. Shell small, subcylindrical, horny, semipellucid, whorls five, rather smooth, the three upper ones quickly increased, rounded, the penultimate and last rather straight, the last rather long, with a short notch; aperture rather square, with thick, reflected four-toothed margin.

PURIFER. Mon. Helic. IV. 679.

Hab. Barrakpore, India.

Species 64. (Mus. —? Copied.)

PUPA CYLINDRICOIDEA. *Pup. testâ parvâ, attenuatâ, albâ, apice obtusa, medio ventricosâ, basi subcontractâ; infractibus 10, convexissculis, profundi suturatis; primis tribus levigatis, hyalinis, ceteris conjunctis costellatis, ultimo infra subaristato, obliquè soluto, pauli descendenti; apertura pauli obliquâ, ovato-subcordatâ, suprâ prope angulum posteriorem lamellâ obliquâ, crassissimâ, calli concretâ, labio externo superiùe prope angulum subdentatâ.*

THE CYLINDRICAL-SHAPED PUPA. Shell small, attenuated, white, apex obtuse, middle ventricose, rather contracted at the base; whorls ten, rather convex, with a deep suture; the three first smooth, glassy, the rest closely ribbed, the last slightly keeled below, obliquely separated, a little descending; aperture a little oblique, ovate-rounded, with an oblique, very thick, strongly curved lamina above, near the posterior angle, outer lip with a single tooth on the outer lip above near the angle.

SICOLICZA. Journ. As. Soc. Bengal. Vol. XL. Pt. II. 1871.

Hab. Mouhain, India.





64



65



66



68



69



70



71



72



73



74



*aperturâ ovatâ, vaguâ, pilis parietalibus super anfractum ultimis duabus, plivâ palatiali infra medium ad labii externi marginem externum extensa.*

**PHILIPPI'S PUPA.** Shell small, brown, elongated, cylindrical, attenuated towards the apex, very finely striated; whorls five, moderately convex; aperture ovate, narrow, with two parietal plates upon the body whorl, a palatal plate below the middle extended to the outer margin of the lip.

CANTERBURY. Pfeiffer, Mon. Hel. II. 350.

*Pupa erigina* (var.) Mousson.

*Hab.* Italy—Dalmatia—Isl. Corfu.

Species 70. (Mus. Hauley.)

**PUPA AVENACEA.** *Pup. testâ elatâ, fuscâ, attenuatâ, anfractibus sex, moderatè convexis; aperturâ ovatâ, callo suturali valida, pilis super ultimam anfractum unâ, ad columellam duabus, inter marginem internum labii externi tribus lamelliformibus aperturam intrantibus.*

**THE WHEAT PUPA.** Shell raised, brown, attenuated; whorls six, moderately convex; aperture ovate, sutural callus strong, plates on the last whorl one, two on the columella, three within the inner margin of the outer lip, lamelliform, entering the mouth.

BEUGIÈRE. Pfeiffer, Mon. Hel. II. 347.

*Pupa avena*, Draparnaud.

*Pupa hordeum*, Ferrussac.

*Hab.* Germany, Austria, Spain, France, &c.

Species 71. (Mus. — ? Copied.)

**PUPA METABLITA.** *Pup. testâ breviusculâ, tenuiter costellatâ, pallidè fulcâ, cylindricâ, spirâ obtusâ, anfractibus sex, ultimo profundi rimato; aperturâ obclivâ, vie obliquâ, ovato-pyriformi; columellâ subobliquâ, labio externo vie replato.*

**THE BENT-POINTED PUPA.** Shell rather short, finely ribbed, pale fulvous, cylindrical, spire obtuse, whorls six, the last deeply notched; aperture without teeth, scarcely oblique, ovate-pyriform; columella rather oblique; outer lip scarcely reflected.

CROSSE (Gonospira), Journal de Conchyliologie, 1874, p. 224. Pl. VIII. f. 5.

*Gonospira Dupontiana*. Crosse (olim).

*Hab.* Isl. Rodriguez.

Shorter and more ventricose than *P. modiolus*, with larger aperture and a slight obliquity.

Species 72. (Mus. — ? Copied.)

**PUPA RODRIGUEZENSIS.** *Pup. testâ profundi rimatâ, albâ, subcylindricâ, tenui, translucidâ, tenuiter striatâ, apice conicâ; anfractibus quinque, duabus ultimis cylindricis; aperturâ subquadratâ, edentulâ; labio externo tenui.*

**THE RODRIGUEZ PUPA.** Shell deeply notched, white, rather cylindrical, thin, translucent, finely striated; apex conical; whorls five, the two last cylindrical; aperture rather square, toothless, outer lip thin.

CROSSE. Journ. de Conch. 1874, p. 224, Pl. VIII. Fig. 4.

*Hab.* Isl. Rodriguez.

A likeness in miniature of the preceding, but much shorter and thinner, with the mouth straighter.

Species 73. (Mus. — ? Copied.)

**PUPA CHLOEIS.** *Pup. testâ flavidâ, versus apicem rubescenti, brevi, cylindricâ; apice conico, obtuso; anfractibus quinque, densè costellatis; aperturâ obliquâ, subquadratâ, edentulâ.*

**THE GOLDEN PUPA.** Shell yellow, becoming red towards the apex, short, cylindrical; apex conical, obtuse; whorls five, closely ribbed; aperture oblique, rather square, without teeth.

CROSSE (Gonospira), Journ. de Conch. 1874, f. 7.

*Hab.* Isl. Rodriguez.

Shorter and more solidly ribbed than the two preceding, with the aperture more oblique.

Species 74. (Mus. — ? Copied.)

**PUPA SINUATA.** *Pup. minutissimi fulvo-rupeâ, laci, brevi, ventricosâ; anfractibus quatuor, rotundis, apicibus duabus rapidè crescentibus, ultimis duabus inflatis, ultimo rimato; aperturâ subquadratâ, dentibus sex contractis et sinuatâ.*

**THE SINUATED PUPA.** Shell very minutely fulvous-horn, smooth, short, ventricose; whorls four, rounded, the two apical quickly enlarged, the last two inflated, the last with a notch; aperture rather square, contracted and sinuated with six teeth.

MOSSESS (Vertigo), Crosse, Journ. de Conch. Pl. VIII.

Fig. 10.

*Hab.* Araxis.









*marginis, profunde notata, striata, aperturâ sub-  
rotundâ, callo prope suturam transversâ; mar-  
gine serrato, reflexo, foveâ inflexâ.*

THE CHANGELING PUPA. Shell oblong, cylindrical, white, obliquely costellated; apex very obtuse, whorls six, three first rounded, rapidly increased, the three others with a deeply notched umbilicus; aperture rather rounded, with an inconspicuous callus near the suture; margin expanded, reflected, almost entire.

FILE 58A (Versipolis), Pflr. Mon. Hel. II. 319.

Hab. Isle of Bourbon.

Species 80. (Mus. Sowb.)

PUPA FACILLIS. *Pap. testâ cylindrico-subpyramidalâ, aperturâ rotundâ, inflexâ parvâ; anfractibus sex, obliquis, breviter costatis, superiorem paulo attenuatis; ultimo brevi, profunde notato; aperturâ subrotundâ obliquâ, margine reflexo, subserpente, callo suturali prope suturam rotundâ.*

THE EASY PUPA. Shell cylindrical subpyramidal, red above, yellowish below; whorls six, obliquely finely ribbed, the upper a little attenuated, the last short, deeply notched; aperture raised, oblique, margin reflected, slightly expanded, sutural callus near the suture strong.

PELFER. Mon. Hel. IV. 661.

Hab. Mauritius.

Species 81. (Mus. Sowb.)

PUPA LYONETII. *Pap. testâ latè pyramidalâ, floridâ, costellatâ; apice obtuso, anfractibus superiorem quinque gradualiter crescentibus, rectioribus; ultimo latè callicè expanso, latere sinistro gibboso, inflexâ rotundâ elongatâ duplicatâ; aperturâ obliquè anfracturâ, callicè subserpente, margine incrassato reflexo.*

LYONET'S PUPA. Shell broadly pyramidal, yellowish, ribbed; apex obtuse, five upper whorls gradually increasing, rather straight, the last laterally expanded, gibbous at the left side, doubled below, with a long slit; aperture obliquely anfracture, much raised; margin thickened, reflected.

MOYERET (Lyonetii).

*Callus Lygacitæus*, Pfliffer.

Hab. Isl. Bourbon.

This species sometimes occurs reversed.

Species 82. (Mus. Sowb.)

PUPA CLAVATULA. *Pap. testâ tenui, costatâ, cylindricâ, supra medium inflatâ; anfractibus 10, costellatis, cæcis apicem latissimis inflexâ contractis, ultimo riuato; aperturâ parvâ subquadratâ, adscendenti, callo suturali magno.*

THE CLAV PUPA. Shell thin, ribbed, cylindrical, inflated above the middle; whorls ten, ribbed, very broad towards the apex, contracted below, the last notched; aperture small, rather square, ascending, sutural callus large.

LAMARCK. Anim. S. Vert.

Hab. Isl. Bourbon.

Species 83. (Mus. Sowb.)

PUPA HOLAETIOMA. *Pap. testâ tenui, costatâ, albâ, cylindricâ, supra medium paulo inflatâ; anfractibus numerosis, inferioribus subrotundis; ultimo angusto, riuato; aperturâ parvâ, subquadratâ, callo suturali maximo.*

THE SHIRT-COLLARED PUPA. Shell thin, ribbed, white, cylindrical, a little inflated above the middle; whorls numerous, the lower ones partly attenuated; the last narrow, notched; aperture small, subquadrate, sutural callus very large.

MOEFLET. Scv. Conch. II. 1860.

Hab. Mauritius.

Narrower than the preceding, and with the upper whorls less inflated.

Species 84. (Mus. Sowb.)

PUPA DUSSEMEI. *Pap. testâ ventricosâ, albâ, epidermidè cornâ subviridi; anfractibus 6, subdepressis, ultimo magno inflexâ attenuatâ, profunde notatâ; aperturâ ovatâ, pyriformi; margine reflexo.*

DUSSEMEI'S PUPA. Shell ventricose, white, with a greenish horny epidermis; whorls six, rather depressed, the last large, attenuated below, deeply notched; aperture ovate, pyriform; margin reflected.

RELVY. (Balinus), Conch. Icon. Vol. V.

Hab. Mauritius.





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# PUPA.

PLATE X.

Species 85. (Mus. —? Copied.)

**PUPA FARRANA.** Pup. test. minut., fuscescens, striata, albug. conica, spir. obtusa, inflexibus 5, summis, irregularibus, constrictis, ultimo inflexo, medio aperturam recte, contracta, angustata, constricta, platis tribus, uno columnari, uno parietali, uno ventero marginem lateralem, uno parietali, uno ventero marginem lateralem.

**FARRA'S PUPA.** Shell minute, horn-brown, sinistral, oblong-ovate, spire obtuse; whorls five, convex, regularly increased, the last scarcely notched, strongly contracted towards the aperture; aperture auriform, almost vertical, plaits three, one columnar, one parietal, one produced within the margin of the outer lip; outer lip contracted.

CROSSI, Journ. de Conch. Vol. XX, p. 359, 1872.  
Hab. New Caledonia.

Species 86. (Mus. Hanley.)

**PUPA SAVILETTI.** Pup. test. striata, test. pallida, striata, albug. conica, spir. obtusa, inflexibus 4, summis, irregularibus, constrictis, ultimo inflexo, medio aperturam recte, contracta, angustata, constricta, platis tribus, uno columnari, uno parietali, uno ventero marginem lateralem.

**SAVILETTI'S PUPA.** Shell sinistral, smooth, pale, fulvous, ovate-ventriose; spire obtusely conical, slightly inflated in the middle; last whorl obliquely notched, the back contracted before the aperture; aperture subovate, margin white, broadly reflected, with six plaits within, acute, approaching in the middle; saturnal callus strong, elongated.

BOURGAINVILLE. Pffr. Mon. IV, p. 681.  
Hab. Southern Europe.

Species 87. (Mus. Hanley.)

**PUPA SCAPES.** Pup. test. sinistral, elongate-cylindrical, solida, pallida, spir. superius conica, medio cylindrical, inflexibus 8, 9, superioribus rotundis,

inferius truncatis, constrictis, columnari, ultimo inflexo, medio aperturam recte, contracta, platis tribus, uno columnari, uno parietali, uno ventero marginem lateralem.

**THE STALK PUPA.** Shell sinistral, elongated, cylindrical, solid, pale, whorls 8 or 9, the upper ones rounded, rapidly increased, the middle ones rather equal, the last with a very slight notch; aperture small, rather ovate, inner lip with a single plait above the middle.

PARREY'S. Pfeiffer (Chondrula), Mon. VI.  
Pupa Retziensis, Bourgainville.

Bulimus bicollisus? Triv.  
Hab. Asia Minor.

Species 88. (Mus. —? Copied.)

**PUPA PATENASIS.** Pup. test. minut., striata, solida, albug. conica, spir. obtusa, inflexibus 4, summis, irregularibus, constrictis, ultimo inflexo, medio aperturam recte, contracta, angustata, constricta, platis tribus, uno columnari, uno parietali, uno ventero marginem lateralem.

**PAULAN PUPA.** Shell minute, sinistral, greenish-brown, short, thin, shortly cylindrical; whorls 4, gradually increased, last deeply notched, spire obtuse, aperture subovate, columella reflected, inner lip single-plaited.

CROSSI, Journ. de Conch. 1874, p. 391, Pl. 12.  
Fig. 5.

Hab. Paiti, Pern.

Species 89. (Mus. Sievers.)

**PUPA SIGNATA.** Pup. test. parva, alba, perforata, cylindrical, laevigata, supra medium inflata, infra subtruncata; apice obtusa; inflexibus septem, medianis costulosis, ultimo ad basin obscure ciliato, impressione signata, apertura parva, marginis crasso, rotundo, labio interno bidentato, medio acuti angulato.

**THE MARKED PUPA.** Shell small, white, perforated, cylindrical, smooth, inflated above the middle, rather attenuated below, whorls 7, middle ones rather straight, the last very obscurely crested and marked with an impression; aperture small, margin thick, inner lip horizontal, with a sharp tooth in the middle.

MOUSSON, Journ. de Conch. 1873, p. 211. Pl. VIII.

Fig. 7.

*Hab.* Araxis.

Species 90. (Mus. Sievers.)

PUPA BIFILARIS. *Pup.* testâ parvâ, fuscâ, cylindricâ, hecigatâ, apicè obtusâ; anfractibus septem, medianis reclinatis, ultimo arcuè rimato; apertura latâ, margine latè reflexo, columellâ latâ, bifidâ, labio interno prope medianâ multiplicatâ.

THE DOUBLE-THREADED PUPA. Shell small, brown, cylindrical, smooth, apex obtuse; whorls 7, middle rather straight, the last with a curved notch; aperture broad, with broadly reflected margin, columella broad, two-threaded, inner lip with a single plait near the middle.

MOUSSON, Journ. de Conch. 1873, p. 210. Pl. VIII.

Fig. 8.

*Hab.* Gorkischa.

Species 91. (Mus. Crosse.)

PUPA DESMAZURESII. *Pup.* testâ parvâ, fulvâ, brevè r., cylindricâ; apicè obtusissimâ; anfractibus septem, convexis; ultimo profundi rimato, apertura subtriangulârî, internè multiplicatâ; labio interno acutè multiplicatâ, columellâ acutè multiplicatâ; labio externo levî.

DESMAZURES'S PUPA. Shell small, fulvous, shortly cylindrical, apex very obtuse; whorls seven, rather convex; the last deeply notched; aperture rather auriform, with one interior plait, inner lip with one sharp plait, columella with one sharp plait; outer lip thin.

CROSSE, Journ. de Conch. 1874, p. 227, Pl. VIII. f. 3.

*Hab.* Isl. Rodriguez.

Species 92. (Mus. Hauley.)

PUPA POLYDON. *Pup.* testâ fulvâ, cylindricâ, fusiformi, leviter testâ, allâ, angustâ, anfractibus novem, convexis, medianis submarginatis, suturâ profundè separatis; ultimo profundi rimato; apertura parvâ, acutâ, plâis numerosis intraorbitalibus marginibus contractis.

THE MANY-THREADED PUPA. Shell fulvous, cylindrical fusiform, finely ridged, raised, narrow, whorls nine, rather convex, the middle ones nearly equal, separated by a deep suture; the

last deeply notched; aperture small, oval, contracted by numerous entering unequal plaits.

DESMAZURES, Moll. Ter. et Flav.

*Pupa ringenta*, Michaud.

*Hab.* Southern Europe.

Species 93. (Mus. Hauley.)

PUPA NUCIFERGA. *Pup.* testâ subovatâ, pallidâ, fulvâ, brevi, leviter striatâ; apicè obtusâ; anfractibus quinque, superioribus quatuor, brevibus, rapidè convexis, convexis, ultimo alto, reclinato, latè et profundi rimato; apertura ad suturam elevatâ, callusâ, plâis tribus magnis et duobus minoribus contractis, margine prope suturam sinuato.

THE NUTCRACKER PUPA. Shell rather oval, pale fulvous, short, finely striated; apex obtuse; whorls five, the four upper ones short, rapidly increasing, convex, the last elevated, rather straight, with a broad and deep notch; aperture raised at the suture, with a small sutural callus, contracted by three large and three smaller plaits, and a sinus near the suture.

PARREY'S, Pflr. Mon. Hel. Balninus (Chondrula), Vol.

VI. p. 22.

*Hab.* Isl. Cyprus.

Species 94. (Mus. — ? Copied)

PUPA LILAEADIANA. *Pup.* testâ parvâ, fusco-ovoidi, ovali, subcylindricâ, hecigatâ; anfractibus duobus, parvis apicalibus, non tribus, altis inflato-cylindricis; ultimo profundi rimato; apertura obliquè subquadratâ; dentibus unâ parietali, unâ columellari, productis acutis duobus marginalibus infra medianâ labii externâ locatis.

LILAEAD'S PUPA. Shell small, horny brown, elevated, subcylindrical, smooth; whorls two, small apical, then three elevated, inflated, cylindrical; the last with a deep notch; aperture oblique, oblong-subquadrate, with one parietal and one columellar tooth, produced, sharp, two marginal, placed below the middle of the outer lip.

CROSSE, Journ. de Conch. 1874, p. 228, Pl. VIII. f. 4.

*Hab.* Coral Point, Isl. Rodriguez.

This is said to bear some resemblance to a little shell named *caepellion mauritianum* by Mr. H. Adams.





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# P U P A.

PLATE XI.

Species 95. (Mus. — ?)

**PUPA CASPIA.** *Pup. testâ minuitâ, fusâ, laci. Virescente cylindricâ, apice obtusissimâ; anfractibus 8, convexis, ultimis arcuatis rimato; apertura infusculâ, subquadratâ, plicâ parietali ovali, margine externo basi, columellâ obliquâ.*

**THE CASPIAN PUPA.** Shell minute, brown, smooth, shortly cylindrical, apex very obtuse; whorls five, rather convex, the last with an arched notch; aperture rather large, rather square, parietal plait sharp, outer margin thin, columella oblique.

**FIBRIF.** Malak. Bl. 1871, Vol. XVIII.

*Hab.* Lenkoran, Transcaucasia.

Species 96. (Mus. — ?)

**PUPA LONGUDA.** *Pup. testâ minuitâ, fusâ, laci, elongatâ, angustâ, subcylindrico-pyramidalâ; apice obtuso; anfractibus quinque, convexis, ultimis cylindricis, elongatâ, arcuatis rimato; apertura subquadratâ, margine intesenti, expanso, reflecto; plicâ parietali et columellari prominentibus, acutis, plicâ internis tribus.*

**THE POLE PUPA.** Shell minute, brown, smooth, elongated, narrow; whorls five, rather convex, last cylindrical-pyramidal; apex obtuse; whorls five, rather convex, the last cylindrical, elongated, with a curved slit; aperture rather tending to square, margin yellowish, expanded, reflected; a prominent sharp parietal, and a columellar plait; internal plaits three.

**CROSSE.** Journ. de Conch. 1873. Pl. I. f. 2.

*Hab.* Caraçoa, Antilles.

Species 97. (Mus. Hanley.)

**PUPA AERIFORMIS.** *Pup. testâ angustâ, purpureo-fusâ, subfusiformi; anfractibus 8, gradatim crescentibus; ultimo profunde rimato; apertura parvâ, plicâ, elevatâ, angustâ ovali, intus biplicatâ, callo suturali alba, conspicuo, plicâ parietali intratâ, columellâ latâ, elevatâ, multiplicâ, labio externo crassiusculo.*

**THE AERIFORM PUPA.** Shell narrow, purple-brown, subfusiform; whorls 8, gradually increased, the last deeply notched; aperture small, fulvous, raised, narrowly ovate, with two interior plaits, sutural callus white, conspicuous, parietal plate entering, columella broad, raised, single-plaited; outer lip rather thick.

**ROSSMÜLLER.** Icon. III. 17, p. 105, t. 85, f. 936.

*Pupa aeriformis*, Albers.

*Hab.* Valentin.

Species 98. (Mus. Hanley.)

**PUPA PAGODA.** *Pup. testâ fulvescoratâ, inflato-cylindricâ, brevi, obliquâ limatâ; apice obtuso; anfractibus septem, depressis, convexis, medianis inflatis, ultimo profunde et longè rimato, infra medium contracto; apertura ad suturam anfractibus ultimâ elevatâ, prope suturam sinuatâ, columellâ prope medium callosâ, labio externo supra medium tumidâ.*

**THE LITTLE PAGODA PUPA.** Shell horny-falvous, inflated-cylindrical, short, obliquely ridged; apex obtuse; whorls seven, depressed, convex; the middle ones inflated, the last with a deep and lengthened slit, contracted below the middle; aperture raised to the suture of the last whorl, sinuated near the suture, columella callous near the middle, outer lip tumid above the middle.

**DESMAREST.** Pfl. Mon. Hel. II. 310.

*Hab.* South Europe.

Species 99. (Mus. Hanley.)

**PUPA VILLE.** *Pup. testâ cylindricâ, fusâ, politâ, apice obtusissimâ, anfractibus ad apicem rapidè crescentibus, tum tumidâ, medianis cœliosculis, albis, ultimo profunde et latè rimato; apertura angustâ, paulum elevatâ, obliquâ, margine angustâ, labio externo supra medium sinuato; labio interno prope suturam callo pliciformi mucoso, columellâ obliquâ, elevatâ.*

**VILLA'S PUPA.** Shell cylindrical, brown, polished, apex very obtuse, whorls rapidly increased at the

apex, then tumid, middle ones rather straight, elevated, the last deeply and broadly notched; aperture narrow, a little raised, oblique, margin narrow, outer lip sinuated above the middle, inner lip provided with a plait-like callus near the suture, columella oblique, toothless.

CHARPENTIER. Pfeiffer, Mon. Hel. II. 330.

Hab. Spain.

Species 100. (Mus. Hanley.)

PUPA STRANGEL. *Pap. testâ sinistrali, cylindricâ, tenui, semipellucidâ, cornâ, anfractibus 4, apicali rotundo, duabus medianis conevâsculis, ultimo allâsculo, infâ profundè rimato; aperturâ subtriangulâ, margine albo, reflexo; labio interno plicis dentiformibus duabus infra medium armato, columellâ plicâ prominenti et alterâ parvâ, et labio interno plicâ parietali duplicatâ munitis.*

STRANGE'S PUPA. Shell sinistral, cylindrical, thin, semipellucid, horny, whorls 4, the apical one rounded, the two middle ones rather convex, the last rather raised, deeply notched below; aperture subtriangular, margin white, reflected; inner lip armed with two tooth-like plaits, columella provided with a prominent plait and another small one, and the inner lip with a doubled parietal plait.

PEIFFER. Mon. VI. 336.

Hab. Port Jackson.

Species 101. (Mus. Hanley.)

PUPA CONICA. *Pap. testâ fuscâ, subpyramidatâ, filoso-striatâ; apice acutâsculo; anfractibus novem, depressis, versus apicem attenuatis, ultimo lato, profundè et longè rimato; aperturâ versus suturam ultimi anfractis elevatâ, columellâ perobliquâ, latus spiritaliter bicipitatâ, labio externo latus infra medium multiplicato.*

THE CONICAL PUPA. Shell brown, rather pyramidal, with thread-like striae; apex rather acute; whorls nine, depressed, the last broad, with a deep and long slit; aperture raised towards the suture of the last whorl, columella very oblique, with two spiral plaits, outer lip with a plait inside, below the middle.

ROSSMÄSLER. Pfeiffer, Mon. Hel. II. 325.

Hab. Styria.

Species 102. (Mus. Hanley.)

PUPA DOLIOLUM. *Pap. testâ cylindricâ, fuscâ, tenuiter liratâ, apice tumidâ, infâ subattenuatâ; anfractibus septem; conevâsculis, ultimo truncatâ rimato; aperturâ latâ, albâ; labio externo prope suturam sinuato, labio interno plicâ parietali munito.*

THE LITTLE TUN PUPA. Shell cylindrical, brown, finely ridged, tumid near the apex, a little attenuated below; whorls seven; rather convex, the last with a curved notch; aperture broad, white; outer lip sinuated near the suture, inner lip provided with a parietal plait.

BRUGIÈRE. Linn. Anim. sans Vert.

Hab. coronado, Stüder.

Hab. spinosa, Ferrussac.

Hab. critico, Zöllner.

Hab. rillento, Kockel.

Hab. South Europe.

Species 103. (Mus. Hanley.)

PUPA RUPESTRIS. *Pap. testâ pyramidatâ, fusco-purpureâ; apice acuminato; anfractibus quinque, conevâs, rapidè crescentibus, obliquè tenuiter liratâ, ultimo majâsculo, rimato; aperturâ parvâ, margine fere continuo, plicâ nullâ.*

THE ROCK PUPA. Shell pyramidal, purple-brown; apex acuminated; whorls five, convex, rapidly increased, obliquely, finely ridged; the last rather large, notched; aperture small, margin almost continuous, without plaits.

PHILIPPI. Pfeiffer II. 314.

Hab. Sicily.

Species 104. (Mus. Hanley.)

PUPA LINCOLNENSIS. *Pap. testâ sinistrali, albâ rel fuscâ, tenuiter striatâ, breviter cylindricâ, apice obtuso, ultimo anfractu infâ breviter rimato; aperturâ parvâ, margine reflexo, labio interno multiplicato.*

THE PORT LINCOLN PUPA. Shell sinistral, white or brown, finely striated, shortly cylindrical, apex obtuse, last whorl with a short notch below; aperture small, margin reflected, inner lip with one fold.

Cox. Proc. Geol. Soc. 1867.

Hab. Port Lincoln, S. Australia.





106



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# P U P A.

## PLATE XII.

### Species 105. (Mus. Lewis.)

**PUPA GOULDII.** *Pup. testā minutā, fusco-coccinā, brevigabī, breviter subcylindricā; anfractibus quatuor, tribus inflatis, rotundis, ultimo latē cincto; aperturā subtriangulā, plicis internis lamelliformibus tribus, plicā parietali latā internā acule productā; plicis columnaribus duabus.*

**GOULD'S PUPA.** Shell minute, horny-brown, smooth, shortly sub-cylindrical; whorls four, three inflated, rounded, the last broadly notched; aperture rather auriform, with three interior lamelliform plaits, parietal plait of the inner lip sharply produced; columnar plaits two.

**BISSEY.** Pfeiffer. Mon. Hel. II. 358.

*Hab.* Arctic America.

### Species 106. (Mus. Hanley.)

**PUPA CORTICARIA.** *Pup. testā parvā, albā, pellucidā, in partibus cardiacis subgranulosa obtectā, breviter cylindricā, apice obtuso, anfractibus quatuor columnaribus, ultimo cincto; aperturā auriformi; labiā interno plicā magna et albā parvā minuto, plicā columnari parvā.*

**THE RIND-COVERED PUPA.** Shell small, white, pellucid, covered in parts by a slightly granular crust or rind, shortly cylindrical, apex obtuse; whorls four, rounded, the last notched; aperture auriform, inner lip provided with a large plait and a small one, columnar plait small.

**SAY.** Pfeiffer. Mon. Hel. II. 328.

*Hab.* Pennsylvania.

### Species 107. (Mus. Hanley.)

**PUPA ALPICOLO.** *Pup. testā fuscā, cylindricā, breviusculā, levī, apice obtuso, anfractibus septem, conrevolventibus, ultimo infra contracto, horizontaliter rimato; aperturā subquadratā, margine intus parvo incrassato, plicis nullis.*

**THE ALPINE PUPA.** Shell brown, cylindrical, rather short, smooth, apex obtuse, whorls seven, rather convex, the last contracted below, with an horizontal notch; aperture rather square, margin a little thickened within, no plaits.

**CHARPENTIER.** Pfeiffer. Mon. Hel. II. 305.

*Hab.* Spain.

### Species 108. (Mus. Hanley.)

**PUPA ANCONOSTOMA.** *Pup. testā subcylindricā, fuscā, cylindricā, anfractibus sex brevibus, sic convexis, ultimo cincto, subumbilicato; aperturā subtriangulā, infra subcuneatā, superne prope suturam angulatā, notagine infra angulata tumidiusculā.*

**THE ANGLE-SMOOTHED PUPA.** Shell greenish-brown, cylindrical, whorls six, short, very slightly convex, the last notched, rather umbilicated; aperture rather trigonal, slightly acuminate below, angular above near the suture, margin a little swelled below the angle.

**LOWE.** Pfeiffer II. 314.

*Pupa umbilicata* var. De Paiva.

*Pupa* *Emulensis*, Lowe.

*Hab.* Madeira.

### Species 109. (Mus. Hanley.)

**PUPA CHARPENTIERI.** *Pup. testā parvā, levī, inflato, fuscā, semipellucidā, anfractibus quatuor, tribus columnaribus, rapidē convexis, ultimo magno, infra parvo contracto, profundē rimato; aperturā subtriangulā, labiā externo prope suturam sinuato, intus et infra intus incrassato; plicis dentiformibus, parietali unā, columnaribus duabus magna et unā parvā, labiā externā duabus.*

**CHARPENTIER'S PUPA.** Shell small, short, inflated, brown, semipellucid, whorls four, three round, rapidly increasing, the last large; a little contracted below, with a deep notch; aperture sub-

trigonal, outer lip sinuated near the suture, thickened at and below the middle, tooth-like plaits, one parietal, columella two large and one small, and two on the outer lip.

SHUTTLEWORTH. Pfeiffer. Mon. III. p. 555.

*Pupa* *Mollusiana*, Dupuy.

*Pupa* (*verteps*) *ventrosa*, Heynem.

*Hab.* Spain, France, Germany.

Species 110. (Mus. Hanley.)

PUPA FELLUCIDA. *Pup. testâ clatâ, subpyramidalâ, fusâ, lævi, semipellucidâ, anfractibus sex, inflatis, ultimo breviter rimato; aperturâ parvâ, plicis dentiformibus tribus ad quatuor, plicâ ultimi anfractis usquequaque ad terminum duplicatâ.*

THE FELLUCID PUPA. Shell raised, rather pyramidal, brown, smooth, semipellucid, whorls six, inflated, the last with a short notch; aperture small, tooth-like plaits three to five, the plait of the body whorl sometimes doubled at the end.

PEIFFER. Mon. Hel. II. 360.

*Pupa* *serpillis*, Gould.

*Pupa* *Rüssi*, Adams.

*Hab.* Cuba, Jamaica, St. Thomas, Porto Rico.

Species 111. (Mus. Hanley.)

PUPA PACHYGASTRA. *Pup. testâ clatâ, convexâ, tenuiter liratâ, subsififormi, convexâ apicem acuminatâ, medio cylindrico; anfractibus decem rectiusculis, ultimo infra acuminatâ, longè et obliquè rimatâ, aperturâ oratâ, adscendenti, margine albo, reflexo, subexpanso, callu suturali laminatum continens, plicis ultimi anfractis una et columellæ quatuor, lamelliformibus, labii exteriori quatuor, lamelliformibus, latius continens.*

THE THICKENED PUPA. Shell raised, horny, finely ridged, rather fusiform, acuminated towards the apex, cylindrical in the middle; whorls ten, rather straight; the last acuminated below, with a long oblique notch, aperture ovate, raised, margin white, reflected, rather expanded, sutural callus continued in layers, plaits of the last whorl one, and of the columella four, lamelliform, of the outer lip four, lamelliform, continued within.

ZEDLER. Pfeiffer. Mon. Hel. II. 337.

*Pupa* *oblongata*, Rossmäslcr.

*Pupa* *franculani* var? Adams.

*Hab.* Dalmatia.

Species 112. (Mus. Hanley.)

PUPA VARIABILIS. *Pup. testâ clatâ, convexâ, tenuiter liratâ, convexâ apicem acuminatâ, medio inflatâ, anfractibus decem, convexiusculis, ultimo infra acuminatâ, longè et obliquè rimatâ; aperturâ oratâ, latâ, adscendenti, margine albo, reflexo, expanso; callu suturali latius continens, plicis lamelliformibus latius continens, convergentibus.*

THE VARIABLE PUPA. Shell raised, horny, finely ridged, acuminated towards the apex, inflated in the middle, whorls ten, rather convex, the last acuminated below, with a long, oblique notch, aperture ovate, broad, raised, margin white, reflected, expanded; sutural callus continued within, lamelliform plaits continued within, converging.

DEMARNAUD. Pfeiffer. Mon. Hel. II. 349.

*Helix* *antibalis*, FETTERSC.

*Pupa* *multidentata*, Olivî.

*Hab.* France, Switzerland, Spain.

Species 113. (Mus. Hanley.)

PUPA LUSITANICA. *Pup. testâ subpyramidalâ, purpureo-fusâ, convexâ apicem attenuatâ, obliquè liratâ, medio paulo inflatâ; anfractibus septem, convexis, ultimo majoribus, obliquè breviter rimato; aperturâ pullulâ; sulcis, labii exteriori paulo elevato, leviter reflexo; columellâ profundâ duplicatâ, plicis internis tribus elongatis.*

THE LUSITANIAN PUPA. Shell rather pyramidal, purple-brown, attenuated towards the apex; whorls seven, convex, the last rather large, with a short oblique notch; aperture pale fulvous, outer lip a little raised, slightly reflected; columella deep, two-plaited, three internal elongated plaits.

ROSSMÄSLER. Pfeiffer. Mon. Hel. II. 347.

*Hab.* Lusitania.

Species 114. (Mus. Hanley.)

PUPA MODESTA. *Pup. testâ minutâ, fusâ, lævi, inflatâ, semipellucidâ, anfractibus quatuor, rotundis; ultimo subulicatis; aperturâ parvâ, brevî, plicis dentiformibus acutis plurimis contracto.*

THE MODEST PUPA. Shell minute, brown, short, inflated, semipellucid; whorls four, rounded, the last umbilicated; aperture small, short, contracted by several sharp tooth-like plaits.

A. ADAMS. Proc. Zool. Soc.

*Hab.* Mauritius.





116



115



117



118<sup>a</sup>



119



120



118<sup>b</sup>



121



123



122



# PUPA.

PLATE XIII.

## Species 115. (Mus. Hanley.)

**PUPA RHODA.** *Pup. testâ angustâ, altâ, pyramidalî, fuscâ, tenuissimâ liriâ; apice obtusâ; anfractibus sex, superioribus quatuor attenuatis, subrotundis, penultimo ventricoso, ultimo umbilicatâ; apertura parvâ, angustâ, anticè acuminatâ, intus dentibus prominentibus quinque contractâ.*

**THE RHODE PUPA.** Shell narrow, high, pyramidal, brown, very finely ridged; apex obtuse; whorls six, upper four attenuated, rather rounded, last but one ventricose, last umbilicated; aperture small, narrow, anteriorly acuminated, contracted within by five prominent teeth.

**ROTHWELL.** Pfeiffer, Monograph V. p. 318.

*Pupa nautica.* Parreys.

*Hab.* Rhode, Dalmatia.

## Species 116. (Mus. Hanley.)

**PUPA TVULA.** *Pup. testâ clavatâ, albâ, costellis rectis rotundis sculptâ; apice obtuso; anfractibus superioribus ventricosis, duobus ultimis subcylindricis, paulo contractis, ultimo longè cincto; apertura rectâ, posticè subapertâ, anticè productâ, rotundâ, posse subtruncâ plicâ parietali minutâ.*

**THE TVULE PUPA.** Shell club-shaped, whitish, sculptured with rounded, straight little ribs; apex obtuse; upper whorls ventricose, two last rather cylindrical, a little contracted, last with a long notch; aperture straight, posteriorly rather square, anteriorly produced, rounded, provided with a parietal plicâ.

**DE-HAYES.** Conchologie de l'île de la Réunion.

*Hab.* Isl. Bourbon.

## Species 117. (Mus. Hanley.)

**PUPA OVLARIS.** *Pup. testâ ovatâ, brevi, ventricosâ, lavi, fusco-cornuâ; apice obtuso; anfractibus quatuor, tribus superioribus brevibus, ultimo magno,*

*breviter cincto; apertura albâ, semiovatâ, intus dentibus quinque prominentibus contractâ, margine subcylindrico.*

**THE EGG-SHAPEL PUPA.** Shell ovate, short, ventricose, smooth, brownish-horny; apex obtuse; whorls four, three upper short, last large, with a short notch; aperture white, semiovate, contracted within by five prominent teeth, margin rather expanded.

**OLIVIER.** Pfeiffer (Balimus), Mon. 1868, p. 7.

*Hab.* Syria.

## Species 118. (Fig. a, b. Mus. Hanley.)

**PUPA SEPTIDENTATA.** *Pup. testâ oblongo-ovatâ, fusco-purpureâ vel albâ, lavi, altâ, apice obtusiusculo; anfractibus sex, tribus superioribus breviusculis, penultimo ventricoso, ultimo longè et arcuatâ cincto; apertura ovatâ, albâ, dentibus septem lamelliformibus intus valdè contractis, margine latè expanso, ad dorsum contracto.*

**THE SEVEN-TOOTHED PUPA.** Shell oblong-ovate, purple-brown or white, smooth, high; apex rather obtuse; whorls six, three upper rather short, last ventricose, with a long curved notch; aperture ovate, white, strongly contracted within by seven lamelliform teeth, margin broadly expanded, contracted at the back.

**ROTHWELL.** Pfeiffer (Balimus), Mon. 1868, p. 70.

*Hab.* Syria.

## Species 119. (Mus. Hanley.)

**PUPA PRODUCTA.** *Pup. testâ altissimâ, cylindricâ, albâ, densè liriâ; anfractibus septem, tribus superioribus brevibus, rotundis, tribus medianis rectis, ad suturam compressis, ultimo minutè umbilicatâ; apertura majuscule, propè suturam incidenda, margine subincassato, lateraliter paulo producto.*

**THE PRODUCED PUPA.** Shell very tall, cylindrical, white, closely ridged; whorls seven, three upper

short, rounded, three middle straight, compressed at the suture, last with a small umbilicus; aperture rather large, with a tooth near the suture, margin rather thickened, a little produced laterally.

ADAMS. Proc. Zool. Soc.

*Hab.* Mauritius.

Species 120. (Mus. Hanley.)

PUPA FAMPHORODON. *Pup. testâ sinistrali, fusca, ovato-oblonga, subventricosa, tenuiter obliquè lincata; apice obtuso; anfractibus novem, brevissimis, ultimo longè et latè rimato, ad dorsum aperturæ contracti; aperturâ albâ, obliquè productâ, intus angustissimè dentibus laminatis prominentibus contractâ, margine lato, tenui, producto.*

THE BEAK-TOOTHED PUPA. Shell sinistral, brown, ovate-oblong, rather ventricose, finely obliquely ridged; apex obtuse; whorls nine, very short, last with a long and broad notch, contracted at the back of the aperture; aperture white, obliquely produced, contracted within very narrowly by laminated prominent teeth, margin broad, thin, produced.

BENSON. Ann. and Mag. Nat. Hist. 3rd series, June 1864.

*Hab.* Near Simon's-Town, Cape of Good Hope.

Species 121. (Mus. Hanley.)

PUPA CALATHISCUS. *Pup. testâ parvâ, fuscâ, brevî, ventricosâ, costis validis, distantibus, prominentibus, rotundis lincatis, medio anfractuum fusco anfractibus septem, apicalibus parvis, levigatis, medianis tumidis, latis, ultimo medio infuscato contracto, breviter rimato; aperturâ brevi, plicâ suturali magnâ, columellari parvâ, labio externo intus triplicato.*

THE LITTLE-BEAKED PUPA. Shell small, brown, short, ventricose, ridged with strong, distant, prominent, rounded ribs, with a brown band in the

middle of the whorls; apex obtuse; whorls seven, apical, small, smooth, middle tumid, broad, last contracted in the middle and under, with a short notch; aperture short, sutural plait large.

LOWE. Pfeiffer, Mon. 1868.

*Hab.* Porto Santo, Madeira.

Species 122. (Mus. Hanley.)

PUPA CYLINDRELLUS. *Pup. testâ albâ, tenui, semipellucidâ, levigatâ, clavatâ; apice obtuso; anfractibus octo, superioribus brevissimis, rapidè crescentibus, medianis et inferioribus gravatim attenuatis, altissimis, convergentibus, ultimo profundè rimato, infra contracto; aperturâ subovatâ, plicâ suturali magnâ.*

THE LITTLE-CYLINDER PUPA. Shell white, thin, semipellucid, smooth, club-shaped; apex obtuse; whorls eight, upper very short, rapidly increasing, middle and lower gradually attenuated, rather high, rather convex, last deeply notched, contracted below; aperture rather oval, with large sutural plait.

A. ADAMS. Proc. Zool. Soc.

*Hab.* Isl. Bourbon.

Species 123. (Mus. Hanley.)

PUPA STRIATOCOSTATA. *Pup. testâ albâ, solidiusculâ, subpyramidatâ, densè obliquè costellatâ, costellis elevatis, levibus, incisîs; ultimo anfractu umbilicato et breviter rimato; aperturâ majusculâ, subquadratâ, indentatâ; columellâ intus medio tumidiusculâ.*

THE STRIA-RIBBED PUPA. Shell white, rather solid, subpyramidal, closely obliquely ribbed, ribs raised, smooth, incised; last whorl umbilicated and shortly notched; aperture rather large, rather square, toothless; columella rather tumid within at the middle.

MOBELET. Rev. et Mag. Zool. XVIII., 1866.

*Hab.* Mauritius.





125



127



126



122



128



129



123



131



124



132

# P U P A.

## PLATE XIV.

### Species 124. (Mus. Hanley.)

**PUPA ROSSMASLERI.** *Pap. brevis, ventricosa, conica, pallide cornea, teniter oblique costellata; anfractibus sex, brevibus, rapide latitudinis crescentibus, ultimo longe rimato; apertura parva, ad medium ultimi anfractus elevata, intus marginem septemdentata.*

**ROSSMASLER'S PUPA.** Shell short, ventricose, conical, pale horny, finely obliquely ribbed; whorls six, short, rapidly widening, last with a long notch; aperture small, raised to the middle of the last whorl, with seven teeth within the margin.

SCHMIDT. Pfeiffer, Monog. 1868, p. 323.

*Hab.* Illyria.

### Species 125. (Mus. Hanley.)

**PUPA STENOCHYLIS.** *Pap. testâ parvâ, albâ, semipellucida, costata, papiformi, brevis; anfractibus sex, apicalibus duobus parvis, levigatis, medianis ventricosis, inferioribus gradatim attenuatis, ultimo infra angustatâ, longè rimato; apertura parvâ, angustatâ, prope suturam ultimi anfractus elevatâ, labio externo supra medium rotâ rimato, undulato, platiâ suturali maximâ descendente.*

**THE NARROW-LEAFED PUPA.** Shell small, white, semipellucid, ribbed, chrysalis-shaped, short; whorls six, two apical small, smooth, middle ventricose, lower gradually attenuated, last narrow below, with a long notch; aperture small, narrow, raised to near the suture of the last whorl, outer lip with a strong bead above the middle, with one tooth, sutural plait very large, descending.

BENSON. Fid. Hanley.

*Hab.* Khasi.

### Species 126. (Mus. Hanley.)

**PUPA NOVÆZELANDICÆ.** *Pap. testâ cylindrica, fusca rubâ costatâ; anfractibus sex, apicalibus subcomplanatis,*

*is, ultimo umbilicato; apertura parvâ conica, simplici.*

**THE NEW ZEALAND PUPA.** Shell cylindrical, brown, coarsely ribbed; whorls six, apical rather flattened, last umbilicated; aperture rather small, simple.

PFEIFFER. (Vertigo) Mon. 1868, p. 299.

*Hab.* New Zealand.

### Species 127. (Mus. Hanley.)

**PUPA MONDEMIANI.** *Pap. testâ solidiusculâ, albâ, breviter cylindricâ, teniter costatâ; anfractibus septem, apicalibus rapide crescentibus, brevissimis, duobus medianis ventricosis, rotundis, ultimo alto, infra umbilicato; apertura subquadratâ, elevatâ, elevatâ, marginem simplici angustè reflecto.*

**MONDEMIAN'S PUPA.** Shell rather solid, white, shortly cylindrical, finely ribbed; whorls seven, apical, quickly increasing, very short, two middle ventricose, rounded, last high, umbilicated below; aperture rather square, toothless, raised, margin simple, narrowly reflected.

ADAMS. Proc. Zool. Soc.

*Hab.* Maritimus.

### Species 128. (Mus. late Deshayes.)

**PUPA BOURCIGNANI.** *Pap. testâ crassiusculâ, albâ, irregulariter striatâ, breviter subpyramidatâ; ultimo anfractus breviter rimato; apertura subobliquè quadratâ, ad anfractum ultimum medio undulato, margine medio subdepresso.*

**BOURCIGNAN'S PUPA.** Shell rather thick, white, irregularly striated, short, subpyramidal; last whorl shortly notched; aperture rather obliquely square, with a single tooth at the last whorl, in the middle, margin rather depressed in the middle.

DESHAYES. Conch. ile. Réunion, Pl. XXXVII., Fig. 27, 28.

*Hab.* Isl. Bourbon.

## Species 129. (Mus. late Deshayes.)

PUPA INTERSECTA. *Pup. testá crassiúsculá, albidá, subpyramidatá, prope apicem tumidúsculá; anfractibus octo, tribus superioribus levibus, cæteris levitè crescentibus, liris inæqualibus irregularibus, distantibus, obliquis sculptis; aperturá subquadratá, superne unidentatá.*

THE INTERSECTED PUPA. Shell rather thick, rather white, rather pyramidal, a little swelled near the apex; whorls eight, three upper smooth, the others slowly increased, sculptured with unequal, irregular, distant oblique ridges; aperture rather square, with a single tooth above.

DESHAYES. *Conch. de l'île de la Réunion*, Pl. XXVIII.

Fig. 1.

*Hab.* Isl. Bourbon.

## Species 130. (Mus. Hanley.)

PUPA FERRARI. *Pup. testá cylíndricá, altá, fuscá, crebricostatá; anfractibus octo, superioribus brevissimis, ultimo alto, recto, infra lab' umbilicato, cariná desinenti; aperturá parvâ, angustâ, plicis duobus, prominentibus, acutis, subinternis ad columellam et anfractum ultimum armatâ, labio externo, superne sinuato, tunc dente magno incrassato.*

FERRARI'S PUPA. Shell cylindrical, high, brown, close-ribbed; whorls eight, upper very short, last high, straight, broadly umbilicated below, ending in a keel; aperture small, narrow, armed with two prominent short subinternal teeth at the columella and last whorl, outer lip sinuated above, then thickened with a large tooth.

PORRO. Pfeiffer, *Mon.* 1868, p. 309.

*Pupa bicipitata*, Rossmäslér.

*Pupa guttata*, Porro.

*Hab.* Upper Italy.

## Species 131. (Mus. Hanley.)

PUPA VENTRICOSA. *Pup. testá parvâ, brevissimâ, subglobosâ, tenui, fusco-cornuâ; anfractibus quatuor, apicibus pyramidalis, ultimo subgloboso; aperturâ rotundâ, superne unidentatâ.*

THE VENTRICOSE PUPA. Shell small, very short, rather globose, thin, horny brown; whorls four, apical pyramidal, last rather globose; aperture rounded, with a single tooth above.

ADAMS. *Proc. Zool. Soc.*

*Hab.* Mauritius.

## Species 132. (Mus. Hanley.)

PUPA PUPULA. *Pup. testá minútâ, cornuâ, leví, cylíndricâ; apice obtuso; ultimo anfractu breviter rimato; aperturá brevi subquadratâ, intus tridentatâ, columellâ obliquâ.*

THE PUPUL PUPA. Shell minute, horny, smooth, cylindrical; apex obtuse; last whorl shortly notched; aperture short, rather square, tridentate within, columella oblique.

DESHAYES. *Conch. de l'île de la Réunion*. Pl. XXXVIII. Fig. 2.

*Hab.* Isl. Bourbon.

## Species 133. (Mus. late Deshayes.)

PUPA TURGIDA. *Pup. testá brevissimâ, parvâ, obtusâ, breviter rimatâ, dense liratâ, ventricosissimâ; aperturâ edentulâ, brevi, subobliquâ, superne quadratâ, infra rotundâ.*

THE TURGID PUPA. Shell very short, small, obtuse, with a short notch, closely ridged, very ventricose; aperture toothless, short, rather oblique, square above, rounded below.

DESHAYES. *Conch. de l'île de la Réunion*.

*Hab.* Isl. Bourbon.





135



134



136



137



138



139



a



b

141



140



142



141 c



# PUPA.

PLATE XV.

## Species 134. (Mus. Hanley.)

**PUPA FERRARIA.** *Pup. testis parvâ, altâ, cylindricâ, ferruginâ; apice obtuso; anfractibus sex, compressis, tenuissimè costulatis, ultimo rimato; apertura subquadrata, latè quinquaplicatâ, superâ prope suturam unidentatâ.*

**THE IRON PUPA.** Shell small, high, cylindrical, ferruginous; apex obtuse; whorls six, convex, very finely ribbed, last notched; aperture subquadrate, with five plaits inside; one tooth above, near the suture.

LOWE, Pfeiffer, Mon. 1868.

*Hab.* Porto Santo.

## Species 135. (Mus. Hanley.)

**PUPA VINCLA.** *Pup. testis subpyramidalis, fusco-cornuâ, politâ; apice obtuso; ultimo anfractu lato, longè rimato; apertura parvâ, subquadrata, columellâ plicâ albâ, tenui, elongatâ, ultimo anfractu plicâ duabus inæqualibus, arcuatis, superâi elongatissimâ, instructâ latè externâ superâ sinuatâ, unidentatâ; lamina internâ filiformi.*

**THE BOUND PUPA.** Shell rather pyramidal, horny brown, polished; apex obtuse; last whorl broad, with a long notch; aperture small, rather square, columella set with a white thin long plait, last whorl with two unequal, arched, the upper very long; outer lip sinuous above, with a tooth; internal lamina filiform.

LOWE, Pfeiffer, Mon. 1868, p. 21.

*Hab.* Madeira.

## Species 136. (Mus. Hanley.)

**PUPA SPHINCTOSTOMA.** *Pup. testis altâ, cornuâ, tenui, inæqualiter lirâtâ; ultimo anfractu rimato et umbilicato, ad dorsum medianum per lamina internam contracto, ad aperturam plicâ parvâ, et plicâ*

*superâi subquadratâ, superâ sinuatâ et unidentatâ.*

**THE SPHINX-MOUTHED PUPA.** Shell high, horny, thin, unequally ridged; last whorl notched and umbilicated, contracted at the middle of the back by the internal lamina, furnished at the aperture with a small plait and a very far extended sutural plait; columella with one plait, outer lip with a sinus and a tooth above.

LOWE, Pfeiffer, Mon. 1868.

*Hab.* Madeira.

## Species 137. (Mus. Hanley.)

**PUPA CASSIDA.** *Pup. testis brevis, ventricosi, rubro-fusci, dimidiatim albos-maculati, tenuiter lirâtâ, liris rectisculis; apice obtuso, anfractibus septem, brevissimis; ultimo brevis, usque ad medianam albâ maculato, infra medianam inmaculato, brevitate apertura subtriangulâ, infra acuminatâ, per plicâ albas, calidas, contractâ.*

**THE HELMET PUPA.** Shell short, ventricose, red-brown, half white-spotted, finely ridged, ridges rather straight; apex obtuse, whorls seven, very short; last short, white-spotted as far as the middle: not spotted below the middle: smooth; aperture rather trigonal, acuminated below, contracted by white strong plaits.

LOWE, Pfeiffer, Mon. 1868, p. 373.

*Hab.* Madeira.

## Species 138. (Mus. Hanley.)

**PUPA ARMIFERA.** *Pup. testis pallidâ, cornuâ, semipellucidâ, brevis, obtusâ; anfractibus sex, brevibus, mediâis inflatis, ultimo umbilicatâ; apertura elevatâ, brevis, intus quadruplicatâ.*

**THE ARM-BEARING PUPA.** Shell pale, horny, semi-pellucid, short, obtuse; whorls six, short; middle inflated, last umbilicated; aperture raised, short, four-plaited within.

SAY. Pfeiffer, Mon. 1868, p. 29.

*Hab.* N. America.

Species 139. (Mus. Hanley.)

PUPA CONCINNA. *Pap. testâ fusâ, tenuissimè striatâ, brevi; apice obtuso; anfractibus sex, brevibus, medianis ventricosis, ultimo longè rimato; aperturâ elevatâ, plâcis quinque principalibus, cæteris minutis, suturali latissimè expansa, descendenti.*

THE NEAT PUPA. Shell brown, very finely striated, short; apex obtuse, whorls six, short, middle ventricose, last with a long notch; aperture raised, five principal plaits, others minute, sutural very broadly expanded, descending.

LOWE. Pfeiffer, Mon. 1868, p. 310.

*Hab.* Madeira.

Species 140. (Mus. Hanley.)

PUPA PENTODON. *Pap. minutâ, cornâ lævigatâ, brevi, ventricosâ, anfractibus tribus rotundis, aperturâ brevi, latissimâ, dentibus quinque, ad anfractum ultimum uno, ad columellam uno, ad marginem internum labii externi tribus, mediano longè producto.*

THE FIVE-TOOTHED PUPA. Shell minute, horny, smooth, short, ventricose; whorls five, one on the last whorl, one on the columella, three on the inner edge of the outer lip, middle long, produced.

SAY. Binney, Terrestrial Mollusca, p. 143.

*P. curvicolis*, Gould.

*P. Toppiniana*, Ward.

*Hab.* North America.

Species 141. (Fig. a, b. Mus. Hanley.)

PUPA LAYARDI. *Pap. testâ lævigatâ, fusâ, vel albocitratâ; altâ, pyramidatâ, versus apicem attenuatâ, medio subventricosâ; anfractibus novem, convexisculis, ultimo angustiusculo, longè rimato, ante aperturam subsolato, producto, coarctato; aperturâ suboratâ, margine externo tenuissimo, interno quinqueplicato, plâcis laminatis, productis, medio approximatis.*

LAYARD'S PUPA. Shell smooth, brown, or glassy white; high, pyramidal, attenuated towards the apex, rather ventricose in the middle; whorls nine, rather convex, last rather narrow, with a long notch, a little uncoiled before the aperture, produced, narrowed; aperture ovate, outer edge very thin, inner five-plaited, plaits laminar, produced, nearly meeting in the middle.

BENSON. Ann. and Mag. Nat. Hist., 3 Ser. XIII.

June, 1864.

*Hab.* Cape Bredasdorp.

Species 142. (Mus. Hanley.)

PUPA SHUTTLEWORTH. *Pap. testâ minutâ, fusâ, brevi, brevi, ventricosâ; anfractibus quinque, ventricosis, ultimo longè rimato; aperturâ parvâ, brevi, ad anfractum ultimum uniplicatâ.*

SHUTTLEWORTH'S PUPA. Shell minute, brown, smooth, short, ventricose; whorls five, ventricose, last with a long notch; aperture small, short, with a single plait on the body whorl.

ALBERS. Pfeiffer (Bulimus), Mon. 1868.

*Hab.* Columbia.





# P U P A.

PLATE XVI.

## Species 143. (Mus. Hanley.)

**PUPA PIRREEL.** *Pup. testâ albâ, laevi, supra-*  
*fectibus septem, tribus superioribus brevibus, cœqualis,*  
*pedibus, quatuor inferioribus rectilateralibus, stri-*  
*atis, albis, ad suturam subangulatis, ultimo infri-*  
*subangulato, rimato; aperturâ rectâ, perpendiculariter ob-*  
*longâ, callo suturali conspicuo, magno.*

**PIRREEL'S PUPA.** Shell white, high, smooth; whorls seven, three upper short, round, polished, four lower straight-sided, striated, high, with a slight angle at the suture, the last angular below, notched; aperture straight, perpendicularly oblong, with a conspicuous large, sutural callus.

**PEIFFER.** (Euneca.) Proc. Zool. Soc. 1874, p. 295.

*Hab.* Koondah Mountains, near Calicut.

## Species 144. (Mus. Hanley.)

**PUPA VARA.** *Pup. testâ albâ, fusiformi, cylindricaliter*  
*costatâ; anfractibus septem, superioribus duobus*  
*rotundis brevissimis, medianis inflatis, coarctatis,*  
*ultimo contracto, tortuoso; aperturâ elevatâ, aur-*  
*iformi, labio exterioro supra medium calidissimè*  
*sinuatum plicato.*

**THE VARA PUPA.** Shell white, fusiform, regularly ribbed; whorls seven, upper two rounded, very smooth; middle inflated, convex, last contracted, tortuous; aperture raised, ear-shaped, outer lip very strongly sinuously plicated.

**BENSON.** (Euneca.) Ann. Nat. Hist. 1859.

*Hab.* Khasi Hills.

## Species 145. (Mus. Hanley.)

**PUPA CEYLANICA.** *Pup. testâ albâ, brevissimâ, semi-*  
*pellucidâ; anfractibus sex, brevissimis, promi-*  
*nentibus; aperturâ elevatâ, obliquè retroscâ, tri-*  
*plicatâ, callo suturali conspicuo, margine reflexo.*

**THE CEYLON PUPA.** Shell white, smooth, semipellucid; whorls six, rather short, prominent; aperture raised, obliquely bent backwards, with three plaits, sutural callus conspicuous, margin reflected.

**PEIFFER.** (Euneca.) Proc. Zool. Soc. 1855.

*Hab.* Ceylon.

## Species 146. (Mus. Sir D. Barclay.)

**PUPA BARCLAYI.** *Pup. testâ brevi, obtusâ, subcylind-*  
*ricâ, albâ, obliquè costatâ; anfractibus quinque,*  
*rectilateralibus, ultimo alto, infri nubilicata et*  
*rimato; aperturâ magis, perpendiculariter ob-*  
*longâ, anticè obliquè productâ, plâcâ medianâ an-*  
*fractibus ultimi angui, columellâ edentulâ, profundi.*

**BARCLAY'S PUPA.** Shell short, obtuse, subcylindrical, white, obliquely ribbed; whorls five, rectilateral, last high, nubilicated and notched below; aperture large, perpendicularly oblong, anteriorly obliquely produced, median plait of the last whorl large, columella toothless, deep.

**H. ADAMS.** Proc. Zool. Soc. 1868, Pl. IV.

*Hab.* Mauritius.

## Species 147. (Mus. Hanley.)

**PUPA LAPIDARIA.** *Pup. testâ, albâ, conici, laevi, versus*  
*apicem subpyramidatâ, apicè obtusâ, supra me-*  
*dium et infra cylindricâ; anfractibus septem,*  
*rectilateralibus, ultimo alto, profundè rimato;*  
*aperturâ ovatâ, albâ, prominentè triplicatâ, labio*  
*exterioro supra medium tumido.*

**THE LAPIDARY PUPA.** Shell raised, horny, smooth, rather pyramidal towards the apex, apex obtuse, cylindrical above the middle and below; whorls seven, straight-sided, last high, deeply notched; aperture ovate, white, with three prominent plates, outer lip tumid above the middle.

**HUTTON.** Journ. As. Soc. Beng. 1849.

*Hab.* Afghanistan.

## Species 148. (Mus. Hanley.)

**PUPA DU CLAR.** *Pup. testâ altissimâ, hyalinâ, albâ;*  
*anfractibus septem, apicalibus tumidis, alteris sub-*  
*quadatis, ultimo alto, infri subcontracto, rimato;*  
*aperturâ subauriformi, conspicuè triplicatâ, labio*  
*exterioro supra medium profundè sinuato, callo*  
*suturali conspicuo.*

**THE TWO-COLOURED PUPA.** Shell very high, glassy, white; whorls seven, apical tumid, others rather square, last high, a little contracted below,

notched; aperture rather auriform, conspicuously three-plaited, outer lip with a deep sinus above the middle, sutural callus conspicuous.

HUTTON. Journ. As. Soc. Beng. 1834.

*Pupa mellina*, Gould.

*Hab.* Mirzapore, Tavoy, Ceylon.

Species 149. (Mus. Sir D. Barclay.)

PUPA CERNICA. *Pup. testâ brevi, opacâ, sordidè albâ, crebrè lineatâ, cylindricâ; apicè obtusâ; anfractibus sex, superioribus brevissimis, alteris latissimis profundè rimatâ et umbilicatâ; aperturâ ad ultimum anfractum uniplicatâ.*

THE MAURITIAN. Shell short, opaque, dull white, closely ridged, cylindrical; apex obtuse; whorls six, upper very short, others wide, last deeply notched and umbilicated; aperture with a single plait on the last whorl.

A. ADAMS. Proc. Zool. Soc. 1868, Pl. IV.

*Hab.* Mauritius.

Species 150. (Mus. Hanley.)

PUPA SALWINIANA. *Pup. testâ latè pyramidatâ, hercè, corvâ, apicè acuminatâ, anfractibus sex, crepidè crescentibus, ultimo longè rimatâ; aperturâ ferè ad suturam ultimâ anfractibus clerabâ, subauriformi, anticè obliquè productâ, prominenti quodè plicatâ, marginè albâ, labiâ externâ super medium sinuatâ.*

SALWIS'S PUPA. Shell broadly pyramidal, short, horny, apex acuminate; whorls six, rapidly increasing, last with a long notch; aperture raised almost to the suture of the last whorl, rather

auriform, anteriorly obliquely produced, with four prominent plaits, margin white, outer lip sinuous above the middle.

THEOBALD. Journ. As. Soc. Beng. 1870.

*Hab.* Shan States.

Species 151. (Mus. Hanley.)

PUPA PLECIDENS. *Pup. testâ brevè, latâ, corvèo-subviridè, hercè, spirè pyramidatâ, apicè obtusâ; anfractibus quinque, rotundè prominentibus, ultimo angustâ, infriè subangustatâ, longè rimatâ; aperturâ obliquè subauriformi, validè dentato-plicatâ.*

THE TOOTH-PLATED PUPA. Shell short, broad, greenish-horny, smooth, spire pyramidal, apex obtuse; whorls four, roundly prominent, last large, rather narrow below with a long notch; aperture obliquely rather auriform, with strong tooth-plaits.

BENSON. Ann. Nat. Hist. 1849.

*Hab.* Himalaya.

Species 152. (Mus. Hanley.)

PUPA BATHYDON. *Pup. testâ parvâ, pyramidatâ, hercè, fuscâ, apicè acuminatâ; anfractibus quinque, rotundè, ultimo profundè rimatâ; aperturâ auriformi, quinqueplicatâ, anticè obliquè productâ.*

THE DEE-TOOTHED PUPA. Shell small, pyramidal, smooth, brown, apex acuminate; whorls five, rounded, last deeply notched; aperture orange, five-plaited, anteriorly obliquely produced.

BENSON. Ann. Nat. Hist. 1863.

*Hab.* Narbudda.





151



152



153



154



155



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158



159



160



# P U P A.

PLATE XVII.

Species 153. (Mus. Hanley.)

PUPA SCALARINA. *Pup. testâ fusâ, fusiformi, profundi-  
costâ; spirâ acuminatâ; anfractibus quinque,  
subulatis, plicatis; ultimo ad medium contracto;  
apertura auriformi, plicis tribus, labio externo  
superi medium sinuâli contracto.*

THE SCALARIFORM PUPA. Shell brown, fusiform, deeply  
notched; spire acuminated; whorls five, angular,  
plaited, last contracted in the middle; aperture  
ear-shaped, with three plaits, outer lip simously  
contracted above the middle.

GUINDLACH. Pfeiffer, Malak. Bl. 1860.

*Hab.* Sicily (?), Cuba.

Species 154. (Mus. Hanley.)

PUPA NITIDA. *Pup. testâ parvâ, bevi, subventricosâ,  
bevi, fusâ; anfractibus quinque, rotundis, bevi-  
lus, suturâ profundâ; apertura bevi, edentulâ.*

THE SHINING PUPA. Shell small, short, rather ventri-  
cose, smooth, brown; whorls five, round, short,  
suture deep; aperture short, without teeth.

ANTONELLI. Pfeiffer, Mon. II. p. 335.

*Hab.* Greece.

Species 155. (Mus. Hanley.)

PUPA BOREALIS. *Pup. testâ minutâ, subdiaphanâ,  
sarcinatâ; anfractibus quinque ad sex, altiusculis,  
subventricosis, ultimo rimato; apertura bevi,  
dentibus minutissimis.*

THE BOREAL PUPA. Shell minute, a little transparent,  
amber; whorls five or six, rather high, rather  
ventricose, the last notched; aperture short,  
with very minute teeth.

MORELET. Journ. Conch. VII. 1858.

*Hab.* Kamtschatka.

Species 156. (Mus. Hanley.)

PUPA GRANUM. *Pup. testâ elongatâ-fusiformi, fusâ,  
altâ, angustâ; anfractibus octo, altiusculis, superi-*

*orbis recessâ apicem attenuatis, ultimo levi, longi-  
rimato; apertura parvâ, plicis circâ quinque.*

THE GRAIN PUPA. Shell elongate, fusiform, brown,  
high, narrow; whorls eight, rather raised, upper  
attenuated towards the apex, last short with a  
long notch; aperture small, plaits about five.

DEAPARNAUD. Conch. Terrest. et Flav.

*Hab.* France, Spain, Greece, Italy, &c.

Species 157. (Mus. Hanley.)

PUPA FARINOSA. *Pup. testâ pyramidalâ, altâ, purpurâ-  
fusâ, levi; anfractibus sex, gradatim crescentibus,  
convexiusculis, ultimo angustâ, ventricosa, longâ  
rimato; apertura ovatâ, edentulâ, margine tenui.*

FARINE'S PUPA. Shell pyramidal, raised, purple-  
brown, smooth; whorls six, gradually increased,  
rather convex, last large, ventricose, with long  
notch; aperture ovate, without teeth, margin  
thin.

DUMAREST. Rev. et Mag. Zool. XV. 1862.

*Hab.* Pyrenees.

Species 158. (Mus. Hanley.)

PUPA TRIMATTELLA. *Pup. testâ albâ, cylindricâ,  
costâ levâ; anfractibus sex, inferioribus tribus  
subequalibus, duobus apicalibus minutis, ultimo  
alto, cylindrico, breviter rimato et umbilicato.*

THE TRIMATTELLA PUPA. Shell whitish, cylindrical,  
straightly ridged; whorls six, lower three nearly  
equal, two apical minute, last raised, cylindrical;  
shortly notched and umbilicated.

PUBLER. Mon. Vol. IV. 1868.

*Hab.* Transylvania, Turkey.

Species 159. (Mus. Hanley.)

PUPA BIGANATA. *Pup. testâ cylindricâ, minutâ, bevi,  
fulvâ, levi; anfractibus septem, umbilicis sub-  
equalibus; ultimo breviter rimato; apertura parvâ,  
margine profundè incrassatâ, ultimo anfractu  
undulato.*

PUPA.—PLATE XVII.

THE TWO-GRAINED PUPA. Shell cylindrical, minute, short; whorls seven, middle ones nearly equal, last shortly notched; aperture small, margin deeply thickened, last whorl with a single tooth.  
 ROSSMASLER. Pflr. Mon. 11. p. 354.  
 Hab. Germany.

Species 160. (Mss. Hanley.)

PUPA ROWELLI. *Pup. testâ minutâ, fuscâ, politâ, oentricosâ; anfractibus quatuor, ultimo et penultimo ventricosâ, altis, ultimo longè rimato; aperturâ subtrigonâ, plicis dentiformibus tribus vel quatuor.*

ROWELL'S PUPA. Shell minute, brown, smooth, ventricose; whorls four, last and last but one ventricose, high, last with a long notch; aperture subtrigonal, with three or four tooth-like plaits.

NEWCOMB. Ann. Lyc. New York, VII. 1861.  
 Hab. Oakland, California.

Species 161. (Mss. Hanley.)

PUPA CUPA. *Pup. testâ breviter cylindricâ, cornâ, apice obtuso; anfractibus quinque, brevibus, tribus inferioribus latis, levibus, ultimo profundè rimato,*

*ad aperturam uidentato; aperturâ parvâ, subcoctundâ, margine profundè incrassatâ.*

THE BUTT PUPA. Shell shortly cylindrical, horny, apex obtuse; whorls five, short, three lower broad, smooth, last deeply notched, with a single tooth at the aperture; aperture small, rather round, margin deeply thickened.

KÛSTER. Fide Hanley.

Hab. Switzerland.

Species 162. (Mss. Hanley.)

PUPA NITENS. *Pup. testâ parvâ, pallidè cornâ, subpyramidatâ, apice obtuso; anfractibus quatuor, declivibus, ultimo magno, profundè rimato; suturâ profundâ; aperturâ parvâ, subquadratâ, plicis quatuor, unâ ad anfractum ultimum productâ, bifidâ, unâ columellari, duabus intus labium externum instructis parvis, rotundis.*

THE SHINING PUPA. Shell small, pale, horny, rather pyramidal, apex obtuse; whorls four, sloped, last large, deeply notched; suture deep, aperture small, rather square, with four plaits, one at the last whorl, produced, bifid, one columellar, two small, round, placed within the outer lip.

PEASE. Proc. Zool. Soc. 1860, p. 439.

Hab. Isl. Ebon, Marshall's Group.





165



166



167



168



169



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172



173



174

# P U P A.

PLATE XVIII.

Species 163. (Mus. Sowb.)

**PUPA MINUTISSIMA.** *Pap. testâ minuto, fusâ, cylindrica, laevi, apice obtuso; anfractibus quinque, rotundis, tribus inferioribus subaequalibus, ultimo profunde cincto; apertura parvâ, suborata, ad anfractum ultimum unidentatâ.*

**THE VERY SMALL PUPA.** Shell minute, brown, cylindrical, smooth, with obtuse apex; whorls five, rounded, three lower nearly equal, last with a deep notch; aperture small, rather oval, with a single tooth on the last whorl.

HARTMAN. Pfeiffer, Mon. 1868, p. 391.

*Hab.* Central Europe.

Species 164. (Mus. Hanley.)

**PUPA MILLIUM.** *Pap. testâ minuto, coraci, subclaphantâ, politâ, cylindrica, apice obtuso; anfractibus quatuor, inferioribus subaequalibus; apertura parvâ, quinqueplacatâ.*

**THE MILLET PUPA.** Shell minute, horny, rather transparent, polished, cylindrical, apex obtuse; whorls four, the lower ones nearly equal; aperture small, five-plaited.

GOULD. Pfeiffer, Mon. 1868, p. 335.

*Hab.* North America.

Species 165. (Mus. Hanley.)

**PUPA DECORA.** *Pap. testâ minuto, pallidi coraci, subcylindrica, subclaphantâ, laevi; anfractibus quinque, apicalibus subattenuatis, ultimo breviter rimato; apertura parvâ, quadridentatâ.*

**THE DECOROUS PUPA.** Shell minute, pale horny, subcylindrical, a little transparent, smooth; whorls five, apical ones rather attenuated, last shortly notched; aperture small, four-toothed.

GOULD. Otia Conchologica, p. 292.

*Hab.* North America.

Species 166. (Mus. Hanley.)

**PUPA POTTERBERGENSIS.** *Pap. testâ sinistrorsâ, pallidissimè rosâ, subcylindrica, subventricosa, laevi,*

*apice Mus. Sowi; anfractibus novem, superioribus subaequalibus, alteris subaequalibus, ultimolongè cincto, profunde unidentato; apertura ad anfractum ultimum cinctâ, postâ marginem quinqueplacatâ, marginem laevi.*

**THE POTTERBERG PUPA.** Shell sinistral, very pale rose, rather cylindrical, rather ventricose, smooth, apex obtuse, brown; whorls nine, upper rather attenuated, the others nearly equal, last with a long notch, deeply umbilicated; aperture raised on the last whorl, five-plaited near the margin, margin thin.

KRAUSS. Pfeiffer, Mon. 1868, p. 297.

*Hab.* Cape of Good Hope.

Species 167. (Mus. Hanley.)

**PUPA RECTA.** *Pap. testâ elongatâ, cylindricâ, angustâ, laevi, coraci, fusco-eburneâ trifasciatâ, apice obtuso; anfractibus septem, duobus apicalibus parvis, alteris subaequalibus, rotis, ultimo longè rimato; apertura parvâ, unidentatâ, platis ad anfractum ultimum duobus, ad columellam unâ, cinctis unâ, elongatâ, labio exteriori supra medianam sinuatum incrassatâ.*

**THE STRAIGHT PUPA.** Shell elongated, cylindrical, narrow, smooth, horny, three-banded with reddish-brown, apex obtuse; whorls seven, two apical small, others nearly equal, straight, last with a long notch; aperture small, ear-shaped, plaited on the last whorl two, on the columella one, inside one elongated, outer lip sinuously thickened above the centre.

LOWE. Pflr. Mon. 1858, p. 309.

*Hab.* Madeira.

The whorls are banded with a vinous brown.

Species 168. (Mus. Hanley.)

**PUPA MONTICOLA.** *Pap. testâ laevi, cylindrica, eburneâ, medio anfractuum et ad suturam eburnâ fasciatâ; anfractibus sex, apicalibus duobus obtusissimè compressis, alteris subaequalibus, ultimo ad medianam subcompressâ, longissime rimato; apert.*

*tuca angusta, subovata, ad anfractum ultimum intus multiplicata, ad marginem prope suturam plicâ callosâ supra infrâque extensa instructâ, labio externo intus triplicato.*

THE MOUNTAIN PUPA. Shell short, cylindrical, closely ribbed, banded with red in the middle and at the suture of the whorls; whorls six, two apical very bluntly flattened, the others nearly equal, last rather compressed in the middle, with a very long notch; aperture narrow, subovate, with a single plait within on the body whorl, near the suture at the margin set with a callous plait extended over and under, outer lip with two inner plaits.

LOWE. Pfl. Mon. 1868, p. 311.

Hab. Porto Santo, Madeira.

Species 169. (Mus. Hanley.)

PUPA PLANTI. *Pup. testâ ventricosâ, tenui, subdiaphanâ, albâ, tenuiter oblique lirata, apice obtuso; anfractibus septem, latis, convexisculis, ultimo breviter rimato, aperture latere subcompresso; apertura brevi, lata, callo suturali arcto, plicâ columellari internâ latâ, laminatâ.*

PLANT'S PUPA. Shell very ventricose, thin, subdiaphanous, whitish, finely obliquely ridged, apex obtuse; whorls seven, broad, rather convex, last shortly notched, rather flattened on the side of the aperture; aperture short, broad, sutural callus sharp, columellar plait broad, laminated.

PFEIFFER. Proc. Zool. Soc.

Hab. Port Natal.

Species 170. (Mus. Hanley.)

PUPA SAXICOLA. *Pup. testâ minutâ, subviridè corneâ, subcylindricâ, uterâ, subdiaphanâ, apice obtuso; anfractibus quatuor, ultimo magno, longè rimato; apertura subovata, plicis ad anfractum ultimum duabus, columellari unâ, intus dualibus parvis, margine angusto, albâ.*

THE ROCK-INHABITING PUPA. Shell minute, greenish-

horny, subcylindrical, shining, rather transparent, apex obtuse; whorls four, the last large, with a long notch; aperture rather oval, with two plaits on the last whorl, one columellar and two small within, margin narrow, white.

LOWE. Pfl. Mon. 1868, p. 321.

Hab. Madeira.

Species 171. (Mus. Hanley.)

PUPA IBERICA. *Pup. testâ fusco-corneâ, levigatâ, subcylindricâ, superne subattenuatâ; anfractibus septem, suturâ profundâ separatâ, ultimo longè rimato; apertura subauriformi, superne cuneatâ, supra median contractâ, callo suturali et plicâ ultimi anfractus valdè elongatis, plicâ internâ rotundâ, plicâ columellari elongatâ, declivi.*

THE BROOK PUPA. Shell brown-horn, smooth, rather cylindrical, rather attenuated above; whorls seven, separated by a deep suture, last with a long notch; aperture partly auriform, cuneate above, contracted above the middle, sutural callus and plait of the last whorl much elongated, internal plait strong, columellar plait elongated, sloped downwards.

LOWE. Pfl. Mon. 1868, p. 321.

Hab. Madeira.

The plaits in the mouth seem to fill it up by their great extension.

Species 172. (Mus. Hanley.)

PUPA EDENTULA. *Pup. testâ parvâ, corneâ, brevi, rotundâ, semipellucidâ, spirâ versus apicem paulò attenuatâ; anfractibus septem, rotundis, ultimo breviter rimato; apertura brevi, edentulâ, margine tenui.*

THE TOOTHLESS PUPA. Shell small, horny, short, polished, semipellucid, spiræ a little attenuated towards the apex; whorls seven, rounded, last shortly notched; aperture short, without teeth, margin thin.

DRAPARNAUD. Moll. Terr. et Fluv.

Hab. Europe.







# P U P A.

## PLATE XIX.

### Species 173. (Mus. Hanley.)

**PUPA TANTILLA.** *Pup. testâ minuti, contractâ fessâ, breviter angustibus quatuor, hecibus, ventricosis, etiam s. ultimo angustibus, infra umbilicatis; apertura obliquâ, subauriformi, quadridentatâ, labio externo supra medium tumido, sinuato.*

**THE TINY PUPA.** Shell minute, ventricose, brown, short; whorls four, short, ventricose, round, last rather large, umbilicated below; aperture oblique, rather auriform, four-toothed, outer lip tumid and sinuated above the middle.

**GOULD.** (Vertigo) Pfr. Mon. III.

*Hab.* Tahiti.

### Species 174. (Mus. Hanley.)

**PUPA ELEGANTULA.** *Pup. testâ albâ, pellucidâ, clavata, superne obtusâ, ventricosâ, infra gradatim attenuatâ; angustibus sex, apicali plicatâ, ultimo rimata, contractâ; apertura subtriangulâ, calli suturali conspicuo.*

**THE ELEGANT LITTLE PUPA.** Shell white, pellucid, club-shaped, obtuse above, ventricose, gradually attenuated below; whorls six, apical flattened, last notched, contracted; aperture subtriangular with conspicuous sutural callus.

**PFEIFFER.** Proc. Zool. Soc. 1846, p. 185.

*Hab.* Liberia.

A curiously formed little shell, very thick towards the apex, and gradually tapering downwards.

### Species 175. (Mus. Hanley.)

**PUPA ANGSTOR.** *Pup. testâ minutâ, sinistrali, fuscâ; angustibus quinque, convexis, ultimo breviter umbilicatâ; apertura parvâ, latâ, triplicatâ, labio externo supra medium sinuato et dentato-plicatâ.*

**THE NARROW PUPA.** Shell minute, sinistral, fulvous; whorls five, convex, last shortly umbilicated; aperture small, broad, three-plaited, outer lip sinuous above the middle, with a tooth plait.

**JEFFREYS.** (Vertigo) Pfr. Mon. 1868, p. 336.

*Vertigo Foveolâ,* Charpentier.

*Vertigo horrea,* Held.

*Hab.* Britain, France, Germany, Spain, &c.

### Species 176. (Mus. Hanley.)

**PUPA MENKEANA.** *Pup. testâ breviusculâ, albâ, tenuiter et regulariter licatâ, ventricosâ, apice obtusâ; angustibus septem, medianis ventricosis, ultimo longè rimatâ, infra contractâ, dorsa post apertura marginem contractâ et profunde foveolatâ; apertura subquadratâ, intus et prope marginem latè et profunde plicatâ, margine reflexo, expanso.*

**MENKE'S PUPA.** Shell rather short, whitish, finely and regularly ridged, ventricose, apex obtuse; whorls seven, middle ventricose, last with a long notch, contracted below, contracted and deeply pitted at the back, behind the margin of the aperture; aperture subquadrate, within and near the margin broadly and deeply plaited, margin reflected, expanded.

**PFEIFFER.** (Azeca) Mon. 1868, p. 255.

*Hab.* Central Europe.

In the later monographs, Pfeiffer seems to have mixed up this shell with the well-known European *Azeca tridens*, with which it has little affinity.

### Species 177. (Mus. Hanley.)

**PUPA CAPitata.** *Pup. testâ albâ, semipellucidâ, cylindricâ, hecâ, prope apicem inflatâ; angustibus quinque, obliquè tenuiter licatis, ultimo obliquè profunde rimatâ, infra rimam tumido et subauriformi; apertura subauriformi, cæcis contractâ, intus dentato-plicatâ, plicâ suturali magna, expansâ, margine reflexo et expanso.*

**THE HEADED PUPA.** Shell whitish, semipellucid, cylindrical, short, inflated near the apex; whorls five, obliquely finely ridged, last obliquely deeply notched, tumid and partly keeled below the notch; aperture rather ear-shaped, contracted

without, tooth-plaited within, sutural plait large, expanded, margin reflected and expanded.

GOULD. —? (quoted by Hanley.)

*Hab.* Cape Patmos.

Species 178. (Mus. Hanley.)

PUPA FUNICULA. *Pap. testâ albâ, cylindricâ, solidâ, subrosâ, obliquè limatâ; apice obtuso; anfractibus sex, rectiusculis, medianis subequalibus, ultimo obtusissimè angulato vir rimato; apertura subquadrata, edentulâ; margine reflexo, suberpauso; columella latâ.*

THE FUNNEL PUPA. Shell high, cylindrical, solid, rather pink, oblique-ridged, apex obtuse; whorls six, rather straight, middle nearly equal, last very obtusely angular, scarcely notched; aperture rather square, toothless; margin reflected, rather expanded; columella broad.

VALENCIENNES. *Pfl.* Mon. 1868, p. 257.

*Hab.* Isle of France.

Species 179. (Mus. Hanley.)

PUPA CYCLOSTOMA. *Pap. testâ brevi, ventricosâ, costis rectiusculis sculptâ, subrosâ, apice obtusiusculo, medio inflato; anfractibus sex, brevibus, ultimo profundè rimato; apertura subovatâ, columellâ et anfractâ ultimo implicatis; margine albo reflexo, rotundo.*

THE ROUND-MOUTHED PUPA. Shell short, ventricose, sculptured with rather straight ribs, rather pink, apex rather obtuse, inflated in the middle; whorls six, short, last deeply notched; aperture rather ovate, columella and last whorl single-plaited; margin white, reflected, round.

KI STEL. *Pfeiffer*, Mon. 1868, p. 293.

*Pupa Küsteri*, *Pfeiffer* (var.)

*Hab.* Cuba.

Species 180. (Mus. Hanley.)

PUPA LACHRYMA. *Pap. testâ albâ, pellucidâ, clavatâ, cylindricâ, superè tumidâ, infra rectâ, apice obtuso; anfractibus sex, ultimo alto, infra obliquè breviter rimato; apertura trigonâ, plâcâ suturali et plâcis dentiformibus tribus conspicuis, crassis.*

THE TEAR PUPA. Shell whitish, pellucid, club-shaped, cylindrical, tumid above, straight below, apex obtuse; whorls six, last high, with a short oblique notch below; aperture trigonal, sutural plait and three dentiform plaits conspicuous, thick.

AUCT. —? (Mus. Brit.)

*Hab.* Liberia.

Species 181. (Mus. Hanley.)

PUPA TERES. *Pap. testâ albâ, cylindricâ, eleganter obliquè limatâ, albâ, opacâ, superè tumidâ, infra subattenuatâ; anfractibus septem, inferioribus angustioribus, ultimo arcuatim rimato, suturâ profundâ; apertura edentulâ, perpendiculariter oblongâ.*

THE LONG-ROUNDED PUPA. Shell raised, cylindrical, elegantly obliquely ridged, white, opaque, tumid above, slightly attenuated below; whorls seven, lower narrower, last with a curved notch, suture deep; aperture toothless, perpendicularly oblong.

*Pfeiffer*, Mon. 1868, p. 297.

*Helix yalungula*, *Ferussac*.

*Hab.* Mauritius.

Species 182. (Mus. Hanley.)

PUPA KUREIL. *Pap. testâ sinistorsâ, latè pyramidatâ, brevi, corulco-albâ, apice acuminato; anfractibus octo, gradatim crescentibus, ultimo profundè et longè rimato, infra rimam tumido et subcarinato; apertura elevatâ, subtrigonâ, intus quadruplicato callo suturali obliquè elongata, laminato, margine tenui, vir reflexo.*

KURE'S PUPA. Shell sinistral, broadly pyramidal, smooth, bluish-white, apex acuminated; whorls eight, gradually increasing, last with a deep long notch, tumid and slightly keeled below the notch; aperture raised, subtrigonal, with four plaits within sutural callus obliquely elongated, laminar, margin thin, scarcely reflected.

KRAUSS. *Pfeiffer*, Mon. 1868, p. 297.

*Pupa ocularis*, *Kurr*.

*Pupa fontinalis*, *Deshayes*.

*Hab.* Cape of Good Hope.





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189.



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192.

# P U P A.

PLATE XX.

## Species 183. (Mus. Brit.)

**PUPA ANTIVERTIGOS.** *Pup. testâ minutâ, dextrali, brevi, ventricosi, latipatâ; anfractibus quatuor; apice obtuso; apertura triangulari, infimâ acuminatâ, dentibus octenis aut novenis, utroque latere tribus.*

**THE OPPOSITE WHORLED PUPA.** Shell minute, dextral, short, ventricose, smooth; whorls four; apex obtuse; aperture triangular, acuminated below, teeth, eight or nine, three on each side.

**DRAPARNAUD.** 'Tabl. des Mollusques de la France,' p. 59.

*Pupa Obolentata.* Hartman.

*Hab.* Great Britain, Ireland, and France.

The aperture is triangular, with two or three teeth on each side between the angles. The small shells belonging to the group named 'VERTIGO,' by some authors being sinistral, this species, exactly resembling them in other respects, receives the above name because it is dextral.

## Species 184. (Mus. Hanley.)

**PUPA MODICA.** *Pup. testâ ovatâ; pallidâ fulvâ, parvâ, subovipatâ; anfractibus quinque, altiuscedis, convexis, suturâ profundâ; ultimo anfractu oblongo, rimato; apertura subovata, margine simplici, reflexo.*

**THE UNPRETENDING PUPA.** Shell ovate, pale fulvous, small, rather smooth; whorls five, rather elevated, convex, with deep suture; last whorl oblong, creased; aperture subovate; margin simple, reflected.

**GOULD.** — ?

*Hab.* Florida.

A Bulimus-like little shell.

## Species 185. (Mus. Brit.)

**PUPA SUBSTRATIATA.** *Pup. testâ minutâ, fuscâ, dextrali, breviter cylindricâ, latâ, obliquè striatâ, anfractibus quatuor, brevibus; apertura subauriformi, margine reflexo, alto, sessulato.*

**THE SUBSTRATIATED PUPA.** Shell minute, brown, dextral, shortly cylindrical, broad, obliquely striated, whorls four, short; aperture somewhat auriform, margin reflected, white, six-toothed.

**GRAY.** (Vertigo) Brit. Mus. MS.

*Hab.* Great Britain and Germany.

## Species 186. (Mus. Brit.)

**PUPA PUSILLA.** *Pup. testâ minutâ sinistrali, fusco-fusca, brevi; anfractibus obliquis, apicali obtuso, ultimo sublecliei; apertura simulatim triangulari, margine externo bidentato, interno superiori bidentato, columellâ uniplicatâ.*

**THE DWARF PUPA.** Shell minute, sinistral, smoky brown, smooth; whorls oblique, apical obtuse, last a little sloped; aperture simously triangular, outer margin with two teeth, inner with two teeth above, columella with one fold.

**MÜLLER.** Pflüger Mon. Hel. VI. p. 336.

*Pupa vertigo.* Draparnaud.

*Hab.* Germany, Spain, England.

## Species 187. (Mus. Brit.)

**PUPA WALBERGI.** *Pup. testâ subturbinatâ, cylindricâ, albâ, brevi, semiplicidâ, anfractibus septenis, apicalibus duobus depressis, alteris subquadratis, ultimo angustato, breviter rimato; apertura brevis, subauriformi; plicâ suturali magna, denti columellari prominente, labio externo tridentato.*

**WALBERG'S PUPA.** Shell rather turbinated, cylindrical, white, smooth, semiplicid; whorls seven; apical two depressed, others nearly equal, last narrow, shortly creased; aperture short, rather auriform; sutural plicâ large, columellar tooth prominent, outer lip tridentate.

**PEFFER.** Mon. Hel. Vol. VII.

*Hab.* S. Africa.

## Species 188. (Mus. Hanley.)

**PUPA DESHAYESI.** *Pup. testâ parvâ, albâ, cylindricâ-subturbinatâ; anfractibus octenis, brevibus costatis; ultimo profundè rimato; apertura sursum acclivi, brevi; plicâ suturali conspicuâ.*

**DESHAYES'S PUPA.** Shell small, white, cylindrical, slightly turbinated; whorls eight, short, ribbed; last deeply creased; aperture turned upwards, short; sutural plicâ conspicuous.

**ADAMS.** — ?

*Hab.* — ?

Species 189. (Mus. Hanley.)

PUPA DORMEYER. *Pup. testâ cylindricâ, turbinatâ, cornâ, brevi; anfractibus novenis, apicalibus parvis, sequentibus superioribus latis, inferioribus gradatim angustatis, ultimo profundè rimato, aperturâ subquadratâ, margine albo, profundo, plicâ suturali prominenti.*

DORMEYER'S PUPA. Shell cylindrical, turbinated, horny, smooth; whorls nine, apical small, following upper wide, lower gradually narrowed, last deeply creased; aperture subquadrate, margin white, deep, sutural plait prominent.

PARRELS — ?

*Hab.* Greece.

Species 190. (Mus. Hanley.)

PUPA TRICOLOR. *Pup. testâ pruinosa, subpyramidalâ, brevi, apice fusco, acuminato; anfractibus octavis, convexoconvexis, tribus inferioribus altis; ultimo profundè rimato, umbilicato, infusâ umbilicâ carinato; aperturâ subovata, margine fuscâ, interrupta, plicâ suturali conspicuâ; plicis internis utriusque dubis.*

THE THREE-COLOURED PUPA. Shell plum-coloured, subpyramidal, smooth, apex brown, acuminated; whorls eight, rather convex, three lower high; last deeply creased, umbilicated, keeled

Pupa *Lapidaria* and Pupa *Variabilis* having been inadvertently repeated, the two following species take their numbers.

Species 152. (Fig. 152.\* Plate XX., Mus. Brit.)

PUPA PYGMAEA. *Pup. testâ minutâ, brevissimâ cylindricâ, ventricosâ, brevi; anfractibus quateris aut quinis; aperturâ subovata, margine albo sedentata.*

THE PYGMY PUPA. Shell minute, very shortly cylindrical, ventricose, smooth; whorls four or five; aperture subovate, margin white, six-toothed.

DRAPARNAUD. 'Tab. des Mollusques de France.'

*Pupa quinquesdentata*. Hartman.

*Vertigo alpestris*. Ferrussac.

*Hab.* Britain and Central Europe.

below the umbilicus, aperture subovate, margin fulvous, interrupted, sutural plait conspicuous, inner plaits two on each side.

VILLA. — ?

*Hab.* Lombardy.

Species 191. (Mus. Hanley.)

PUPA FUSCA. *Pup. testâ minutâ, breviter cylindricâ, fuscâ, tenuiter liratâ, anfractibus senis convexis, lamina internis tenuibus, numerosis, plicâ suturali praeinâ, albâ, elongatâ.*

THE BROWN PUPA. Shell minute, shortly cylindrical, brown, with thin ridges; whorls six, convex; inner lamina thin, numerous, sutural plait approximate, white, elongated.

LOWE. De Paiva Mon. Moll. p. 130.

*Hab.* Madeira.

Species 192. (Mus. Hanley.)

PUPA FALLAX. *Pup. testâ oblongo-ovata, fuscâ, brevi, subannulatâ; anfractibus senis; aperturâ ovata, edentata.*

THE DECEPTIVE PUPA. Shell oblong-ovate, brown, smooth, a little acuminated; whorls six; aperture ovate, toothless.

SAY. Pflr. Mon. Hel. II. p. 309.

*Bullium exigens*. Reeve.

*Hab.* N. America.

Species 32. (Fig. 32.\* Plate XX. Mus. Brit.)

PUPA ANGLICA. *Pup. testâ minutâ, cornâ, subpyramidalâ, brevi; anfractibus senis; aperturâ subtrigona, intus plicatâ, margine albo, labio externo supra medium sinuatim incrassato; plicâ suturali parva.*

THE ANGLICAN PUPA. Shell minute, horny, somewhat pyramidal, smooth; whorls six; aperture sub-trigonal, plaited within, margin white, outer lip sinuously thickened above the middle; sutural plait small.

FERRUSSAC — ?

*Hab.* Britain and other parts of Europe.

*Errata*.—FOR SEPTEMDENTATUS (Species 118), read RINGENS, *Sowerby*.

FOR VARIABILES (Species 32), read MULTIDENTATA, *Olivier*.

## P U P A.

|   | Plate. | Species. |   | Plate. | Species. |
|---|--------|----------|---|--------|----------|
| <i>acutula</i> , <i>Varreys</i> .....           | XIII.  | 115      | <i>conica</i> , <i>Rossmäslcr</i> .....         | XI.    | 101      |
| <i>alpicola</i> , <i>Charpentier</i> .....      | XII.   | 107      | <i>contracta</i> , <i>Gulman</i> .....          | VIII.  | 67       |
| <i>alvearea</i> , <i>Dilliguy</i> .....         | III.   | 23       | <i>coronata</i> , <i>Stüder</i> .....           | XI.    | 102      |
| <i>aneonostoma</i> , <i>Loew</i> .....          | XII.   | 108      | <i>corticaria</i> , <i>Say</i> .....            | XII.   | 106      |
| <i>anglica</i> , <i>Ferrussac</i> .....         | XX.    | 32*      | <i>critica</i> , <i>Zellius</i> .....           | XI.    | 102      |
| <i>angustior</i> , <i>Jeffreys</i> .....        | XIX.   | 175      | <i>crassilabris</i> , <i>Shuttleworth</i> ..... | II.    | 14       |
| <i>antivertigo</i> , <i>Draparnaud</i> .....    | XX.    | 183      | <i>cupa</i> , <i>Küster</i> .....               | XVII.  | 161      |
| <i>Antonii</i> , <i>Küster</i> .....            | II.    | 9        | <i>curta</i> , <i>Potiez</i> .....              | V.     | 44       |
| <i>Arigonis</i> , <i>Rossmäslcr</i> .....       | XI.    | 97       | <i>curvidens</i> , <i>Gould</i> .....           | XX.    | 140      |
| <i>armifera</i> , <i>Say</i> .....              | XV.    | 138      | <i>cyclostoma</i> , <i>Küster</i> .....         | XIX.   | 179      |
| <i>avatica</i> , <i>Benson</i> .....            | VII.   | 60       | <i>cylindrelloidea</i> , <i>Stålckza</i> .....  | VII.   | 64       |
| <i>avon</i> , <i>Draparnaud</i> .....           | VIII.  | 70       | <i>cylindrellus</i> , <i>Adams</i> .....        | XIII.  | 122      |
| <i>avenacea</i> , <i>Brugnière</i> .....        | VIII.  | 70       | <i>cylindrica</i> , <i>Stüder</i> .....         | IV.    | 25       |
| <i>bacillus</i> , <i>Pfeiffer</i> .....         | IX.    | 80       | <i>dealbata</i> , <i>Webbs</i> .....            | VI.    | 52       |
| <i>Bailla</i> (muscorum) .....                  | IX.    | 77       | <i>decora</i> , <i>Gould</i> .....              | XVIII. | 165      |
| <i>Barelajyi</i> , <i>H. Adams</i> .....        | XVI.   | 146      | <i>decurvata</i> , <i>Poey</i> .....            | II.    | 11       |
| <i>bathydon</i> , <i>Benson</i> .....           | IV.    | 33       | <i>Deshayesii</i> , <i>Adams</i> ? .....        | XX.    | 188      |
| <i>Bergcrii</i> , <i>Rothmota</i> .....         | V.     | 37       | <i>Dosmazuresi</i> , <i>Crosse</i> .....        | X.     | 91       |
| <i>bicellus</i> ? <i>Irw.</i> .....             | X.     | 87       | <i>detrita</i> , <i>Shuttleworth</i> .....      | III.   | 17       |
| <i>bicolor</i> , <i>Hutton</i> .....            | XVI.   | 148      | <i>doliolum</i> , <i>Brugnière</i> .....        | XI.    | 102      |
| <i>bibulata</i> , <i>Pfeiffer</i> .....         | IX.    | 77       | <i>doliun</i> , <i>Draparnaud</i> .....         | VII.   | 55       |
| <i>bifilaris</i> , <i>Mousson</i> .....         | X.     | 90       | <i>Dormeyeri</i> , <i>Varreys</i> ? .....       | XX.    | 189      |
| <i>bigranata</i> , <i>Rossmäslcr</i> .....      | XVII.  | 159      | <i>Dupontiana</i> , <i>Crosse</i> .....         | VIII.  | 71       |
| <i>biplicata</i> , <i>Rossmäslcr</i> .....      | XIII.  | 130      | <i>Dussumieri</i> , <i>Reeve</i> .....          | IX.    | 84       |
| <i>Blanfordi</i> , <i>Austria</i> .....         | IV.    | 30       | <i>edentula</i> , <i>Draparnaud</i> .....       | XVIII. | 172      |
| <i>Borealis</i> , <i>Morelet</i> .....          | XVII.  | 155      | <i>elata</i> , <i>Schmidt</i> .....             | V.     | 39       |
| <i>Bonguignati</i> , <i>Deshayes</i> .....      | XIV.   | 128      | <i>elegantula</i> , <i>Pfeiffer</i> .....       | XIX.   | 174      |
| <i>Bryanti</i> , <i>Pfeiffer</i> .....          | I.     | 1        | <i>exigua</i> , <i>Mousson</i> .....            | VIII.  | 69       |
| <i>calathiscens</i> , <i>Loew</i> .....         | XIII.  | 121      | <i>exiguus</i> , <i>Reeve</i> .....             | XX.    | 192      |
| <i>callifera</i> , <i>Morelet</i> .....         | IX.    | 78       | <i>Fabrana</i> , <i>Crosse</i> .....            | IX.    | 85       |
| <i>capitata</i> , <i>Gould</i> ? .....          | XIX.   | 177      | <i>fallax</i> , <i>Say</i> .....                | XX.    | 192      |
| <i>carinata</i> , <i>Gould</i> .....            | VIII.  | 66       | <i>Ficoidensis</i> , <i>Loew</i> .....          | XII.   | 108      |
| <i>caspia</i> , <i>Pfeiffer</i> .....           | XI.    | 95       | <i>farinesii</i> , <i>Dosmarest</i> .....       | XVII.  | 157      |
| <i>cassida</i> , <i>Loew</i> .....              | XV.    | 137      | <i>furtoides</i> , <i>Theobald</i> .....        | IV.    | 26       |
| <i>cernica</i> , <i>A. Adams</i> .....          | XVI.   | 149      | <i>ferriaria</i> , <i>Loew</i> .....            | XV.    | 134      |
| <i>Ceylonica</i> , <i>Pfeiffer</i> .....        | XVI.   | 145      | <i>Ferrarii</i> , <i>Porro</i> .....            | XIV.   | 130      |
| <i>Charpentieri</i> , <i>Shuttleworth</i> ..... | XII.   | 109      | <i>filosa</i> , <i>Theobald</i> .....           | VII.   | 59       |
| <i>Chloris</i> , <i>Crosse</i> .....            | VIII.  | 73       | <i>fonticola</i> , <i>Deshayes</i> .....        | XIX.   | 182      |
| <i>chrysalis</i> , <i>Pfeiffer</i> .....        | I.     | 5        | <i>frumentum</i> , <i>Draparnaud</i> .....      | V.     | 44       |
| <i>clavatuln</i> , <i>Lonnareh</i> .....        | IX.    | 82       | <i>funicula</i> , <i>Valenciennes</i> .....     | XIX.   | 178      |
| <i>concomerata</i> , <i>Wood</i> .....          | V.     | 41       | <i>furtoides</i> , <i>Theobald</i> .....        | IV.    | 26       |
| <i>concinna</i> , <i>Loew</i> .....             | XV.    | 139      | <i>fusca</i> , <i>Loew</i> .....                | XX.    | 191      |

PUPA.

|                                | Plate. | Species. |                                  | Plate. | Species. |
|--------------------------------|--------|----------|----------------------------------|--------|----------|
| <i>fusus</i> , Bruguière       | III.   | 23       | <i>molta</i> , Gould             | XVI.   | 148      |
| <i>glaucus</i> , Küster        | I.     | 2        | <i>Mondrainii</i> , Adams        | XIV.   | 127      |
| <i>Gonidomus</i> , Adams       | V.     | 38       | <i>monticola</i> , Loew          | XVIII. | 168      |
| <i>Gouldii</i> , Binney        | XII.   | 105      | <i>Moricandii</i> , Fer          | VIII.  | 65       |
| <i>granum</i> , Draparnaud     | XVII.  | 156      | <i>Modioliana</i> , Dupuy        | XII.   | 109      |
| <i>gularis</i> , Rossmäslcr    | VI.    | 46       | <i>Muhlfeldti</i> , Küster       | VIII.  | 68       |
| <i>guttula</i> , Porro         | XIII.  | 130      | <i>multicostata</i> , Küster     | II.    | 13       |
| <i>hauiata</i> , Held          | XIX.   | 175      | <i>multidentata</i> , Olivier    | V.     | 42       |
| <i>holostoma</i> , Morelet     | IX.    | 83       | <i>mumia</i> , Bruguière         | I.     | 3        |
| <i>horleum</i> , Ferrussac     | VIII.  | 70       | <i>muniola</i> ? Pfeiffer        | I.     | 3        |
| <i>idolum</i> , Meutze         | V.     | 41       | <i>muscerda</i> , Benson         | VII.   | 56       |
| <i>incrassata</i> , Sowerby    | I.     | 6        | <i>muscorum</i> , Linnaeus       | IX.    | 77       |
| <i>indica</i> , Pfeiffer       | VII.   | 63       | <i>mutabilis</i> , Ferrussac     | V.     | 42       |
| <i>infanda</i> , Shuttleworth  | II.    | 11       | <i>Newtoni</i> , Adams           | VI.    | 51       |
| <i>intersecta</i> , Deshayes   | XIV.   | 129      | <i>nisa</i> , Pfeiffer           | VI.    | 53       |
| <i>iostoma</i> , Pfeiffer      | III.   | 22       | <i>nitens</i> , Pease            | XVII.  | 162      |
| <i>irrigua</i> , Loew          | XVIII. | 171      | <i>nitida</i> , Antonelli        | XVII.  | 154      |
| <i>juniperi</i> , Fleming      | IV.    | 25       | <i>Novaezelandica</i> , Pfeiffer | XIV.   | 126      |
| <i>Kokielii</i> , Rossmäslcr   | VIII.  | 65       | <i>nucifraga</i> , Parreys       | X.     | 93       |
| <i>Kurrii</i> , Krauss         | XIX.   | 182      | <i>oblongata</i> , Rossmäslcr    | XII.   | 111      |
| <i>Küsteri</i> , Pfeiffer      | XIX.   | 179      | <i>obscura</i> , Muhlfeldt       | VIII.  | 68       |
| <i>lachryma</i> , Auct.        | XIX.   | 180      | <i>obstructa</i> , Gossies       | IV.    | 34       |
| <i>Layardi</i> , Benson        | XV.    | 141      | <i>orbiculata</i> , Hartman      | XX.    | 183      |
| <i>lapidaria</i> (pygmaea)     | XX.    | 152      | <i>ovularis</i> , Olivier        | XIII.  | 117      |
| <i>lapidaria</i> , Hutton      | XVI.   | 147      | <i>pachygastra</i> , Zeigler     | XII.   | 111      |
| <i>Lienardiana</i> , Crosse    | X.     | 94       | <i>pagoda</i> , Ferrussac        | V.     | 41       |
| <i>Licversi</i> , Mousson      | IV.    | 29       | <i>pagodula</i> , Desmarest      | XI.    | 98       |
| <i>Lifonana</i> , Gossies      | IV.    | 28       | <i>Paitensis</i> , Crosse        | X.     | 88       |
| <i>Lincolncnsis</i> , Coz      | XI.    | 104      | <i>palanga</i> , Lesson          | VI.    | 43       |
| <i>longurio</i> , Crosse       | XI.    | 96       | <i>palmigula</i> , Ferrussac     | XIX.   | 181      |
| <i>Lusitanica</i> , Rossmäslcr | XII.   | 113      | <i>pamphorodon</i> , Benson      | XIII.  | 129      |
| <i>Lyonctii</i> , Montfort     | IX.    | 81       | <i>pellucida</i> , Pfeiffer      | XII.   | 110      |
| <i>Lyonctianus</i> , Pfeiffer  | IX.    | 81       | <i>pentodon</i> , Say            | XV.    | 140      |
| <i>Marginata</i> , Draparnaud  | IX.    | 77       | <i>phasianus</i> , Dubois        | IV.    | 27       |
| <i>Marici</i> , Crosse         | IV.    | 31       | <i>Philippii</i> , Cauteraine    | VIII.  | 69       |
| <i>maritima</i> , Pfeiffer     | III.   | 29       | <i>Pirreii</i> , Pfeiffer        | XVI.   | 143      |
| <i>marmorata</i> , Pfeiffer    | II.    | 19       | <i>planguncula</i> , Benson      | VII.   | 57       |
| <i>Martensii</i> , Wiedtold    | II.    | 15       | <i>Planti</i> , Pfeiffer         | XVIII. | 169      |
| <i>Martiniiana</i> , Küster    | II.    | 16       | <i>plicidens</i> , Benson        | XVI.   | 151      |
| <i>megachilos</i> , Albers     | XI.    | 97       | <i>polyodon</i> , Draparnaud     | X.     | 92       |
| <i>Menkeana</i> , Pfeiffer     | XIX.   | 176      | <i>Pottebergensis</i> , Krauss   | XVIII. | 166      |
| <i>metablata</i> , Crosse      | VIII.  | 71       | <i>procera</i> , Gould           | VII.   | 66       |
| <i>microstoma</i> , Pfeiffer   | II.    | 8        | <i>producta</i> , Adams          | XIII.  | 119      |
| <i>microtragus</i> , Parreys   | V.     | 35       | <i>proteus</i> , Gnollach        | I.     | 4        |
| <i>millium</i> , Gould         | XVIII. | 164      | <i>pupula</i> , Deshayes         | XIV.   | 132      |
| <i>mimula</i> , Benson         | VII.   | 61       | <i>pusilla</i> , Müller          | XX.    | 186      |
| <i>minutissima</i> , Hartman   | XVIII. | 163      | <i>pygmaea</i> , Draparnaud      | XX.    | 152*     |
| <i>modesta</i> , A. Adams      | XII.   | 114      | <i>quadridens</i> , Muller       | V.     | 40       |
| <i>modiolus</i> , Ferrussac    | VI.    | 54       | <i>quinquedentata</i> , Born     | VI.    | 49       |
| <i>modica</i> , Gould          | XX.    | 184      | <i>quingoblanellata</i> , Risso  | V.     | 43       |



PUPA.

|                                  | Plate  | Spec. |                                  | Plate | Spec. |
|----------------------------------|--------|-------|----------------------------------|-------|-------|
| <i>quasioplicata</i> , Mühlfeldt | VIII.  | 68    | <i>spicata</i> , Ferrussac       | XI.   | 102   |
| <i>ularis</i> , Rossmäsleri      | VI.    | 46    | <i>specta</i> , Revere           | VI.   | 50    |
| <i>Raymondii</i> , Bourgainville | X.     | 87    | <i>stenophyllis</i> , Benson     | XIV.  | 125   |
| <i>recta</i> , Loew              | XVIII. | 167   | Strangi, Pfeiffer                | XI.   | 100   |
| <i>rhodia</i> , Pfeiffer         | XIII.  | 115   | <i>striatella</i> , Ferrussac    | III.  | 18    |
| <i>ringens</i> , Szeceby         | XIII.  | 118   | <i>striaticostata</i> , Mordet   | XIII. | 120   |
| <i>ringiata</i> , Michaud        | X.     | 92    | <i>substriata</i> , Gray         | XX.   | 183   |
| <i>Rodriguezensis</i> , Crosse   | VIII.  | 72    | <i>sulcata</i> , Brugnière       | V.    | 38    |
| <i>Rossmäsleri</i> , Schmidt     | XIV.   | 124   | <i>tantilla</i> , Gould          | XIX.  | 173   |
| <i>Rowellii</i> , Neesomb        | XVII.  | 160   | <i>Tappaniana</i> , Mord.        | XV.   | 140   |
| <i>rubicincta</i> , Mentse       | III.   | 23    | <i>teres</i> , Pfeiffer          | XIX.  | 181   |
| <i>radix</i> , Pfeiffer          | III.   | 21    | <i>tricolor</i> , Villa—?        | XX.   | 190   |
| <i>rapuestris</i> , Philippi     | XI.    | 103   | <i>tricuspis</i> , Rossmäsleri   | V.    | 36    |
| <i>rapicola</i> , Say            | IX.    | 75    | <i>tridens</i> , Muller          | VI.   | 47    |
| <i>Rosci</i> , Adams             | XII.   | 110   | <i>truncatella</i> , Pfeiffer    | XVII. | 158   |
| <i>Sagraiana</i> , Pfeiffer      | III.   | 19    | <i>tumida</i>                    | I.    | 6     |
| <i>Salernnensis</i> , Blanchard  | VII.   | 62    | <i>turgidula</i> , Deshayes      | XIV.  | 133   |
| <i>Salwiniana</i> , Theobald     | XVI.   | 150   | <i>umbilicata</i> , De Paiva     | XII.  | 108   |
| <i>Saulecyi</i> , Bourgainville  | X.     | 86    | <i>unidentata</i> , Pfeiffer     | IX.   | 77    |
| <i>saxicola</i> , Loew           | XVIII. | 170   | <i>uvula</i> , Linnaeus          | I.    | 7     |
| <i>scalarina</i> , Guellach      | XVII.  | 153   | <i>uvula</i> , Deshayes          | XIII. | 116   |
| <i>scapus</i> , Parreys          | X.     | 87    | <i>vara</i> , Benson             | XVI.  | 144   |
| <i>sculpta</i> , Benson          | VII.   | 58    | <i>variabilis</i> , Draparnaud   | V.    | 42    |
| <i>secale</i> , Draparnaud       | IV.    | 25    | <i>variabilis</i> (multidentata) | XII.  | 112   |
| <i>seductilis</i> , Zeyher       | VI.    | 53    | <i>Venetzi</i> , Charpentier     | XIX.  | 175   |
| <i>septemdentata</i> , Bothan    | VI.    | 45    | <i>ventricosa</i> , Adams        | XIV.  | 131   |
| <i>septemdentata</i> (ringens)   | XIII.  | 118   | <i>vestrosa</i> , Heynem         | XII.  | 109   |
| <i>servilis</i> , Gould          | XII.   | 110   | <i>versipellis</i> , Ferrussac   | IX.   | 79    |
| <i>Shuttleworthii</i> , Albers   | XV.    | 142   | <i>vertigo</i> , Draparnaud      | XX.   | 186   |
| <i>Sieversi</i> , Monsson        | IV.    | 29    | <i>Villae</i> , Charpentier      | XI.   | 99    |
| <i>signata</i> , Monsson         | X.     | 89    | <i>villosula</i> , Kokiell       | XI.   | 102   |
| <i>similis</i> , Brugnière       | V.     | 43    | <i>vincta</i> , Loew             | XV.   | 135   |
| <i>simplex</i> , Gould           | IX.    | 76    | <i>Walbergi</i> , Pfeiffer       | XX.   | 187   |
| <i>sinnata</i> , Monsson         | VIII.  | 74    | <i>Weinlandi</i> , Kurr          | III.  | 24    |
| <i>sphinctostoma</i> , Loew      | XV.    | 136   | <i>Zebra</i> , Weindand          | II.   | 12    |



MONOGRAPH

OF THE GENUS

V A N I K O R O .

Nature, enchanting Nature, in whose form  
And lineaments divine I trace a hand  
That errs not."—*Cæsar*.







# VANIKORO.

PLATE I.

Genus VANIKORO, Quoy et Gaimard.

*Testa subglobosa, plerumque alba, cancellata vel decessata, epidermide tenui induta, perforata, umbilicata, umbilico in canallem desinenti; margine apertura simplici. Operculum cornuum unguiculatum, non-spirale.*

Shell subglobose, generally white, cancellated or decessated, covered with a thin epidermis, perforated, umbilicus ending in a canal; margin of the aperture simple. Operculum horny, unguiculate, non-spiral.

*Synonyma.* MERULA, Gray. WANICA, Recluz.

The greater part of the species now known were described by Recluz in the Proceedings of the Zoological Society for 1843, many of them being from specimens in the late Mr. Cuming's collection. A few species have been subsequently discovered. The home of the genus seems to be the Pacific, particularly southwards.

Species 1. (Fig. a, b, Mus. Brit.)

VANIKORO CANCELLATA. *Van. testâ latâ, patulâ, crassiusculâ, costis concentricis obliquis, sublanatis, cætantibus et liris tenuibus spirales cancellatâ; apertura latâ, columellâ arcuatâ, canali angustato, elongato; spirâ brevissimâ, depressâ, epidermide crassâ.*

THE CANCELLATED VANIKORO. Shell broad patulate, rather thick, cancellated with oblique, rather laminar outstanding concentric ribs and thin spiral ridges; aperture broad, columella arched, canal narrow, elongated; spire very short, depressed; epidermis saffron.

Quoy et Gaimard, Voyage de l'Astrolabe.

*Narica Quoyi*, Recluz.

*Hab.* Vanikoro, S. Pacific.

In this species the oblique ribs are rather laminated in form, and rise to angular ridges in the most prominent parts. The colour of the epidermis is bright saffron in the younger specimens.

Species 2. (Mus. Brit.)

VANIKORO GUTTURIANA. *Van. testâ laxâ, crassâ, latâ, costis distantibus, crassis, perobliquis, et stris spirales cancellatâ; apertura latâ, declivâ, canali obliquè rectiusculâ, canali lato, semilunari.*

GUERIN'S VANIKORO. Shell short, thick, broad, cancellated with distant, thick, very oblique ribs and spiral striae; aperture broad, sloped downwards; canal obliquely nearly straight, canal broad, semilunar.

Recluz, Proc. Zool. Soc., 1843.

*Hab.* Isl. of Capul, Philippines.

The ribs are broad, thick, and distant.

Species 3. (Mus. Brit.)

VANIKORO Plicata. *Van. testâ globosâ, tenuiusculâ, costis non consistens, nullis et stris spirales sculptâ; apice subacuminato; canali semilunari; columellâ rectiusculâ.*

THE PLATED VANIKORO. Shell globose, rather thin, sculptured with numerous thin ribs and spiral striae; apex rather acuminate; canal semilunar; columella rather straight.

Recluz, Proc. Zool. Soc., 1843.

*Hab.* Isl. Ticao.

Species 4. (Mus. Brit.)

VANIKORO CHIDARIS. *Van. testâ rotundâ, crassâ, costis latis, substantibus et stris spirales sculptâ; spirâ depressâ, acuminatâ; apertura magna; canali moderatè angustatâ, columellâ rectiusculâ.*

THE CHIDARIS VANIKORO. Shell rounded, thick, sculptured with broad, rather distant ribs and spiral striae; spire depressed, acuminate; aperture large, canal moderately narrow, columella rather straight.

Recluz, Proc. Zool. Soc., 1843.

*Hab.* Isl. Masbate, Philippines.

May, 1875.

## Species 5. (Mus. Brit.)

VANIKORO PETITIANA. *Van. testâ globosâ tenuissculâ, costis numerosis, concentricis versus marginem sub-erandis et liris tenuibus, acutis, spirâlibus sculptâ; spirâ acuminatâ, anfractibus rotundis, distinctis, ultimo maximo; conali angusto; aperturâ latâ.*

PETIT'S VANIKORO. Shell globose, rather thin, sculptured with numerous concentric ribs becoming obsolete towards the margin and thin, sharp spiral ridges; spire acuminated, whorls rounded, distinct, last very large; canal narrow; aperture broad.

RECLUZ. Proc. Zool. Soc., 1843.

*Hab.* Philippines.

## Species 6. (Mus. Brit.)

VANIKORO LIGATA. *Van. testâ crassissculâ, globosâ, costis elevatis, obliquis, crassis, concentricis, liris tenuibus ligitis sculptâ; spirâ depressâ, canali angustissimo, columellâ arcuatâ.*

THE CONNECTED VANIKORO. Shell rather thick, globose, sculptured with raised, oblique, thick, concentric ribs united by thin spiral ridges; spire depressed, canal very narrow; columella arched.

RECLUZ. Proc. Zool. Soc., 1843.

*Hab.* Seychelles Islands.

## Species 7. (Fig. a, b, Mus. Brit.)

VANIKORO CUMINGIANA. *Van. testâ depressâ, crassâ, angulatâ, carinâs magnis spirâlibus et striis foveolatis*

*concentricis sculptâ; spirâ brevi, anfractibus minutis, angulatis; aperturâ subrotundâ; canali lato.*

CUMING'S VANIKORO. Shell depressed, thick, narrow, sculptured with large spiral keels, and pitted concentric striae; spire short, whorls minute, angular; aperture rather rounded; canal broad.

RECLUZ. Proc. Zool. Soc., 1843.

*Narica tricarinata*, Recluz.

*Hab.* — ?

The *Narica tricarinata* appears to be only a depressed variety.

## Species 8. (Fig. a, b, Mus. Brit.)

VANIKORO RUGATA. *Van. testâ elevatâ, crassâ, spirâ acuminatâ anfractibus, superioribus crassi-costatis, interstitiis profundè foveolatis, ultimo anfracti leviter sculpto; aperturâ semilunari; conali lato, columellâ rectissculâ.*

THE WRINKLED VANIKORO. Shell elevated, thick, spire acuminated, upper whorls thick-ribbed, with deeply pitted interstices; last whorl lightly sculptured, aperture semilunar; canal broad, columella rather straight.

A. ADAMS. MS. Cum. Coll.

*Hab.* — ?

The cancellations of the upper whorls are very deeply pitted, but they become almost obsolete towards the back and margin of the last whorl.







10 a



9



10 b



11



12 a



12 b



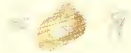
13



14



15



16

# VANIKORO.

PLATE II.

Species 9. (Mus. Brit.)

VANIKORO-GAMBUTIA. *Van. testa parvâ, costis paucis, distinctibus sparsis et liris concentricis profundis et late emarginatis; spirâ elevatâ, acuminatâ; aperturâ subrotundâ, canali angustâ, proconvexo.*

GAMBUTIA-VANIKORO. Shell small, deeply and broadly emarginated with few distant spiral ribs and concentric ridges; spire elevated, acuminated; aperture rather rounded; canal narrow, deep.

ADAMS, MS. Camb. Coll.

*Vanikoro Quoyi*, Adams, non Recluz.

*Hab.* —?

Species 10. (Fig. a, b, Mus. Brit.)

VANIKORO-CUYERIANA. *Van. testâ subpatulâ, depressâ, tenui, tenuiter spirâliter et concentricè liratâ; spirâ depressâ, acuminatâ, angustâ ultimo superi subdepressa; aperturâ obliquè ovatâ, canali latissimo, columellâ tenui, obliquè subarcuatâ.*

CUYER'S VANIKORO. Shell rather patulate, depressed, thin, finely spirally and concentrically ridged; spire depressed, acuminated, last whorl rather depressed above; aperture obliquely ovate, canal very broad, columella thin, a little obliquely arched.

RECLUZ, Proc. Zool. Soc., 1843.

*Hab.* —?

A more finely sculptured shell than most of the other species.

Species 11. (Mus. Brit.)

VANIKORO-SOULEYETIANA. *Van. testâ globosâ, tenuiter spirâliter et concentricè sculptâ; spirâ parvâ, acuminatâ, ultimo angustâ rotundâ; aperturâ subrotundâ; columellâ rectâ, canali brevi, angustâ.*

SOULEYET'S VANIKORO. Shell globose, finely spirally and concentrically sculptured; spire small,

acuminated, last whorl rounded; aperture rather rounded; columella straight, canal short, narrow.

RECLUZ, Proc. Zool. Soc., 1843.

*Hab.* —?

Originally described from a specimen in Mr. Cuming's collection—locality unknown.

Species 12. (Fig. a, b, Mus. Brit.)

VANIKORO-DESHAYESIANA. *Van. testâ globosâ, tenui, spirâ acuminatâ; anfractibus superioribus cancellatis, ultimo anfractu tenuiter spirâliter striato, leviter concentricè costatâ; costis striisque versus marginem fixè crassis; aperturâ subrotundâ, columellâ leviter arcuatâ; canali latidculo.*

DESHAYES' VANIKORO. Shell globose, thin, spire acuminated; upper whorls cancellated, last whorl finely spirally striated, lightly concentrically ribbed; ribs and striae almost obsolete towards the margin; aperture rather rounded, columella slightly arched; canal rather broad.

RECLUZ, Proc. Zool. Soc., 1843.

*Hab.* Isl. Zebu, Philippines.

In some specimens the sculpture almost disappears towards the back of the last whorl.

Species 13. (Fig. a, b, Mus. Brit.)

VANIKORO-DISTANS. *Van. testâ parvâ, clavâ, distantissimè concentricè costatâ, spirâliter tenuiter striatâ, spirâ elevatâ, acuminatâ; aperturâ semilunari, obliquâ; canali lato, semilunari.*

THE DISTANT VANIKORO. Shell small, elevated, very distantly concentrically ribbed, spirally finely striated; spire elevated, acuminated; aperture semilunar, oblique; canal broad, semilunar

RECLUZ, Proc. Zool. Soc., 1843.

*Hab.* Isl. Bohol, Philippines.

VANIKORO.—PLATE II.

Species 14. (Mus. Brit.)

VANIKORO CLATHRATA. *Van. testâ rotundo-subdepressâ ; crassi, subæqualiter cancellatâ ; aperturâ obliquâ ; columellâ rectiusculâ, canali latissimo ; spirâ acuminatâ, profundè foveolatâ.*

THE LATTICED VANIKORO. Shell roundly sub-depressed, thick, rather equally cancellated; aperture oblique; columella rather straight, canal very broad; spire acuminated, deeply pitted.

RECLUZ. Proc. Zool. Soc., 1843.

*Natica striata*, D'Orbigny.

*Natica margaritacea*, Potiez.

*Natica sigaritiförmis*, Potiez.

*Hab.* —?

Species 15. (Mus. Brit.)

VANIKORO ROSEA. *Van. testâ parvâ, patulâ, rosâ, strâis spirâlibus et costis concentricis obliquis cancellatâ ; aperturâ semilunari, columellâ rectiusculâ ; canali latissimo.*

THE PINK VANIKORO. Shell small, patulous, pink, cancellated with spiral stræ and concentric oblique ribs; aperture semilunar, columella rather straight; canal very broad.

RECLUZ. Proc. Zool. Soc., 1843.

*Hab.* Moluccas.

The only species showing any genuine colour in the shell itself.

Species 16. (Mus. Brit.)

VANIKORO GRANULOSA. *Van. testâ globosâ, costis spirâlibus moniliformibus sculptâ ; spirâ elevatâ ; aperturâ semilunari ; columellâ tenui ; canali latissimo, complanato.*

THE GRANULATED VANIKORO. Shell globose, sculptured with beaded spiral ribs; spire elevated; aperture semilunar; columella thin; canal very broad, flat.

RECLUZ. Proc. Zool. Soc., 1843.

*Hab.* New Holland.

The spiral sculpture decidedly predominates in this species in the form of beaded ribs.





17



18 a



18 b



19



a



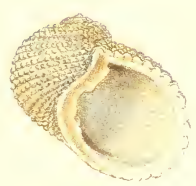
b



a



b



*Xeritopsis*



22



23



a



b

# VANIKORO AND NERITOPSIS.

## PLATE III.

### Species 17. (Mus. Brit.)

VANIKORO IMBRICATA. *Van. testâ parvâ, tenui, obliquâ, tenenter spiralliter et concentricè striatâ; spirâ elevatâ, acuminatâ; aperturâ angustè ovatâ, obliquè productâ, canali mazimo, semitortuâ.*

THE IMBRICATED VANIKORO. Shell small, thin, oblique, finely spirally and concentrically striated; spire raised, acuminated; aperture narrowly ovate, obliquely produced, canal very large, half-rounded.

PLATE. MS.

*Hab.* Islands in the Pacific.

### Species 18. (Fig. a, b, Mus. Brit.)

VANIKORO RECLUZIANA. *Van. testâ elatâ, acuminatâ, spirâ cancellatâ, ultimo anfractu ferè lævigatâ; aperturâ semicirculari, columellâ rectiusculâ; canali elongatâ, latiusculâ.*

RECLUZ'S VANIKORO. Shell elevated, acuminated, spire cancellated, last whorl almost smooth; aperture semicircular, columella nearly straight; canal elongated, rather broad.

ADAMS AND ANGUS. Proc. Zool. Soc., 1867, p. 212.

*Hab.* New South Wales.

The early whorls are strongly cancellated, but the body whorl becomes nearly smooth.

### Species 19. (Mus. Brit.)

VANIKORO HELICOIDEA. *Van. testâ subrotundâ, eleganter costatâ, interstitiis spiralliter depresso-striatâ; spirâ depressâ; aperturâ magnâ, ovatâ; columellâ tenui, rectiusculâ; canali brevi, semitortuâ.*

THE SNAIL-SHAPED VANIKORO. Shell rather rounded, elegantly ribbed, interstices spirally depressed-striated; spire depressed; aperture large, ovate;

columella thin, rather straight; canal short, semilunar.

LE GUILLON. Recluz, Proc. Zool. Soc., 1843.

*Hab.* — ?

### Species 20. (Fig. a, b, Mus. Brit.)

VANIKORO SOLIDA. *Van. testâ solidâ, globosâ, spira prominatâ, anfractibus superioribus cancellatis, costulis, ultimo anfractu tenenter spiralliter et concentricè striato; aperturâ magnâ, columellâ tortuâ, canali angustâ.*

THE SOLID VANIKORO. Shell solid, globose, spire prominent, upper whorls cancellated, rounded, last whorl finely spirally and concentrically striated; aperture large, columella tortuous, canal narrow.

SOWEBY.

*Hab.* — ?

### Species 21. (Fig. a, b, Mus. Brit.)

VANIKORO ACUTA. *Van. testâ altiusculâ, tenui, semipellucidâ, tenenter decussatâ; spirâ acuminatâ, anfractibus prominulis; aperturâ subovatâ, columellâ rectâ, canali lato, planulato.*

THE ACUTE VANIKORO. Shell rather elevated, thin, semipellucid, finely decussated; spire acuminated, whorls rather prominent; aperture subovate, columella straight, canal broad, flattened.

RECLUZ. Proc. Zool. Soc., 1843.

*Hab.* — ?

More finely decussated than most of the species, with sharp spire and thin substance.

### Species 22. (Mus. Brit.)

VANIKORO SEMIPLICATA. *Van. testâ globosâ, tenuiusculâ, tenenter decussatâ; ultimo anfractu supra suturam aperturâ elevatâ; anfractibus apicalibus mimatis.*

*apertura senâretuatâ; columellâ tenui, rectiâsculâ; canali elongato, angusto.*

THE HALF-PLAITED VANIKORO. Shell globose, rather thin, finely decussated; last whorl raised above the suture of the aperture; apical whorls minute; aperture half-round; columella thin, rather straight; canal long, narrow.

PEASE —? MS. in Cuming's Collection.

*Hab.* South Seas

Species 23. (Mus. Brit.)

VANIKORO ELATA. *Van. testâ altâ, tenui, tenuissimè decussatâ; spirâ elevatâ, acuminatâ, anfractibus prominentibus; apertura breviusculâ, subpyriformi; columellâ brevi, leviter arcuatâ, canali brevi, angustissimo.*

THE ELEVATED VANIKORO. Shell elevated, thin, very finely decussated; spire elevated, acuminated, whorls prominent; aperture rather short, rather pyriform; columella short, slightly arched, canal short, very narrow.

SOWERBY.

*Hab.* China Seas.

Much more elevated than *Vanikoro acuta*, and with a narrow canal.

Species 24. (Fig. a, b, Mus. Brit.)

VANIKORO SEMISOLUTA. *Van. testâ altâ, angustâ, spirâliter costis moniliformibus, et concentricè striis tenuibus sculptâ; spirâ elevatâ, acuminatâ; ultimo anfracta suprâ suturam perelevato; apertura declivi, angustè auriformi, ad suturam vix convexâ, canali elongato, latiusculo.*

THE HALF-UNCOILED VANIKORO. Shell elevated, narrow, sculptured spirally with beaded ribs, and concentrically with thin striae; spire elevated, acuminated; last whorl raised high above the suture; aperture sloped downwards, narrowly auriform, scarcely connected at the suture, canal elongated, rather broad.

SOWERBY.

*Hab.* East Indies.

Owing to the fall of the aperture and the comparative distinctness of the canal, the outer and inner lips seem scarcely to touch the body-whorl.

NERITOPSIS.

Genus NERITOPSIS, *Gratebuge*.

*Testâ subglobosa, spirâliter granoso-costata; spira brevi, apertura magna; labio interno crasso, planulato, medio quadratum emarginato; labio externo intus incrassato. Operculum crassum, testaceum, nonspirale.*

Shell subglobose, spirally granulate ribbed; spire short, aperture large; inner lip thick, flattened, with a square notch in the middle; outer lip thickened within. Operculum thick, shelly, not spiral.

*Syn.* RADULA, Gray, not Klein.

As yet the *Neritopsis radula* from the Pacific is the only recent species known, although there are many fossil ones. The operculum formerly unknown, and supposed to be thin and horny, has been recently

figured in the Zoological Proceedings and described by Mr. Henry Adams. It is thick and shelly, with a square projection to fit the notch in the columella of the shell.

Species. (Mus. Sowerby.)

NERITOPSIS RADULA. *Ner. testâ obliquè ovatâ, crassâ; costis crassis moniliformibus spirâliter sculptis; interstitiis angustis, foreolatis; apertura obliquâ, margine externo laevato.*

THE BOTT NERITOPSIS. Shell obliquely ovate, thick; sculptured with thick beaded, spiral ribs; interstices narrow, pitted; aperture oblique, outer margin fluted.

LINNEUS (*Nerita*). Syst. Nat.

*Hab.* Ceylon.



MONOGRAPH

OF THE GENUS

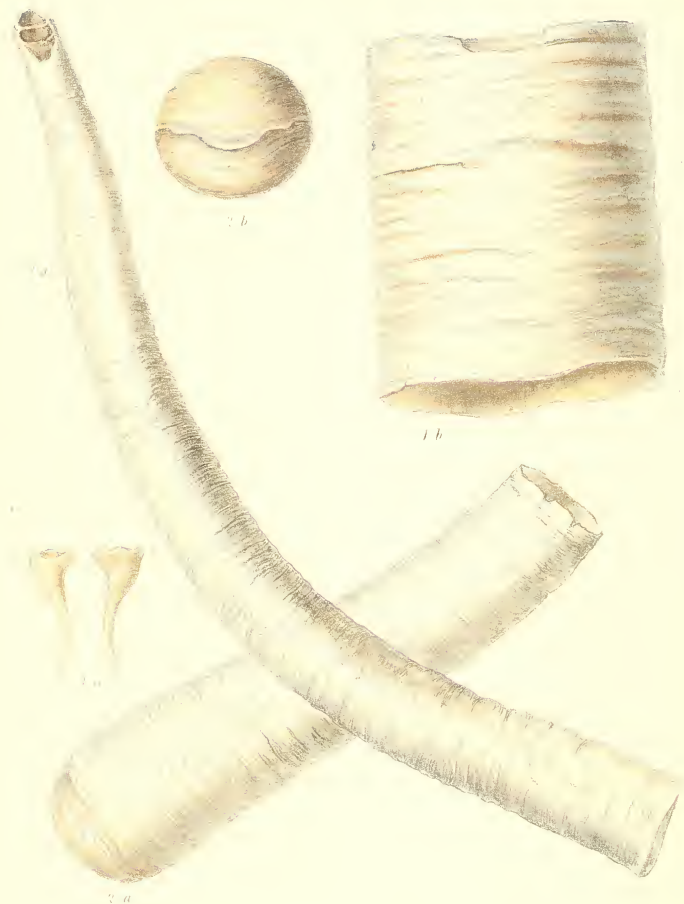
K U P H U S.

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"All worlds, all nature, mood and measure keep  
For praise and ceaseless gratulation poured  
Into the ear of God their Lord."—*Wordsworth*







## KUPHUS.

GENUS KUPHUS, *Guttierii* (Cypriote).

*Mollusca arcionivalum. Tubi magni albi, rugosi, subannulati, postici attenuati, intus in tubis clausis divisi, lamina septiformibus transversis concamerata. Valvæ ignotæ. Paludis compressoribus testaceis, deltoides.*

Mollusc, sand-burrowing. Tube large, white, rough, slightly ringed, posteriorly attenuated, divided interiorly into two tubes, chambered transversely with septiform laminae. Valves unknown; compressor paludets shelly, deltoid.

*Syn.* Furcella, Oken. Septaria, Lamarck.

The gigantic tube of this Mollusc in its younger duplicate opening, its inner transverse septa, and its white, roughened, and irregularly annulated surface, is so exactly like a magnified representation of the tube of a Teredo as to leave little doubt as to the nature of the animal and its affinity with the genus *Teredo*. At the same time it can hardly be included in that genus, the valves having never been seen, and it being certain that the animal does not bore like the Teredines.

Species 1. (Mus. Brit.)

KUPHUS GIGANTEA. *Kup. testâ marini, tubâ elongatâ, rugosâ posticâ attenuatâ, divisi, anticâ latè apertâ; valvulis ignotis; paludis compressoribus testaceis.*

THE GIGANTIC KUPHUS. Shell very large; tube elongated, rugose, posteriorly attenuated, divided, anteriorly broadly open; valves and compressor paludets unknown.

LINNAEUS (*Sipho*). *Systema Naturæ.*  
*Septaria arcionival.* Lamarck.

Although not yet discovered, there can be little doubt but that valves of some kind exist. It is only barely possible that they may become absorbed. The tube, of which fig. *b* represents the end portion, is about three and a half feet long.

Species 2. (Fig. *a, b, c*, Mus. Brit.)

KUPHUS CLAUSA. *Kup. testâ magnâ; tubâ tenuissimâ anticâ divisi, attenuatâ, concameratâ; posticâ rugosâ reticulatâ inflexo superlaminato clausâ, valvulis ignotis; paludis compressoribus testaceis, æqualibus, anticâ styliformibus, posticâ deltoides.*

THE CLOSED KUPHUS. Shell large; tube rather thin, anteriorly divided, attenuated, chambered, posteriorly closed by the roundly-inflected, superlaminated margin; valves unknown; compressor paludets shelly, equal, anteriorly styliform, posteriorly deltoid.

SOWREY.

*Hab.* — ?

The end of the tube, which in the British Museum specimen is about fifteen inches long, is closed by the margin being folded inwards so as to meet and overlap across a rounded oval disc. If there were valves they would be enclosed within this termination. I do not know whether they have been sought in the specimen. The specimen in the British Museum is labelled as identical with the well-known *C. arcuaria*.

May, 1875.



MONOGRAPH  
OF THE GENUS  
T E R E D O.

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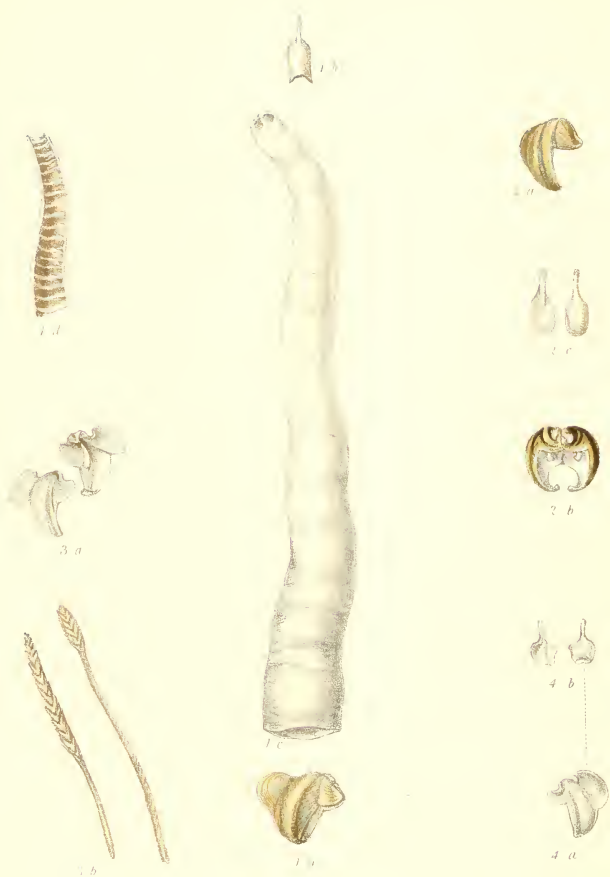
"In nature's infinite book of secrecy,  
A little I can read."—*Shakspeare.*

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# TEREDO.

PLATE I.

## Genus TEREDO. *Linnæus*

*Mollusca vermiforme, perforans, testam testaceam plerumque firmam, siphonibus styliformi carinatum vel palmularum testas remanente constrictam. Testa globosa, asquivalvis, anticâ angustior, posticâ arcuata hinc; cardine calloso, striato, rotâ processu subambonali minuto. Tubi ad terminum siphonalem lamellis et plicis hinc fortiter divisi.*

Mollusc worm-shaped, perforating, generally forming a shelly tube; siphons provided with a pair of horny stylets or shelly pallets. Tube divided at the siphonal end by septiform lamina. Shell globose, equivalve, gaping angularly in front and in a curve behind; hinge callous, provided with a subambonal process in each valve.

The habits of the Teredos are only too well known wherever they are found. The mischief they do in boring ship's timbers, and destroying breakwaters and piles, causes them to be reckoned among the enemies of industrial mankind. They generally bore in the direction of the grain of the wood, sometimes a little crookedly, but seldom intruding into each other's bores. The shelly tube forms the lining to the hole, and the valves are enclosed at the wider extremity. The pallets or styles are attached near the ends of the siphons, and seem to be used for the purpose of compressing and relaxing them, so as to assist the circulation of the water through the lengthened tubes. The pallets in some species are shelly and spade-shape; in others horny and styliform. These divisions are separated generically by some authors as *TEREDO* and *XYLOPHAGA*.

### Species 1. (Fig. *a, b*, only Mus. Brit.)

*TEREDO NAVALIS. Ter. testâ obliquâ, solidâ scutâ; arcibus anticâ tenuissimè striatis; sulco mediano lato, arcâ posticâ brevitatâ, auriculâ posticâ elevatâ; tubi lamellis scutâ, minimè cameratâ; palmulis testaceis, oblongis, terminis concavo-arcuatis; stipulâ brevi.*

THE SHIP TEREDO. Shell oblique, rather solid, the anterior areas very finely striated; middle sulcus ridged, posterior area smooth, auricle large, round; tube rather thin, not chambered; pallets shelly, oblong, end arched, stem short.

LINNÆUS. *Systema Naturæ.*

*Teredo navalis*, Sellius.

*Teredo fatalis*, Quatrefages?

*Hab.* British coasts. Piles of Yarmouth Pier. Raungate.

Species 2. (Fig. 2, *a, b, c*; for tube, see Fig. 1, *a, d*, Mus. Brit.)

*TEREDO NORWEGICA. Ter. testâ altissimâ, solidâ, valvâ arcuatâ; sulco mediano profundo; auriculâ angustâ, sinuâ rotundâ; palmulis testaceis, oblongis, terminis concavis, lateribus declivibus, stipulâ brevissimâ; tubi robusti, cameratâ.*

THE NORWEGIAN TEREDO. Shell rather high, solid, much arched; medial groove deep; auricle narrow, half-round; pallets shelly, oblong, with convex end, sloped sides, and rather short stem; tube robust, chambered.

SPECIAL B. Forbes and Hanley, B. Mol. p. 66.

*Teredo nigra*, Blainville.

*Teredo Bengueti*, Dollé Chajae.

*Teredo fatalis et T. D-shanii*, Quatrefages.

*Teredo asiatica*, Sellius.

*Hab.* British and Northern coasts.

The breadth of the valves, as compared with the height, is less in this species than in the preceding, and the posterior auricle is much narrower.

### Species 3. (Fig. *a, b*, Mus. Brit.)

*TEREDO BIPENNATA. Ter. testâ altâ, tenuiter striatâ, umbonibus callosis; auriculâ posticâ elevatâ, ad juncturam angustatâ, orsus marginem lateralem expansâ, paulo supra umbonem elevatâ; stylis cornis, inæqualibus, articularis; amboceri, stipulâ elongatâ, alterâ elongatâ, stipulâ brevissimâ.*

THE BIPENNATE TEREDO. Shell high, finely striated, umboes callous; posterior auricle raised, narrow

TEREDO.—PLATE I.

at the juncture, expanded towards the lateral margin, raised a little above the umbo; styles horny, unequal, jointed; one short, with long stem; the other long, with rather short stem.

TURTON. British Bivalves.

*Hab.* Ireland, Scarborough, &c.

Species 4. (Fig. a, b, Mus. Hanley.)

TEREDO MEGOTARA. *Ter. testā latā, rotundatā, arcā anticā breviusculā, margine dorsali reflexo, recurvo, concavo; auriculā posticā latā, elevatim expansā, supra umbones recurvā; palmaris testaceis, bre-*

*vibus, subquadratis, stipulā brevi, crassiuseculā: tabā articulatā.*

THE EXPANDED TEREDO. Shell broad, rounded, anterior area rather short, dorsal margin reflected, recurved, concave; posterior auricle broad, raised, expanded, recurved above the umboes; pallets shelly, short, rather square, stem short, rather thick; tube jointed.

HANLEY. Forbes and Hanley, Brit. Moll.

*Teredo dilatata.* Stimpson.

*Teredo nana?* Turton.

*Teredo oceanī?* Sellius.

*Hab.* Herne Bay, Devonshire, Swansea.





# TEREDO.

PLATE II.

Fig. 1. *d.* Small end of the tube of *Teredo carinata*, showing that it is not chlamyred. To replace the figure in Plate I.

Fig. 2. *d.* Chambered end of *TEREDO NORVEGICA*.

Species 5. (Fig. a, b, c, Mus. Brit.)

**TEREDO SICHIBUCKII.** *Ter. testâ brevis, rotundâ; arcu arcuati parvi, adâsti, auriculâ postici parvi, rotundâ; processu subumbonali expanso, calidâ curvâ; stylis cœcis, minute articulatis, lateribus levibus et spinosis; stipulâ erectâ, tenui.*

**SICHIBUCKY'S TEREDO.** Shell short, rounded; anterior area small, obtuse; posterior auricle small, rounded; subumbonal process expanded, strongly curved; stylets horny, minutely articulated, finely spined at the sides; stem curved, thin.

LEACH, MS. Mus. Brit.

*Hab.* Samatra.

Species 6. (Fig. a, b, c, Mus. Brit.)

**TEREDO CARINATA.** *Ter. testâ altissimâ, calidâ arcuati; auriculâ antica expansâ, elevatâ, intus calidissimâ carinatâ; stylis cœcis, elongatis, tenuibus, stipulâ longissimâ.*

**THE KEELED TEREDO.** Shell rather high, much arched; anterior auricle expanded, raised, very strongly keeled, stylets horny, long, narrow, stem very long.

GEAY, MS. in Brit. Mus.

*Hab.* Drift-wood in British Channel.

The stylets of *Teredo bipinnata* are unequal, one being short, wheat-car-like, with very long stem, and the other a much longer body with shorter stem. The stylets of *Teredo carinata* seem to differ from both. The valves in the latter are perhaps broader, but the difference is not very certain or obvious.

Species 7. (Fig. a, b, c, Mus. Brit.)

**TEREDO MALLEOLUS.** *Ter. testâ parvâ, altâ, obliquâ, angustâ, calidissimâ arcuati, arcu postici brevis, angustâ, cœcus umbonem recurvâ, elevatâ; processu umbonali obliquâ curvâ, ad terminum elevatâ; palmulis brevissimis, testaceis, latis, stipulâ brevi, in-curvâ.*

**THE LITTLE HAMMER TEREDO.** Shell small, high, ob-

long, narrow, recurved towards the umbos, raised; umbonal process obliquely curved, club-shaped at the end; pallets very short, slender, broad, with short stem, bent forwards.

*TEREDOS.* Forbes and Hanley, Brit. Mus.  
*Hab.* Torquay.

Species 8. (Fig. a, b, Mus. Brit.)

**TEREDO MEGATHORAX.** *Ter. testâ magis, solidâ, rotundâ, antice latissimâ levibus, calidâ arcuati, umbonibus rotundis, auriculâ postici brevis, rotundâ, margini dorsali parvi elevatâ; arcu antica brevis, arcu medianis elongatis, collo terminali magis; processu subumbonali lato.*

**THE BIG-CHESTED TEREDO.** Shell large, solid, rounded, anteriorly very widely gaping, strongly arched, umbos rounded, posterior auricle short, rounded, dorsal margin a little raised; anterior area short, median areas elongated, with large terminal callus; subumbonal process broad.

GOULD — ? MS. Mus. Brit.

*Hab.* N. America.

Species 9. (Fig. a, b, c, Mus. Brit.)

**TEREDO CAMPANULATA.** *Ter. testâ altâ, latissimâ, arcu postice-centrali latâ, sulco medioâ lato, levato; auriculâ posticâ ad juncturam angustâ, cœcus marginem lateralem latè expansâ, supra cui convexa arcuatim elevatâ, margini laterali declivâ; stylis cœcis, elongatis, dimidiatum utriusque campanulâ, firmibus utriusque r. cœcis-spinosis acutis.*

**THE CAMPANULATED TEREDO.** Shell white, rather broad, posterior-central area broad, middle sulcus broad, ridged; posterior auricle narrowed at the juncture, broadly expanded towards the lateral margin, raised in a concave curve above, lateral margin sloped downwards; stylets horny, elongated, ornamented half-way with bell-shaped joints, having recurved spines on each side.

DESHAYES, MS. Mus. Brit.

*Hab.* — ?

The valves resemble those of *Teredo bipinnata*, but are much shorter and broader in the continuation of the central areas below the auricle. The greater difference is in the ornamentation of the pallets.









# TEREDO.

PLATE III

Species 10. (Fig. a, b, c, Mus. Brit.)

**TEREDO SAULII.** *Ter. testis subrotundis, parvis, area anteriori emarginata; auriculis posticis serratis, lobatis, elongatis, acuminatis, subnullis, ad junctionem inter circummarginatam angulatis, sinuata post albam infra articulationem, pinnatis in articulo et in latere expansis, tubis subnullis, constrictis, quam altius; stipulae ovatae, unguiculatae, pinnatis, stipulae brevis.*

**SAUL'S TEREDO.** Shell rather rotund, small anterior area cuneated; posterior auricle half round, elongated, dorsal margin sloped, medioventrally angular at the lower junction; ventral margin rather short below the auricle; subumbonal process expanded at the end; tube rather small, sometimes closed; stylets horny, angularly pinnated; stem short.

**WEDD.** MS. Mus. Brit.

*Hab.* Callas Bay.

Species 11. (Fig. a, b, c, Mus. Jeffreys.)

**TEREDO FIBRILLATA.** *Ter. testis parvis, albidis, area anteriori bis emarginata, auriculis posticis pinnatis, lobatis, subnullis; palis distinctis, medio quadrangularibus, levibus, compressis; stipulae conicae, longae; tubi longi, septis distinctis, pinnatis.*

**THE FIBRILL TEREDO.** Shell small, rather high, anterior area rather short, posterior auricle prominent, rounded; pallets shelly, quasi-articulated in the middle, concavely arched; stem horny, long; tube thin, with few terminal septa.

**QUEDENFELS.** Ann. Nat. Sci. Ser. 3. t. 11. p. 26.

*Hab.* Coasts of Great Britain.

The valves resemble those of *Teredo palmulata*, but the kind of horny joint by which the pallets seem to be divided into two portions shows the distinctness of the species.

Species 12. (Fig. a, b, c, Mus. Brit.)

**TEREDO BAUVINUS.** *Ter. testis ovata, subnulla, auriculis posticis angulatis, marginibus dorsalibus, area anteriori bis emarginata, lobatis, subnullis, compressis, pinnatis, subnullis, medioventralibus, supra articulationem, tubiculis constrictis, pinnatis, palis distinctis, medio quadrangularibus, levibus, compressis; stipulae longae, conicae, septis distinctis, pinnatis.*

**THE BAUVIN TEREDO.** Shell short, rounded, thick posterior auricle narrow, dorsal margin sloped, anterior area short, obtusely angular, callous, curved inwards; subumbonal process curved, expanded; terminal tubercle large; pallets shelly, spatulate, broad, convex at the sides, concave at the end; stipula elongated.

**SENGLER.** — ? Fid. Mus. Brit.

*Hab.* Batavia.

This species has been assigned to *Teredo aurata* by some authors, but the valves, as well as the pallets, are very different in form.

Species 13. (Fig. a, b, c, Mus. Deshayes.)

**TEREDO AFINIS.** *Ter. testis parvis, globosis, latioribus; area anteriori bis emarginata, auriculis posticis lobatis, elongatis, ornamenta plicata; hiala postica parva; processa subumbonali levissima, brevi; paludis minimis, angustis, compressis; superior coracis, quadripartitis; stipula elongata.*

**THE AFFINE TEREDO.** Shell small, globose, ridge-striated; anterior area short, narrow; postero-medial area broad; posterior auricle broad, long, plaited in curves; posterior hiatus small; subumbonal process very thin and rather short; pallets very small, narrow, compressed; horny and quadripartite above; stem elongated.

**DESHAYES.** Conch. Isl. Bourbon. Pl. XXVIII. Fig. 8-12.

*Hab.* Ile de la Réunion (Bourbon).

TEREDO.—PLATE III.

Species 14. (Fig. a, b, c, Mus. Deshayes.)

TEREDO BREVIS. *Ter. testâ parvâ, albi, tenuisculâ, utroque latere valdè aperto, arcibus distinctis, auricâ granulâ-striatâ; auriculâ posticâ latâ, elegantè tenui et plicatâ; processu subumbonali brevissimo; palmulis longulis, articulatis, articulis septem vel octo, infundibuliformibus, gradatim decrescentibus, spinâ coriaceâ utroque latere armatis.*

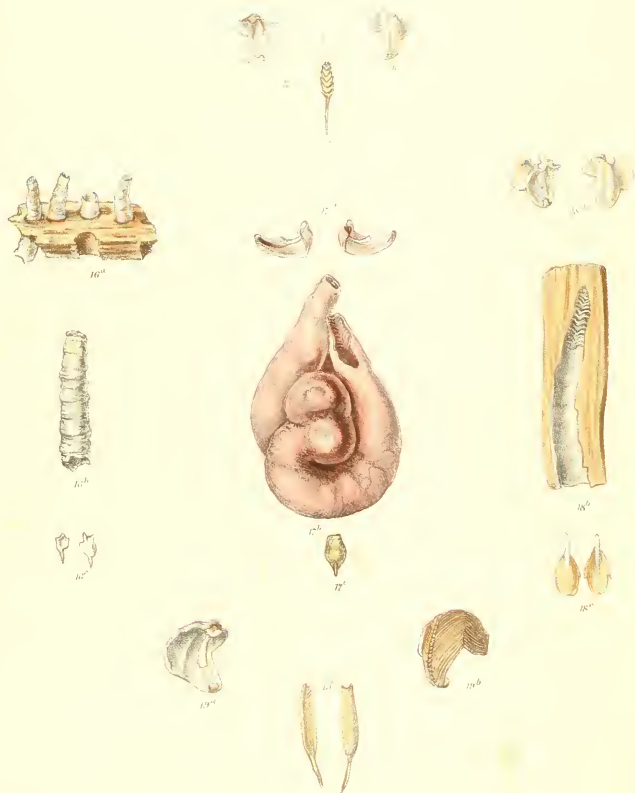
THE SHORT TEREDO. Shell small, high, rather thin,

widely gaping on both sides; arcs distinct, anterior granularly striated; posterior auricle basal, elegantly thin and plaited; subumbonal process very short. Pallets elongated, jointed, joints seven or eight, funnel-shaped, gradually decreasing, armed on each side with a coriaceous spine.

DESHAYES. Conch. Isl. Bourbon, Pl. 28, Fig. 4-7.

*Hab.* Ile de la Réunion (Bourbon).





# TEREDO.

PLATE IV.

Species 15. (Fig. *a, b, c*, Mus. Brit.)

**TEREDO PALMIFOLIA.** *Ter. testā parvā, rotundā; auriculā postici et areae anterioris productis, rotundis, medio umbonibus latissimis; brachiis: processu subumbonali, sub 45.° recurvato. Stylis e sinistris, bicribus, spinis locustibus, stipulā basi sputulā aequali.*

**THE PALM-LAFD TEREDO.** Shell small, rounded, posterior auricle and anterior area produced, rounded; central areas broad, rather short; subumbonal process curved, expanded. Styles horny, short wheat-ear-shaped, stem of equal length.

LAMARCK. Anim. subs. Vep.

*Teredo palmifolia.* Blainville.

*Teredo palmifolia.* Dele. Chénier.

*Teredo Philippii.* Fisher.

*Hab.* Ireland, England, &c. In floating wood.

Species 16. (Fig. *a, b, c*, Mus. Brit.)

**TEREDO SENGALENSIS.** *Ter. testā parvā; tubi rugosā, versus terminum siphonalem utrinque; palmulis breviter spatulatis, valvis linearibus; stipulā brevissimā.*

**THE SENEGAL TEREDO.** Shell small; tube rough, attenuated towards the siphonal end; pallets shortly spatulate, bicarinated outside, with very short stem.

BLAINVILLE.

*Hab.* Senegal coast.

Tubes in wood, and pallets which seem quite distinct in their characters from any other species, are in the British Museum, without any specimens of the valves. The species is referred to *Teredo Norvegica* by Jeffreys.

Species 17. (Fig. *a, b, c*, Mus. Brit. and Sowb.)

**TEREDO NUCIVORA.** *Ter. testā altā, angustissimā, levī, utrinque latissimē apertā; tubi contortā, crassā, bulbiformā.*

**THE NUT-EATING TEREDO.** Shell high, very narrow, thin, very widely gaping on both sides; tube contorted, thick, bulb-shaped.

SPENGLER. Desh. Traité élém. Pl. 2. Fig. 9, 10.

Genus *Uperolis.* Guettard.

*Uperolis nucivora.* Gray.

*Uperolis nucivora.* Lamarck.

*Teredo gregaria.* Sowerby.

*Hab.* Isl. of France.

This species pierces its way through the shells of floating cocoa-nuts, and forms its contorted bottle-shaped tubes in the interior. Several tubes are often found twisted together, and a specimen in the British Museum shows a mass of them coiled round each other in the very heart of a nut. The writer has not met with specimens of the pallets, but the valves are narrow and much curved.

Species 18. (Fig. *a, b, c*, Mus. Brit.)

**TEREDO DENTICULATA.** *Ter. testā brevī, rotundā, solidā; areae anterioris brevissimā; auriculā postici elongatā, crispā, superiō angustatā, recessu umbonem incurrenā; areis medianis latis, inferiō auriculam brevibus; umbonibus callosis, denticulo spiniformi mucositis; palmulis subulatis, ad latera umbonuliculis, supra dentes denticibus, stipulā brevissimā.*

**THE DENTICULATED TEREDO.** Shell short, round, solid; anterior area very short; posterior auricle elongated, expanded, narrow above, curved inwards towards the umbo; middle areas broad, short below the auricles; umboes callous, provided with a spine-shaped denticle; pallets subovate, with a tooth at the sides, sloped above the teeth, stem very short.

Gray. MS. Brit. Mus.

*Hab.* Britain?

Species 19. (Fig. *a, b, c*, Mus. Brit.)

**TEREDO DUNLOPI.** *Ter. testā brevī, crassā, globosā, striis uniliformibus sculptā; umbonibus carinis.*

TEREDO.—PLATE IV.

*callis, intus lamellâ accessoriâ instructâ; processu subumbonali valdè arcuato, lato; aëdâ anticâ subquadratâ, aëdâ antico-centrali latissimo; sulco mediâno angusto, profundo, aëdâ postico-centrali angustissimâ; auriculâ posticâ extus virâ distinctâ, intus laminâ notatâ; palmaris semicircularis, oblongis, uno latere convexis, altero planis, ad terminum bifurcatis, stipulatâ brevissimâ.*

DUNLOP'S TEREDO. Shell short, thick, globose, sculptured with beaded striæ; umboes curved, callous, fitted inside with an accessory plate; subumbonal process much arched, broad; anterior area subquadrate, anterior-central area very broad; medial sulcus narrow, deep; posterior-central area very narrow; posterior auricle scarcely distinguished on the outside, marked

within by a lamina; pallets half horny, oblong, convex on one side, flat on the other, two-forked at the end, stem rather short.

WEIGHT. Trans. Linn. Soc. 1864.

*Nauitoca Dunlopi.* Wright.

*Hab.* River Como, Bengal.

The river Como flows from and returns to the river Ganges. Just on the bend Mr. Dunlop resided for some time, and the Teredos of this new species were found to have perforated some wood which had been cut down on the spot and left to float. The water of the river itself and of that part of the Ganges whence it flows is perfectly fresh, and the water, being remarkably soft, is used for drinking and all culinary purposes. We have here, therefore, a fresh-water Teredo.



MONOGRAPH  
OF THE GENUS  
PEDICULARIA.

"God is great and right!"  
He crowned man's brow with radiant coronal light,  
To read His works God thus illumed the heart,  
But made man's breast no window to be read! - *N. T. Moth*







## PEDICULARIA.

### Genus PEDICULARIA, *Swainson*

*Testa ovata, irregularis, patula, paucispiralis, radiatum costata; spira subcalata, minuta; apertura maxima; columella planulata, rectiuscula, labio externo frequenter lobato.*

Shell ovate, irregular, patulate, few-whorled, radiately ribbed; spire nearly hidden, minute; aperture very large, columella flattened, rather straight, outer lip frequently lobed.

The Messrs. Adams state in their work on Genera that the only known species is the one found parasitically attached to Mediterranean corals. But M. Deshayes in describing *Pedicularia elegantissima*, in his shells of Bourbon, speaks as if there were many other species, but does not refer to or describe them. The only species, besides the two above named, with which I am acquainted, is the *Pedicularia Pavijon*, described by Pease.

It is somewhat uncertain to what family the curious little shells composing this genus belong. On one hand they have been thought to have some affinity with the *Cyprææ*, as there are indications of a mantle reflected over the lips, although not reaching the central region of the back. On the other hand, the shell would be most easily likened to a miniature *Concholitas* with irregularly extended margins.

Species 1. (Figs. *a, b, c, d, e*, Mus. Sowerby.)

PEDICULARIA SICULA. *Ped. testâ crassâ, valdè irregulari; albâ, julcâ, vel roseâ suffusâ; radiatum et dicaricatum costatâ, costis minutè moniliformibus, labiis plerumque profundè lobatis, columellâ rectiusculâ.*

THE SICILIAN PEDICULARIA. Shell thick, very irregular; white, fulvous, or suffused with pink; radiately and divergently ribbed, ribs very minutely

beaded, lips generally deeply lobed; columella rather straight.

SWAINSON, Conchological Illustrations.

*Hab.* Found on small corals in the Mediterranean.

Species 2. (Fig. *a, b, c*, Mus. Sowerby.)

PEDICULARIA PACIFICA. *Ped. testâ tenuiusculâ, oblongâ, irregulari, in medio contractâ, radiatum striis elevatis minutissimis ornata, striis concentricis decussatis, apice conspicuo, involuto; rabulâ, interdum omnino violaceâ vel cornâ.*

THE PACIFIC PEDICULARIA. Shell rather thin, oblong, irregular, contracted in the middle, ornamented with very fine raised elevated radiating striae; decussated with concentric striae, apex conspicuous, involute; reddish, sometimes violet all over, or horny.

PEASE. Proc. Zool. Soc., 1865, p. 546.

*Hab.* Pacific Islands.

Species 3 (Fig. *a, b*, Mus. Maillard.)

PEDICULARIA ELEGANTISSIMA. *Ped. testâ ovato-oblongâ, valdè convexâ, purpurâ, radiatum costatâ, costis majoribus moniliformibus, minoribus interstitiâibus lævibus; apertura angustâ, utraq; extremitate paulò depressâ, spirâ partim caelatâ.*

THE ELEGANT PEDICULARIA. Shell ovate-oblong, purple, radiately ribbed; larger ribs beaded, smaller interstitial ones smooth; aperture narrow, a little depressed at each end; spire partly hidden.

DESHAYES. Isle de la Réunion, p. 20, Pl. XXXIII.

*Hab.* Isl. Bourbon.



MONOGRAPH

OF THE GENUS

MYTELEMERIA.

"But he did never to one man allow  
Time to discover worlds and conquer too,  
Nor can so short a line sufficient be,  
To fathom the vast depths of nature's sea." *Goethe*

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# MYTILIMERIA.

PLATE I.

## Genus MYTILIMERIA, Conrad.

*Testa bivalvis, binuseubosa, tenuis, subaequivalvis, valde inaequilateralis, epidermide involuta. Umboes spirales, subdistanter. Cardio edentulo; cartilaginea partim in fossam instructa, lamina testacea libera oblecto.*

Shell bivalve, with two muscles, thin, subequivalve, very inequilateral, covered with an epidermis. Umboes spiral, rather distant. Hinge without tooth, with a cartilage placed partly in a hollow, partly covered by a free testaceous plate.

The type of this genus is the rounded oval shell named *M. Nuttallii* by Conrad. The specimens in the British Museum are odd valves, the shelly plates of which are missing. The subsequently discovered large shell from Vancouver's Island, which has been described as *Lyonsia saricola* by Dr. Baird, is fairly well adjudged to belong to this genus, and has the ossicle well developed.

### Species 1. (Mus. Brit.)

MYTILIMERIA NUTTALLI. *Myt. testâ rotundè ovatâ, tenui, albâ; umbonibus terminalibus, distantibus, valdè spiralibus; latere postico expanso, terminibus truncatis.*

NUTTALL'S MYTILIMERIA. Shell roundly ovate, thin, white; umboes terminal, distant, very spiral; posterior side expanded, ends truncated.

CONRAD. Amer. Journ. Sci.

*Hab.* California.

The cartilage is placed in a narrow spiral groove running from the umbo, and where it comes to the hinge line it is enlarged.

### Species 2. (Mus. Brit.)

MYTILIMERIA DIAPHANA. *Myt. testâ semipellucida, oblongâ, arcuatâ, linguiformi, subcomplanatâ, super aream posticam tenuis fuscis plurimis radiatâ;*

*umbonibus elevatis, ferè terminalibus; latere postico ad terminum latè truncato; margine dorsali arcuatim depresso.*

THE DIAPHANOUS MYTILIMERIA. Shell semitransparent, oblong, curved, tongue-shaped, rather flattened, rayed on the posterior area with several brown bands; umboes raised, nearly terminal; posterior side broadly truncated; dorsal margin depressed with a curve.

CARPENTER (*Lyonsia*). Proc. Zool. Soc., 1855.

*Hab.* California.

### Species 3. (Mus. Brit.)

MYTILIMERIA Plicata. *Myt. testâ parvâ, levigatâ, cuneatâ; anticè sinuatum plicatâ, posticè expansâ; umbonibus acutis, ferè terminalibus; latere antico brevissimo, acuminato, margine ventrali profundè sinuato; latere postico alato, infri marginem dorsalem depresso, margine ventrali inflato.*

THE Plicated MYTILIMERIA. Shell small, smooth, wedge-shaped, anteriorly sinuously plaited, posteriorly expanded; umboes acute, nearly terminal; anterior side very short, acuminated; ventral margin deeply sinuated; posterior side alated, depressed below the dorsal margin, ventral margin inflated.

GEAY. MS. Brit. Mus.

*Hab.* — ?

### Species 4. (Mus. Brit.)

MYTILIMERIA SAXICOLA. *Myt. testâ magnâ, ventricosâ, oblongâ, epidermide valuto, corneo-involutâ, ad margines ventralem et terminalem hianti; latere antico brevi, angusto; latere postico elongato, ventricoso, ad terminum truncato; valvâ dextrâ planiusculâ valvâ sinistrâ profundè ventricosâ; margine dorsali depresso, arcuato; lamina cardinali magnâ, crassâ, extis convexâ.*

May, 1875.

MYTILIMERIA.—PLATE I.

THE ROCK-DWELLING MYTILIMERIA. Shell large, ventricose, oblong, covered with a strong, horny epidermis, gaping at the ventral and terminal margins; anterior side short, narrow; posterior side elongated, ventricose, truncated at the end; right valve rather flat; left valve deeply ventricose; dorsal margin depressed, curved; hinge plate large, thick, convex outside.

BAIRD (*Lyonsia*). Boundary Commission Report.  
*Hab.* Vancouver's Island.

It has been found difficult to fix the generic status of this fine shell, which differs greatly in form and habit from the typical *Lyonsia*.

Species 5. (Mus. Brit.)

MYTILIMERIA NAVICULA. *Myt. testâ oblongâ, tenui, pallidâ, inflatâ; umbonibus tumidis, fere terminalibus; latere antico brevissimo, perpendiculariter truncato; margine ventrali antico sinuato, hianti, posticè inflato; latere postico oblongo, obliquè angulato, ad terminum truncato; margine dorsali depresso, rectiusculo; valvi dextrâ profundâ.*

THE BOAT MYTILIMERIA. Shell oblong, thin, pale, inflated; umboes tumid, almost terminal; anterior side very short, perpendicularly truncated; ventral margin anteriorly sinuated, gaping, posteriorly inflated; posterior side oblong, obliquely angular, truncated at the end; dorsal margin depressed, rather straight; left valve deep.

ADAMS AND REEVE (*Lyonsia*). Proc. Zool. Soc., 1836, p. 70.

*Hab.* Iquiqui, Peru.

Species 6. (Mus. Brit.)

MYTILIMERIA PICTA. *Myt. testâ subrhomboidè, solidâ, lineis fuscis divaricatis pictâ, ad marginem ventralen latissimè hianti; umbonibus terminalibus; latere antico brevissimo subtruncato; latere postico expanso lato; valvâ sinistrâ ventricosissimâ; lamina cardinali complanatâ.*

THE PAINTED MYTILIMERIA. Shell somewhat rhomboidal, solid, painted with divergent brown lines, very broadly gaping at the ventral margin; umboes terminal; anterior side very short, rather truncated; posterior side expanded, broad; left valve very ventricose; hinge plate flat.

SOWERBY (*Lyonsia*). Proc. Zool. Soc., 1834, p. 88.  
*Hab.* Vancouver's Island.

Species 7. (Mus. Brit.)

MYTILIMERIA CUNEATA. *Myt. testâ tenui, pallidâ, anticè inflatâ, posticè attenuatâ, complanatâ, latere postico brevi, truncato; umbonibus elevatis acuminatis; margine dorsali rectiusculo, ventrali medio anticè inflato.*

THE WEDGE MYTILIMERIA. Shell thin, pale, inflated anteriorly, posteriorly attenuated, flattened; posterior side short, truncated; umboes elevated, acuminated; dorsal margin rather straight, ventral in the middle and anterior side inflated.

GRAY. MS. Brit. Mus.

*Hab.* — ?

MONOGRAPH

OF THE GENUS

SAXICAVA.

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For wonderful are all His Works,  
Pleasant to know, and worthiest to be all  
Had in remembrance always with delight."—*Milton*

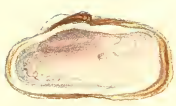
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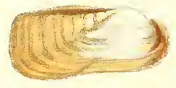




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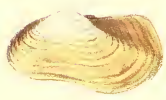
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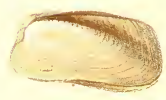
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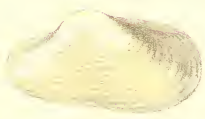
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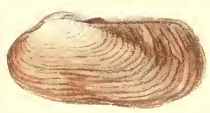
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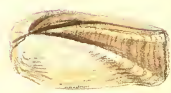
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# SAXICAVA.

PLATE I.

Genus SAXICAVA, *Flauriau de Bellevue*.

*Testa oblonga, æquilateralis, rugosa, ad marginem ventralem hians. Cardio ætate juniori minutè bidentato, ætate majore edentulo. Impressiones musculares distantes; impressione pallii posticè latè sinuati.*

Shell equivalve, rugose, gaping at the ventral margin. Hinge in a young state bidentate, when full-grown without teeth. Muscular impressions distant; impression of the mantle broadly sinuated posteriorly.

Srs. *Eggsomya*, Cuvier. *Hiatella*, Daudin.

The *Saxicavae* are rock-burrowing mollusca. They are found fixed in small hollows, often in the deserted holes of the *Pholas*. To the inner wall of the hole they attach themselves by a byssus, and often in the after growth of their valves become conformed to its shape. The young shells differ in two respects from the older form. They have small cardinal teeth which disappear when the animal is adult, and they have spines on the posterior angles, which also disappear. In this younger state they represent the genus *Hiatella* of Daudin. The arctic seas, the Mediterranean, and the Cape produce most of the few species known.

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## Species 1. (Mus. Brit.)

SAXICAVA ARCTICA. *Sax. testâ oblongâ, rugosâ, crassâ, ætate juniori posticè spiniferâ, cardine bidentato, ætate seniori cardine edentulo; latere antico angusto, brevi, margine ventrali sinuato, umbonibus depressis, anticis; latere postico latiori, quadrato, biangulato, latè truncato.*

THE ARCTIC SAXICAVA. Shell oblong, rugose, thick; posteriorly spiniferous when young, with two teeth on the hinge; without teeth on the hinge when adult; anterior side narrow, short; ventral margin sinuous; umboes depressed, anterior; posterior side broader, square, biangular, broadly truncated.

LINNÆUS. *Systema Naturæ*.

*Hiatella arctica*, Lamarek.

*Solen minutus*, Linnaeus.

*Hiatella minuta*, Turton.

*Donax rhomboides*, Deshayes.

*Hab.* Arctic regions, British and North American coasts.

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## Species 2. Mus. —? (copied.)

SAXICAVA PETITII. *Sax. testâ subcuneiformi, subregulariter rugatâ; latere antico brevi, angusto, margine ventrali profundè sinuato, latè hianti; latere postico expanso, rotundatim obliquè angulato, post angulum latè, obliquè truncato; margine dorsali recto.*

PETIT'S SAXICAVA. Shell rather cuneiform, rather regularly wrinkled; anterior side short, narrow; ventral margin deeply sinuous, broadly gaping; posterior side expanded, roundly, obliquely angular, broadly obliquely truncated behind the angle; dorsal margin straight.

DESHAYES. MS. Mus. Cum. in Brit.

*Hab.* —?

The wrinkles in this species are regular and sharp.

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## Species 3. (Mus. Brit.)

SAXICAVA RUGOSA. *Sax. testâ tenuiusculâ, rhomboidè, lævigatâ, posticè vix angulatâ, leviter rugatâ, margine dorsali subarcuato; latere antico brevissimo.*

THE RUGOSE SAXICAVA. Shell rather thin, rhomboidal, smooth, posteriorly scarcely angular, slightly wrinkled; dorsal margin a little arched; interior side very short.

LINNÆUS (*Mytilus*). *Systema Naturæ*.

*Saxicava Gallicana*, Lamarek.

*Mya Byssifera*, Fabricius.

*Hab.* British Islands.—France.

More smoothly rounded and less sharply angular than *Saxicava arctica*, with more convex ventral and dorsal margins.

Species 4. (Mus. Brit.)

SAXICAVA SULCATA. *Sax. testâ crassâ, subconventâ, concentricè undis magnis profundiusculis rugatâ; latere antico angusto, producto, subacuminato; umbonibus elevatis, margine ventrali profundè excavato; latere postico lato, rotundatim angulato, margine ventrali convexo, margine dorsali depresso, margine terminali truncato.*

THE GROOVED SAXICAVA. Shell thick, rather cuneate, concentrically wrinkled in large waves; anterior side narrow, produced, rather acuminated; umboes elevated, ventral margin deeply excavated; posterior side broad, roundly angular; ventral margin convex; dorsal margin depressed; terminal margin truncated.

DESHAYES —? MS. Mus. Brit.

*Hab.* Clyde.

The writer is uncertain respecting the authority for this species, which certainly seems distinct from any known forms of *S. arctica*, or *S. rugosa*. It is represented in the British Museum by an odd valve from the Clyde.

Species 5. (Mus. Brit.)

SAXICAVA PHOLADIS. *Sax. testâ elongatâ, submytiliformi, concentricè validè rugatâ; latere antico brevissimo, angustiusculo; latere postico magis expanso, elongato, obliquè angulato, margine dorsali recto; margine terminali late truncato; margine ventrali convexo.*

THE PHOLAS-LIKE SAXICAVA. Shell elongated, rather mytilus-shaped, concentrically strongly wrinkled, anterior side very short, rather narrow; posterior

side more expanded, elongated, obliquely angular; dorsal margin straight; terminal margin broadly truncated; ventral margin convex.

LAMARCK. Anim. s. Vertèbres.

*Hab.* Greenland.

It is quite an open question whether this may not be one of the numerous forms of *Saxicava rugosa*.

Species 6. (Mus. Brit.)

SAXICAVA SOLIDA. *Sax. testâ crassâ, rhomboideâ, inæquivalvi; valvâ dextrâ profundâ, ad umbonem multò valvæ sinistram altitudine superanti; latere antico brevissimo, declivi, umbonibus ferè terminatibus; latere postico biangulato, angulis obliquis, moniliformibus, margine terminali perpendiculariter truncato.*

THE SOLID SAXICAVA. Shell thick, rhomboidal, inæquivalve; right valve deep, much higher than left at the umbo; anterior side very short, sloped, umboes nearly terminal; posterior side biangular, angles oblique, moniliform; terminal margin perpendicularly truncated.

SOEWERY. Proc. Zool. Soc., 1834.

*Hab.* —?

A very solid shell with two posterior keeled and partly beaded angles.

Species 7. (Mus. Brit.)

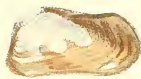
SAXICAVA FLACCIDA. *Sax. testâ parvâ, subovatâ, tenuiusculâ, terminis rotundis, umbonibus magnis, ferè terminalibus; margine ventrali medio subexcavato.*

THE FLACCID SAXICAVA. Shell small, rather oval, rather thin; ends rounded, umboes large, nearly terminal; ventral margin a little excavated in the middle.

GOULD. United States Exploring Expedition?

*Hab.* North America.





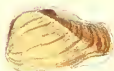
8a



8c



8b



9a



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# SAXICAVA.

PLATE II.

Species 8. (Figs. a, b, c, d, Mus. Brit.)

**SAXICAVA AUSTRALIS.** *Sax. testâ oblongâ, valdè rugosâ, plumbiosè distortâ; umbonibus magnis, perlevatis, ferè terminalibus; latere postico obliquè producto, angulato, ad angulum obsolete spinoso, margine ventrali ad terminum sursùm acclivis, margine terminali obliquè truncato, margine dorsali recti, arcâ complanatâ.*

**THE AUSTRALIAN SAXICAVA.** Shell oblong, very rugose, more or less distorted; umboes large, much elevated, nearly terminal; posterior side obliquely produced, angular, obsolete spinose at the angle, ventral margin sloped upwards at the end, terminal margin obliquely truncated, dorsal margin straight with a flattened area.

LAMARCK. Anim. sans Vert., v. p. 153.

*Saxicava distorta*, Say.

*Maetra crassa*, Peron.

*Hab.* Australia—(var.) United States.

More tumid, especially towards the umboes, than *Saxicava arctica*. The younger specimens have spines on the angle, as in that species, but these are worn off as the shell becomes larger, leaving tubercles in their places. The right valve is frequently deeper and higher at the umboes than the left. The American type (fig. d) corresponds with the Australian and not with the British form.

Species 9. (Mus. Brit.)

**SAXICAVA TENUIS.** *Sax. testâ rhomboideâ, elongatâ, tenui, subinflatâ; latere antico brevissimo, declivi; umbonibus elevatis, acutis, ferè terminalibus; latere postico subattenuato, obliquè acutè angulato; angulo subserrato.*

**THE THIN SAXICAVA.** Shell rhomboidal, elongated, thin, rather inflated; anterior side very short, sloped; umboes raised, sharp, nearly terminal; posterior side rather attenuated, obliquely sharply angular; angle a little serrated.

SOWERBY. Proc. Zool. Soc., 1834, p. 88.

*Hab.* — ?

Species 10. (Mus. Brit.)

**SAXICAVA GUERINII.** *Sax. testâ oblongâ, angustâ, rectiusculâ; latere antico brevi, obliquè declivi, infra subangulatâ; latere postico elongatâ, ad terminum obtusè truncato; margine ventrali rectiusculo, medio excavato.*

**GUERIN'S SAXICAVA.** Shell oblong, narrow, rather straight; anterior side short, obliquely sloped, a little angular below; posterior side elongated, obtusely truncated at the end; ventral margin rather straight, excavated in the middle.

PAYRACDEAU. Mollusca. Plate I.

*Hab.* Mediterranean Sea.

Species 11. (Mus. Brit.)

**SAXICAVA ANGASII.** *Sax. testâ irregulariter rhomboidè, magis, solidâ, altâ, subinaequivalvi, valdè inaequilaterali, flavido-rubescenti, fusco nebulatâ; valvâ dextrâ altiusculâ, profundiorâ; latere antico brevissimo, declivi; latere postico obliquè angulato, oblongo, ad terminum quadrato.*

**ANGAS'S SAXICAVA.** Shell irregularly rhomboidal, large, solid, elevated, rather inequivalve, very inequilateral, reddish yellow clouded with brown; right valve rather the higher and deeper; anterior side very short, sloped; posterior side obliquely angular, oblong, square at the end.

A. ADAMS. Proc. Zool. Soc., 1865, 643.

*Hab.* St. Vincent's Gulf, S. Australia.

The only species exhibiting anything like distinct colouring, excepting *Saxicava purpurascens*.

Species 12. (Mus. Brit.)

**SAXICAVA SPINIFERA.** *Sax. testâ parvâ, levigatâ, supernè quadratâ, infra bilobatâ; latere antico brevissimo, umbonibus terminalibus, margine ventrali profundè excavato; latere postico lato, truncato, margine dorsali et angulo obliquè decurrentibus spinis acutis prominentibus ornatis.*

May, 1875.

**THE SPINIFEROUS SAXICAVA.** Shell small, smooth, square above, two-lobed below; anterior side very short, umboes terminal, ventral margin deeply excavated; posterior side broad, truncated, dorsal margin and obliquely decurrent angle ornamented with sharp prominent spines.

SOWEBBY.

*Hab.* Savannah Bay.

The young of *Saxicava arctica*, *rugosa*, and *Australis* are spinose on the dorsal margin and posterior angle, but no specimen of either has been found with spines so prominent, or similar to this in other characters.

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Species 13. (Mus. Deshayes? copied.)

**SAXICAVA SIMILIS.** *Sax. testâ cuneiformi, oblongâ, radiatim striatâ, posticè biangulatâ, ad angulos carinâs subspiniferis duabus munitâ; valvâ dextrâ majori, ventricosâ, valvâ sinistrâ planiusculâ; latere antico angusto, brevissimo; umbonibus terminalibus; latere postico expanso, ad terminum latè truncato.*

**THE SIMILAR SAXICAVA.** Shell cuneiform, oblong, radiately striated, posteriorly biangular, strengthened at the angles by two subspiniferous keels; right valve the larger, ventricose, left

valve rather flatter; anterior side narrow, very short; umboes terminal; posterior side expanded, broadly truncated at the end.

DESHAYES. Mollusques de l'Isle de la Réunion.

*Hab.* Isl. Bourbon.

M. Deshayes likens this little species to *Saxicava arctica*, from which it differs in being radiately striated and in the keel-like ridges on the angles.

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Species 14. (Mus. Brit.)

**SAXICAVA PURPURASCENS.** *Sax. testâ elongatâ, angustâ, rectâ, concentricè rugatâ; latere antico brevissimo, umbonibus prominentibus terminalibus; latere postico purpureo suffuso, elongato, obliquè angulato; ad angulum et infrâ marginem dorsalem rugoso, carinato.*

**THE PURPLISH SAXICAVA.** Shell elongated, narrow, straight, concentrically wrinkled; anterior side very short, umboes prominent, terminal; posterior side suffused with purple, elongated, obliquely angular; with a wrinkled keel on the angle, and below the dorsal margin.

SOWEBBY. Proc. Zool. Soc., 1834, p. 88.

*Hab.* —?

MONOGRAPH

OF THE GENUS

PUPINIDÆ.

"All things that are, though they have several ways  
Yet in their being join with one advice  
To honour Thee."—*Trench.*







*Papinula*.



# PUPINIDÆ.

PLATE I.

Fam. PUPINIDÆ. (A. ADAMS.)

*Animal terrestre. Testa pupiformis, operculum corneum, multispicula.*

Genus PUPINA. Vignard. *Testa brevis, nunquam vitens; apertura bisovaliculata.* Sp. 1—34, 29 omisâ.

Genus HARGREAVESIA. Adams. *Testa brevis; apertura ad suturam non-canaliculatâ.* Sp. 29.

Genus CALLIA. Gray. *Testa brevis, vitens, umbilico clauso, apertura marginis integra.* Sp. 35—38.

Genus REGISTOMA. Hasselt. *Testa vitens; apertura marginis infra columellam rimata.* Sp. 39—47.

Genus CATAULUS. Pfeiffer. *Testa pyramidata, perforata, ultimo anfractu inflexo carinato, apertura marginis externo ad carinam producta.* Sp. 48—65.

Genus ARINIA. Adams. Sp. 66.

Genus POLLICARIA. Adams. } *Umbilico fere clauso,*  
Genus MEGALOMASTOMA. Guild. } *apertura marginis internata pro.* Sp. 67—92.

Genus RAPHAULUS. Pfeiffer. *Apertura superâe lobis mucosa.*

Animal terrestrial, shell pupa-shaped, operculum horny; multispicula. Sp. 1—34.

PUPINA. Shell short, sometimes shining; aperture with two channels. Sp. 1—34. Omit 39.

HARGREAVESIA. Shell short; aperture with a channel at the suture. Sp. 39.

CALLIA. Shell short, shining; umbilicus closed; aperture with the margin entire.

REGISTOMA. Shell shining; aperture with the margin notched under the columella. Sp. 39—47.

CATAULUS. Shell pyramidal, perforated, last whorl keeled below, aperture with outer edge produced at the keel. Sp. 48—65.

ARINIA. Sp. 66.

POLLICARIA and MEGALOMASTOMA. Umbilicus nearly closed, inner margin of the aperture entire. Sp. 67—92.

RAPHAULUS. Upper part of aperture provided with a tube.

The *Pupinidæ* do not affect northern climates, but abound in India, Australia, also in the Pacific and other islands.

Species 1. (Mus. Sowerby. Pupina.)

PUPINA BILINGUIS. *Pup. testâ alâ, fulvâ, pupiformi, apice obtuso; anfractibus quinque, superioribus*

*brevis, penultimo alto, ultimo inflato, subgloboso; apertura parâ, circulari, canalibus duobus, ad suturam non, infra columellam altero, obliquè oblongis, arcuatis, in funiculis linguiformis productis.*

THE DOUBLE-TONGUED PUPINA. Shell raised, fulvous, pupa-shaped, with obtuse apex; whorls five, upper short, penultimate high, last inflated, rather globose; aperture small, circular, with two canals, one at the suture, the other below the columella, obliquely oblong, curved, produced in two callous linguiform ridges.

PFEIFFER. Proc. Zool. Soc. Thes. Conch. *Pupinidæ*, Pupina. Fig. 8, 9, 10.

Hab. East Australia.

The channels on the upper and lower part of the aperture are prolonged in two curved tongue-shaped callosities.

Species 2. (Mus. Sowerby.)

PUPINA VENTROSA. *Pup. testâ ventricosâ, semi-pellucidâ, breviter subpyramidalâ; ultimo anfractu subgloboso; apertura obliquè ovatâ, antice productâ, lobis interno arenato; canalibus duobus callosis-marginatis, breviter arcuatis productis.*

THE INFLATED PUPINA. Shell ventricose, semi-pellucid, shortly rather pyramidal; last whorl rather globose; aperture obliquely ovate, anteriorly produced, inner lip arched; two callous-edged canals shortly arched, produced.

DOBSON. Adams. Sowb. Thes. *Pupinidæ*. Pupina. Fig. 12, 13.

Hab. Cape York.

Species 3. (Mus. Sowerby.)

PUPINA ARTATA. *Pup. testâ ovatâ, alâ vel fulvâ, breviter pupiformi, apice obtuso; anfractibus quinque, superioribus brevis, ultimo inflato, subgloboso; apertura parâ, circulari, canalibus duobus, obliquè elongatis, conspicuè callos-marginatis, arcuatis.*

THE JOINTED PUPINA. Shell ovate, white or fulvous, shortly pupa-shaped; apex obtuse; whorls five, upper short, last inflated, subglobose; aperture small, circular, canals two, obliquely elongated, conspicuously callous-edged, curved.

BENSON. Adams. Sowb. Thes. Conch. *Pupinidæ*, Pupina, Fig. 1, 2.

Hab. Moulmein, India.

## Species 4. (Mss. —? Copied.)

**PUPINA GRANDIS.** *Pup. testâ magnâ, ventricosâ, pupæformi, fuscâ, solidâ, apice obtuso; anfractibus septem, superioribus brevibus, penultimo inflato, ultimo alto, inflato; apertura parvâ, circulari, margine aurantiâ, crassissimo, latissimo, profundè biconcavato.*

**THE LARGE PUPINA.** Shell large, ventricose, pupa-shaped, brown, solid, with obtuse apex; whorls seven, upper short, last but one inflated, last high, inflated; aperture small, circular; margin orange, very thick, very broad, with two deep canals.

**FORBES.** Adams. Sowb. Thes. *Pupinide*, Pupina, Fig. 20.

*Hab.* Louisiade Archipelago.

## Species 5. (Mus. Hanley.)

**PUPINA ARULA.** *Pup. testâ albâ vel fulvâ, ovatâ, nitente, apice obtuso, anfractibus septem, superioribus brevissimis, ultimomaximo; apertura anticè obliquè productâ, labio externo rotundo, canali postico lato, antico producto, recurvo, columellâ brevi, latâ, truncatâ.*

**THE LITTLE PLOUGH PUPINA.** Shell white or fulvous, ovate, shining, with obtuse apex, whorls seven, upper very short, last very large; aperture obliquely produced in front, outer lip rounded, posterior canal broad, anterior produced, recurved; columella short, broad, truncated.

**BENSON.** Ann. Nat. Hist. Ser. 2, vol. 17, p. 239.

*Hab.* Birmah.

## Species 6. (Mus. Hanley.)

**PUPINA BLANFORDI.** *Pup. testâ albidâ, nitente, spirâ brevi, obtusâ, ultimâ subglobosâ; apertura anticè obliquè producta; labio externo superne in sinu rotundum producta; columellâ brevissimâ, truncatâ, in canale curvum terminante.*

**BLANFORD'S PUPINA.** Shell rather white, shining, spire short, obtuse, the last rather globose; aperture obliquely produced in front; outer lip produced into a rounded sinus, columella very short, truncated, ending in a curved canal.

**THEOPHILD.** Journ. As. Soc. Bengal, 1864.

*Hab.* Pegu.

## Species 7. (Mus. Hanley.)

**PUPINA IMBRICIFERA.** *Pup. testâ fuscâ, brevi, ovato-subpyramidalâ, nitente; anfractibus sex, superioribus brevibus, convexis, ultimo subgloboso; apertura anticè obliquè productâ, labio externo lato, complanato, margine interno in liram semicircu-*

*larem elevato, canalibus duobus in tumores linguiformes productis.*

**THE IMBRICATED PUPINA.** Shell brown, short, ovately subpyramidal, shining; whorls six, upper short, convex, last rather globose; aperture obliquely produced in front, outer lip broad, flattened, inner margin raised in semicircular ridge, canals two, produced in linguiform swellings.

**BENSON.** Ann. Nat. Hist. Ser. 2, vol. 17, p. 239.

*Hab.* Sylhet, Teria Ghat.

## Species 8. (Mss. Sowerby.)

**PUPINA MERIDIONALIS.** *Pup. testâ altâ, pupæformi, acuminatâ, fulvâ, nitente; anfractibus sex, convexissimis; apertura circulari, margine rotundo; canalibus longissimis, callosis.*

**THE SOUTHERN PUPINA.** Shell elevated, pupa-shaped, acuminated, fulvous, shining; whorls six, rather convex; aperture circular; margin rounded; canals rather long, callous.

**PREIFFER.** Proc. Zool. Soc. Sowb. Thes. *Pupinide*, Pupina, Fig. 33.

*Hab.* South Australia.

## Species 9. (Mus. Sowerby.)

**PUPA PLANILABRIS.** *Pup. testâ altâ, pupæformi, fulvâ, nitente, apice acuminato; anfractibus convexissimis; apertura circulari; margine planato; canale antico ad suturam elevato, calloso, columellâ tenui, ad terminum obliquè truncato, cuneato, canali brevissimo.*

**THE FLAT-LIPPED PUPA.** Shell high, pupa-shaped, fulvous, shining, apex acuminated; whorls rather convex; aperture circular; margin flattened; anterior canal raised at the suture, callous, columella thin, obliquely truncated at the end, cuneate, canal very short.

**PREIFFER.** Proc. Zool. Soc. Adams. Sowb. Thes. Pupina, Fig. 34.

*Hab.* South Australia.

## Species 10. (Mus. Brit.)

**PUPINA AUREA.** *Pup. testâ breviter pupæformi, aureâ, fulvâ, nitente; anfractibus superioribus parvis, penultimo alto, inflato, ultimo subgloboso; apertura obliquè productâ, bicauliferâ; canalibus productis, callosis.*

**THE GOLDEN PUPINA.** Shell shortly pupæform, golden-fulvous, shining; upper whorls small, penultimate high, inflated, last rather globose; aperture obliquely produced, with two canals; canals produced, callous.

**HINDS.** Voy. Sulphur.

*Hab.* New Guinea.



*Pupina*



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# PUPINIDÆ.

(PUPINA)

PLATE II.

Species 11. (Mus. Brit.)

**PUPINA BRASSIUCALIA.** *Pap. testis foveolati, subaurati, brachycauli, ventricosi, obliqui, politii; angustilobus, aperturam obliquam, columellam brevem, truncatam, callosa, suturam albam, et labium externum superius subnullum depressum, alba, et terna, antica obliquè producta.*

**THEY (DUBBEL-BENNELLED) PUPINA.** Shell fulvous, slightly golden, translucent, ventricose, oblique, polished; last two whorls broad, inflated, elevated; aperture oblique, columella short, truncated; sutural callus elongated, outer lip sinuously depressed above, narrow, white, rounded, obliquely produced in front.

**SOWERBY.** *Thesauribus*, first Monograph.

*Hab.* Sibonga, Island of Zebu, Philippines.

Species 12. (Mus. Brit.)

**PUPINA KERUDEINI.** *Pap. testis ovatus, foveolati, politii, apicem obtusum; angustilobus, ultimo et penultimo altis; aperturam parvam, columellam brevissimam, acutam; callosa, suturam inconspicuam, labium externum angustum, obliquè productum.*

**KERAUDENI'S PUPINA.** Shell narrow, fulvous, polished; apex obtuse, last two whorls high; aperture small, columella very short, sharp; sutural callus inconspicuous, outer lip narrow, obliquely produced.

**VIXAL.** *Proc. Zool. Soc. 1861, p. 162. Ad. Thes. Conch.*

*Hab.* New Ireland.

Species 13. (Mus. Brit.)

**PUPINA MOUHOI.** *Pap. testis subaurati, ventricosi, spiram acuminatam; angustilobus quinque, rapidi crescentibus, ultimo subglobosis; aperturam obliquam, callosa, suturam conspicuam, columellam marginem internum*

*externum, truncatum truncato, labium externum obliquè productum, crassissimum, superius depressum.*

**MOUHOI'S PUPINA.** Shell rather golden, ventricose, spire acuminated; whorls five, rapidly increased, the last subglobose; aperture oblique, sutural callus conspicuous, inner margin of the columella reflected, truncated at the end, outer lip obliquely produced, rather thick, depressed above.

**PETTER.** *Proc. Zool. Soc. 1861, 136.*

*Hab.* Camboja.

Species 14. (Mus. Brit.)

**PUPINA ANGASII.** *Pap. testis ventricosi, solidi, rubescens, obliqui; angustilobus quinque, suturam crenulatam separatis, penultimo maximo, inflato, ultimo anticè obliquè subangustato; aperturam rotundam, biconcavitatibus, margine lato, crasso, indurato, reflexum egrediens.*

**ANGAS'S PUPINA.** Shell ventricose, solid, reddish, oblique; whorls five, separated by a crenulated suture, penultimate whorl very large, inflated, the last a little narrowed obliquely in front; aperture rounded, with two canals, margin broad, thick, entire, reflected backwards.

**ADAMS.** *Proc. Zool. Soc. 1875. Pl. 45.*

*Hab.* South Australia.

Species 15. (Mus. — ? Copied.)

**PUPINA MOLLINSIANA.** *Pupa testis ventricosi, striati, glauci; angustilobus quinque, tribus superioribus brevibus, rotundis, penultimo majore, inflato, ultimo rectiusculo magno; aperturam subrotundam, margine crasso, albo, rimâ superiori angustâ, inferiori magno, columellam brevem, ad terminum angulatam, lato, labio externo rotundo, superius obliquè depresso.*

**MOLLISS' PUPINA.** Shell ventricose, striated, yellowish; whorls five, three upper short, rounded,

penultimate larger, inflated, last rather straight, large; aperture rather rounded, margin thick, white, upper notch narrow, lower large, columella short, angular at the end, broad, outer lip rounded, obliquely depressed above.

FISCHER et BERNARDI. Adams, Sowb. Thes. Conch.

No. 25.

Hab. N. Caledonia.

Species 16. (Mus. Brit.)

PUPINA HUMILIS. *Pup. testâ subpyramidalâ, aureo-fuscâ; anfractibus quinque, tribus superioribus brevissimis, rotundis, penultimo majori, inflato, ultimo magno, rotundo; aperturâ anticâ circulari, canali antico caudatâ, rimâ posticâ magnâ, labio externo rotundo, posticè obliquè depresso, anticè autè canalem contracto.*

THE HUMBLE PUPINA. Shell rather pyramidal, golden-brown; whorls five, three upper ones very short, rounded, the penultimate larger, inflated, last large, rounded; aperture rounded, anterior canal caudal, posterior notch large, outer lip rounded, posteriorly obliquely depressed, anteriorly contracted in front of the canal.

JAQUENOT. Adams, Sowb. Thes. Conch. No. 25.

Hab. New Guinea.

Species 17. (Mus. Brit.)

PUPINA SUPERRA. *Pup. testâ fuscâ, obliquâ; anfractibus quinque, tribus superioribus brevissimis, rotundis, penultimo declivi, majori, ultimo magno; aperturâ anticâ productâ, margine aureo, rotundo, rimâ posticâ magnâ, obliquâ, anticâ obliquè retrorsâ (occlivi).*

THE SUPERB PUPINA. Shell brown, oblique; whorls five, three upper very short, rounded, penultimate sloped, larger, last large; aperture anteriorly produced, margin golden, rounded, posterior notch large, oblique, anterior obliquely turned back (sloped upwards).

PEIFFER. Mon. Heliceorum.

Hab. Sumatra.

Species 18. (Mus. Brit.)

PUPINA VESCOL. *Pup. testâ globoso-pyramidalâ, brevi, politâ, subnucâ; anfractu ultimo inflato, rotundo; aperturâ obliquè ovatâ, anticè productâ; rimâ*

*posticâ rotundâ, collo parvo, acuminato, columellâ brevissimâ, labio externo posticè obliquè depresso, ante columellam contracto.*

VESCOE'S PUPINA. Shell globose-pyramidal, short, polished, rather golden; last whorl inflated, rounded; aperture rather obliquely ovate, anteriorly produced; posterior notch rounded, callus small, acuminated, columella very short, outer lip posteriorly obliquely depressed, contracted in front of the columella.

MORELET. Adams, Sowb. Thes. Conch. No. 25.

Hab. Paulo Condor.

Species 19. (Mus. Sowerby.)

PUPINA BORNEENSIS. *Pup. testâ aureo-fuscâ, politâ, pyramidalâ; anfractibus quinque, convexis, gradatim crescentibus; aperturâ subrotundâ, anticè obliquè productâ, margine crassissimo, albo, rotundo; rimâ posticâ inconspicuâ, columellâ obliquè truncatâ.*

THE BORNEAN PUPINA. Shell golden-brown, polished, pyramidal; whorls five, convex, gradually increased; aperture rather round, anteriorly obliquely produced, margin rather thick, white, rounded; posterior notch inconspicuous, columella obliquely truncated.

PEIFFER. Proc. Zool. Soc. Adams, Sowb. Thes. No. 25.

Hab. Borneo.

Species 20. (Mus. Brit.)

PUPINA PUPINIFORMIS. *Pup. testâ pyramidalâ, rubro-fuscâ, politâ; anfractibus octo, gradatim crescentibus, rotundatis, apice acuminato; aperturâ rotundâ, obliquè paulo productâ, canali postico parvo, rimâ anticâ angustâ, columellâ brevissimâ, latâ, labio externo planulato, ad rimam sinu recurvo.*

THE PUPINA-SHAPED PUPINA. Shell pyramidal, red-brown, polished; whorls eight, gradually increased, rounded, apex acuminated; aperture rounded, a little produced obliquely, posterior canal small, anterior slit narrow, columella very short, broad, outer lip flattened, with a recurved sinus at the back.

SOWERBY. Thes. Conch. No. 25, *Pupinidæ*, Pl. III. f. 38-9.

Hab. Philippines.





*Papua*



21



22



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# PUPINIDÆ.

## PLATE III.

### Species 21. (Mus. Brit.)

**PUPINA PEFFLER.** *Pap. testâ albi, a quatuor, tenui, fulvâ, small pellucidâ, obliquâ; aperturâ quinque, angustâ, obliquâ, quatuor et tribus, subrectâ, ultimo altâ, a subrectâ; aperturâ parvâ, obliquâ, sub-ovata, pedunculâ, cordi position et calli suturali conspicuâ, columellâ brevissimâ. Labio externo tenui, albo, angustâ, marginâ depressâ.*

**PEFFLER'S PUPINA.** Shell elevated, narrow, thin, fulvous, semi-pellucid, oblique; whorls five, the four upper short, rounded, the last high, rather straight; aperture small, obliquely sub-ovate, produced, posterior canal and sutural callus conspicuous, columella very short, outer lip thin, white, rounded, depressed above.

**DOEHLN.** Adams, Sowb. Thes. No. 245.

### Species 22. (Mus. Brit.)

**PUPINA THOMPSONI.** *Pap. testâ solidâ, obliquâ, fulvâ, politâ, medio sub inflata, apice acuminatâ; anfractibus quinque, ultimo magno; aperturâ anticâ obliquâ productâ, marginâ albo, calli suturali linguiformi, labio interno calloso, continuo, columellâ latâ, obliquâ, truncatâ.*

**THOMPSON'S PUPINA.** Shell solid, oblique, fulvous, polished, inflated in the middle, apex acuminated; whorls five, the last large; aperture anteriorly obliquely produced, margin white, sutural callus tongue-shaped, inner lip callous, continuous, columella broad, oblique, truncated.

**FORBES.** A. Adams, Mon. Sowb. Thes. *Pupinidæ*, Pl. III. f. 18.

*Hab.* Australia.

### Species 23. (Mus. Sowerby.)

**PUPINA MITIS.** *Pap. testâ brevi, brevi, fulvâ, subinflata, apice obtusâ; anfractibus quatuor, penultimo inflata, brevi, ultimo magno; aperturâ obliquâ productâ, labio externo albo, angustâ, calli suturali parvo, columellâ brevissimâ, acuminatâ.*

**THE MELLOW PUPINA.** Shell short, smooth, fulvous, rather inflated, apex obtuse; whorls four, penultimate inflated, short, last large; aperture obliquely produced, outer lip white, narrow, sutural callus small, columella very short, acuminated.

**A. ADAMS** —? Sowerby's Thes. Conch. *Pupinidæ*, Pl. III. f. 19.

*Hab.* New Ireland.

### Species 24. (Mus. Brit.)

**PUPINA STRANGEL.** *Pap. testâ subcylindricâ, fulvâ, politâ, medio inflata, apice breviter acuminatâ; anfractibus quinque, tribus apicalibus brevissimis, parvis, penultimo magno, inflata, ultimo medio; aperturâ parvâ, obliquâ, calli suturali linguiformi, labio interno marginato, columellâ brevissimâ.*

**STRANGE'S PUPINA.** Shell subcylindrical, fulvous, polished, inflated in the middle, apex shortly acuminated; whorls five, three apical, very short, small, penultimate large, inflated, last middle-sized; aperture small, oblique, sutural callus tongue-shaped, inner lip bordered, columella very short.

**PEFFLER.** Mon. Hel. Sowb. Thes. *Pupina*, Fig. 24.

*Hab.* Morcton Bay.

The inflation of the penultimate whorl, and the comparatively cylindrical form, distinguish this species from several of the preceding.

### Species 25. (Mus. —? Copied.)

**PUPINA OTTONIS.** *Pap. testâ ventricosâ, fulvo-rubescenti, reticulatâ, brevi, politâ; spirâ breviter pyramidatâ; anfractibus quinque, gradatâ crescentibus, ultimo magno, gibboso; aperturâ subrotundâ, marginâ albo, columellâ latâ, truncatâ, calli suturali subdistanti.*

OTTO'S PUPINA. Shell ventricose, reddish-fawn, rather straight, short, polished; spire shortly pyramidal; whorls five, gradually increased, the last large, globose; aperture rather round, margin white, columella broad, truncated, sutural callus rather distant.

DOBIN. — ? Adams, Sowb. Thes. *Pupinida*, Part 25, Pl. III. f. 25.

Hab. Isl. Luzon, Philippines.

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Species 26. (Mus. Brit.)

PUPINA NICOBARICA. *Pup. testâ obliquâ, ventricosâ, fulvo-rubescenti, politâ; anfractibus quatuor, tribus superioribus brevibus, rapidi crescentibus, ultimo alto, inflato; apertura circulari, labio externo albo, anticâ obliquè producta, callo suturali medietati, columellâ brevi truncato.*

THE NICOBAR PUPINA. Shell oblique, ventricose, fulvous-reddish, polished; whorls four, three upper short, rapidly increased, last high, inflated; aperture circular, outer lip white, anteriorly obliquely produced; sutural callus middle-sized, columella short, obliquely truncated.

PEIFFER. Adams, Sowb. Thes. No. 24-5, *Pupinida*, *Pupa*, f. 27.

Hab. Nicobar.

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Species 27. (Mus. Brit.)

PUPINA RUFA. *Pup. testâ rectâ, subpyramidatâ, clatâ, rufo-fuscâ, ad suturam albo-fasciatâ, apice obtuso; anfractibus quinque, æqualiter crescentibus; apertura circulari, margine albidò, labio externo rotundo, labio interno calido, callo suturali conspicuo, columellâ crassâ, ad terminum cuneatâ.*

THE REDDISH PUPINA. Shell straight, rather pyramidal, elevated, reddish-brown, with a whitish band at the suture, apex obtuse; whorls five, equally increased; aperture circular, margin whitish, outer lip round, inner lip strong, sutural callus conspicuous, columella thick, cuneate at the end.

PEIFFER. Adams, Sowb. Thes. Conch. No. 25, *Pupina*, f. 29.

Hab. Japan.

Species 28. (Fig. a, b. Mus. Brit.)

PUPINA MINDOROENSIS. *Pup. testâ brevissimâ, pyramidatâ, albâ vel fuscâ, politâ, spiri subacuminatâ; anfractibus quinque, æqualiter crescentibus, superioribus rotundis, ultimo convexiusculo; apertura circulari, labio externo lato, canali postico et rimâ anticâ magnis, columellâ brevissimâ, latâ, truncatâ.*

THE MINDORO PUPINA. Shell rather short, pyramidal, white or brown, polished, spire a little acuminate; whorls five, equally increased, upper ones rounded, the last rather convex; aperture circular, outer lip broad, posterior canal and anterior notch large, columella rather short, rather broad, truncated.

ADAMS & REEVE. Voy. Sam.

Hab. Japan.

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HARGRAVESIA. (Adams.)

*Canali postico magno, rimâ anticâ nullâ.*  
Posterior canal large, no anterior notch.

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Species 29. (Mus. Sowerley.)

HARGRAVESIA POLITA. *Har. testâ inflatâ, subpyramidatâ, fulvâ, politâ, brevissimâ; anfractibus quinque, tribus superioribus brevibus, rapidi crescentibus, penultimo inflato, ultimo magno; apertura circulari, obliquè productâ, canali postico elongato, callo suturali linguiformi, labio externo cir. incrassato, eum interno anticâ continuo.*

THE POLISHED HARGRAVESIA. Shell inflated, rather pyramidal, fulvous, polished; rather short; whorls five, the three upper ones short, quickly increased, penultimate inflated, last large; aperture circular, obliquely produced, posterior canal elongated, sutural callus linguiform, outer lip scarcely thickened, anteriorly continuous with the inner lip.

A. ADAMS. Proc. Zool. Soc. 1870.

Hab. Solomon Islands.



*Pupina*



30



31



32



33

*Callia*



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## PUPINIDÆ.

PLATE IV.

Species 30. (Mus. —? Copied.)

**PUPINA SWINHOEII.** *Pap. testâ rectâ, pyramidalâ, subventricosâ, politâ; spirâ ascendenti, anfractibus sex, convexis, fere æqualiter crescentibus; apertura viâ circulari, canalibus postico et antico rotundis, latis; columellâ latâ, subjacentâ, latè truncatâ, labio externo latè duplicato.*

**SWINHOE'S PUPINA.** Shell straight, pyramidal, rather ventricose, polished; spire acuminate; whorls six, convex, almost equally increased; aperture scarcely circular; posterior and anterior canals rounded, broad; columella broad, rather hollowed, broadly truncated; outer lip broad, doubled.

ADAMS (Pupinopsis). Proc. Zool. Soc. 1866, f. 318.

*Hab.* Isl. Formosa.

Species 31. (Mus. Sowerby.)

**PUPINA FINETICOLA.** *Pap. testâ parvâ, levigatâ, brevî, falcâ; anfractibus quatuor, duobus superioribus parvis, penultimo inflato, ultimo magno, infra obliquè subattenuato; apertura antice productâ, circulari.*

**THE PINE-INHABITING PUPINA.** Shell small, smooth, short, fulvous; whorls four, two upper small, last but one inflated, last large, obliquely rather attenuated; aperture anteriorly produced, circular.

COX. Proc. Zool. Soc. 1866, p. 375.

*Hab.* Australia.

Species 32. (Mus. Sowerby.)

**PUPINA DIFFICILIS.** *Pap. testâ parvâ, subcylindricâ, politâ, pallidè aurantiâ-falcâ; anfractibus quatuor, tribus superioribus brevibus, æqualiter crescentibus, ultimo majusculo; apertura obliquâ, canali*

*postico latè, columellâ brevî, acutâ, labio externo obliquè producto, aurantio, crassiusculo.*

**THE DIFFICULT PUPINA.** Shell small, rather cylindrical, polished, pale orange, fulvous; whorls four, three upper short, equally increased, last rather large; aperture oblique, posterior canal broad, columella short, acute, outer lip obliquely produced, orange, rather thick.

SEMPER. Proc. Zool. Soc. 1864, p. 252.

*Hab.* Pelew Island.

Species 33. (Mus. Brit.)

**PUPINA ADAMSI.** *Pap. testâ altâ, subpyramidalâ, aurantiâ-fuscâ, politâ; anfractibus sex, superioribus rotundis, gradatim crescentibus, ultimo majusculo, convexo; apertura rotundâ, labio interno callo, canali postico elongato, arcuato, callo suturali rotundâ, columellâ latâ, crasso, truncatâ, labio externo superne sinuato, duplicato.*

**ADAMS' PUPINA.** Shell elevated, somewhat pyramidal, orange-brown, polished; whorls six, upper ones rounded, gradually increasing, last rather large, convex; aperture rounded, inner lip strong, posterior canal elongated, curved, sutural callus strong, columella broad, thick, truncated, outer lip sinuous above, doubled.

SEMPER. *Pupinella Swinhoei*, A. Adams. Proc. Zool. Soc. 1866, p. 318.

*Hab.* Isl. Formosa.

(CALLIA)

Species 34. (Fig. a, b, Mus. Sowerby.)

**CALLIA LEBRERA.** *Cal. testâ ventricosâ, breviter obliquâ, falcâ vel latâ, pallidissimi; anfractibus quatuor, tribus brevibus, ultimo magno, lateraliter gibbosus; apertura rotundâ, margine albo rotundâ.*

**THE SHINING CALLIA.** Shell ventricose, short, ob-

lique, fulvous, or yellowish, brightly polished; whorls four, three short, last large, gibbous at one side; aperture rounded, margin white, rounded.

SOEWERY (Pupina). *Thesaurus Conchylorum. Pupina* (first monograph), No. 1.

*Hab.* Isl. Panay, Philippines.

Species 35. (Fig. a, b, Mus. Sowerby.)

CALLIA SPLENDENS. *Cal. testâ pyramidalâ, subcentricâ, fusâ, politâ; spirâ acuminatâ; anfractibus quatuor, rapidè crescentibus; aperturâ rotundâ, margine angusto, rotundo.*

THE RESPLENDENT CALLIA. Shell pyramidal, rather ventricose, brown, polished; spire acuminated, whorls four, rapidly increased; aperture rounded, margin narrow, rounded.

DOERN. — ? Adams in Sowerby's *Thesaurus Conchylorum*, No. 25.

*Hab.* Lizard Island.

More regularly pyramidal than the preceding, with gradually increasing whorls.

Species 36. (Mus. Sowerby.)

CALLIA AURITA. *Cal. testâ angustiusculâ, albâ, politissimâ, obliquâ; anfractibus quatuor, tribus breviusculis, ultimo majusculo; aperturâ obliquâ productâ, margine rotundo.*

THE EARED CALLIA. Shell rather narrow, whitish very polished, oblique; whorls four, three rather short, last rather large; aperture obliquely produced, margin rounded.

ZEIGLER — ?

*Hab.* — ?

Believing from the narrower form of this shell,

that it differs from *Callia rubra*, I have adopted the name which I find attached in manuscript to a number of specimens.

Species 37. (Mus. Sowerby.)

CALLIA AMBIGUA. *Cal. testâ ventricosâ, subpyramidalâ. brevi, politâ, pallidè fulvescenti; anfractibus quinque, ultimo majusculo; aperturâ rotundâ, obliquè productâ, margine aurantio, columellâ ad dorsum perforatâ.*

THE AMBIGUOUS CALLIA. Shell ventricose, rather pyramidal, short, polished, pale fulvous; whorls five, the last rather large; aperture rounded, obliquely produced, margin orange, columella perforated at the back.

SEMPER — ? (Registoma). Adams, in Sowerby's *Thesaurus Pupinidæ*, Pl. II. *Registoma*, f. 9.

*Hab.* Isl. Luzon, Philippines.

The minute perforation, visible only at the side or back of the columella, constitute this species a link between the *Registoma*, which have a distinct notch or canal, and the *Callia*, which have the margin of the aperture quite entire. The shell, however, is much more nearly related to the latter than to the former subgenus.

Species 38. (Fig. a, b, Mus. Sowerby.)

CALLIA WALLACEI. *Cal. testâ auro-fulvâ, politâ, obliquè distortâ; anfractibus quatuor, apicalibus planulatis, ad dorsum retrorsis; aperturâ parvâ, rotundâ, simplici.*

WALLACE'S CALLIA. Shell golden-fulvous, polished, obliquely distorted; whorls four, the apical ones flattened, turned over the back; aperture small, rounded, simple.

PFEIFFER — ? Adams, in Sowerby's *Thesaurus*, Part 24-5. *Pupinidæ*, Pl. III. *Callia*, f. 7. S.

*Hab.* Ceram.

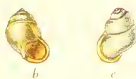




*Rogistoma*



45



# PUPINIDÆ.

(REGISTOMA.)

PLATE V.

## Species 39. (Mus. Brit.)

REGISTOMA LINDUM. *Reg. testis pallidi, fultei, angulati, subglobulosis, politis; apice obtuso, angulibus quatuor, penultimo tumido, ultimo marginis aperturæ subtruncati, oblique producti, marginis angusto, cincto rotundis angustissimis.*

THE NARROW REGISTOMA. Shell pale fawnous, narrow, rather cylindrical, polished; apex obtuse; whorls four, penultimate tumid, last large; aperture rather round, obliquely produced, margin narrow, anterior slit very narrow.

SOWERBY. *Thes. Conch. Pupinidae*, Pl. II, *Registoma*, f. 8.

*Hab.* Isl. Luzon, Philippines.

Differing from *Registoma Cumingiana* in form being less elongated, and in the linear notch.

## Species 40. (Mus. Brit.)

REGISTOMA VITREUM. *Reg. testis pyramidalis, brevis, hyalini, fuscovirescenti; angustibus sex, brevibus, fere æqualiter crescentibus, tumidis; apertura subcirculari, margine incrassato, rotundo, aurantiis, columella crassiusculis, oblique truncatis.*

THE GLASSY REGISTOMA. Shell pyramidal, short, hyaline, brownish-red; whorls six, short, almost equally increasing, tumid; aperture rather circular, margin thickened, reflected, orange, columella rather thick, obliquely truncated.

SOWERBY. *Adams, Thes. Conch. Pupinidae*, Pl. II, *Registoma*, f. 7.

*Hab.* Isl. Luzon, Philippines.

## Species 41. (Mus. Sowerby.)

REGISTOMA CUMINGIANA. *Reg. testis crispis, albis, pallide fultei vel albis, politis, subglobulosis, medio et superius tumidi; angustibus quinque, apicalibus parvis, aleris tumidis, albis, ultimo altissimo, ob-*

*lique, apertura rotunda, oblique producta, marginis angusto, cincto rotundis sublinearibus.*

THE CUMINGIAN REGISTOMA. Shell narrow, raised, pale fawnous, or white, polished, rather solid, tumid in the middle and above, high, the last very high, oblique; aperture round, obliquely produced, margin narrow, rounded, anterior notch linear.

PERCUTE. *Adams, Sowerby's Thesaurus Conchyliorum, Pupinidae*, Pl. II, *Registoma*, f. 12, 13.

*Hab.* New Caledonia.

## Species 42. (Mus. Sowerby.)

REGISTOMA GRANDE. *Reg. testis obliqui subglobosi, politis, aurantiis, vel lacteis, vel purpureascenti; angustibus quinque, tribus superioribus brevissimis, dorso retrorsis; penultimo brevi, oblique, ultimo subgloboso, cæcis apertura oblique gibbosa, medio planulata; apertura oblique producta, labio exteriori expanso, columella planulata, truncatis; cincto rotundatis.*

THE LARGE REGISTOMA. Shell obliquely subglobose, polished, orange or milk-white, or purplish; whorls five, three upper very short, turned over the back, last but one short, oblique, last rather globose, obliquely gibbous towards the aperture, flattened in the middle; aperture obliquely produced, outer lip expanded, columella flattened, truncated; notch rounded.

GRAY. *Adams, Sowerby's Thes. Conch. Pupinidae*, Pl. II, *Registoma*, f. 1, 2, 3.

*Hab.* Philippines.

## Species 43. (Mus. Sowerby.)

REGISTOMA FUSCUM. *Reg. testis alta, pyramidalis, fuscovirescenti, politis; spiris acuminatis; angustibus 7, breviusculis, lentis crescentibus, con-*

*vezis, ultimo subrotundo; apertura subcirculari, margine uncinato, labio externo rotundo, columellâ rectâ, truncatâ, rimâ rotundâ.*

THE BROWN REGISTOMA. Shell high, pyramidal, reddish-brown, polished; spire acuminated; whorls seven, rather short, slowly increased, convex, the last rather round; aperture rather circular, margin orange, outer lip rounded, columella straight, truncated, notch round.

GRAY. Adams, Sowb. Thes. Conch. *Pupinidae*, *Registoma*, f. 4, 5.

*Hab.* Philippines.

Species 44. (Mus. Sowerby.)

REGISTOMA SIMILE. *Reg. testâ altâ, subventricosâ, fuscâ, politâ, subpyramidatâ, spirâ obtusâ; anfractibus septem, superioribus brevissimis, testâ ressecudibus, convexis, penultimo majuscubo, ultimo magno; apertura subcirculari, margine albo, labio externo crasso, columellâ crassâ, uncinatâ, rimâ anticâ magno, rotundâ.*

THE SIMILAR REGISTOMA. Shell high, rather ventricose, fulvous, polished, rather pyramidal, spire obtuse; whorls seven, upper rather short, slowly increasing, convex, penultimate rather large; aperture rather circular, margin white, outer lip thick, columella thick, cornered, anterior notch large, rounded.

GRAY. Adams, Sowb. Thes. Conch. *Pupinidae*, Pl. II., *Registoma*, f. 6.

*Hab.* Isl. Lazon, Philippines.

If there be any tangible character besides the white lip distinguishing this species from the preceding, it will be found in the last two whorls being disproportionately ventricose, and the spire being, in consequence, more nearly pyramidal in form.

Species 45. (Mus. Sowerby.)

REGISTOMA PELLUCIDUM. *Reg. testâ angustâ subglobosâ, subpellucidâ, fuscâ, politâ; anfractibus quinque, tribus superioribus brevissimis, dorso retrorsis, penultimo brevi, subretorso, ultimo obliquè recurvo, subgloboso, convexo, aperturam obliquè gibboso, medio paulo planulato; apertura parvâ, margine albo, columellâ angustâ, rimâ lineari.*

THE PELLUCID REGISTOMA. Shell narrowly subglobose, rather pellucid, fulvous, polished; whorls five, three upper very short, turned over the back, last but one short, rather turned backwards, last obliquely raised, somewhat globose, obliquely gibbous towards the aperture, middle a little flattened; aperture small, margin white, columella narrow, notch linear.

SOWERBY. Adams in Thes. Conch. *Pupinidae*, Pl. II., *Registoma*, f. 10, 11.

*Hab.* Isl. Zebu, Philippines.

Species 46. (Mus. Sowerby.)

REGISTOMA COMPLANATUM. *Reg. testâ fuscâ, vel fuscâ, angustâ, subcylindricâ, altâ, politâ, spirâ obtusâ; anfractibus quatuor, duobus superioribus brevibus, rotundis, duobus inferioribus altis, cylindricis; apertura simplici, obliquè productâ, rimâ anticâ lineari.*

THE FLATTENED REGISTOMA. Shell fulvous, or brown, narrow, rather cylindrical, high, polished, spire obtuse; whorls four, upper two short, round, lower two high, cylindrical; aperture simple, obliquely produced, anterior notch linear.

PEASE. Adams, Sowb. Thes. Conch. *Pupinidae*, Pl. II., *Registoma*, f. 14, 15.

*Hab.* Kingsmill Group, Pacific.

A narrower and smaller shell than *Registoma pellucidum*.

Species 47. (Mus. Sowerby.)

REGISTOMA BRAZIERI. *Reg. testâ fuscâ, politâ, altâ, angustâ, medio subventricosâ; apice obtuso; anfractibus quinque tribus, superioribus hecibus, penultimo inflato, ultimo majuscubo, obliquè subattenuato; apertura obliquè productâ, parvâ, circulari, rimâ apertâ.*

BRAZIER'S REGISTOMA. Shell fulvous, polished, high, narrow, rather ventricose in the middle; apex obtuse; whorls five, three upper short, penultimate inflated, last rather large, oblique, anteriorly a little attenuated; aperture obliquely produced, small, circular, notch open.

CRASSE. Journ. de Conch. No. XIII.

*Hab.* Erromanga in the Pacific.



*Catulus*



# PUPINIDÆ.

PLATE VI.

Species 48. (Mus. Hanley.)

**CATAULUS NUDUS.** *Cat. testâ fusiformi, pallide fuscâ, sâ fuscâ, fuscâ-erâ, strigatâ, spirâ albâ, pyramidalâ; anfractibus septem, superioribus leviter convexus, primis et ultimis majusculis, parvis inflatis, ultimâ subulteriore latè carinata; apertura subquadrata, labio externo duplicato, margine exteriori subulato.*

**NIEBER'S CATAULUS.** Shell fusiform, pale fulvous, or brown, striped with brownish-green, spire raised, pyramidal; whorls seven, upper slowly increasing, penultimate and last rather large, a little inflated, last broadly keeled at the umbilicus; aperture somewhat produced, outer lip duplicate, outer margin slightly winged.

**HANLEY.** Indian Shells.

*Hab.* — ? India.

Species 49. (Mus. — ? Copied.)

**CATAULUS TORTUOSUS.** *Cat. testâ albâ, fusiformi; anfractibus septem, rotundis, inflatis, ultimâ infusâ carinata, ad aperturam leviter apertâ distantî, obliquè productâ, margine latè pro reflexo.*

**THE TORTUOUS CATAULUS.** Shell white, fusiform; whorls seven, rounded, lower inflated, last keeled below, bossed at the aperture; aperture distant, obliquely produced, margin entire, reflecte.

**GEAY.** — ? Adams, Sowb. Thes. Conch. *Pupinidæ*, Pl. II., Catalogus, f. 1.

*Hab.* Nicobar Island.

Species 50. (Mus. — ? Copied.)

**CATAULUS CALCADENSIS.** *Cat. testâ fuscâ, albâ, subfusiformi, obliquè striatâ; anfractibus septem, convexis, suturâ pyramidalâ; ultimâ angulatâ latè carinata; apertura disjunctâ, perpendiculariter subulata, anticâ rotundâ, rimâ anticâ maximâ, labio externo duplicato.*

**THE CALCADIAN CATAULUS.** Shell brown, high, sub-cylindrical, oblique, striated, whorls seven, convex, suture deep; last whorl with a wide keel, aperture disjoined, perpendicularly rather ovate, anteriorly beaked, anterior notch very large, outer lip double.

**BEDDOME.** Hanley, Indian Shells.

*Hab.* Calcutta, India.

Species 51. (Mus. Brit.)

**CATAULUS DUPLICATUS.** *Cat. testâ fuscâ, rubescenti, subpyramidalâ, robustâ, medio et supra subinflata, angulatis octo, superioribus brevibus, attenuatis, ultimis tribus albis, inflatis; umbilico magno, carinâ crassa; apertura rotunda, auriculâ.*

**THE DUPLICATE CATAULUS.** Shell reddish-brown, rather pyramidal, robust, rather inflated in and below the middle; whorls eight, upper short, attenuated, last three high, inflated; umbilicus large, keel thick; aperture round, orange.

**PREIFFER.** Adams, Sowb. Thes. Conch. *Pupinidæ*, Pl. II., Catalogus, f. 2.

*Hab.* Ceylon.

Species 52. (Mus. Brit.)

**CATAULUS CUMINGII.** *Cat. testâ fuscâ, solidâ, subfusiformi, angulatis rugatâ; spirâ acuminatâ, infra medium inflata, umbilico majusculo, carinâ prominenti; apertura subquadrata, margine albo, labio externo lato, leviter duplicato, rimâ anticâ maximi.*

**CUMING'S CATAULUS.** Shell brown, solid, rather fusiform, angularly wrinkled; spire acuminated, inflated below the middle, umbilicus rather large, keel prominent; aperture rather round, margin white, outer lip broad, slightly double, anterior notch very large.

**PREIFFER.** Adams, Sowb. Thes. Conch. *Pupinidæ*, Pl. II., Catalogus, f. 3.

*Hab.* Ceylon.

## Species 53. (Mus. Hanley.)

**CATAULUS BLANFORDI.** *Cat. testâ fuscâ-rubescenti, pyramidatâ, albâ, superiôr attenuatâ; anfractibus novem, tribus inferioribus subinflatis, conevriusculis, umbilico angustiusculo, carinâ crassâ; apertura suborâtâ, margine auriculâ, lato, convexo, rimâ anticâ maximâ.*

**BLANFORD'S CATAULUS.** Shell red-brown, pyramidal, high, attenuated above; whorls nine, three lower rather inflated, rather convex; umbilicus rather narrow, keel thick; aperture rather ovate, margin orange, broad, convex, anterior notch very large.

**DOBIX.** Adams, Sowb. Thes. Conch. *Pupinidæ*, Pl. II., *Catulus*, f. 8.

*Hab.* Kandy, Ceylon.

## Species 54. (Mus. Sowb.)

**CATAULUS THWAITESII.** *Cat. testâ fusca-rubescenti, fusiformi, robustâ, breviusculâ; anfractibus septem, mediâ inflatis, ultimo infri ante carinam contracto, umbilico parvo; apertura suborâtâ, margine lato, duplicato, albo.*

**THWAITES'S CATAULUS.** Shell reddish-brown, fusiform, robust, rather short; whorls seven, middle inflated, last below contracted before the keel; umbilicus small; aperture rather oval, margin broad, doubled, white.

**PFEIFFER.** Adams, Sowb. Thes. *Pupinidæ*, Pl. II., *Catulus*, f. 6.

*Hab.* Ceylon.

## Species 55. (Mus. Sowb.)

**CATAULUS BECCEVALUS.** *Cat. testâ latè pyramidatâ, striatâ, carinâ, apice acuminatâ, rubicâ; anfractibus septem, rotundis, æqualiter crescentibus, ultimo ante carinam contracto, umbilico angusto, carinâ tenui; apertura majuscule, margine lato, duplicato, infri ad rimam recurvato, rimâ maximâ.*

**THE BECCEVED CATAULUS.** Shell broadly pyramidal, straw-coloured, ventricose, apex acuminated, red; whorls seven, rounded, equally increased, last contracted before the keel, umbilicus nar-

row, keel thin; aperture rather large, margin broad, doubled, bent backwards below the notch, notch very large.

**A. ADAMS.** Sowb. Thes. Conch. *Pupinidæ*, Pl. II., *Catulus*, f. 16.

*Hab.* Ceylon.

The duplicate edge of the aperture, where interrupted by the notch, terminates at each side in a prominent point.

## Species 56. (Mus. Hanley.)

**CATAULUS EURYPTERMA.** *Cat. testâ rubrâ, ventricosâ, pyramidatâ, versus apicem attenuatâ, acuminatâ, medio et infri inflatâ; anfractibus novem, duobus ultimis latis, inflatis, ultimo ad carinam contracto, umbilico lato, carinâ acutâ; apertura perpendiculariter oblongâ, marginibus externo et antico latissimis, labio externo leviter duplicato, rimâ maximâ.*

**THE BROAD-EDGED CATAULUS.** Shell red, ventricose, pyramidal, attenuated towards the apex, acuminated, inflated in and below the middle; whorls nine, two last broad, inflated, last contracted at the keel, umbilicus broad, keel sharp; aperture perpendicularly oblong, outer and lower margins very wide; outer lip slightly double, notch very large.

**PFEIFFER.** Adams, Sowb. Thes. Conch. *Pupinidæ*, Pl. II., *Catulus*, f. 17.

*Hab.* Ceylon.

## Species 57. (Mus. Sowb.)

**CATAULUS LAYARDI.** *Cat. testâ breviusculâ, flavidâ, pyramidatâ, spirâ acuminatâ; anfractibus convexis, umbilico lato, carinâ acutâ; apertura albâ, margine utrinque duplicato, rimâ parvâ, rotundâ.*

**LAYARD'S CATAULUS.** Shell rather short, yellow, pyramidal, spire acuminated; whorls convex, umbilicus broad, keel sharp; aperture white, margin doubled on each side, notch small, round.

**GRAY.** Adams, Sowb. Thes. Conch. *Pupinidæ*, Pl. II., *Catulus*, f. 7.

*Hab.* Ceylon.





*Catalanus*



59



58



60



56



61



62



63



64



65



66

## PUPINIDÆ.

PLATE VII.

### (CATAULUS.)

Species 58. (Fig. a, b. Mus. Brit.)

**CATAULUS MARGINATUS.** *Cat. testâ angustâ, pyramidalâ, albâ vel fuscâ; anfractibus octo, leatâ crescentibus, umbilicatum rugatis, ultimo infâ contracto, acutè carinato, setis carinata umbilicatis; aperturâ subrotundâ, rimâ parvâ, labiis setis duplicatis, infâ ad rimam acutè rostratâ.*

**THE BORDLED CATAULUS.** Shell narrowly pyramidal, white or brown; whorls eight, slowly increased, with wavy wrinkles, the last contracted below, acutely keeled, widely umbilicated within the keel; aperture rather rounded, notch small, outer lip duplicated, sharply beaked below at the notch.

PFEIFFER. *Mon. Helicorum.*

*Hab.* Ceylon.

Species 59. (Mus. Sowerby.)

**CATAULUS AUSTENIANUS.** *Cat. testâ latè pyramidalâ, brevissimâ, ventricosâ; fusco-rubescente; anfractibus octo, convexis; ultimo carinâ crassâ et umbilico magno truncantibus; aperturâ magnâ, rotundâ, margine aurantiâ, incrassato, lato, convexo; rimâ magnâ, rotundâ.*

**AUSTEN'S CATAULUS.** Shell broadly pyramidal, rather short, ventricose; reddish brown; whorls eight, convex, last ending with a thick keel and large umbilicus; aperture large, round, margin orange, thickened, convex, broad; notch large, rounded.

BENSON. *Ann. Nat. Hist. Ser. 2.*

*Hab.* Ceylon.

Species 60. (Mus. Hanley.)

**CATAULUS PYRAMIDATUS.** *Cat. testâ latè pyramidalâ, ventricosâ, fusco-rubescente, tenuiter striatâ; anfractibus septem, ultimo convexo, carinâ crassâ et*

*umbilico latè truncato; aperturâ rotundâ, margine albo, lato, planissimo, rimâ obliquâ, magnâ.*

**THE PYRAMIDAL CATAULUS.** Shell broadly pyramidal, ventricose, reddish brown, finely striated; whorls seven, the last convex, ending in a thick keel and broad umbilicus; aperture rounded, margin white, broad, flattened, notch oblique, very large.

PFEIFFER. *Proc. Zool. Soc. 1852.*

*Hab.* Ceylon.

Species 61. (Mus. Hanley.)

**CATAULUS REMASTOMUS.** *Cat. testâ latè pyramidalâ, obliquè striatâ, fulvâ; apice acuminato; anfractibus octo, convexis, ultimo carinato, supra carinam contracto; aperturâ uncinatâ, rotundâ; margine latissimo, convexo, viridè rubro, ad suturam elevato, infâ rotundè rostrato, rimâ magnâ, rotundâ.*

**THE RED-MOUTHED CATAULUS.** Shell broadly pyramidal, obliquely striated, fulvous; apex acuminate; whorls eight, convex, the last keeled, contracted above the keel; aperture very large, rounded; margin very broad, convex, bright red, raised at the suture, roundly beaked below, notch large, round.

PFEIFFER. *Proc. Zool. Soc. 1852.*

*Hab.* Ceylon.

More elegantly fusiform and acuminate than the two preceding.

Species 62. (Mus. Sowerby.)

**CATAULUS TEMPLEMANI.** *Cat. testâ subfusiformi, angustâ, fusco-rubescente; anfractibus octo, mediocris subcentricis, ultimo infâ contracto, umbilico angustissimo; aperturâ subovatâ, margine viridè aurantiâ, angustâ, infâ in rostrum obtusissimum productâ; rimâ parvâ.*

TEMPLEMAN'S CATAULUS. Shell rather fusiform, narrow, reddish brown; whorls eight, middle ones rather ventricose, last contracted below, with a rather narrow umbilicus; aperture rather ovate, margin bright red, narrow, produced below in a very obtuse beak; notch small.

PFEIFFER. Adams. Sowb. Thes. Conch. *Pupinidæ*, Cataulus, Fig. 62.

*Hab.* Ceylon.

Species 63. (Mus. Hanley.)

CATAULUS LEUCOCHEILUS. *Cat. testâ pyramidatâ, striatâ, flavidâ; anfractibus octo, medianis subcentricosis, apicalibus parvis, attenuatis, ultimo supra carinam validè contracto; carinâ acutâ; umbilico magno; aperturâ subovata, margine expanso, albo, reflexo, recurvo, ad suturam elevato, ad rimam producto; rimâ marinatâ.*

THE WHITE-EDGED CATAULUS. Shell pyramidal, striated, yellow; whorls eight, middle subventricose, apical small, attenuated, last strongly contracted above the keel; keel sharp; umbilicus large; aperture rather ovate, margin expanded, white, reflected, bent backwards, raised at the suture, produced at the notch; notch very large.

A. ADAMS. Sowb. Thes. Conch. *Pupinidæ*, Cataulus, Fig. 62.

*Hab.* Ceylon.

Species 64. (Mus. Hanley.)

CATAULUS DECORUS. *Cat. testâ subfusiformi, levigatâ, rubro-fuscâ; anfractibus septem, subelevatis, convexis, ultimo supra carinam validissimè coarctato; carinâ magnâ, acutâ; aperturâ parvâ, subovata, margine lato, expanso, ad suturam elevato, subalato, infra rostrato, rimâ magnâ.*

THE DECOROUS CATAULUS. Shell subfusiform, smooth,

reddish-brown; whorls seven, rather elevated, convex, last very strongly contracted above the keel; keel large, sharp; aperture small, subovate, margin broad, expanded, raised and somewhat winged at the suture, beaked below, notch large.

BENSON. Adams. Sowb. Thes. Conch. *Pupinidæ*, Cataulus, Fig. 13.

*Hab.* Ceylon.

Species 65. (Mus. Hanley.)

CATAULUS AUREUS. *Cat. testâ altâ, subfusiformi, avrantâ, tenider striatâ; anfractibus septem, altis, tribus vel quatuor apicalibus roseis, attenuatis, medianis subcentricosis, ultimo elevato; aperturâ mediovri; margine duplicato, extus expanso, infra validè rostrato; rimâ marinatâ.*

THE GOLDEN CATAULUS. Shell raised, subfusiform, orange, finely striated; whorls seven, elevated, three or four apical rosy, attenuated; middle rather ventricose, last raised; aperture middle-sized; margin double, expanded on the outside, strongly beaked below; notch very large.

HANLEY. Indian Shells, Pl. 106, Fig. 9.

*Hab.* India.

(ARINIA.)

Species 66. (Mus. —? Copied.)

ARINIA MINOR. *Ar. testâ parvâ, pupiformi, fuscâ; anfractibus quatuor, brevibus, rotundis, superioribus elevato-striatis; aperturâ rotundâ, margine albo, integro.*

THE SMALL ARINIA. Shell small, pupa-shaped, brown; whorls four, short, rounded, upper ridge striated; aperture round, margin white, entire.

SOWERBY (Cyclostoma). Adams. Sowb. Thes. Conch. *Pupinidæ*, Arinia, Fig. 1.

*Hab.* Isl. of Paauy, Philippines.



*Pelticarya*



68



67



69

*M. caelestensis*



71



70



72



73



74



75



76

# PUPINIDÆ.

PLATE VIII.

## (POLLICARIA OR HYBOCISTIS.)

Species 67. (Mus. Sowerby.)

**POLLICARIA MICHOTI.** *Pol. testâ solidâ, ventricosâ, breviter pupiformi, fusâ; apicibus quinque, rapidè cæscantibus, ultimo magno, albo, viz uno latere gibboso; umbilicus parvo, obliquo; apertura magnâ, subrotundâ, posticè subacuminatâ; margine aævato, rotundo.*

**MICHOT'S POLLICARIA.** Shell solid, ventricose, short, brown-purple, pupa-shaped; whorls five, rapidly increased, the last large, elevated, a very little gibbous on one side; umbilicus small, oblique; aperture large, rather round, slightly acuminated posteriorly; margin orange, round.

PEIFFER. Proc. Zool. Soc. 1862, p. 276.

*Hab.* Camboja, Lao Mountains.

Species 68. (Mus. Brit.)

**POLLICARIA GRAVIDA.** *Pol. testâ solidâ, ventricosâ, breviter pupiformi, fusâ; subrotundâ; apice obtuso, angustibus quinque, tribus apicalibus brevibus, rapidè cæscantibus, penultimo ventricoso, unilaterè gibboso, ultimo magno, obliquo, uno latere gibbâ; infra angustâ, rimatâ, umbilicatâ; apertura subrotundâ, margine duplicatâ, margine externo supra suturam dilatâ, sublobulâ, margine interno anticiè ultra suturam extenso.*

**THE HEAVY POLLICARIA.** Shell solid, very ventricose, shortly pupiform, fulvous, a little tortuous; apex obtuse, whorls five, three apical short, rapidly increased, penultimate ventricose, gibbous on one side; last large, oblique, gibbous on one side, narrow below, notched, umbilicated; aperture rather rounded, margin duplicated, outer margin raised above the suture, a little tubular; inner margin anteriorly extended beyond the outer.

BENSON. Adams. Sowb. Thes. Conch. *Papinidæ*.  
*Pollicaria*. Fig. 5.

*Pollicaria pollæ*. Gould.

*Hab.* Moulmein, India.

Species 69. (Mus. Brit.)

**POLLICARIA MYERSI.** *Pol. testâ magnâ, inflatâ, fusâ, fusiformi; apice obtuso; angustibus quinque, apicalibus tribus parvis, penultimo magno, ultimo*

*magno, infra angustè umbilicatâ; apertura magnâ, apicè subacuminatâ, margine duplicatâ.*

**MYERS' POLLICARIA.** Shell large, inflated, fulvous, fusiform; apex obtuse; whorls five, three apical small, last but one large, last very large; narrowly umbilicated below; aperture large, a little acuminated above, margin doubled.

HAINES. Adams. Sowb. Thes. Conch. *Papinidæ*.

*Pollicaria*, Fig. 11.

*Hab.* Siam.

## (MEGALOMASTOMA.)

Species 70. (Mus. Brit.)

**MEGALOMASTOMA LOWI.** *Meg. testâ breviter rotundâ, pupiformi, purpureo-fusâ; apice acuminatâ; angustibus septem, gradatim cæscantibus, uno rotundatâ; ultimo ad medium carinatâ, apertura rotundâ, margine duplicatâ, expansâ, infra aævato, extenso alio, planatâ.*

**LOWI'S MEGALOMASTOMA.** Shell rather short, pyramidal, purple-fulvous; apex acuminated; whorls seven, gradually increased, rather convex, last keeled at the umbilicus; aperture round, margin duplicated, expanded, orange within, white without, rather flattened.

ADAMS and SOWERBY. Thes. Conch. *Papinidæ*, *Megalomastoma*.

*Hab.* Labuan.

Species 71. (Mus. Sowerby.)

**MEGALOMASTOMA TORTUM.** *Meg. testâ solidâ, ventricosâ, pupiformi; angustibus sex, rotundis, tribus apicalibus brevibus, rotundis, parvis, fulvis, ultimo pupiformi magno, uno penultimo angustè rotundâ, apice alio, margine rotundâ, labio interno angustè, externo angustè infra alio.*

**THE TWISTED MEGALOMASTOMA.** Shell solid, ventricose, pupa-shaped; whorls six, rounded, three apical short, rounded, pale fulvous, last blackish-purple, narrower than the penultimate; aperture circular, margin rolled, inner lip narrow, outer winged above and below.

WOOD. Suppl. Pl. 6, p. 23.

*Cyclostoma auriculatum*. D'ORB.

*Cyclostoma abatacum*. MENCKE.

*Cyclostoma apertam*. POEY.

*Cyclostoma digitale*. Gundlach.  
*Cyclostoma Taylorianum*. Pfeiffer.  
*Cyclostoma idolam*. Ferrissac.  
*Cyclostoma bicolor*. Guilding.  
*Cyclostoma scuinudum*. Pöcy.  
 Hab. Cuba.

## Species 72. (Mus. Brit.)

MEGALOMASTOMA SIMULACRUM. *Meg. testâ elatâ, pyramidatâ, rubro-fuscâ, tenuiter striatâ; anfractibus decem, convexis; aperturâ circulari, margine duplicato, latere interno angustè elevato, externo latè reflexo, expanso, planulato, albo; apud anfractum ultimum angustato, sinuatum plicato.*

THE IMAGE MEGALOMASTOMA. Shell elevated, pyramidal, reddish-brown, finely striated; whorls ten, convex; aperture circular, margin duplicate, on the inner side narrowly elevated, on the outer broadly reflected, expanded, flattened, white; narrowed and sinuously plaited against the last whorl.

MORELET. Adams. Sowb. Thes. Megalomastoma, Fig. 3, 4.

Hab. Guatemala.

## Species 73. (Mus. Sowerby.)

MEGALOMASTOMA GUATEMALENSE. *Meg. testâ elatâ, pyramidatâ, angustâ, turribi, fuscâ; anfractibus rotundis, gradatim crescentibus, ultimo angustè umbilicato, carinato; aperturâ subrotundâ, margine reflexo, angustâ, albo.*

THE GUATEMALA MEGALOMASTOMA. Shell elevated, pyramidal, narrow, turrited, brown; whorls round, gradually increased, last narrowly umbilicated, carinated; aperture rather rounded, margin reflected, narrow, white.

PEFFFER. Adams. Sowb. Thes. Megalomastoma, Fig. 6.

Hab. Guatemala.

## Species 74. (Mrs. Sowerby.)

MEGALOMASTOMA LEONINUM. *Meg. testâ brevi, brevi, pupiformi, fulvâ, solidâ, ventricosâ; anfractibus quinque, ultimo minimo, infra carinato et umbilicato; aperturâ magna, subcirculari, margine albo, angustâ, reflexo, rotundo.*

THE LEONINE MEGALOMASTOMA. Shell short, smooth, pupa-shaped, fulvous, solid, ventricose; whorls

five, last large, keeled and umbilicated below; aperture large, subcircular, margin white, narrow, reflected, rounded.

PEFFFER. Adams. Sowb. Thes. Conch. *Pupinidæ* (Megal.) Fig. 7.

Hab. Cuba.

A shorter shell than *M. tortum*, with the margin of the aperture not winged.

## Species 75. (Mus. Brit.)

MEGALOMASTOMA FUNICULATUM. *Meg. testâ angustâ, pupiformi, altâ; anfractibus sex, rectilinculis, superioribus attenuatis; ultimo alto, rectilincali, infra subcirculari et umbilicatâ; aperturâ flavidâ, subauriformi, margine angustè reflexo, rotundo, integro.*

THE CHIMNEY-SHAPED MEGALOMASTOMA. Shell narrow, purple-brown, pupa-shaped, high; whorls six, rather straight, upper attenuated; last high, straight-sided, slightly keeled and umbilicated; aperture yellowish, rather auriform, margin narrowly reflected, rounded, entire.

BENSON. Adams. Sowb. Thes. Conch. Megalomastoma, Fig. 8.

Hab. Darjiling, India.

## Species 76. (Mus. Brit.)

MEGALOMASTOMA BITUBERCULATUM. *Meg. testâ solidâ, altâ, ventricosâ, pupiformi; anfractibus sex, convexis, superioribus pallidis, inferioribus purpureis; suturâ profundissimâ; aperturâ circulari, margine latè reflexo; latere externo foliatim duplicato, apud anfractum ultimum rotundè bialato, post aperturam canaliculato.*

THE BITUBERCULATED MEGALOMASTOMA. Shell solid, high, ventricose, pupa-shaped; whorls six, convex, upper pale, lower purple; suture very deep; aperture circular, margin broadly reflected; outer side doubly foliated, roundly two-winged, with a canal behind the aperture.

SOWERBY. Adams. Sowb. Thes. Megalomastoma, Fig. 10.

*Cyclostoma solenatum*. Pöcy.

Hab. Cuba.

A bolder and more cylindrical shell than *Megalomastoma tortum*, with the alæ on the margin of the lip at the interrupted part rounded and conspicuous.





*Megalomastoma.*



78



77



79



80



81



82



83



84



85



86

# PUPINIDÆ.

PLATE IX.

## (MEGALOMASTOMA)

Species 77. (Mus. Sowerby.)

MEGALOMASTOMA D'ORRIGNYI. *Mag. testâ oblongo-pyriformi, levigatâ, omnino pallide aversâ vel fuscâ-aurantâ, anfractibus inferioribus fuscâ fuscâ levâ pictâ; anfractibus scæ. primis rotundis, brevibus; melioribus carceriâ-auralis, altis; ultimo altissimo, infra præpe aperturam carinata, angustè umbilicatè; aperturâ anticâ subproductâ, circulari, margine integro, rotundo.*

D'ORRIGNY'S MEGALOMASTOMA. Shell oblong-subcylindrical, smooth, all over pale orange or brown orange, with the lower whorls painted with a broad brown band; whorls six, the first rounded, short; middle rather convex, high; last very high, keeled below near the aperture, narrowly umbilicated; aperture anteriorly rather produced, circular, margin entire, rounded.

PFEIFFER, Adams. *Thes. Conch. Papinida*, Megalomastoma, Fig. 12, 13.

*Hab.* Haïti, Peru.

Species 78. (Mus. Sowb.)

MEGALOMASTOMA SUSPENSUM. *Mag. testâ angustè pyriformi, oblique striatâ, fumoso-fuscâ; anfractibus novem, gradatim crescentibus; ultimo alto, infra umbilicatè et carinato; aperturâ descendente, sub-rotundâ, margine angustè, albo, planulatè, ad suturam acuminatè.*

THE SUSPENDED MEGALOMASTOMA. Shell narrowly pyramidal, obliquely striated, smoky-brown; whorls nine, gradually increased; last high, umbilicated and keeled below; aperture descending, rather ovate, margin narrow, white, flattened, acuminated at the suture.

GULBING, Adams. *Sowb. Thes. Papinida*, Megalomastoma, Fig. 14.

*Cyclostoma Antillarum*, Sowerby.

*Hab.* Isl. St. Thomas, Antilles.

Species 79. (Mus. —? Copied.)

MEGALOMASTOMA VERRUCOSUM. *Mag. testâ brevi, subpyramidatâ, obscure fulcâ, minutè nodulâsi; anfractibus sex, gradatim crescentibus, ultimo ante*

*aperturâ aversissimè umbilicatè, aperturâ subrotundâ, integro-albo, crasso.*

THE WARTED MEGALOMASTOMA. Shell short, rather pyramidal, dull brown, minutely nodose, whorls six, gradually increased, last very narrowly umbilicated before the aperture; aperture rather round, margin white, convex.

SHUTTLEWORTH, Adams. *Sowb. Thes. Papinida*, Megalomastoma, Fig. 15.

*Hab.* Porto Rico.

Species 80. (Mus. Brit.)

MEGALOMASTOMA COMPLANATUM. *Mag. testâ solidâ, pupiformi, ventricosâ, fusco-purpurâ, ad suturam albo-lineatâ; anfractibus quinque, penultimo maximo, ultimo subcompresso; umbilico angustissimo; aperturâ magnâ, circulari; margine albo, crasso, apud anfractum ultimum partim interrupto.*

THE FLATTENED MEGALOMASTOMA. Shell solid, pupa-shaped, ventricose, brown-purple, with a white line at the suture; whorls five, penultimate very large; last a little compressed; umbilicus very narrow; aperture large, circular; margin white, thick, partly interrupted against the body-whorl.

PFEIFFER, Adams. *Thes. Conch. Papinida*, Megalomastoma, Fig. 16.

*Hab.* Cuba.

The last whorl is a little flattened in front.

Species 81. (Mus. Sowerby.)

MEGALOMASTOMA CROCÆUM. *Mag. testâ ovato-acuminatâ, levâ, aurantâ, vel pallidè fulcâ, anfractibus inferioribus fusco-fuscâ; anfractibus septem, superis angustioribus, infra angustè umbilicatâ; aperturâ ovatâ, posticè angustiusculâ, margine angustè, duplicatè.*

THE YELLOW MEGALOMASTOMA. Shell ovate-acuminated, smooth, orange, or pale fulvous, with brown bands on the lower whorls; whorls seven, rather narrow above; below narrowly umbilicated; aperture ovate, posteriorly rather narrow, margin narrow, doubled.

SOWERBY, *Thes. Conch. Papinida*, Megalomastoma, Fig. 7.

*Cyclostoma bifasciatum*. Sowerby  
*Cyclostoma Gouldianum*. Petri.  
 Hab. Mauritius. (Var. fasciatum.) GUYANAQUIL.

## Species 82. (Mus. Sowerby.)

MEGALOMASTOMA MANI. *Meg. testâ subpyramidalâ, auro-fulvâ, leviter striatâ, apice acuminatâ; anfractibus septem, superioribus quinque brevibus, rotundis, penultimo magno, ultimo magno, infra umbilicatâ; aperturâ rotundâ, margine crasso, rotundo, suprâ infrâque prope anfractuum ultimam paulo expansâ.*

MAN'S MEGALOMASTOMA. Shell rather pyramidal, golden-fulvous, finely striated, apex acuminated; whorls seven, upper five short, round, penultimate large, last large, umbilicated below; aperture round, margin thick, rounded, a little expanded above and below near the last whorl.

POEY. Adams. Sowb. Thes. Conch. *Pupinidæ*, Megalomastoma, Fig. 18.

*Megalomastoma procerum* (var.). Poey.  
 Hab. Cuba.

This species is not so cylindrical as *Megalomastoma tortum*, but tapers towards the apex.

## Species 83. (Mus. Hanley.)

MEGALOMASTOMA ANASTOMA. *Meg. testâ breviter pyramidalâ, acuminatâ, purpureo-fuscâ; anfractibus sex, rapidè crescentibus; aperturâ magnâ, circulari; margine albo, expanso, apud anfractuum ultimum interrupto.*

THE WRY-MOUTHED MEGALOMASTOMA. Shell shortly pyramidal, acuminated, purple-brown; whorls six, rapidly increased; aperture large, circular; margin white, expanded, interrupted against the last whorl.

BENSON. Adams. Sowb. Thes. *Pupinidæ*, Megalomastoma, Fig. 20.

Hab. India.

The peritreme is white and more broadly expanded than in *M. Lowei*.

## Species 84. (Mus. —? Copied.)

MEGALOMASTOMA GUILDINGIANUM. *Meg. testâ minutâ, brevi, pupiformi, anfractibus superioribus albis,*

*apice obtuso; anfractibus quinque, brevibus, rotundis, penultimo inflato; ultimo intense purpureo; vie contracto, umbilicato; aperturâ subcirculari, margine angusto, albo, rotundo.*

GUILDING'S MEGALOMASTOMA. Shell minute, short, pupa-shaped, upper whorls white, apex obtuse; whorls five, short, round, last but one inflated; last deep purple, a very little contracted, umbilicated; aperture nearly circular, margin narrow, white, rounded.

PEREFEE. Adams. Sowb. Thes. Conch. *Pupinidæ*, Megalomastoma, Fig. 21.

Hab. West Indies.

This minute shell is like a miniature representation of *M. tortum*.

## Species 85. (Mus. —? Copied.)

MEGALOMASTOMA FAUFERCELEM. *Meg. testâ minutâ, pupiformi, altiusculâ, anfractibus superioribus albis, convexis; spirâ acuminatâ, medio convexâ; anfractibus sex, convexiusculis, penultimo inflato, ultimo subcontracto, umbilicato, intense purpureo; aperturâ circulari, margine albo, duplicato.*

THE POOR LITTLE MEGALOMASTOMA. Shell minute, pupa-shaped, rather high, with the upper whorls white, convex; spire acuminated, middle convex; whorls six, rather convex, last but one inflated, last rather contracted, umbilicated, deep purple; aperture circular, margin white, double.

PFEIFFER. Adams. Sowb. Thes. Conch. *Pupinidæ*, Megalomastoma, Fig. 22.

Hab. West Indies.

Resembling *M. Guildingianum* in size and general appearance, but more acuminated, and with the rim doubled.

## Species 86. (Mus. Sowerby.)

MEGALOMASTOMA ALTUM. *Meg. testâ angustè pyramidalâ, purpureo-fuscâ, levigatâ; anfractibus septem convexis, ultimo alto, umbilicato; aperturâ subcirculari, margine duplicato, albo.*

THE HIGH MEGALOMASTOMA. Shell narrowly pyramidal, purple-brown, smooth; whorls seven, convex, last high, umbilicated; aperture rather circular, margin doubled, white.

SOWERBY. Adams. Thes. Conch. *Pupinidæ*.

Hab. Isl. Negroes.



*Megalomastoma*



88



87



89



91



90



92

*Baphantus*



93



94



95



96



97

# PUPINIDÆ

PLATE X.

Species 87. (Mus. Brit.)

**MEGALOMASTOMA PUNGLA.** *Meg. testâ albâ, solidâ, pupa-  
formi, anfractibus sex, convexis, spirâ profundâ  
spiraticâ, ultimo angustissimo umbilicato; aperturâ  
anteriori obliquè productâ, bimarginatâ, a regione  
interiori altera exteriori vix obliquè extensa.*

**THIRALON MEGALOMASTOMA.** Shell white, solid, pupa-  
shaped, whorls six, convex, separated by a deep  
suture; last very narrowly umbilicated; apertur-  
e anteriorly obliquely produced, with a double  
margin, interior margin extended obliquely be-  
yond the outer.

**PÖEY.** Adams, Sowb. Thes. Conch. *Papinidæ*, Mega-  
lomastoma, Fig. 29.

*Hab.* Cuba.

The mouth is bordered by a kind of double rim, the  
inner rim being, as it were, pushed out obliquely in  
front, so as to overlap what would otherwise be the  
outer.

Species 88. (Mus. Brit.)

**MEGALOMASTOMA SEPTILABRUM.** *Meg. testâ pyramidalî,  
altâ, acuminatâ, pallidissimâ fulcâ; anfractibus  
octo, levibus, convergentibus, delicibus; ultimo  
infra infusciatâ, tum angustissimè umbilicatâ;  
aperturâ subovata, margine duplicatâ, parte exteriori  
ad anfractum ultimum interruptâ, interiori integâ.*

**THE SLIT-LIPPED MEGALOMASTOMA.** Shell pyramidal,  
raised, acuminated, very pale fulvous; whorls eight,  
smooth, convex, sloped; last single-banded, very  
narrowly umbilicated; aperture rather ovate,  
margin duplicated, the outer part being interrupted  
at the body whorl, the inner part entire.

**GUILDING.** Adams, Sowb. Thes. Conch. *Papinidæ*,  
Megalomastoma, Fig. 24.

*Hab.* Tavoy, Birmanh.

Species 89. (Mus. — ? Copied.)

**MEGALOMASTOMA VENTRICOSUM.** *Meg. testâ solidâ, ven-  
tricosisssimâ, levî, fusco-rubescenti; anfractibus  
quinque, convexis, latis; penultimo inflato; ultimo  
purpurascenti, infra subangustâ, profundè um-  
bilicato; aperturâ magnâ, circulari; margine  
crasso, aurantiâ, rotundo, apud anfractum ultimum  
partim interrupto.*

**THE VENTRICOSE MEGALOMASTOMA.** Shell solid, very  
ventricose, short, reddish-brown; whorls five, con-  
vex, broad; penultimate inflated; last rather purplish,  
a little narrowed below, deeply umbilicated;  
aperture large, round; margin thick, orange,  
round, partly interrupted at the last whorl.

**D'ORBIGNY.** Adams, Sowb. Thes. Conch. *Papinidæ*,  
Megalomastoma, Fig. 25.

*Hab.* Cuba.

Much more short and ventricose than *Meg. testâ*.

Species 90. (Mus. Brit.)

**MEGALOMASTOMA GUNDBACHII.** *Meg. testâ hecâ, pupa-  
formi, aurantiâ-fuscâ; apicè obtusâ; anfractibus  
quinque, tribus superioribus rotundis, penultimo  
magno, retibuscâ, ultimo altissimo, vix, infra  
curvato, umbilicatâ; aperturâ maximâ, circulari,  
margine crasso, rotundo, apud anfractum ultimum  
semi-interrupto.*

**GUILDING'S MEGALOMASTOMA.** Shell short, pupa-  
shaped, orange-brown; apex obtuse; whorls  
five, three upper rounded, penultimate large,  
rather straight, last very high, straight, keeled  
below, umbilicated; aperture very large, circular,  
margin thick, rounded, half interrupted  
against the last whorl.

**PFEIFFER.** Adams, Sowb. Thes. Conch. *Papinidæ*,  
Megalomastoma, Fig. 26.

*Hab.* Cuba.

Species 91. (Mus. Brit.)

**MEGALOMASTOMA CYLINDRACEUM.** *Meg. testâ altissimâ,  
cylindricâ, aurantiâ (nonnunquam ultimo an-  
fractu infusciatâ), crasso apicem attenuatâ;  
anfractibus octo, altis, rectis; aperturâ ovatâ,  
margine albo, angustâ.*

**THE CYLINDRICAL MEGALOMASTOMA.** Shell very high,  
cylindrical, orange, sometimes with the last  
whorl single-banded, attenuated towards the  
apex; whorls eight, high, straight; aperture  
ovate, margin white, narrow.

**CHEMNITZ.** Adams, Thes. Conch. *Papinidæ*, Mega-  
lomastoma, Fig. 27.

*Turbo glutinosus.* Wood.

*Helix ovata.* Gmelin.

*Cyclostoma fluviala.*

*Hab.* Porto Rico.

More elevated and cylindrical than *M. D'Orbigny*.

Species 92. (Mus. Sowb.)

**MEGALOMASTOMA SEBINA.** *Meg. testâ ovali-sub-  
pyramidalî, ovalicâ, levigatâ, subarminatâ,  
fulcâ; anfractibus sex, convergentibus, ultimo magno,  
infra curvato, angustè umbilicato, aperturâ subro-  
tundâ, anticè obliquè productâ, margine crasso, du-  
plicato, parte interiori vix altera exteriori in-  
tercisa.*

THE EVENING MEGALOMASTOMA. Shell ovate-subpyramidal, ventricose, smooth, rather acuminate, fulvous; whorls six, rather convex, last large, keeled below, narrowly umbilicated; aperture rather rounded, anteriorly obliquely produced, margin thick, double, inner part extended in front beyond the outer.

ADAMS. Sowb. Thes. Conch. *Papinida*, Megalomastoma, Fig. 28.

Hab. Cuba.

## (RAPHAULUS)

Species 93. (Mus. — ? Copied.)

RAPHAULUS BOMBAZINUS. *Rap. testâ breviter pupiformi, fusco-subaureâ, apice acuminato; anfractibus septem, quinque superioribus parvis, horibus, pyramidalis, penultimo brevissimo, rotundè prominenti, ultimo magno, rectilinculo; apertura magna, rotundâ, margine lato, circulariter canalculato; tubi rotundâ brevissimi.*

THE BOMBAZINE RAPHAULUS. Shell shortly pupaform, golden-brown; apex acuminate, whorls seven, five upper small, short, pyramidal; penultimate rather short, roundly prominent, last large, rather straight; aperture large, round, margin broad, circularly channelled; tube round, very short.

PEIFFER. Adams, Sowb. Thes. Conch. *Papinide*, Raphaelus, Fig. 3, 7.

Hab. India.

Species 94. (Mus. — ? Copied.)

RAPHAULUS SIMILIS. *Rap. testâ brevissimâ pupiformi, fusco-subaureâ; apice obtuso; anfractibus quinque, tribus superioribus brevissimis, penultimo brevi, inflato; ultimo ventricoso, alto, obliquo; apertura magna, rotundâ, margine lato, circulariter canalculatâ; tubi rotundâ, brevissimâ.*

THE SIMILAR RAPHAULUS. Shell very shortly pupa-shaped, golden brown; apex obtuse; whorls five, three upper very short, penultimate short, inflated, last ventricose, high, oblique; aperture large, rounded, margin broad, with a circular canal; tube rounded, very short.

SOWLEBY.

Hab. — ?

In the monograph of Pupinide by Mr. Arthur Adams, this species is given as a second example of the preceding. It is, however, much shorter and more obtuse in the spire.

Species 95. (Mus. Hanley.)

RAPHAULUS CHRYSALIS. *Rap. testâ breviter pupiformi, solidâ, purpureo-fuscâ; apice obtuso, an-*

*fractibus quinque, tribus superioribus brevibus, penultimo alto, rotundè prominenti; ultimo alto, obliquo; apertura magna, circulari, margine lato, circulariter canalculato; tubi elongatâ, perpendiculariter super anfractum ultimo decumbenti.*

THE CHRYSALIS RAPHAULUS. Shell shortly pupa-shaped, solid, purple-brown; apex obtuse, whorls five, three upper short, last but one elevated, roundly prominent; last elevated, oblique; aperture large, circular, margin broad, with a circular channel, tube elongated, perpendicularly decumbent upon the last whorl.

PEIFFER. Proc. Zool. Soc. 1852, p. 158.

Hab. Ava, Monmeim.

The tube runs up the side of the last whorl, nearly reaching the suture.

Species 96. (Mus. Brit.)

RAPHAULUS LORAINI. *Rap. testâ breviter pupiformi, solidâ, purpureo-fuscâ, ultimo angustulo albo supra, ad suturam angustulo; apice obtuso; anfractibus quinque, brevibus, penultimo rotundè prominenti, ultimo rectilinculo; apertura magna, circulari, margine albo, reflexo, canalculo; tubi brevissimi, extra marginem aperti.*

LORAIN'S RAPHAULUS. Shell shortly pupa-shaped, solid, purple-brown, last whorl with a single white band above the suture; whorls five, short, last but one roundly prominent; last rather straight; aperture large, circular, margin white, reflected, rounded; tube very short, open beyond the margin.

PEIFFER. Proc. Zool. Soc. 1852.

Hab. Palo Penang.

Resembling *R. bonycticus* and *R. similis*, but with no groove round the margin of the aperture.

Species 97. (Fig. a, b, Mus. Hanley.)

RAPHAULUS BLANFORDI. *Rap. testâ brevissimâ, ventricosâ, fuscâ; apice subpyramidalâ; anfractibus quinque, duobus apicalibus parvis, brevibus, penultimo inflato, ultimo brevi, subinflato; apertura circulari, margine crasso, albo; tubi retrorsum plicatâ, longè super suturam ad dorsum productâ.*

BLANFORD'S RAPHAULUS. Shell very short, ventricose, brown; apex rather pyramidal; whorls five; two apical small, short, last but one inflated, last short, rather inflated; aperture circular, margin thick, white; tube bent backwards, produced to some length over the suture at the back.

BENSON. An. Nat. Hist. 1857, p. 201.

Hab. Near Darjiling, in Sikkim, Himalaya.



PUPINIDÆ.

|   |       |    |   |       |    |
|---|-------|----|---|-------|----|
| Adamsii, Pa. <i>Sowerby</i> . . . . .       | IV.   | 33 | fuscum, Re. <i>Gray</i> . . . . .                 | V.    | 43 |
| altum, M. <i>Sowerby</i> . . . . .          | IX.   | 86 | grande, Re. <i>Gray</i> . . . . .                 | V.    | 42 |
| oblatum, M. Menke . . . . .                 | VIII. | 71 | grandis, Pa. <i>Fischer</i> . . . . .             | I.    | 4  |
| ambigua, Ca. <i>Sowerby</i> . . . . .       | IV.   | 37 | gravida, Pa. <i>Benson</i> . . . . .              | VIII. | 68 |
| anastoma, M. <i>Benson</i> . . . . .        | IX.   | 83 | Guatemalense, M. <i>Pfeiffer</i> . . . . .        | VIII. | 73 |
| Angusii, Pa. <i>Adams</i> . . . . .         | II.   | 11 | Guilingianum, M. <i>Pfeiffer</i> . . . . .        | IX.   | 84 |
| apertum, M. <i>Poey</i> . . . . .           | VIII. | 71 | Gundlachii, M. <i>Pfeiffer</i> . . . . .          | X.    | 90 |
| artata, Pa. <i>Benson</i> . . . . .         | I.    | 3  | hæmastomus, Cat. <i>Pfeiffer</i> . . . . .        | VII.  | 61 |
| arula, Pa. <i>Benson</i> . . . . .          | I.    | 5  | humilis, Pa. <i>Adams</i> . . . . .               | II.   | 16 |
| arvea, Pa. <i>Hinds</i> . . . . .           | I.    | 10 | idolum, M. Ferrussac . . . . .                    | VIII. | 71 |
| atrous, Cat. <i>Hübner</i> . . . . .        | VII.  | 65 | imbricifera, Pa. <i>Benson</i> . . . . .          | I.    | 7  |
| aurata, M. D'Orbigny . . . . .              | VIII. | 71 | Keraudreni, Pa. <i>Viguel</i> . . . . .           | II.   | 12 |
| aurea, Ca. <i>Ziegler</i> . . . . .         | IV.   | 36 | layardi, Cat. <i>Adams</i> . . . . .              | VI.   | 57 |
| Austriacus, Cat. <i>Benson</i> . . . . .    | VII.  | 59 | leucocheilus, Cat. <i>Adams</i> . . . . .         | VII.  | 63 |
| bicamuleolata, Pa. <i>Sowerby</i> . . . . . | II.   | 11 | leoninum, M. <i>Pfeiffer</i> . . . . .            | VIII. | 74 |
| bicolor, M. Guilling . . . . .              | VIII. | 71 | Lorainii, Ra. <i>Pfeiffer</i> . . . . .           | X.    | 96 |
| bilinguis, Pa. <i>Pfeiffer</i> . . . . .    | I.    | 1  | Lowei, M. Adams . . . . .                         | VIII. | 70 |
| bituberculatum, M. <i>Sowerby</i> . . . . . | VIII. | 76 | lubrica, Ca. <i>Sowerby</i> . . . . .             | IV.   | 35 |
| Blanfordi, Cat. <i>Doherty</i> . . . . .    | VI.   | 53 | Mani, M. <i>Poey</i> . . . . .                    | IX.   | 82 |
| Blanfordi, Pa. <i>Theobald</i> . . . . .    | I.    | 6  | marginatus, Cat. <i>Pfeiffer</i> . . . . .        | VII.  | 58 |
| Blanfordi, Ra. <i>Benson</i> . . . . .      | X.    | 97 | meridionalis, Pa. <i>Pfeiffer</i> . . . . .       | I.    | 8  |
| Bombayana, Ra. <i>Pfeiffer</i> . . . . .    | X.    | 93 | Mindoroensis, Pa. <i>Adams and Rees</i> . . . . . | III.  | 28 |
| Borneensis, Pa. <i>Pfeiffer</i> . . . . .   | II.   | 19 | minus, Ar. <i>Sowerby</i> . . . . .               | VII.  | 66 |
| Brazieri, Re. <i>Cresson</i> . . . . .      | V.    | 47 | mitis, Pa. <i>Adams</i> . . . . .                 | III.  | 23 |
| calendensis, Cat. <i>Baldwin</i> . . . . .  | VI.   | 59 | Monhoti, Pa. <i>Pfeiffer</i> . . . . .            | II.   | 13 |
| chrysalis, Ra. <i>Pfeiffer</i> . . . . .    | X.    | 95 | Monhoti, Pa. <i>Pfeiffer</i> . . . . .            | VIII. | 67 |
| complanatum, M. <i>Pfeiffer</i> . . . . .   | IX.   | 80 | Moulinsiana, Pa. <i>Fischer</i> . . . . .         | II.   | 15 |
| complanatum, Re. <i>Poey</i> . . . . .      | V.    | 46 | Myersii, Pa. <i>Hübner</i> . . . . .              | VIII. | 69 |
| croceum, M. <i>Sowerby</i> . . . . .        | IX.   | 81 | nigobarica, Pa. <i>Pfeiffer</i> . . . . .         | III.  | 26 |
| Cumingiana, Re. <i>Pfeiffer</i> . . . . .   | V.    | 41 | Nictivi, Cat. <i>Hübner</i> . . . . .             | VI.   | 48 |
| Cumingii, Cat. <i>Pfeiffer</i> . . . . .    | VI.   | 52 | ottonis, Pa. <i>Doherty</i> . . . . .             | III.  | 25 |
| cyllinaceum, M. <i>Chenault</i> . . . . .   | X.    | 91 | panperculum, M. <i>Pfeiffer</i> . . . . .         | IX.   | 85 |
| decorus, Cat. <i>Benson</i> . . . . .       | VII.  | 64 | pellucidum, Re. <i>Gray</i> . . . . .             | V.    | 45 |
| difficilis, Pa. <i>Sowerby</i> . . . . .    | IV.   | 32 | Pfeifferi, Pa. <i>Doherty</i> . . . . .           | III.  | 21 |
| Digitale, M. Gundlach . . . . .             | VIII. | 71 | pineticola, Pa. <i>Cresson</i> . . . . .          | IV.   | 31 |
| D'Orbigny, M. <i>Pfeiffer</i> . . . . .     | IX.   | 77 | plantibras, Pa. <i>Pfeiffer</i> . . . . .         | I.    | 9  |
| duplicatus, Cat. <i>Pfeiffer</i> . . . . .  | VI.   | 51 | polita, Har. <i>A. Adams</i> . . . . .            | III.  | 29 |
| enryptema, Cat. <i>Pfeiffer</i> . . . . .   | VI.   | 56 | poeyi, M. <i>Poey</i> . . . . .                   | IX.   | 82 |
| exiguum, Re. <i>Sowerby</i> . . . . .       | V.    | 39 | pupinaformis, Pa. <i>Pfeiffer</i> . . . . .       | II.   | 20 |
| funiculum, M. <i>Benson</i> . . . . .       | VIII. | 75 | pyramidalis, Cat. <i>Pfeiffer</i> . . . . .       | VII.  | 60 |

## PUPINIDE

|                           | Plate. | Species. | Plate.                         | Species. |    |
|---------------------------|--------|----------|--------------------------------|----------|----|
| recurvatus. Cat. A. Adams | VI.    | 55       | <i>Taglyronium</i> M. Pfeiffer | VIII.    | 71 |
| rufa. Pa. Pfeiffer        | III.   | 27       | Templemani. Cat. Pfeiffer      | VII.     | 62 |
| sectilabrum. M. Gudding   | X.     | 88       | Thompsoni. Pa. Forbes          | III.     | 22 |
| seniloidum. M. Poey       | VIII.  | 71       | Thwaitesii. Cat. Pfeiffer      | VI.      | 54 |
| serotina. M. Adams        | X.     | 92       | tortum. M. Wood                | VIII.    | 71 |
| simile. Re. Goy           | V.     | 44       | tortuosus. Cat. Goy            | VI.      | 49 |
| similis. Ra. Sowerby      | X.     | 94       | angula. M. Poey                | X.       | 87 |
| simulacrum. M. Morelet    | VIII.  | 72       | ventricosum. M. Goodrich       | X.       | 89 |
| splendens. Duhn           | IV.    | 35       | ventricosa. Pa. Bohra          | I.       | 2  |
| Strangei. Pa. Pfeiffer    | III.   | 24       | verrucosulum. M. Shuttleworth  | IX.      | 79 |
| superba. Pa. Pfeiffer     | II.    | 17       | Vescoi. Pa. Morelet            | II.      | 18 |
| suspensum. M. Gudding     | IX.    | 78       | vitreum. Re. Sowerby           | V.       | 40 |
| Swinhoei. Pa. A. Adams    | IV.    | 30       | Wallacei. Ca. Pfeiffer         | IV.      | 38 |

MONOGRAPH  
OF THE GENUS  
GASTROCHENA.

—  
"Contrivance intricate, expressed with ease  
Where unassisted sight no beauty sees."—*Compos.*







14



15



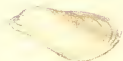
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20

# GASTROCHÆNA.

PLATE I.

## Genus GASTROCHÆNA. *Leaven.*

MUSCULARIA SYPHALOPHORI, PERFORANS, TUBICOLM.

*T. bivalvis, imbricatilis, spiralis, auto-*  
*chæna, centralis, latilicinis, umbonibus*  
*subterminantibus; carbo d. alibus pleurogna*  
*subterminantibus; Epigonium ceterum; tuba*  
*subterminantibus ferè hinc.*

MUSC. = SYPHALOPHORI, perforating, tube-inhalit-

ing. Shell bivalve, inequilateral, equivalve,  
widely gaping in front at the ventral margin,  
umbones almost terminal in front; hinge for  
the most part with inconspicuous teeth; liga-  
ment external; tube sometimes nearly free.

The Gastrochænae for the most part live, like the  
Pholades, in hollows which they bore in limestone  
rocks, and which they line with a shelly tube ending  
in a narrow neck, like a bottle. But some of them, like  
the *Gastrochæna dubia*, make an almost independent  
tube, only attached by the neck or by one side to the  
shell or rock through which they have bored, or to  
which they are otherwise fixed. There is a speci-  
men in the British Museum of *G. dubia* in which  
the substance bored through and slenderly lined is  
crystallized carbonate of lime. The British species  
is common to France and many other European  
coasts. The Indias, East and West, the Gallapagos  
Islands, the Mauritius, South America, the  
Pacific Islands, produce many species, and a small  
number were described by the late M. Deshayes,  
when in London some years since, which had been  
collected by the late Mr. Cuming in the Philippines.

### Species 1. (Fig. a, b, c. Mus. Brit.)

GASTROCHÆNA DUBIA. *Gos. testâ tenui, elongatâ, ab-*  
*liquâ, truncatâ striatâ; hiato centrali mediocri,*  
*prope medianâ terminantâ; carinae tenui, ferè*  
*edentulo.*

THE DOUBTFUL GASTROCHÆNA. Shell thin, elongated,  
oblique, finely striated; ventral hiatus moderate,

terminating near the middle; hinge thin, al-  
most without teeth.

PENNANT. British Zoology.

*Gastrochæna nodulosa*. Lamarck.

ROCELLARIA DUBIA. Adams.

*Hab.* British Mediterranean coasts.

The bottle-shaped tube which covers the valves  
and syphons of this species is composed, when free,  
of agglutinated sand and small pebbles; when en-  
closed, it forms a calcareous lining to the crypt.

### Species 2. (Mus. Brit.)

GASTROCHÆNA PLACATILIS. *Gos. testâ subcompressâ,*  
*epidermide fusâ indurâ, tortuâ, arcâ posticâ ele-*  
*vâtâ, contabulatâ, sulcato-rugatâ, ad terminum*  
*truncatâ, arcâ dorsali depressâ, reticulatâ,*  
*medianâ posticâ in sulcâna obliquâ terminantâ;*  
*hiato elongatâ.*

THE PLATED GASTROCHÆNA. Shell sub-compressed,  
covered with a brown epidermis, tortuous, with  
the posterior area elevated, contabulated, wrin-  
kled with sulci, truncate at the end, dorsal  
area depressed, rather straight, middle area pos-  
teriorly terminating in an oblique groove;  
hiatus elongated.

DESHAYES. Proc. Zool. Soc. 1854, p. 329.

*Hab.* Isl. Zebu, Philippines.

The shell very much resembles *G. costata*, but the  
plaits on the posterior area are finer, and less deeply  
cut, and the dorsal area much less projecting.

### Species 3. (Mus. Brit.)

GASTROCHÆNA BREVIS. *Gos. testâ inflatâ, brevi,*  
*littoreali, brevissimâ, anticâ gibbosâ, hiato car-*  
*inatosâ brevi.*

THE SHORT GASTROCHÆNA. Shell inflated, short,  
rather solid, rather smooth, gibbous anteriorly;  
hiatus strongly arched, short.

SOWERBY. Proc. Zool. Soc. 1834, p. 21.

*Hab.* — ?

GASTROCHÆNA.—PLATE I

Species 4. (Mus. Brit.)

GASTROCHÆNA APERTISSIMA. *Gas. testâ elongatâ, subcompressâ; tenuiter striatâ; latere antico emeato: latere postico rectiusculo, ad terminum rotundè subacuminatâ; hiata lato et elongatâ, ferè ad terminum posteriorem extenso.*

THE WIDE OPEN GASTROCHÆNA. Shell elongated, rather compressed, finely striated; anterior side emeated; posterior side rather straight, roundly subacuminated; hiatus broad and elongated, almost extending to the posterior end.

DESHAYES. Proc. Zool. Soc. 1854, p. 326.

*Hab.*—?

Species 5. (Mus. Brit.)

GASTROCHÆNA DIFFICILIS. *Gas. testâ obliqui, tenuiter striatâ, compressâ, cuneiformi, antice gibbosâ, angustâ, posticè latâ, ad terminum acuminatâ: hiata lato, parvè post medianum extenso.*

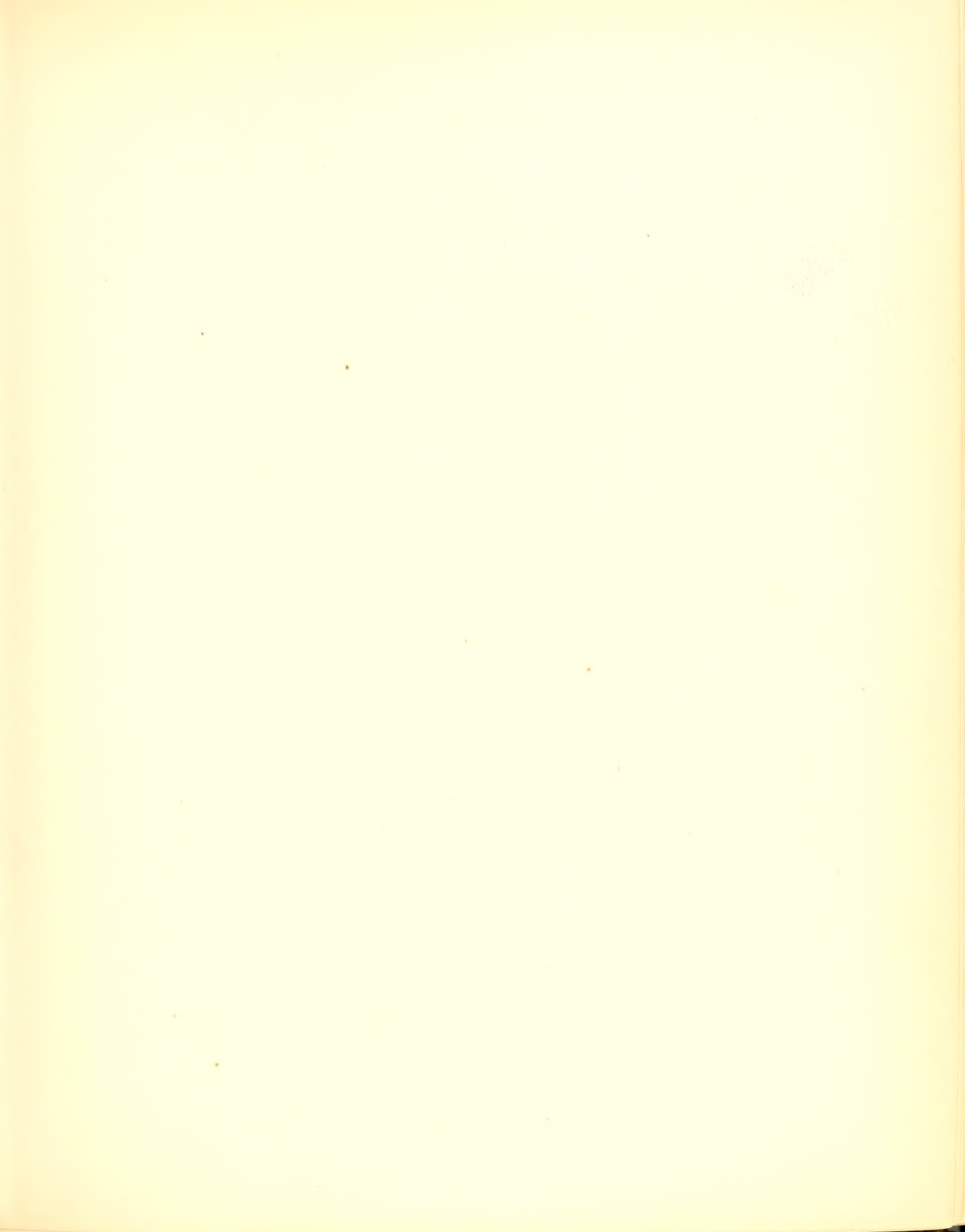
THE DIFFICULT GASTROCHÆNA. Shell oblique, finely striated, compressed, cuneiform, anteriorly gibbous, narrow; posteriorly broad, acuminated at the end; hiatus broad, extended nearly to the end.

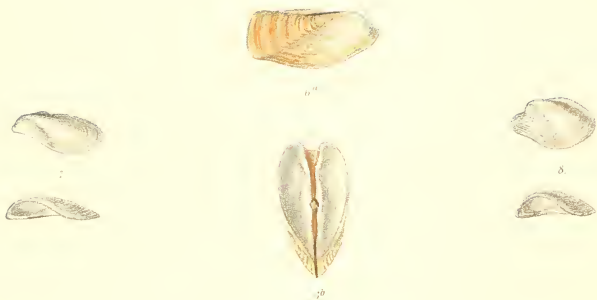
DESHAYES. MS. in Cuming's Collection.

*Hab.* Isl. St. Thomas.

A rather cuneiform species, but more depressed than the one so named.







## GASTROCHELONA.

PLATE II.

Species 6. (Mus. —?)

**GASTROCHELONA RETZLI.** *Gas. testâ oblongâ, subcuneiformi, anticâ attenuatâ, inflatâ, tenui; epidermide flavescens uti indatâ; latere postico latè truncato; areâ posticâ trigonâ, elevatâ; areâ dorsali depressâ, angustâ; hiato maximo, latissimo, ferè ad terminum posticum extenso.*

**RETZLI'S GASTROCHELONA.** Shell oblong, rather cuneiform, anteriorly attenuated, inflated, thin; covered with a yellowish epidermis; posterior side broadly truncated; posterior area trigonal, raised; dorsal area depressed, narrow; hiatus very large, very broad, extended almost to the posterior termination.

**DESHAYES.** *Coch. ile Réunion*, p. 7.

*Hab.* Isl. Bourbon.

Species 7. (Mus. Sowerby.)

**GASTROCHELONA PHILIPPINENSIS.** *Gas. testâ angustâ, cœtiosculâ, tenui, tenuiter et distans elevato-striatâ; latere antico acuminato, latè hiato; latere postico subacuminato.*

**THE PHILIPPINE GASTROCHELONA.** Shell narrow, rather straight, thin, with fine, raised, distant striae; anterior side acuminated, broadly gaping; posterior side rather acuminated.

**DESHAYES.** *Proc. Zool. Soc.* 1854, p. 328.

*Hab.* Isl. Zebu, Philippines.

Species 8. (Mus. Brit.)

**GASTROCHELONA DENTICULATA.** *Gas. testâ brevi, albâ, inflatâ; medio subdepressâ; latere antico ante umbonem parvè producto, obliquè striâs elevatis minutissimè denticulatis sculpto; hiato medio.*

**THE DENTICULATED GASTROCHELONA.** Shell short, high, inflated; slightly depressed in the middle; anterior side a little produced in front of the

umbones, sculptured obliquely with raised, very minutely denticulated striae; hiatus moderate.

**DESHAYES.** *Proc. Zool. Soc.* 1856, p. 328.

*Hab.* W. Columbia.

The sculpture in the front part of this shell is sufficient to distinguish the species.

Species 9. (Mus. Sowerby.)

**GASTROCHELONA CIVILLATA.** *Gas. testâ unguiformi, crassâ; latere antico beccosissimo, angustissimo; latere postico latè expanso, cœcus beccosissimè cancellato; hiato ovato, medio; cartilâ denticulâ magis.*

**THE HOODED GASTROCHELONA.** Shell cuneiform, thick; anterior side very short, very narrow; posterior side broadly expanded, hooded towards the end.

hiatus ovate, moderate; hinge with large teeth.

**DESHAYES.** *Proc. Zool. Soc.* 1856, p. 329.

*Hab.* W. Indies.

A large and remarkable species, with a peculiar hollow convexity in the valves towards the posterior end.

Species 10. (Mus. Brit.)

**GASTROCHELONA ROSTRATA.** *Gas. testâ subcompressâ, teretiusculâ, oblongâ, epidermide fuscâ indatâ; latere antico ante umbones producto, prope terminum angulato; hiato maximo, ferè ad terminum posticum extenso; latere postico trigono, angulato, ante angulum depresso; areâ posticâ elevatâ, cœtulosculâ, profundè angulatâ; ad terminum latè truncatâ; areâ dorsali latâ, expansâ; ligamento magno, brevi.*

**THE ROSTRATED GASTROCHELONA.** Shell rather compressed, tortuous, oblong, covered with a brown epidermis; anterior side produced in front of the umbones, wrinkled near the end; hiatus very

GASTROCHÆNA.—PLATE II.

large, almost extending to the end; posterior side trigonal, angular, depressed in front of the angle; posterior area elevated, contabulated, deeply wrinkled, broadly truncated at the end; dorsal area broad, expanded; ligament large, short.

SPENGLER. Guerin, Mag. Hist. Nat.

Hab. Isl. St. Thomas.

Species 11. (Mus. Brit.)

GASTROCHÆNA RUPELLII. *Gas. testâ crassâ, subovata, inflatâ, latere antico ante umbones subproducto,*

*quam posticum angustiusculo, tenuiter striato, umbonibus tumidissimis; medio levegato, striato; latere postico calidè concentricè striato; hiato ventrali moderatè arcuato.*

RUPELL'S GASTROCHÆNA. Shell thick, subovate, inflated, anterior side rather produced in front of the umbones, narrower than the posterior, finely striated; umbones very tumid; middle smooth, striated; posterior side strongly concentrically striated; ventral hiatus moderately arched.

DESHAYES. Proc. Zool. Soc. 1854, p. 328.

Hab. Red Sea.





# GASTROCHEXA.

PLATE III.

## Species 12. (Mus. Brit.)

**GASTROCHEXA MYTILIFORMIS.** *Gas. testis compressi, epidermide dorsali distincte indurata, oblongi, tortuosi; latera antica ante umbones producta, acuminata; latera postica ante arcum depressa, area postica contabulata, distincte sulcata; area dorsali angusta.*

THE MYTILUS-SHAPED GASTROCHEXA. Shell compressed, covered with a yellowish epidermis, oblong, tortuous; anterior side produced in front of the umbones, acuminate; posterior side depressed in front of the area, posterior area contabulated, distinctly grooved; dorsal area narrow.

LAMARCK. ANIM. S. Vert.

*Hab.* — ?

Resembling *Gastrochecha costata*, but with dorsal area very narrow, and posterior flattened area grooved at distant intervals.

## Species 13. (Mus. Brit.)

**GASTROCHEXA RUGULOSA.** *Gas. testis depressi, obliquè coniformi, elongati, antice angusti, sulcatocinctati, postice concentricè distincte lirati; hiatus antice.*

THE WRINKLED GASTROCHEXA. Shell depressed, obliquely coniform, lengthened, narrow in front, rather acuminate, posteriorly concentrically distinctly ridged; gape moderate.

SOEWERY. Proc. Zool. Soc. 1834, p. 22.

*Hab.* Gallapagos Islands.

## Species 14. (Mus. Brit.)

**GASTROCHEXA LAMELLONA.** *Gas. testis compressi, angusti, elongati, antice attenuati, acuminati, postice concentricè laminae orbiculis lirati; hiatus ventrali angusti, elongato.*

THE LAMELLATED GASTROCHEXA. Shell compressed, narrow, elongated, anteriorly attenuated, acuminate, posteriorly concentrically ridged with frequent laminae, ventral hiatus narrow, long.

DESHAYES. Proc. Zool. Soc. 1834, p. 328.

*Hab.* Isl. Zebu, Philippines.

## Species 15. (Mus. Brit.)

**GASTROCHEXA GIGANTEA.** *Gas. testis depressi, ovati, utriusque acuminati, leviter depressi, antice leviter depressi; hiatus latissimus, fere ad tres partes posteriorem valvaram extensus.*

THE GIGANTIC GASTROCHEXA. Shell elongated-ovate, acuminate at each end, finely densely striated, slightly depressed in the middle; hiatus very broad, extending nearly to the end of the valves.

DESHAYES. MS. in Cuvier's Collection.

*Hab.* — ?

This large species is named from specimens now in the British Museum. The valves are more regularly ovate, although acuminate at the end and lengthened, than those of *G. coniformis*.

## Species 16. (Mus. Brit.)

**GASTROCHEXA OVATA.** *Gas. testis ventricosissimus, brevis, ovati, solidi, antice et usque ad medium concentricè striati, post medium levigati, prope marginem dorsalem obliquè tumidi et valde concolorè striati; hiatus ventrali subrotundo.*

THE OVATE GASTROCHEXA. Shell very ventricose, short, ovate, solid, anteriorly and as far as the middle concentrically striated, past the middle smooth, near the dorsal margin obliquely tumid, and strongly concentrically striated; ventral hiatus rather round.

SOEWERY. Proc. Zool. Soc. 1834, p. 21.

*Hab.* Panama.

## Species 17. (Mus. Brit.)

**GASTROCHEXA PUPISA.** *Gas. testis calculeus, apertis tubi brevi, angustè bulbiformi, in sectione quinque quasi articulati, per tubum ad testam albae et.*

THE PUPISA GASTROCHEXA. Shell with valves unknown; tube smooth, narrowly bulb-shaped, quasi-articulated in five sections, attached by the side to shells.

GASTROCHLENA.—PLATE III.

DESHAYES. Proc. Zool. Soc. 1854, p. 326.

Hab.—?

This may be only a smooth variety of the *Gastrochlena lagenula*; but I have not seen the valves.

Species 18. (Fig. a, b. Mus. Sowerby.)

GASTROCHLENA LAGENULA. *Gus. testâ parvâ, arcuatâ, tenui, angustâ; areâ posticâ in tabulas dicitâ, inter tabulas sulcatâ. Tabâ irregularitèr bulbiformi, agglutinanti, quasi articulatione divisâ.*

THE FLAT GASTROCHLENA. Shell small, arched, thin, narrow; posterior area divided in tablets, with grooves between the tablets. Tube irregularly bulbiform, agglutinating, divided into quasi-articulations.

LAMARCK. Anim. s. Vert.

Hab. Ceylon, Arracan.

In Adams's Genera, this and the preceding species are included in the genus *Guettera*. The valves of *G. lagenula*, however, are those of a true *Gastrochlena*, while those of *Guettera* have the characteristics of true *Teredines*.

Species 19. (Mus. Brit.)

GASTROCHLENA TRUNCATA. *Gus. testâ rugosâ, solidiusculâ, epidermide fuscâ involutâ; latere antico subot-*

*tenuato, umbonibus gibbosis; latere postico angulato, latè truncato; areâ dorsali depressâ; hiato lato, elongato; deute cardinali magno.*

THE TRUNCATED GASTROCHLENA. Shell rugose, rather solid, covered with a brown epidermis; anterior side rather attenuated, umbones gibbous; posterior side angular, broadly truncated; dorsal area depressed; hiatus broad, elongated; cardinal tooth large.

SOWERBY. Proc. Zool. Soc. 1834, p. 21.

Hab. Bay of Panama.

Species 20. (Fig. a. Mus. Brit. Fig. b, Plate IV. Mus. Sowerby.)

GASTROCHLENA CUNEIFORMIS. *Gus. testâ cuneiformi, tenuisculâ, anticè attenuatâ, ante umbones subproductâ, acuminatâ; latere postico lato, versus terminum obliquè subacuminato; hiato moderatè elongato.*

THE WEDGE-SHAPED GASTROCHLENA. Shell wedge-shaped, rather thin, anteriorly attenuated, a little produced in front of the umbones, acuminated; posterior side broad, obliquely rather acuminated, towards the end. Hiatus moderately long.

SPENGLER. Guerin, Mag. Nat. Hist.

Hab. Isl. Zebu, Philippines.







# GASTROCHENA.

PLATE IV.

Species 20. (F. l. See Plate III.)

Species 21. (Mus. Brit.)

GASTROCHENA HYALINA. *Gus. testâ tenuissimâ, semis-*  
*pellucidâ, bilobâ attenuatâ, anticiâ brevissimâ,*  
*truncatâ, posticiâ latissimâ, acuminatâ; hiatus*  
*longioribus.*

THE HYALINE GASTROCHENA. Shell very thin, semi-  
pellucid, obliquely attenuated, anteriorly very  
short, posteriorly rather broader, acuminated;  
hiatus rather short.

DESHAYES. Proc. Zool. Soc. 1854, p. 22.

*Hab.* — ?

Species 22. (Mus. Brit.)

GASTROCHENA SPATHULATA. *Gus. testâ tenuissimâ, com-*  
*pressâ, coniformi, postice angulâ, truncatâ;*  
*umbones triangularibus; hiatus angustissimus,*  
*elongatus.*

THE SPATHULATE GASTROCHENA. Shell very thin, com-  
pressed, wedge-shaped, posteriorly wrinkled,  
truncated; umbones terminal; hiatus rather  
narrow, elongated.

DESHAYES. Proc. Zool. Soc. 1854, p. 229.

*Hab.* Isl. Bohol, Philippines.

Species 23. (Mus. Brit.)

GASTROCHENA IMPRESSA. *Gus. testâ subrotâ, tenui,*  
*laeviter striatâ, utrinque acuminatâ, postici ob-*  
*liqui sulci depressi; hiatus lato, elongato, fere*  
*ad terminum valvæ extenso.*

THE IMPRESSED GASTROCHENA. Shell rather oval,  
thin, finely striated, acuminated at each end;  
posteriorly obliquely depressed with a groove;  
hiatus broad, elongated, nearly extended to the  
end of the valve.

DESHAYES. Proc. Zool. Soc. 1854, p. 322.

*Hab.* — ?

Species 21. (Mus. Brit.)

GASTROCHENA LEVIGATA. *Gus. testâ ventricosi, brevi,*  
*obliquâ coniformi, levigatâ, concentricâ; latere*  
*postice subacuminatâ; hiatus brevis, angustissimus.*

THE SMOOTH GASTROCHENA. Shell ventricose, short,  
obliquely coniform, smooth, bluish white, pos-  
terior side rather acuminated; hiatus short,  
rather narrow.

DESHAYES. Proc. Zool. Soc. 1854, p. 326.

*Hab.* — ?

Species 25. (Mus. Brit.)

GASTROCHENA HUMILIS. *Gus. testâ ventricosâ, brevi,*  
*obliquâ coniformi, laeviter concentricâ striatâ;*  
*latere postice subacuminatâ; hiatus brevis, angustis-*  
*simo.*

THE HUMBLE GASTROCHENA. Shell ventricose, short,  
obliquely coniform, finely concentrically  
striated; posterior side rather acuminated;  
hiatus short, rather narrow.

DESHAYES. Proc. Zool. Soc. 1854, p. 327.

*Hab.* St. Vincent.

Species 26. (Mus. Brit.)

GASTROCHENA INTERSEPTA. *Gus. testâ brevi, latâ, sub-*  
*compressâ, laticis concentricis numerosis subdis-*  
*tantibus et altioribus intermediiis tenuiter*  
*sculptâ; latere antice angustissimo, brevi; latere*  
*postice lato, margine dorsali elevato, margine ter-*  
*minali subrotundato.*

THE INTERSECTED GASTROCHENA. Shell short, broad,  
rather compressed, sculptured with numerous  
rather distant and other intermediate smaller  
concentric laminae; anterior side very narrow,  
short; posterior side broad, dorsal margin raised,  
terminal margin rather rounded.

DESHAYES. Proc. Zool. Soc. 1854, p. 327.

*Hab.* — ?

GASTROCHLENA.—PLATE IV.

The larger concentric ridges are a little distant, and the intervals are filled up with smaller raised striae.

Species 27. (Mus. Brit.)

GASTROCHLENA TENERA. *Gas. testâ tenuissimâ, elongatâ, angustâ, compressâ, tenuissimè striatâ, modioliformi, post medium obliquè rix conspicuè sulcatâ; hiatus angustissimo, elongato.*

THE THIN GASTROCHLENA. Shell very thin, elongated, narrow, compressed, very finely striated, shaped like a modiola, with scarcely conspicuous oblique sulcus; hiatus very narrow, elongated.

DESHAYES. Proc. Zool. Soc. 1854, p. 327.

Hab. Philippine Islands.

Species 28. (Mus. Brit.)

GASTROCHLENA INTERRUPTA. *Gas. testâ angustâ, retiusculâ, elongatâ, subdepressâ, tenuissimâ, levigatâ; arcâ posticâ elevatâ, sulcis concentricis tribus vel quatuor divisi; hiatus elongato-ovato, posticè abruptè terminanti.*

THE INTERRUPTED GASTROCHLENA. Shell narrow, rather straight, elongated, rather depressed, very thin, smooth; posterior area raised; divided by

three or four grooves; hiatus elongate-oval, posteriorly abruptly terminating.

DESHAYES. Proc. Zool. Soc. 1854, p. 326.

Hab. Philippine Islands.

The valves of this species resemble those of *Gastrochlema layardi*, but are very much more arched. The grooves, by which the posterior area is divided into a series of tablets, have probably, in the latter species, some connection with the exterior partitions of the tube. We have not the tube of the present species, but believe it will prove to belong to the same group.

Species 29. (Mus. Brit.)

GASTROCHLENA MACROCHISMA. *Gas. testâ brevissimâ, inflatâ, columnato-cuneiformi, tenuiter striatâ; latere antico ante umbones producto, subcuneiformito; latere postico latissimo, ad terminum subrotundo, margine dorsali declivi; hiatus latissimo, breviusculo.*

THE WIDE-GAPING GASTROCHLENA. Shell very short, inflated, roundly cuneiform, finely striated; anterior side produced in front of the umbones, rather acuminate; posterior side very broad, rather rounded at the end, dorsal margin sloped; hiatus very wide, rather short.

DESHAYES. Proc. Zool. Soc. 1854, p. 326.

Hab. Philippine Islands.

## GASTROCHLENA.

|  | Plat.    | Species. |   | Plat. | Species. |
|--|----------|----------|---|-------|----------|
| apertissima, <i>Deshayes</i> . . . . . | I.       | 4        | lanellosa, <i>Deshayes</i> . . . . .      | III.  | 14       |
| brevis, <i>Sowerby</i> . . . . .       | I.       | 3        | macrochisma, <i>Deshayes</i> . . . . .    | IV.   | 29       |
| cucullata, <i>Deshayes</i> . . . . .   | II.      | 9        | ovulifera, <i>Lamarck</i> . . . . .       | I.    | 1        |
| cuneiformis, <i>Spengler</i> . . . . . | III. IV. | 20       | mytiloides, <i>Lamarck</i> . . . . .      | III.  | 12       |
| denticulata, <i>Deshayes</i> . . . . . | II.      | 8        | ovata, <i>Sowerby</i> . . . . .           | III.  | 16       |
| difficilis, <i>Deshayes</i> . . . . .  | I.       | 5        | Philippinensis, <i>Deshayes</i> . . . . . | II.   | 7        |
| dubia, <i>Foucault</i> . . . . .       | I.       | 1        | plicatilis, <i>Deshayes</i> . . . . .     | I.    | 2        |
| gigantea, <i>Deshayes</i> . . . . .    | III.     | 15       | papina, <i>Deshayes</i> . . . . .         | III.  | 17       |
| hyalina, <i>Sowerby</i> . . . . .      | IV.      | 21       | Retzii, <i>Deshayes</i> . . . . .         | II.   | 6        |
| humilis, <i>Deshayes</i> . . . . .     | IV.      | 25       | rostrata, <i>Deshayes</i> . . . . .       | II.   | 10       |
| impressa, <i>Deshayes</i> . . . . .    | IV.      | 23       | rugulosa, <i>Sowerby</i> . . . . .        | III.  | 15       |
| interrupta, <i>Deshayes</i> . . . . .  | IV.      | 28       | Rupellii, <i>Deshayes</i> . . . . .       | II.   | 11       |
| intersecta, <i>Deshayes</i> . . . . .  | IV.      | 26       | spathulata, <i>Deshayes</i> . . . . .     | IV.   | 22       |
| levigata, <i>Deshayes</i> . . . . .    | IV.      | 24       | tenera, <i>Deshayes</i> . . . . .         | IV.   | 27       |
| lagenula, <i>Lamarck</i> . . . . .     | III.     | 18       | truncata, <i>Sowerby</i> . . . . .        | III.  | 19       |



MONOGRAPH

OF THE GENUS

XYLOPHAGA, NAVEA.

"One Name above all glorious names  
With its ten thousand tongues  
The everlasting sea proclaims,  
Echoing angelic songs." *Keble.*









1c



1b



1d



2a



2b

*Navca*



3

## XYLOPHAGA.

Genus XYLOPHAGA. *Teredo*.

**MOLLESCUM TEREBRANS**, *vermiforme*, *siphonibus ad teretium divisis*. *Testa hincalis globosa, antice latiuscule angulata apertis, postice fus. clausa, marginibus subulatis divisi, carina subulata, callosa, Testis nulli.*

**BORING WORM-SHAPED MOLLUSC**, with siphons divided at the end. Shell bivalve, globose, anteriorly very widely angularly open, posteriorly nearly closed, divided in the middle with a wide groove; hinge with no teeth, callous. No tube.

Xylophage are found in floating wood, generally boring *across* the grain and not with it, as in the case of *Teredo*. Only two species are known; one British and Boreal, the other collected by Mr. Cuming at Valparaiso.

Species 1. (Mus. Sowerby.)

**XYLOPHAGA BOREALIS**. *Xyl. testis globosa, epidermide tenui areolis-ciculis indurata, medio subaequaliter costis duabus angulatis divisa; latera antica brevia, valdissime angulata; latera postica breviora, angulata dorsaliter clausa; laminae accessoriae triangulis, latitudine longitudinalium superantibus.*

**TID. DORSAL XYLOPHAGA**. Shell globose, covered with an orange-green epidermis, divided in the middle by a flat groove bordered by two ribs; anterior side short, very strongly angular; posterior side rather short, with dorsal margin raised, accessory plates trigonal, broader than long.

**TERED.** British Bivalves, II. Fig. 45.

Species 2. (Fig. a, b, Mus. Brit.)

**XYLOPHAGA GLOBOSA**. *Xyl. testis bivalvis, latera antica moderate angulata; latera postica producta, marginem dorsalem declivi; laminae accessoriae angulatis, longitudine latitudine aequalibus.*

**THE GLOBOSE XYLOPHAGA**. Shell rather broad, anterior side moderately angular, posterior side produced, dorsal margin sloped, accessory plates claw-shaped, longer than broad.

**SOVERBY**. Proc. Zool. Soc. 1841. Trans. Conch. No. 10, p. 503.

*Hab.* Valparaiso.

The shell is wider and the posterior dorsal margin more sloped than in *X. borealis*. The proportions of the accessory plates are reversed.

## NAVEA.

Genus NAVEA. *Glypt.*

*Testa ovata, antice late arcuatum hiatus, postice clausa, margine superiori hinc antice hincque reflexo marginato.*

**Shell** ovate, anteriorly broadly gaping in an arch, posteriorly closed, upper margin of the anterior hiatus bordered by a reflected lamina.

I have not seen any species of this genus but the following one, which seems to perforate the sponges in which it is found embedded.

Species. (Fig. 3, Mus. Brit.)

**NAVEA SUBGLOBOSA**. *Nave. testis medio subaequaliter latera postica brevi, rotunda; latera antica, hinc maxime, superne ad marginem utrinque convexa et reflexa.*

**THE SUBGLOBOSE NAVEA**. Shell divided by a groove in the middle; posterior side short, rounded anterior side with a very large hiatus, reflected and cuneate at the margin above.

**GRAY**. MS. in Brit. Mus.

*Hab.* — ?



MONOGRAPH

OF THE GENUS

FISTULANA.

---

"Man is permitted much  
To scan and learn  
In Nature's frame"—*J. H. Newman.*

---





*Fistulae*



1a





## FISTULANA.

### Genus FISTULANA. Lamarck

#### MOLLUSK VERMIFORM, ARENICOLOM, TUBICERUM.

*Valvula libera, elongata, latè et angulariter hians; cardine lineari, obculta. Tuba recta, circularis, antice attenuata, versus terminum posteriorem crescens, termino per discum convexo perforata obtusa.*

Syn. *Gastrochaona*. Spengler (Adams).

#### MOLLUSK VERMIFORM, INHABITING SAND, TUBE-FORMING.

Valves free, elongated, broadly and angularly gaping; hinge linear, toothless. Tube straight, circular, anteriorly attenuated, increasing towards the posterior end; end closed by a convex perforated disc.

Adopting the nomenclature by which this genus is generally known, we should say that the *Fistulana* resemble the *Gastrochaona* in the most essential characters. Both have free gaping valves enclosed in a tube closed at the anterior end. The main difference is that the former bury their tubes in the sand, only the small siphonal end being visible, but are unattached, while the latter are boring mollusca, and attach their tubes to the various substances in which they make their crypts.

The two or three species hitherto known are found at low water in Singapore, Philippines, and other islands of the Eastern seas.

#### Species 1. (Fig. a, b, Mus. Brit.)

**FISTULANA CLAVA.** *Fis. testâ oblongâ, rectiusculâ, latè angulatâ hiansi, ad terminum posteriorem latè truncatâ, margine dorsali recto; umbonibus frè terminatis; latere antice brevi, subquadrato, acutè angulato, margine denticulato. Tubâ elongatâ, laevigatâ, concentricè tenuiter striatâ.*

**THE CLUB FISTULANA.** Shell oblong, rather straight, broadly angularly gaping, broadly truncated at the posterior end, dorsal margin straight; umbones nearly terminal; anterior side short, rather square, sharply angular, margin denticulated. Tube elongated, smooth, concentrically finely striated.

LAMARCK. Anim. sans Vert.

*Gastrochaona murina*. Spengler.

*Hab.* Singapore.

#### Species 2. (Fig. a, b, c, Mus. Brit.)

**FISTULANA AGGLUTINANS.** *Fis. testâ angustissimâ, tortâ; hiata angulatissimo. Tubâ lapillis arcuataque granâ agglutinante.*

**THE AGGLUTINATING FISTULANA.** Shell very narrow, tortuous; hiatus very angular. Tube agglutinating small stones and grains of sand.

DESHAYES. Proc. Zool. Soc.

*Hab.* Philippines, &c.

#### Species 3. (Fig. a, b, c, Mus. Brit.)

**FISTULANA GRANDIS.** *Fis. testâ valvulis magnis, latè, postice rotundè inflatis; hiata via angulato, latere antice brevissimo, arcuato. Tubâ concentricè rugis annulatâ.*

**THE LARGE FISTULANA.** Shell with large broad valves, roundly inflated posteriorly; hiatus scarcely angular, anterior side very short, arched.

Tube concentrically annulated with wrinkles.

DESHAYES. Proc. Zool. Soc.

*Hab.* Philippines, &c.



MONOGRAPH

OF THE GENUS

R I S S O A.

Loose! open our hearts that we may feel,  
Unbind our eyes that we may see  
The wondrous love Thy works reveal — *Lyrics: Madras*







# RISSOA.

PLATE I.

## Genus RISSOA *Franchetii*.

*Testa ovata, spiralis, plerumque turrata, brevis vel costata; spirâ acuminatâ, aperturâ semicirculari vel pyriformi, subcanaliculatâ vel integrâ; labiâ externo plerumque incrassato. Operculum corneum, subspirale.*

Shell marine, spiral, generally turreted, smooth or ribbed; spire acuminate; aperture half-round or pyriform, slightly channelled or entire; outer lip for the most part thickened. Operculum horny, subspiral.

The above description and the following monograph are intended to include the genera *Rissoa*, *Alvania*, *Rissoina*, *Hydrubia*, and other genera, which have been separated but not very well defined, and which at least require more careful revision than has yet been accorded to them, and which it is not within the scope of this work to give. The *Rissoa* or *Rissoïda* are found in all parts of the world, generally in shallow water among seaweeds.

### Species 1. (Mus. Sowerby.)

RISSOA (-oïna) SCALAROIDES. *Ris. testâ albâ, altissimâ, anfractibus senis, productis, medio angulatis, ad angulum plicatis; aperturâ ferè rotundâ, margine crasso, rotundo, labiâ interno distincto, angustâ.*

THE SCALARIA-SHAPED RISSOA. Shell white, very high; whorls six, produced, angular in the middle, plaited at the angle, aperture almost round; margin thick, round; inner lip distinct, narrow.

C. B. ADAMS. Shells of Jamaica.

*Hab.* Philippines.

### Species 2. (Mus. Marratt.)

RISSOA EUROPEA. *Ris. testâ subpyramidalâ, costis numerosis longitudinalibus et striis spiritalibus sculptâ, falvâ, latè fusco-fuscâ; spirâ pyramidalâ, anfractibus convexiusculis; aperturâ breviusculâ, margine externo albo, crenulatâ.*

THE EUROPEAN RISSOA. Shell rather pyramidal; sculptured with numerous longitudinal ribs and

spiral striae, fulvous, with broad brown bands. spire pyramidal, whorls rather convex, aperture rather short, outer lip white, crenulated.

RISSO. *Eur. Mer. Pl. IX. f. 156.*

*Turbo cinere.* Linnaeus.

*Rissoa Franchetilla.* Risso.

*Rissoa granulata.* Philippi.

*Rissoa mammillata.* Risso.

*Hab.* Britain. Mediterranean.

### Species 3. (Mus. Marratt.)

RISSOA MONTAGUI. *Ris. testâ fuscâ, breviusculâ, costis paucis rotè crenulatis sculptâ; spirâ productâ, pyramidalâ; anfractibus senis, convexiusculis; aperturâ subrotundâ, margine crenulatâ.*

MONTAGUI'S RISSOA. Shell brown, rather short, sculptured with few, coarsely crenulated ribs; spire produced, pyramidal; whorls six, rather convex; aperture rather rounded, margin crenulated.

PAYRAT-DEAU. *Cat. Moll. Corse. Pl. V. f. 13 14.*

*Hab.* Mediterranean.

The sculpture resembles that of *Rissoa Europea*, but the ribs are fewer, and more distantly crenulated.

### Species 4. (Mus. Brit.)

RISSOA CUMINGI. *Ris. testâ turratâ, albâ, pyramidalâ, acutè cancellatâ; anfractibus septenis, altis, rotundis; ultimo inflato; aperturâ subtrigoniâ, infrà subcanaliculatâ, margine crasso, crenatâ.*

CUMING'S RISSOA. Shell turreted, white, pyramidal, sharply cancellated; whorls seven, high, rounded, last swelled; aperture rather triangular, with a slight canal below, margin thick, crenated.

REEVE. *Proc. Zool. Soc.*

*Hab.* Philippines.

### Species 5. (Mus. Brit.)

RISSOA BRUGIERI. *Ris. (-oïna) testâ pyramidalâ, altâ, albâ, solidâ, costis subcarvis et sulcis distinctis sculptis, spirâ productâ, pyramidalâ, an-*

RISSOA.—PLATE I.

*fractibus senis, convexiusculis; aperturâ pyriformi, infra emulidato, labio externo reflexo, lato, marginè interno producto, tenui.*

BRUGUÈRE'S RISSOA. Shell pyramidal, high, white, solid, sculptured with slightly curved ribs and distant grooves; spire produced, pyramidal, whorls six, rather convex; aperture pyriform, channelled below; outer lip reflected, broad, inner margin produced, thin.

PAYRAUDEAU. Cat. Moll. Corse. Pl. V. f. 17-18.

*Hab.* Mediterranean.

Species 6. (Mus. Sowerby.)

RISSOA SCALARIANA. *Riss. (-oïna) testâ pyriformi, albâ, parvâ, longitudinaliter costatâ, spirâliter tenuissimè striatâ, spirâ albi, acuminatâ; anfractibus convexis, ultimo ventricosâ; aperturâ semirotundâ.*

THE SCALARIA RISSOA. Shell pyriform, whitish, small, longitudinally ribbed; spirally very finely striated; spire raised, acuminated; whorls convex, last ventricose; aperture half-round.

A. ADAMS. — ?

*Hab.* St. Vincent.

Species 7. (Mus. Sowerby.)

RISSOA D'ORBIGNYANA. *Riss. (-oïna) testâ turratâ, tenui, fulvo-albidâ; spirâ elongatâ, anfractibus inæqualiter varicosis, irregulariter varicosis, inæqualiter convexiusculis; aperturâ subtrigoniâ, suprâ infrâque canaliculatâ; labio externo antice angulatim producto.*

D'ORBIGNY'S RISSOA. Shell turreted, thin, whitish fawn; spire elongated, whorls nine, irregularly varicose, unequally rather convex; aperture rather trigonal, channelled above and below; outer lip angularly produced in front.

A. ADAMS. Proc. Zool. Soc. 1865. p. 64.

*Hab.* Australia.

Species 8. (Mus. Marratt.)

RISSOA BRYEREA. *Riss. (-oïna) testâ albâ, obliquè costatâ; spirâ turratâ, elevatâ; anfractibus septem, convexiusculis; aperturâ brevi, pyriformi, suprâ infrâque canaliculatâ.*

BRYER'S RISSOA. Shell white, obliquely ribbed; spire turreted, raised; whorls seven, rather convex; aperture short, pyriform, channelled above and below.

MONTAGU. Test. Brit. Pl. XV. f. 8.

*Hab.* West Indies.

Species 9. (Mus. Sowerby.)

RISSOA CONCINSA. *Riss. (-oïna) testâ albidâ, turratâ, altiusculâ; anfractibus senis, convexiusculis, tenuiter costatis, tenuissimè spirâliter striatis; aperturâ majusculâ, infrâ profundè canaliculatâ.*

THE SEAT RISSOA. Shell whitish, turreted, rather high; whorls six, rather convex; finely ribbed, very finely spirally striated; aperture rather large, deeply channelled below.

A. ADAMS.

*Hab.* Japan.

Species 10. (Mus. Marratt.)

RISSOA CALATHISCA. *Riss. (Alvania) testâ brevi, subpyramidalatâ, fuscâ, longitudinaliter costatâ; spirâliter sulcatâ; costis rotundis, crenulatis; anfractibus ad suturam angulatis, aperturâ subrotatâ, marginè crasso, crenulato, albo.*

THE LITTLE BASKET RISSOA. Shell short, rather pyramidal, brown, longitudinally ribbed; spirally grooved; ribs round, crenulated; whorls angular at the suture; aperture rather oval, margin thick, crenulated, white.

MONTAGU. Test. Brit.

*Hab.* Britain.

Another variety is figured on Plate X.







# R I S S O A.

PLATE II.

## Species 11. (Mus. Sowerby.)

**RISSOA AURIS-CALPUM.** *Ris.* (*Aene*) *testis albâ, ad aperturam apicemque purpurascenti, semipellucidâ, altissimâ, medio paulo inflato; apice acuminato; anfractibus septem ad novem, superioribus frequenter longitudinaliter costatis, ultimo elongato; apertura magna, ovali, labio expanso.*

**THE EAR-PICK RISSOA.** Shell white, purplish at the aperture and apex, semipellucid, very elevated, a little inflated in the middle, apex acuminated; whorls seven, often longitudinally ribbed, last elongated; aperture large, oval, lip expanded.

LINNEUS, *Systema Naturæ.*

*Rissoa acicula*, Risso.

*Rissoa marginatus*, Montagu.

*R. acula*, Desmarest.

*Hab.* Mediterranean.

These long-spined *Rissoa* do not seem to differ generically from the more typical forms.

## Species 12. (Mus. Sowerby.)

**RISSOA LABIOSA.** *Ris. testis ovato-acuminatâ, tenui, semipellucidâ, albo-purpurascenti, leviter costatâ; apice acuminato; anfractibus ultimis subinglato, costis infra medianâ discontinis; apertura magna, elongatâ, auriformi, labio expanso.*

**THE MEMBEANUS RISSOA.** Shell ovate, acuminated, thin, semipellucid, purplish white, slightly ribbed; apex acuminated; last whorl rather inflated, ribs discontinued below the middle; aperture large, long, ear-shaped, outer lip expanded.

MONTAGU, *Test. Brit.* Vol. II. p. 400.

*Hab.* Great Britain, Mediterranean.

## Species 13. (Mus. Sowerby.)

**RISSOA VENUSTA.** *Ris. testis subpyramidatâ, subviridi, tenui, apice acuminato, anfractibus tenuiter costatis, ultimo subventricosâ, infra medianâ leviter*

*gatis; apertura auriformi, labio expanso, sub margine acuto, costis varicosis.*

**THE BROAD-LIPPED RISSOA.** Shell rather pyramidal, greenish, thin; apex acuminated; whorls finely ribbed, last rather ventricose, smooth below the middle; aperture ear-shaped, lip expanded, inside having a sharp edge, outside varicose.

PHILIPPI, *Enum. Moll. Sic.* Vol. I. p. 124. Pl. XXIII f. 4.

*Hab.* Mediterranean.

This does not appear to belong to any of the numerous varieties of *Rissoa labiata*. A certain closeness of the outer lip and the distinct cessation of the regular ribs at the middle of the last whorl serve to distinguish it.

## Species 14. (Mus. Sowerby.)

**RISSOA CELATA.** *Ris. (Rissoina) testis pyramidatâ, solidâ, albâ, costis nodosis spirâliter cinctâ, longitudinaliter inter costas striatâ; anfractibus octo, ad latera declivibus, superioribus longitudinaliter costatis, costis angulatis et nodosis; apertura sub-trigona, labio externo crasso, crenulato.*

**THE EMBOSSED RISSOA.** Shell pyramidal, solid, white, spirally girt with nodose ribs, longitudinally striated between the ribs; whorls eight, sloped at the sides, upper longitudinally ribbed, ribs angular and nodose; aperture subtrigonal, outer lip thick, crenulated.

A. ADAMS, *Proc. Zool. Soc.* 1851, 267.

*Rissoina striata*, Quoy.

*Hab.* Signujor.

## Species 15. (Mus. Marrat.)

**RISSOA CINGILLUS.** *Ris. testis pyramidatâ, levigatâ, vel leviter spirâliter striatâ, fulcâ, costarum transversâtiâ; anfractibus quinque, subquadris; apertura parva, columbelli calidâ, labio externo obtuse marginatâ.*

THE GIRDLE RISSOA. Shell pyramidal, smooth, or slightly spirally striated, fulvous, three-banded with chestnut; whorls five, a little rounded; aperture small, columella strong, outer lip blunt-edged.

MONTAGU. Testacea Britannica, Vol. II. p. 35-7.

*Rissoa vittata*, Donovan.

*Rissoa rupestris*, Forbes.

*Hab.* British coasts.

Species 16. (Mus. Sowerby.)

RISSOA STRIATULA. *Ris. testā albā, brevī, spirālīter, prominenter, distanterque costatā, inter costas longitudinalīter striatā; anfractibus quatuor, ultimo magno, ad medium tenuiter costato, superiōe prope suturam angulatim planulato; aperturā brevī, labiō crenulato.*

THE LITTLE STRIATED RISSOA. Shell white, short, spirally, prominently, and distantly ribbed, longitudinally striated between the ribs; whorls four, last large, finely ribbed at the middle, angularly flattened above near the suture; aperture short, lip crenulated.

MONTAGU. Testacea Britannica, Vol. II. p. 306, Pl. X. f. 5.

*Turbo carinatus*, Da Costa.

*Turbo mollis*, Fleming.

*Hab.* British coasts.

Beautifully sculptured with thread-like striae crossing prominent keel-like spiral ribs.

Species 17. (Mus. Sowerby.)

RISSOA SPIRATA. *Ris. (Rissoina) testā albā, turrētā, spirālīter tenuiter striatā; anfractibus novem, superioribus brevibus abrupte versus apicem acuminatum aculeis, longitudinaliter costatis, tribus inferioribus elevatis, levissimè subcylindricis; suturā profundè incisā; aperturā subpyriformē, labiō elevato expanso crenulato.*

THE SPIRED RISSOA. Shell white, turreted, spirally finely striated; whorls nine, six upper short.

abruptly sloped towards an acuminate apex, longitudinally ribbed, three lower raised, rather smooth, subcylindrical; suture deeply incised; aperture rather pyriform, outer lip expanded, rather thick.

SOWERBY. Genera of Recent and Fossil Shells.

*Hab.* Philippines.

Species 18. (Mus. Sowerby.)

RISSOA PROXIMA. *Ris. testā albā, minutā, tenui, ovato-oblongā, spirālīter densè striatā; anfractibus quinque, inflatis, gradatim crescentibus; aperturā acutā, marginē acuto, simplici.*

THE APPROXIMATE RISSOA. Shell white, minute, thin, ovate-oblong, spirally closely striated; whorls five, inflated, gradually increased; aperture ovate, margin simple.

ALDEG MS. Thomson, Ann. Nat. Hist. Vol. XX. p. 174.

*Rissoa virginea*, Brown.

*Hab.* Ireland, very rare.

Differing from *Rissoa vitrea* in being striated spirally and in the proportionate equality of increase in the whorls.

Species 19. (Mus. — ? Copied.)

RISSOA VITREA. *Ris. testā parvā, albā, tenui, semipellucidā, ovato-oblongā, levigatā; anfractibus quinque, inflatis, penultimo magno elevato; aperturā ovatā, marginē acuto, simplici.*

THE GLASSY RISSOA. Shell small, white, thin, semipellucid, ovate-oblong, smooth; whorls five, inflated, the last large, elevated; aperture ovate, margin sharp, simple.

MONTAGU. Testacea Britannica, Vol. II. p. 351.

*Rissoa glabrata*, Megherle.

*Rissoa crystallina*, Brown.

*Hab.* Exmouth, Oban, &c.

The penultimate whorl is very large in proportion to the others.





# R I S S O A.

PLATE III.

Species 20. (Mus. Sowerby.)

RISSEO COSTATA. *Ris. testâ subpyramidalâ, subventricosa, fulvâ; anfractibus sex, prope suturam angulatis, obliquè costatis, spirâliber striatis; ultimo infrâ subaristato; apertura subquadrata, columellâ rectiusculâ.*

THE RIBBED RISSEO. Shell rather pyramidal, rather ventricose, fulvous; whorls six, angular near the suture, obliquely ribbed; spirally striated, last slightly keeled beneath; aperture rather square, columella rather straight.

ADAMS. Trans. Linn. Soc. Vol. VIII. Pl. XIII. f. 13, 14.

*Turbo costatus*, Montagu.

*Turbo plicatus*, Mühlfeld.

*Rissoa plicata*, Michaud.

*Hab.* Britain.

Species 21. (Mus.—? Copied.)

RISSEO VENTRICOSA. *Ris. (Hyporbâ) testâ subpyramidalâ, levigatâ, pallidè fulvâ; anfractibus quinque, rotundis; ultimo ventricoso, leviter umbilicato; apertura magna, columellâ rectiusculâ, labio externo tenui.*

THE VENTRILOSE RISSEO. Shell subpyramidal, smooth, pale fulvous; whorls five, rounded; last ventricose, slightly umbilicated; aperture large, columella rather straight, outer lip thin.

DE MOULINS. Bulletin de la Société Philosophique de Paris, p. 8. Pl. I. f. 2.

*Hab.* Mediterranean.

Species 22. (Mus. Sowerby.)

RISSEO LACTEA. *Ris. (Mearia) testâ albâ, ovatâ, costellis nuncrosis, rotundis, crenulatis, spirâlibus, superâ costis longitudinalibus sculptâ; spirâ parvâ; ultimo anfractu et apertura magna, subovatis.*

THE MILK-WHITE RISSEO. Shell white, oval, sculptured with numerous rounded, crenulated, spiral riblets, and above with longitudinal ribs; spire small; last whorl and aperture large, ovate.

MICHAUD. Espèces de Rissoa, p. 9, f. 11, 12.

*Rissoa cancellata*, Recluz.

Species 23. (Mus.—? Copied.)

RISSEO ABYSSICOLA. *Ris. (Mearia) testâ subovatis, albidâ, superâ costatâ, inter costas profunde striatâ, ad partem inferiorem ultimâ anfractibus spirâlibus costatâ, spirâ subpyramidalâ, ultimo anfractu magno; apertura latâ, labio crasso, rotundâ.*

THE DEEP-SEA RISSEO. Shell rather ovate, white, ribbed above, deeply striated between the ribs, spirally ribbed at the lower part of the last whorl, spire somewhat pyramidal, last whorl large; aperture broad, lip thick, round.

FÖRBER. Brit. Moll. p. 86, Pl. LXXVIII. f. 1.

*Hab.* North Scotland.

Species 24. (Mus. Sowerby.)

RISSEO CORIBEA. *Ris. (Rissoa) testâ albâ, solida, pyramidalâ, costis nodosis spirâlibus et longitudinalibus cancellatâ, inter costas fasciatâ; parâ elongatâ, subrotundâ, apice obtuso, anfractibus quinque, penultimâ tumida; apertura ovatis, quo ca ciliatâ, labio crasso, crenulatâ.*

THE CORIBEAN RISSEO. Shell white, solid, pyramidal, cancellated with nodose spiral and longitudinal ribs, pitted between the ribs; spire elongated, rather tortuous, apex blunt; whorls five, last but one tumid; aperture ovate, with a channel below, lip thick, crenulated.

D'ORBIGNY. Mollusques de l'île de Cuba.

*Hab.* Coast of Cuba.

Species 25. (Mus. Sowerby.)

RISSEO CIMICOIDES. *Ris. (Mearia) testâ albâ, subfusiformi; spirâliber penimenter costatâ (interstitiis profundis), supra medianâ longitudinaliter edidissimâ crenulatâ costatâ; spirâ acuminatâ; anfractibus supra suturam cuneolatis, ultimo*

*tumido; aperiturâ subrotundâ, superâ prope suturam angulatâ.*

THE BUG-SHAPED RISSEO. Shell white, subfusiform, spirally prominently ribbed, interstices deep; above the middle, longitudinally very strongly crenulately ribbed; spire acuminated; whorls channelled above the suture, last tumid in the middle, aperture rather rounded, angular near the suture above.

FORBES. Brit. Moll.

Hab. Britain.

Species 26.

RISSEO ZETLANDICA. *Ris. (Alcavia) testâ ovato-sub-elongatâ, pallidè fulvâ, spirâ turrellâ, anfractibus subquadratis, validè nodoso-costatis, cancellatis; ultimo infâ carinato; aperiturâ brevi, subrotundâ, edentellâ superâ tumidâ, labio exteriori crasso, eremulato.*

THE ZETLAND RISSEO. Shell ovate, rather elongated, pale fulvous, spire turreted, whorls rather square, cancellated with strong nodose ribs, the last keeled below; aperture short, rather rounded; columella tumid above, outer lip thick, eremulated.

MONTAGU. Testacea Britannica. Mont. Trans. Linn.

Soc. Vol. XI. p. 194, Pl. XIII. f. 5.

*Rissoa cyclostomata*, Recluz.

Hab. Great Britain.

Species 27. (Fig. a, b, c, Mus. Sowerby.)

RISSEO ULVE. *Ris. (Hydrobia) testâ fulvâ, trochiformi, solidâ, lavi, spirâ acuminatâ, elevatâ, anfractibus planulatis, suturâ incisâ separatâ, ultimo leviter angulato; aperiturâ ovatâ, labio interno integro.*

THE SEA-WEED RISSEO. Shell fulvous, trochus-shaped, solid, smooth; spire acuminated, raised; whorls

flattened, separated by an incised suture, last slightly angular; aperture ovate.

PENNANT. Brit. Zool. Ed. 4, Vol. IV. p. 132.

*Rissoa subumbilicata*, Berkeley.

*Rissoa Barleci*, Jeffreys.

Hab. British coasts.

Species 28. (Mus. Sowerby.)

RISSEO SEMISTRIATA. *Ris. (Cingula) parvâ, fulvâ, maculis in seriebus, tribus costaneis, subquadratis cinctâ; spirâ striatâ; anfractibus quinque, planiusculis; ultimo magno, superioribus levibus; aperiturâ subtrigunâ.*

THE HALF-STRIATED RISSEO. Shell small, fulvous, banded with rather square chestnut spots in three rows; spirally striated; whorls five, rather flat, last large; upper smooth; aperture nearly trigonal.

MONTAGU. Testacea Britannica, Supp. p. 136.

*Rissoa pulchra*, Johnson.

*Rissoa tristriata*, Thompson.

*Rissoa subsulcata*, Philippi.

Hab. Britain.

Species 29. (Mus. Marrat.)

RISSEO COSTULATA. *Ris. testâ fulvâ, subconicâ, costis magis, distantibus, angulatis armatâ, spirâ striatâ; spirâ acuminatâ, anfractibus sex, elevatis, angulatis; aperiturâ subrotundâ, margine crasso.*

THE RIBBED RISSEO. Shell fulvous, rather conical, armed with large, distant, angular ribs; spirally striated, spire acuminated; whorls six, elevated, angular; aperture rather rounded, margin thick.

ALDER. As of Risso, Ann. Nat. Hist.

*Rissoa similis*, Saccchi Cat. p. 14, 2.

*Rissoa Guerinii*, Rev. Zool. Cuv. 1843, p. 7.

Hab. Britain, France.







31



30



32



34



33



35



36



37



38



38

# RISSOA.

PLATE IV.

Species 30. (Mus. Sowerby.)

RISSOA FORTIS.—*Ris.* (*Rissoina*) *testâ albidâ, crassâ, angustâ, elevatâ, mediâ tumidiusculâ, costis rectis, covbris, laevibus, sculptâ; anfractibus septem, altis, planulatis; apice acuto; apertura parvâ, obliquâ, angustâ, infra canalienlabi; labio interno crasso, expanso.*

THE STRONG RISSOA. Shell whitish, thick, narrow, raised, rather tumid in the middle, sculptured, with straight, close, smooth ribs; whorls seven, high, flattened; apex sharp; aperture small, oblique, narrow, channelled below; outer lip thick, spread.

C. B. ADAMS.  
*Hab.* Jamaica.

Species 31. (Mus. —?)

RISSOA MACULATA. *Ris. testâ minutâ, subtrochiformi, laevigatâ, fulvâ; anfractibus sex, columnis, ultimo maculis subrotatis versus suturam, subquadratis infra, et fuscâ spirali castaneis pictâ; apertura majusculâ, labio interno reflexo.*

THE SPOTTED RISSOA. Shell minute, subtrochiform, smooth, brown; whorls six, rounded, the last painted near the suture with spots slightly curved, below rather square, and a spiral band of chestnut; aperture rather large, inner lip reflected.

SOWERBY. Index of British Shells, as of an unnamed authority.

*Rissoa inconspicua*, var. auctorum.  
*Hab.* Britain.

The pattern of colouring is so distinct that it may justify specific designation.

Species 32. (Mus. Marrat.)

RISSOA CRENULATA. *Ris. testâ albâ, brevî, turritâ, quadratum cancellatâ; anfractibus superâ prop suturam angulatis, penultimo ventricosâ, ultimo magno; apertura obtusâ, margine externo crenulato.*

THE CRENULATED RISSOA. Shell white, short, tur-

reted, encelled in squares; whorls angular above near the suture, penultimate ventricose, last large; aperture ovate, outer margin crenulated.

MICHAUD. Nouvelles Espèces de Rissoa, p. 15, f. 1, 2.  
*Turbo cancellatus*, Da Costa.  
*Turbo rimosus*, Donovan, &c., non Linnæus.  
*Hab.* Britain and Channel Islands.

Cancellations broad, but not so much so as those of *Zetlandica*.

Species 33. (Mus. Marrat.)

RISSOA RUFILABRIS. *Ris.* (*Alvania*) *testâ trochiformi, fulvâ, ad suturam rufolincatâ; anfractibus angulatis, supra angulum distanter, leviter costatis; apice acuminato; apertura subtriangulâ, margine rubro vel violaceo.*

THE RED-LIPPED RISSOA. Shell trochiform, fulvous, with a red line at the suture; whorls angular, distantly, slightly ribbed above the angle; apex acuminate; aperture rather trigonal, margin red or violet.

LEACH. (Alvania) Alder. Ann. Nat. Hist. Vol. XIII. p. 325.

*Rissoa hyalina*, Desmoulin's.  
*Rissoa lilavina*, Recluz.  
*Hab.* Europe.

Species 34. (Mus. Hanley.)

RISSOA INCONSPICUA. *Ris.* (*Cingula*) *testâ conici, elevatâ, albâ, longitudinaliter costatâ, inter costas tenuissimè striatâ; anfractibus sex, latroculiter subcompressis; apice obtuso; ultimo anfractu infra laevigatâ; apertura magna; columellâ rectiusculâ.*

THE INCONSPICUOUS RISSOA. Shell conical, raised, whitish, longitudinally ribbed, very finely striated between the ribs; whorls six, rather compressed at the sides; apex obtuse; last whorl smooth below; aperture large; columella rather straight.  
ALDER. Ann. and Mag. of Nat. Hist. Vol. XIII. p. 323, Pl. VIII. f. 6, 7.

*Hab.* Britain.

Species 35. (Mus. Marrat.)

RISSOA PUNCTURA. *Ris. (Cingula) testâ ventricosâ, fulvâ, subconicâ, spirâliter puncturato-striatâ; anfractibus quinque, rotundis, suprâ infrâque maculis linearibus castaneis pictis; aperturâ subrotundâ.*

THE PUNCTURED RISSOA. Shell ventricose, fulvous, rather conical, spirally striated in punctures; whorls five, rounded, painted above and beneath with linear chestnut spots; aperture rather rounded.

MONTAGU. Testacea Britannica, Vol. II. p. 320, Pl. XII. f. 5.

*Rissoa puncturata*, Macgillivray.

*Rissoa approximata*, Brown.

*Hab.* British coasts.

Species 36. (Fig. a, b, Mus. Marrat.)

RISSOA PARVA. *Ris. testâ conicâ, lævi, fulvâ, acuminatâ, altâ; anfractibus rotundis, brevibus, lineis maculisque castaneis, frequenter curvis plerumque pictis; aperturâ subquadratâ, columellâ rectiusculâ.*

THE SMALL RISSOA. Shell conical, smooth, fulvous, acuminate, raised; whorls rounded, short, generally painted with chestnut lines and spots, frequently curved; aperture subquadrate, columella rather straight.

MAISON and RACKET. Act. Linn. Soc. VIII. p. 171.

*Rissoa sublutea*, Adams.

*Rissoa interrupta*, Johnson.

*Rissoa lœvra*, Donovan.

*Hab.* British coasts and Channel.

Species 37. (Mus. Hanley.)

RISSOA BEANII. *Ris. (Alvania) testâ subconicâ, fuscâ, superne læviter costatâ, omnino spirâliter striatâ, striis ad costas crenulatis; spirâ acuminatâ; anfractibus sex, convexiusculis, ultimo breviusculo, aperturâ subovatâ, margine distincto, albo; labio externo albo.*

BEAN'S RISSOA. Shell rather conical, brown, slightly ribbed above, spirally striated all over, striated at the ribs; spire acuminate; whorls six, rather convex, last rather short; aperture rather oval, margin distinct, white; outer lip white.

HANLEY. Forbes and Hanley, British Mollusca, III. Pl. LXXVIII. f. 1.

*Hab.* Great Britain and Ireland.

Species 38. (Mus. — ? Copied.)

RISSOA SUPRACOSTATA. *Ris. testâ brevi, pallidâ, ventricosâ; anfractibus quinque, rotundis, superioribus acutè costatis, inter costas striatis; ultimo magno, lævigato; spirâ acutâ, subrosâ; aperturâ magnâ, subovatâ.*

THE UPPER-RIBBED RISSOA. Shell short, pale, ventricose; whorls five, rounded, upper sharply ribbed, striated between the ribs, last large, smooth; spire sharp, rather rose-coloured; aperture large, subovate.

—————?

*Hab.* Britain.

This shell is evidently a somewhat abnormal form, but not of *R. parva*. Some author, however, having named it, it is here admitted, as it cannot be identified with any known species.





# RISSOA.

PLATE V.

Fig. 10 *b*.

RISSOA CALATHIUS, var. (See Pl. I.)

## Species 39. (Mus. Sowb.)

RISSOA CALATHIUS. *Ris.* (Alvearia) testâ subconvictâ, pallidâ, semipellucidâ, costis longitudinalibus, sublaevibus, subdepressis, et liris spiralibus magis approximatis, interstitiis profundè forcolatis, cancellatâ; anfractibus quinque convergentibus; aperturâ subovatâ; labio externo crasso, intus crenato.

THE BASKET RISSOA. Shell rather conical, pale, semipellucid, cancellated with rather distant, rather depressed longitudinal ribs and rather nearer spiral ridges, with deeply-pitted interstices; whorls five, rather convex; aperture rather ovate, outer lip thick, crenated within.

FORBES and HANLEY, British Mollusca, Vol. III. p. 80.

*Hab.* British coasts and Europe generally.

## Species 40. (Mus. Sowerby.)

RISSOA STRIATA. *Ris.* (Anoba) testâ albidâ, elongatâ, tenuiter spiraliter striatâ; anfractibus sex, convexis, elevatis, superne ad suturam crenulatis, ultimo brevi; aperturâ parvâ, labio externo extis varicoso, margine incrassato, subcrenulato.

THE STRIATED RISSOA. Shell whitish, elongated, finely striated spirally; whorls six, convex, raised, crenulated above at the suture, last short; aperture small, outer lip varicose without, margin thickened and slightly crenulated.

MONTAGU. (Turbo) Test. Brit. Vol. II. p. 326, Pl. XIII. f. 25, 26.

*Rissoa minutissimo*, Michand.

*Rissoa communis*, Forbes.

*Rissoa gracilis*, Macgillivray.

*Hab.* Britain.

## Species 41. (Mus. Marrat.)

RISSOA VENTROSA. *Ris.* testâ subcividi, fulvescenti, pyramidalâ, spirâ elevatâ; anfractibus quinque, lateraliter compressis, ultimo rotundo, ferè umbilicato, aperturâ subovatâ, margine acuto.

THE INFLATED RISSOA. Shell rather greenish-buff, pyramidal, spire elevated; whorls five, laterally compressed, last round, nearly umbilicated; aperture rather oval, margin acute.

MONTAGU. (Turbo) Test. Brit. II. p. 317, Pl. XII. f. 13.

*Rissoa acuta*, Draparnaud.

*Turbo ventricosus*, Dillwyn.

*Hab.* Great Britain, France.

## Species 42. (Mus. late Deshayes.)

RISSOA ROSEA. *Ris.* testâ solidâ, rosâ, spirâ elevatâ, anfractibus septem, moderatè convexis, longitudinaliter costatis, costis regularibus, solidis, levibus, cunctis, interstitiis æquantibus; aperturâ auriformi, columellâ leviter uniplicatâ, labio externo crasso, rotundo.

THE PINK RISSOA. Shell solid, pink, spire elevated; whorls seven, moderately convex, longitudinally ribbed, ribs regular, solid, smooth, rather straight, equalling the interstices; aperture auriform, columella slightly single-plaited, outer lip thick, rounded.

DESHAYES. Conch. Ile de la Réunion, p. 61, Pl. VII.  
f. 29.

Hab. Isle of Bourbon.

Species 43. (Mus. late Deshayes.)

RISSOA INCOLITA. *Ris.* (Alvania?) *testá minúta, candidá, elongato-turrítá, apíce obtusísculá; anfractibus septenis, costis duabus inequalibus prominentibus cinctis, majore prope suturam positá, eleganter granuloso-crenulatá; último anfractu brevínsculo, transversim quadricostato; aperturá minúta, ovatá, angustá.*

THE EXTRAORDINARY RISSOA. Shell very small, white, elongate-turreted, apex rather obtuse; whorls seven, first with two unequal prominent ribs, the larger placed near the suture, elegantly granularly crenulated, last whorl rather short, transversely four-ribbed; aperture very small, oval, narrow.

DESHAYES. Conch. Ile de la Réunion, p. 63, Pl. XIII.  
f. 15, 16.

Hab. Isl. Bourbon.

Species 44. (f, a, b, Mus. Crosse?)

RISSOA GENTILISSIANA. *Ris.* (Hydrobia) *testá parvá, pallidá fulvá, levi, ovatá, apíce obtuso; anfractibus quatuor, convexisculis, último elongato, inflato, subsulcato; aperturá disjunctá, obliqué ovatá, operculo fusco.*

THE FAMILY-RELATION RISSOA. Shell small, pale fulvous, smooth, with obtuse apex; whorls four, rather convex, last elongated, inflated, a little uncoiled; aperture disjoined, obliquely ovate.

CROSSE. Journ. de Conch. Vol. XXII. p. 112, 1874.  
Hab. New Caledonia.

Mr. Crosse remarks that this is the second of the same genus found in the locality.

Species 45. (Mus. Souverbie?)

RISSOA FIMBRIATA. *Ris.* (Rissoina) *testá albídá, turrítá, altíssimá, levi, apíce obtuso; anfractibus octo,*

*lateraliter compressis, distanter longitudinaliter costatis, prope suturam subangulatis; aperturá obliqué ovatá, columellá duplicatá, labio externo duplicato, fimbriato.*

THE FRINGED RISSOA. Shell whitish, turreted, very high, smooth, with blunt apex; whorls eight, laterally compressed, distantly longitudinally ribbed, with a slight angle near the suture; aperture obliquely ovate, columella doubled, outer lip doubled, fringed.

SOVERBIE. Journ. de Conch. p. 52, 1872.

Hab. New Caledonia.

Species 46. (Mus. Souverbie?)

RISSOA INCERTA. *Ris.* (Rissoina) *testá fuscá, solidá, altá, turrítá, spirá elevatá, apíce obtuso; anfractibus octo, ad suturam angulatis, costatis, costis ad spiram continuis, distantibus, rotundis, ad médium últimí anfractis discontinuis; aperturá obliqué ovatá, columellá arcuatá.*

THE UNCERTAIN RISSOA. Shell brown, solid, elevated, turreted, spire raised, with obtuse apex; whorls eight, angular at the suture, ribbed, ribs continued at the spire, distant, rounded, discontinued at the middle of the last whorl; aperture obliquely ovate.

SOVERBIE. Journ. de Conch. 1872, p. 33, Pl. I. f. 4.

Hab. Ins. Arl. New Caledonia.

Species 47. (Mus. Marrat.)

RISSOA TULCHEREIMA. *Ris.* (setia) *testá minúta, levi, globosá, levi, subumbilicatá, in scriebus tribus maculis rubro-fuscis quadratis ornatá; anfractibus quatuor, rotundis, último magna, ventricoso; aperturá rotundá, margine simplici.*

THE VERY PRETTY RISSOA. Shell minute, short, globose, smooth, slightly umbilicated, ornamented with red-brown square spots in three rows; whorls four, rounded, last large, ventricose; aperture round, margin simple.

JEFFREYS. Ann. Nat. Hist. Vol. II. p. 351.

Hab. Channel Islands.







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# RISSOA.

PLATE VI.

Fig. 1 b, *Rissoa denticulata*. See Plate I.

## Species 48. (Mus. Sowerby.)

**RISSOA SOLITA.** *Ris. (Setia) testâ minimâ, ovatâ, albâ, spirâliter striatâ; anfractibus tribus, brevibus, rotundis, ultimo ventricoso, subsulcatâ, umbilicâto; apertura rotundâ, labio externa rectiusculo.*

**THE LOOSE-COILED RISSOA.** Shell very small, oval, white, spirally striated; whorls three, short, round, last ventricose, a little uncoiled, umbilicated; aperture round, outer lip rather straight.

PHILIPPI. Moll. Sic. Vol. II. p. 130, Pl. XXIII. f. 18.  
*Hab.* Britain.

## Species 49. (Mus. Jeffreys.)

**RISSOA ALDELI.** *Ris. (Setia) testâ minutâ, pallidâ, fulvâ, levî, subovatâ; anfractibus quinque, rotundis, elevatis, ultimo ventricoso, subumbilicâto; apertura suborâtâ, labio externo tenui, columelli rectiusculi.*

**ALDELI'S RISSOA.** Shell minute, pale, fulvous, smooth, rather oval; whorls five, rounded, elevated, last ventricose, slightly umbilicated; aperture rather oval, outer lip thin, columella rather straight.

JEFFREYS. Ann. and Mag. of Nat. Hist. August, 1858.  
*Hab.* North Britain.

## Species 50. (Mus. Sowerby.)

**RISSOA FULVIDA.** *Ris. (Setia) testâ minutâ, fulvâ, levî, nitidâ, castaneo spirâliter bifasciatâ, spirâ brevi, obtusâ; anfractibus tribus, rotundis; apertura rotundâ, margine tenui.*

**THE BRIGHT RISSOA.** Shell minute, fulvous, smooth, shining, with two chestnut spiral bands, spire short, obtuse; whorls three, rounded; aperture rounded, margin thin.

ADAMS. Trans. Linn. Soc. Vol. III. p. 254.  
*Hab.* Britain and Ireland.

## Species 51. (Mus. Brit.)

**RISSOA ANATINA.** *Ris. (Hydrobia) testâ minutâ, subcirrâli, tenui, ovato-subgloboseâ, spirâ brevi, apice acuto. anfractibus quinque, rapidè crescentibus, distinctis, prope suturam angulatis, ultimo subglobose, suturâ canaliculatâ; apertura subrotundâ, margin tenui.*

**THE DUK'S RISSOA.** Shell small, rather green, thin, ovato-subglobose, spire short, apex acute; whorls five, rapidly increased, distinct, angular near the suture, last subglobose, suture channelled; aperture rather round, margin thin.

DRAPARNAUD. Moll. Terr. et Fluv. de France, p. 37.  
Pl. I. f. 24, 25.

*Hab.* France, England.

## Species 52. (Mus. Jeffreys.)

**RISSOA EXIMIA.** *Ris. testâ albidâ, minutissimâ, subovatâ, longitudinaliter costatis, costis distantibus, incisâ, in medio anfractuum costis spirâliter tribus decussatis, interstitiis excavatis; anfractibus quatuor, infra biangulatis, suturâ profundâ; apertura subrotundâ, margine acuto.*

**THE NOTABLE RISSOA.** Shell whitish, very small, somewhat ovate, longitudinally ribbed, ribs distant, incised, decussated by three spiral ribs in the middle of each whorl; interstices excavated; whorls four, biangular below, suture deep; aperture rather round, margin sharp.

JEFFREYS. Sowerby's Illustrated Index of Brit. Sp. *Chemnitzia Barlewi*, Clark.

*Hab.* Britain.

## Species 53. (Mus. Sowerby.)

**RISSOA NITIDA.** *Ris. (Rissoina) testâ albâ, solidâ, elatâ, spirâ elongatâ, medio subinflata, apice acuminatâ; anfractibus octo, convexis, spirâliter et longitudinaliter costatis, costis ad angulos nodosis; apertura;*

RISSOA.—PLATE VI.

*parvâ, anticâ canaliculatâ, columellâ brevi, crassâ, labiâ externo crasso, anticâ productâ.*

THE NEAR RISSOA. Shell white, solid, raised, spire elongated, rather swelled in the middle, apex acuminate; whorls eight, convex, spirally and longitudinally ribbed, ribs nodose at the angles; aperture small, anteriorly channelled, columella short, thick, outer lip thick, anteriorly produced.

A. ADAMS. Proc. Zool. Soc. 1851, p. 266.

*Hab.* Philippines.

Species 54. (Mns. Sowerby.)

RISSOA RUBRA. *Ris. (Darciâ) testâ conicâ, fuscâ, solitâ, politâ; anfractibus quatuor, cancellis, ultimo infra medium subangulato; aperturâ subtrigoniâ, magnâ, columellâ rectiusculâ.*

THE RED RISSOA. Shell conical, brown, solid, polished; whorls four, rather convex, last rather angular below the middle; aperture subtrigonal, large, columella rather straight.

ADAMS. Trans. Linn. Soc. Vol. III. Pl. XIII. f. 15.

*Rissoa multifasciata*, Montagn.

*Hab.* Britain, Mediterranean.

Species 55. (Mns. Marrat.)

RISSOA FULVA. *Ris. (Darciâ ?) testâ conicâ, elevatâ, solitâ, fuscâ, latè fasciatâ, politâ; anfractibus*

*quinque, lateraliter compressis, ultimo angulato; aperturâ subtrigoniâ.*

THE FULVOUS RISSOA. Shell conical, raised, solid, brown, broadly banded, polished; whorls five, laterally compressed, last angular; aperture subtrigonal.

MICHAUD. Nonv. Esp. de Rissoa, p. 15, f. 17, 18.

*Hab.* Adriatic.

Species 56. (Mns. Marrat.)

RISSOA CREBRISULCATA. *Ris. (Rissoina) testâ elongato-ovatâ, scabrâ, costis longitudinalibus subobliquis, validis, molosis, et liris tenuibus spirâlibus cancellatâ; anfractibus octo, convexiusculis; aperturâ infra canaliculatâ; aperturâ parvâ, ovatâ columellâ crassâ, brevi, labiâ externo crasso, extis crenatâ.*

THE CLOSE-GROOVED RISSOA. Shell elongated-ovate, scabrous, cancellated with rather oblique, strong, nodulous, longitudinal ribs; whorls eight, rather convex; aperture channelled below, aperture small, ovate; columella thick, short, outer lip thick, crenulated outside.

SOWERBY.

*Hab.* — ?

This beautifully sculptured little shell when received was labelled '*R. canaliculata* Ad.,' but being afterwards found not to agree with the specimen in the British Museum, we have had to give another name to it.





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# RISSOA.

PLATE VII.

## Species 57. (Mus. Paris.)

RISSOA MOHRENSTERNI. *Ris. (Rissoina) testâ minutâ, albâ, ovato-pyramidatâ, apice acutâ; anfractibus septem, concentricis, longitudinaliter costellatis, striis spiritalibus decussatis; ultimo anfractu magno, ventricoso, subovato; apertura semilunari, labio externo crasso, antice producto.*

MOHRENSTERN'S RISSOA. Shell very small, white, ovately pyramidal, with acute apex; whorls seven, rather convex, longitudinally ribbed, decussated with spiral striae; last whorl large, ventricose, subovate; aperture semilunar, outer lip thick, anteriorly produced.

DESHAYES. Conchyliologie de l'île de la Réunion, p. 62.

*Hab.* Ile Bourbon.

## Species 58. (Mus. Brit.)

RISSOA SEMIGLABRATA. *Ris. (Rissoina) testâ pyriformi, solidâ, acuminatâ, anfractibus septem, concentricis, superioribus curvicostratis, penultimo et antepenultimo costellis indistinctis spiritalibus et striis minutissimis longitudinalibus decussatis, ultimo subglobozo, pulito, apertura pyriformi, labio externo crasso, dentibus transversis tribus vel quatuor minuto.*

THE HALF-POLISHED RISSOA. Shell pyriform, solid, acuminate, whorls seven, rather convex, the upper with curved ribs, two before the last decussated with indistinct spiral ribs and very minute longitudinal striae, last rather globose, polished, aperture pyriform, outer lip thick, provided with three or four teeth.

A. ADAMS. Proc. Zool. Soc. 1851, p. 279.

*Hab.* Isl. Zebu, Philippines.

## Species 59. (Mus. Brit.)

RISSOA CRASSILABRUM. *Ris. (Rissoina) testâ brevi, conicâ, lacteâ, pulitâ, solidâ, anfractibus sex, planulatis, apice truncato; apertura pyriformi,*

*angustâ, labio externo crasso, planulato, antice tridentato, columellâ latâ.*

THE THICK-LIPPED RISSOA. Shell short, conical, milk-white, polished, solid, whorls six, flattened, apex acuminate; aperture pyriform, narrow, outer lip thick, flattened, anteriorly tridentate, columella broad.

PEASE. Proc. Zool. Soc.

*Hab.* California.

A curious little shell with three strong teeth across its broad, thick, outer lip.

## Species 60. (Mus. Brit.)

RISSOA CANALICULATA. *Ris. (Rissoina) testâ solidâ, pyramidatâ, pallidissimâ fulvâ, anfractibus septem, concentricis, costatis; costis distantibus, levibus, medio flexuosis, ad costam spiralem basalem terminantibus; ultimo anfractu infri bicostrato; apertura pyriformi, labio externo crasso.*

THE CHANNELLED RISSOA. Shell solid, pyramidal, very pale fulvous; whorls seven, rather convex, ribbed; ribs distant, smooth, flexuous in the middle, ending at the base, last whorl double ribbed beneath; aperture pyriform, outer lip thick.

SCHWARTZ. Monograph of Rissoinae.

*Hab.* Philippines.

## Species 61. (Mus. Brit.)

RISSOA INSIGNIS. *Ris. (Rissoina) testâ brevi, solidâ, superâ albâ, infri subnervâ; anfractibus quinque superioribus latis, quadratis, prope suturam et 4. angulatis, costatis, subdecussatis, ultimo rotundo, subglobozo; apertura subovata, labio externo crasso, rotundo, denticulato, columellâ crassi.*

THE WONDERFUL RISSOA. Shell short, solid, white above, rather golden below; whorls five, upper broad, square, rectangular near the suture, ribbed, slightly decussated, last round, subglobose; aperture subovate; outer lip thick, round, denticulated, columella thick.

ADAMS and REEVE. Voy. Samarang.

*Hab.* — ?

RISSOA.—PLATE VII.

Species 62. (Mus. Brit.)

RISSOA DESHAYESIANA. *Ris.* (*Rissoina*) *testâ albâ, pyramidatâ, costis longitudinalibus nodosis et striis spiralibus tenuiter reticulatâ; anfractibus septem, convexiusculis; aperturâ semiovatâ, columellâ brevi, crassâ, labio externo crasso, crenulato.*

DESHAYES'S RISSOA. Shell white, pyramidal, finely reticulated with longitudinal nodose ribs and spiral striae; whorls seven, rather convex; aperture semiovalate, columella short, thick, outer lip thick, crenulated.

RECLUS. *Revue Zoologique.*

*Hab.* ——— ?

Species 63. (Mus. Brit.)

RISSOA DEFORMIS. *Ris.* (*Rissoina*) *testâ albâ, elongatâ, solidiusculâ, altissimâ; anfractibus novem, irregulariter convolutis, inequaliter convexis, superioribus sculptis, inferioribus levigatis, aperturâ subtrigonâ, productâ; labio externo crasso.*

THE DEFORMED RISSOA. Shell white, long, rather solid, much elevated; whorls nine, irregularly wound, unequally curved, upper sculptured, lower smooth, aperture subtrigonal, produced; outer lip thick.

SOWERBY. *Genera of Shells.*

*Hab.* Philippines.

Species 64. (Fig. a, b, c, d, Mus. Brit.)

RISSOA VARIEGATA. *Ris.* (*Rissoina*) *testâ subcylindricâ, albâ, vel maculis vel fasciis varîâ pictâ; anfractibus rectiusculis, superiè ad suturam crenulatis, ultimo majuscule, apice acuminato, aperturâ semiovatâ, columellâ brevi, acuminatâ.*

THE VARIEGATED RISSOA. Shell rather cylindrical, white, or variously painted with spots or bands; whorls rather straight, crenulated above at the suture, last rather large; apex acuminated, aperture semiovalate, columella short, acuminated.

ANGUS. *Proc. Zool. Soc.* 1867, p. 113.

*Hab.* Port Jackson.

Species 65. (Mus. Brit.)

RISSOA STRIOLATA. *Ris.* (*Rissoina*) *testâ elevatâ, tenui, tenuiter striatâ, albâ, apice acuminato; anfractibus novem, rectiusculis, medianis latis, superioribus attenuatis; ultimo subangustato; aperturâ auriformi, columellâ infri acuminatâ; labio externo subincrassato.*

THE FINE-STRIATED RISSOA. Shell raised, thin, finely striated, white, apex acuminated; whorls nine, rather straight, middle broad, upper attenuated, last rather narrow; aperture ear-shaped, columella acuminated below; outer lip rather thickened.

A. ADAMS. *Proc. Zool. Soc.* 1851, p. 206.

*Hab.* Baclayon, Isl. Bohol, Philippines.

In some degree resembling *Rissoina spirata*, but the whorls not angular.







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# RISSOA.

PLATE VIII.

## Species 66. (Mus. Brit.)

**RISSOA PYRAMIDALIS.** *Ris. (Rissoina) testâ subpapiformi, pallidè fulvâ, subventricosa, obtusiusculâ; anfractibus sex, breviusculis, costis eleganter flexuosis, longitudinalibus levibus liratâ; aperturâ subauriformi, labio externo crasso, columellâ subplicatâ.*

**THE PYRAMIDAL RISSOA.** Shell somewhat pupa-shaped, pale fulvous, rather ventricose, rather obtuse; whorls six, rather short, ridged with elegantly flexuous longitudinal ribs; aperture somewhat ear-shaped, outer lip thick, columella with a very slight plait.

A. ADAMS. Proc. Zool. Soc. 1851, p. 265.

*Hab.* Baelayon, Isl. Bohol, Philippines.

## Species 67. (Mus. Brit.)

**RISSOA MEMBRANACEA.** *Ris. testâ tenui, corvâ, altissimâ; anfractibus septem, lateraliter subcompressis, apicalibus attenuatis, ultimo brevi; aperturâ auriformi, anticè expansâ, subretroscâ, columellâ subflexuosâ, brevi, labio externo expanso.*

**THE MEMBRANOUS RISSOA.** Shell thin, horny, very elevated; whorls seven, laterally subcompressed, apical attenuated, last short; aperture ear-shaped, anteriorly expanded, rather inclined backwards, columella rather flexuous, short, outer lip expanded.

LÖVÉN — ?

*Rissoa labiosa* var. Auct.

*Hab.* Black Sea and Mediterranean.

The more elevated varieties of *Rissoa labiosa* do not seem to approach the slender form and light texture of this species.

## Species 68. (Mus. Brit.)

**RISSOA SMITHII.** *Ris. (Rissoina) testâ albâ, parvâ, solidâ, pyramidatâ; anfractibus septem, convexis,*

*costatis, costis longitudinalibus, leviter arcuatis, interstitiis spiraliter striatis, ultimo anfractu infra spiraliter costatâ; aperturâ subtrigoniâ, labio externo crasso, columellâ crassâ, obtusè uniplicatâ.*

**SMITH'S RISSOA.** Shell white, small, solid, pyramidal; whorls seven, convex, ribbed, longitudinal ribs, slightly curved, interstices spirally striated, last whorl spirally ribbed below; aperture somewhat trigonal, outer lip thick, columella thick, with a blunt plait.

ANGUS. Proc. Zool. Soc. 1867, p. 114.

*Hab.* Port Jackson, Australia.

## Species 69. (Mus. Brit.)

**RISSOA TURRICULA.** *Ris. (Rissoina) testâ rubrofusâ, parvâ, solidâ, pyramidatâ, acuminatâ; anfractibus octo, prominentibus, supra medium subangulatis, costatis, costis paucis medio subangulatis, interstitiis tenuissimè striatis; aperturâ semilunari, labio externo crasso, columellâ crassâ, brevi.*

**THE LITTLE TURRET RISSOA.** Shell red-brown, small, solid, pyramidal, acuminated; whorls eight, prominent, rather angular above the middle, with interstices very finely striated; aperture semilunar, outer lip thick, columella very thick, short.

ANGUS. Proc. Zool. Soc.

*Hab.* New South Wales.

The whorls are more prominent than those of *Rissoa Smithii*, and, with the ribs, more angular.

## Species 70. (Mus. Brit.)

**RISSOA CRASSA.** *Ris. (Rissoina) testâ solidâ, rubrofulvâ, brevi, obtusâ; anfractibus septem, brevibus, lateraliter subcompressis, longitudinaliter costatis, costis leviter arcuatis, ultimo anfractu infra levigato; aperturâ rectiusculâ, columellâ crassâ, brevi.*

**THE THICK RISSOA.** Shell solid, red fulvous, short, obtuse; whorls seven, short, laterally rather

compressed, longitudinally ribbed, ribs slightly arched, last whorl smooth below; aperture rather straight, columella thick, short.

ANGUS. MS. Brit. Mus.

Hab. Port Jackson.

Species 71. (Mus. Brit.)

RISSOA CINCTA. *Ris. (Rissoina) testâ parvâ, albâ, altâ, tenuiter interruptim costaeo fusciatâ; anfractibus septem, convexiusculis, costatis, costis eleganter flexuosis, interstitiis striatis, ultimo anfractu brevi, rotundo, subreticulato.*

THE BELTED RISSOA. Shell small, white, high, finely interruptedly banded with chestnut; whorls seven, rather convex, ribbed, ribs elegantly flexuous, interstices striated, last whorl short, rounded, rather reticulated.

ANGUS. Proc. Zool. Soc. 1867, p. 114.

Hab. Port Jackson.

Species 72. (Mus. Brit.)

RISSOA NODICINCTA. *Ris. (Rissoina) testâ albâ, solidâ, pyramidatâ, acuminatâ; anfractibus octo, costellis spiralibus et longitudinalibus regulariter ad angulo nodosis ornatis; apertura semi-ovata, labio externo crasso, intus crenulato.*

THE BEAD-BELTED RISSOA. Shell white, solid, pyramidal, acuminated; whorls eight, ornamented with spiral and longitudinal ribs, regularly nodose at the angles; aperture semi-ovate, outer lip thick, crenulated within.

A. ADAMS. Proc. Zool. Soc. 1851, p. 206.

Hab. Isl. Capul, Philippines.

Species 73. (Mus. Brit.)

RISSOA MONODONTA. *Ris. (Rissoina) testâ brevi, crassâ, lilacinâ et albâ, subpyriformi; anfractibus*

*quinque, brevibus, ultimo subovato; apertura ovatâ, labio externo crasso, subplunulato, columellâ brevi, unidentatâ.*

THE SINGLE-TOOTHED RISSOA. Shell short, thick, lilac and white, rather pyriform; whorls five, short, last rather oval; aperture ovate, outer lip thick, rather flattened, columella short, with a single tooth.

BIVON. MS. Mus. Brit.

Hab. —?

Species 74. (Mus. Sowerby.)

RISSOA VIOLACEA. *Ris. testâ parvâ, crassâ, breviter pyramidatâ, infrâ aureo-fusâ, mediâ violacâ; anfractibus quinque, superiôr albis, infrâ castaneo latè fuscatis; apertura subtrigona; margine crasso.*

THE VIOLET RISSOA. Shell small, thick, shortly pyramidal, golden brown below, violet in the middle; whorls five, white above, broadly banded with chestnut below; aperture subtrigonal, margin thick.

DESMAREST. —?

Hab. Nice.

Species 75. (Mus. Sowerby.)

RISSOA RETICULATA. *Ris. (Rissoina) testâ albâ, pyramidato, tenui, acuminatâ; anfractibus novem, costis tenuissimis, eleganter flexuosis, longitudinalibus et striis spiralibus reticulatis; apertura subpyriformi, labio externo crasso, anticò producto, columellâ brevi, infrâ acuminatâ.*

THE RETICULATED RISSOA. Shell white, pyramidal, thin, acuminated; whorls nine, reticulated with elegantly flexuous longitudinal ribs and spiral striae; aperture subpyriform, outer lip thick, anteriorly produced, columella short, acuminated below.

SOWERBY. Genera of Shells.

Hab. Isl. St. Thomas, West Indies.





# RISSOA.

PLATE IX.

## Species 76. (Mus. Sowerby.)

RISSOA CLATHRATA. *Ris. (Rissoina) testâ albâ, clathrâ solidâ, costis spirâlibus supra suturam quinque et longitudinalibus paulo magis numerosis ad angulos molâsis clathratis; interstitiis profundi foveolatis; anfractibus altis, concentricis, ultimo unisulcato et varicoso; aperturâ pyriformi, labio externo antici producto; columbelli brevi, crassi.*

THE LATTICED RISSOA. Shell whitish, elevated, solid, latticed with five spiral ribs above the suture, and rather more numerous longitudinal ones, nodose at the angles; interstices deeply pitted; whorls elevated, rather convex, the last with a groove and spiral varices behind the columella; aperture pyriform, outer lip anteriorly produced, columella short, thick.

A. ADAMS. Proc. Zool. Soc. 1851, p. 265.

Hab. Isl. Bohol, Philippines.

A beautiful broadly-sculptured species.

## Species 77. (Fig. a, b, c, d, Mus. Brit.)

RISSOA VARIABILIS. *Ris. testâ subfusiformi, acuminatâ, leviter spirâliter fusca, punctato-lineatâ, et striatâ; anfractibus octo, elevatis, tribus apicalibus laevibus, alteris medio angulatis, costatis, costis medio prominentibus; aperturâ declivi, subovatâ, margine externo, libano, cæcis intusque incrassato.*

THE VARIABLE RISSOA. Shell rather fusiform, acuminated, finely spirally brown spot-lined and striated; whorls eight, elevated, three apical smooth, the others angular in the middle; aperture sloped, rather oval, margin expanded, lilac, thickened within and without.

MUHLFELD? — ?

Hab. — ?

## Species 78. (Mus. Sowerby.)

RISSOA DECUSSATA. *Ris. (Rissoina) testâ albâ, solidâ, albâ, tenuissimi costellis obliquis longitudinalibus et spirâlibus minutis decussatâ, apice obtuso; anfractibus sex, infra medianâ concentricis; aper-*

*turâ subpyriformi; columbelli brevi, attenuatâ, labio externo parvisulcato, crasso.*

THE DECUSSATED RISSOA. Shell white, solid, high, very finely decussated with oblique longitudinal ribs and spiral striae, apex obtuse; whorls six, rather convex below the middle; aperture rather pyriform, columella short, attenuated, outer lip prominent, thick.

MONTAGU. Test. Brit. Vol. II, p. 399.

Hab. West Indies.

A West Indian shell described as British by Montagu. It has a smooth, and even a polished appearance until examined with the lens, when the oblique longitudinal ribs and fine spiral striae are seen.

## Species 79. (Mus. Sowerby.)

RISSOA SPLENDIDA. *Ris. testâ breviter subfusiformi, fulvâ, spirâliter lineis cubicis punctatis pictâ; spirâ acuminatâ; anfractibus sex, hecibus, angulatis costatis, later et infra costas fusca fasciatis; aperturâ brevi, labio externo intus et usque crasso violaceo marginato.*

THE SPLENDID RISSOA. Shell shortly subfusiform, fulvous, spirally painted with red punctured lines, spire acuminated; whorls six, short, angularly ribbed, banded with brown between and under the ribs; aperture short, outer lip thickened within and without, edged with violet.

ERICHO — ?

Hab. Black Sea.

Shorter and more finely ribbed than *Rissoa catenalis*.

## Species 80. (Mus. Sowerby.)

RISSOA SAGRAIANA. *Ris. (Rissoina) testâ albâ, solidâ, albâ, pyramidalâ; anfractibus septem, costis crenatis, obliquis, transversè liratis, sculptis; aperturâ pyriformi, labio externo crassissimo, antici producto.*

THE SAGRA RISSOA. Shell white, solid, high, pyramidal; whorls seven, sculptured with oblique crenated ribs ridged across; aperture pyriform, outer lip very thick, anteriorly produced.

D'ORBIGNY. Mollusques de Cuba.

Hab. Cuba.

Species 81. (Mus. Marrat.)

RISSOA LIGNEA. *Ris.* (*Uvanilla*) *testâ brevi, ventricosâ, solidâ, fusâ, acuminatâ, rubro-lineatâ; aufractibus brevibus costatis, costis rotundis, crassis, crenatis; liris spiritalibus tenuibus; apertura brevî, subrotundâ, columellâ crassâ, albâ; labio externo intus incrassato; costis varicoso.*

THE WOOLY RISSOA. Shell short, ventricose, solid, brown, acuminate, red-lined; whorls short, ribbed, ribs rounded, thick, crenated; spiral ridges thin; aperture short, rather round, columella thick, white; outer lip thickened within, varicose without.

THORPE. Brit. Mar. Conch.

*Hab.* Nice.

Species 82. (Hab. Marrat.)

RISSOA CANARIENSIS. *Ris.* (*Alouania*) *testâ minuto, pallidâ fulcâ, brevî, crassâ, longitudinaliter crebricostatâ, spiritaliter densè lineatâ; costis crassis, crenulatis; aufractibus parvis, brevibus, mucronatis et spiritaliter lineatis, medio subangulatis, ultimo ventricosâ; apertura parvâ, rotundâ, labio externo incrassato.*

THE CANARY ISLAND RISSOA. Shell minute, pale, fulvous, short, thick, numerous longitudinally ribbed, spirally closely ridged, ribs thick, crenulated; whorls few, short, spotted or spirally lined, rather angular in the middle, last ventricose; aperture small, rounded, outer lip thickened.

D'ORBIGNY. Watson, Proc. Zool. Soc. 1873, p. 376.

*Hab.* Canary Islands, Madeira.

Finer in sculpture than the other species, with crenulated ribs.

Species 83. (Mus. Marrat.)

RISSOA DEPRITA. *Ris.* *testâ parvâ, ventricosâ, fulcâ, tenuiter spiritaliter striatâ, semipellucidâ, obscurè scintillâ mucronatâ; aufractibus quinque, superioribus brevissimis, ultimo rotundo, subgloboso, apertura rotundâ, labio externo crasso.*

THE FADED RISSOA. Shell small, ventricose, fulvous, finely spirally striated, semipellucid, obscurely spotted in rows; whorls five, upper ones very short, last rounded, rather globose; aperture rounded, outer lip thick.

MANZONI. (Watson) Proc. Zool. Soc. 1873, p. 383.

*Hab.* Madeira.

It seems more globose and less conical than *Rissoa semistriata* of Montagu.

Species 84. (Mus. Montrouzier.)

RISSOA ARTEMSIS. *Ris.* (*Rissoina*) *testâ elongatâ, subcylindricâ, subauriculâ, tenui; aufractibus novem, apicalibus septem leviter plicatis, attenuatis, prope apicem subangulè angustatis, penultimo subcylindrico, pluvato, alto; ultimo cylindrico elongato; apertura subtriangulâ, subovaliculatâ; labio interno tenui, columellâ brevî, labio externo producto, incrassato.*

THE ISL. OF ART RISSOA. Shell elongated, subcylindrical, rather orange, thin; whorls nine, seven apical, slightly plaited, attenuated near the apex, rather abruptly narrowed, last but one rather cylindrical, flattened, high, last cylindrical, elongated; aperture subtrigonal, with a slight canal, inner lip thin, columella short, outer lip produced, thickened.

MONTROUZIER. Journ. Conchyl. Vol. XX. p. 364, 1872.

*Hab.* Ile Art, New Caledonia.

Species 85. (Mus. Souverbie.)

RISSOA SUBCONCINXA. *Ris.* (*Rissoina*) *testâ albâ, ovatâ, subpyramidatâ, altâ, longitudinaliter costatâ, costis tenuibus leviter arcuatis, distantibus, interstitiis levibus; aufractibus octo, levè crescentibus, inferioribus subventricosis; apertura subtrigonâ, labio interno tenui, expanso, columellâ multiplicatâ, brevî, labio externo producto, expanso, infra columellam emarginatâ.*

THE RATHER NEAT RISSOA. Shell white, ovately subpyramidal, high, longitudinally ribbed, ribs thin, slightly arched, distant, interstices smooth; whorls eight, slowly increased, lower rather ventricose; aperture subtrigonal, inner lip thin, expanded, columella single plaited, short, outer lip produced, expanded, emarginated under the columella.

SOVERBIE. Journ. Conchyl. Vol. XX. p. 364, 1872.

*Hab.* Ile Art, New Caledonia.

This shell is named as above from its resemblance to *Rissoina coriaria* of A. Adams, from which it differs materially in having no cross striae.







# RISSOA.

PLATE X.

Species 86. (Mus. Crosse.)

RISSOA (HEMISOMA) CALEDONICA. *Ris. testâ albâ, brevifili, oblongo-ovata, tenui, apice obtusa; anfractibus quinque, ultimo oblongo, apertura obliquâ semilunari, labio externo expanso; columellâ obliquâ, infâo acuminatâ.*

THE CALEDONIAN RISSOA. Shell whitish, smooth, oblong-ovate, thin, with obtuse apex; whorls five, the last oblong, aperture obliquely semilunar, outer lip expanded; columella oblique, acuminated below.

CROSSE. Journ. Conch. Vol. XII. p. 72, 1872.  
Hab. Noumea, New Caledonia.

This shell bears so strongly the aspect of a true typical *Rissoa* that, in the absence of an operculum, it seems difficult to understand why a new genus should be created for it.

Species 87. (Mus. Brit.)

RISSOA (OINA) STRICTA. *Ris. testâ solidâ, pupiformi, pallidè fulvâ, altâ, rectâ; anfractibus octo; apicalibus attenuatis, acuminatis; medianis subinflatis, ventralibus superâi perpendiculariter costatis, ultimo infâi brevifili; apertura parvâ, semilunari, columellâ brevi, obliquâ, infâ truncatâ, labio externo expanso, acuto.*

THE STRAIGHTENED RISSOA. Shell solid, pupa-shaped, pale fulvous, raised, straight; whorls eight; apical attenuated, acuminated, middle somewhat inflated, straight-sided, perpendicularly ribbed on the upper side, the last smooth below; aperture small, semilunar, columella short, oblique, truncated below, outer lip expanded, sharp.

MESKE. Zeitschrift für Malak. 1850.  
Hab. Cape St. Lucas.

*Rissoa fortis* is a more broadly-ribbed, darkly-coloured shell.

Species 88. (Mus. Brit.)

RISSOA (OINA) STRIATICOSTATA. *Ris. testâ, pyramidalâ, albâ, tenui, arcuatâ, tenuiter costatâ, spirâliter striatâ, anfractibus ultimo et penultimo subinflatis,*

*superioribus parvis, oblongatis, apice acuminato, apertura subtriangulâ, labio externo pro duobus, crassiusculis, columellâ superâi truncatâ, infâo tenui albâ.*

THE RIB-STRIATED RISSOA. Shell pyramidal, white, thin, arched, finely ribbed, spirally striated, last and previous whorls a little inflated, upper small, attenuated, apex acuminated; aperture subtriangular, outer lip produced, rather thick; columella thickened above, slightly truncate below.

D'ORVILLE. Voy. Amér. Méridionale, p. 395.  
Hab. St. Vincent's, West Indies.

Species 89. (Mus. Brit.)

RISSOA (OINA) CHESNELLI. *Ris. testâ albâ, subpyramidalâ, solidâ, costis solidis oblique flexuosis et striis spirâlibus, elevatis, cancellatâ; spirâ acuminatâ, anfractibus apicalibus attenuatis, ultimo anfractu inflato; apertura parvâ, supra infâoque subannulicatâ, labio externo crasso, enubato.*

CHESNELL'S RISSOA. Shell white, rather pyramidal, solid, cancellated with obliquely flexuous solid ribs and spiral striae; spire acuminated, apical whorls attenuated, last whorl inflated; aperture small, slightly channelled above and below; outer lip thick, crenulated.

MICHAUD. Cat. Ris. p. 17, f. 23-24.  
Hab. India.

Species 90. (Mus. Brit.)

RISSOA (OINA) BUREANA. *Ris. testâ pallidâ, solidâ, obtusè pyramidalâ, brevifili, tenuissimè carinostatâ; apertura parvâ, subtriangulâ, columellâ crassâ, brevi, subortâ, subtruncatâ, labio externo crasso.*

THE BUREAN RISSOA. Shell pale, solid, obtusely pyramidal, smooth, very slightly bent-ribbed; aperture small, subtriangular, columella thick, short, rather tortuous, almost truncated, outer lip thick.

SOWERBY.  
*R. concinna*. Adams.  
Hab. Isl. Burea, Philippines.

Species 91. (Mus. Brit.)

RISSOA (OINA) NIVEA. *Ris. testâ subpyramidatâ, costis obliquè flexuosis ornatâ; spirâ elevatâ, apice acuminatâ; ultimo anfractu infrah spirâ spirâliter costato, aperturâ infra subequalitatâ; columellâ parvâ, breviusculâ; labio externo incrassato.*

THE SNOWY RISSOA. Shell subpyramidal, ornamented with obliquely flexuous ribs; spire elevated, apex acuminated, last whorl spirally ribbed below; aperture rather square below; columella small, rather short; outer lip thickened.

ARTHUR ADAMS. Proc. Zool. Soc. 1851, p. 265.  
*Hab.* Australia.

Species 92. (Mus. Brit.)

RISSOA (OINA) ALBEIDA. *Ris. testâ pyramidatâ, acuminatâ, albi, vel fulvâ, semipellucidâ, tenui; ultimo anfractu subinflato, levigato, alteris costatis, versus apicem attenuatis; aperturâ subtrigonâ, columellâ brevi, truncatâ, labio externo crassa.*

THE WHITISH RISSOA. Shell pyramidal, acuminated, white or buff, half-transparent, thin; last whorl a little inflated, smooth, the others ribbed, attenuated towards the apex; aperture rather trigonal, columella short, truncated, outer lip thick.

C. B. ADAMS. Shells of Jamaica.  
*Hab.* West Indies.

Species 93. (Mus. Brit.)

RISSOA (OINA) LEVISSIMA. *Ris. testâ solidâ, breviter pyramidatâ, pallidâ fulvâ, pulchrâ; spirâ acuminatâ, anfractibus rectiliteralibus; aperturâ subtrigonâ, parvâ, columellâ crassâ, brevi, truncatâ.*

THE VERY SMOOTH RISSOA. Shell solid, shortly pyramidal, pale fulvous, polished; spire acuminated, whorls straightened; aperture rather trigonal, small, columella thick, short, truncated.

C. B. ADAMS. Shells of Jamaica.  
*Hab.* West Indies.

Species 94. (Mus. Brit.)

RISSOA (OINA) CATESBYANA. *Ris. testâ parvâ, pyramidatâ, fuscâ, breviusculâ, costis obliquè flexuosis, rutilis ornatâ; spirâ brevi, anfractibus convexis; aperturâ semilunari, labio interno superne incrassato; columellâ brevi, arcuatâ, labio externo producto, incrassato.*

CATESBY'S RISSOA. Shell small, pyramidal, brown, rather short, ornamented with obliquely flexuous strong ribs; spire short, whorls convex; aperture semilunar, inner lip thickened above; columella short, arched; outer lip produced, thickened.

D'ORBIGNY. Shells of Cuba.  
*Rissoa scalarella.* C. B. Adams.  
*Hab.* Jamaica, Cuba.

Species 95. (Mus. Brit.)

RISSOA (OINA) PRINCEPS. *Ris. pyramidatâ, attenuatâ, alti, albi, acuminatâ; anfractibus tenuissimè costatis et striatis; ultimo elongato, infra levigato; aperturâ subtrigonâ, labio externo tenui.*

THE PRINCE RISSOA. Shell pyramidal, attenuated, elevated, white, acuminated; whorls finely ribbed and striated, last elongated, smooth below; aperture subtrigonal, outer lip thin.

C. B. ADAMS. Shells of Jamaica.  
*Hab.* Jamaica, West Indies.





163



164



165



166



167



168



169



170



171



172

# RISSOA.

PLATE XI.

Species 96. (Mus. Brit.)

RISSOA (OINA) SUBULGATA. *Ris. testâ crassa, pallidâ, pyramidatâ; anfractibus senis, spirâliter costatis, costis crassis, angulatis, supra suturam tribus, interstitiis & costis-faculis; ultimo anfractu subventricoso; apertura pyriformi, labio externo crasso, columellâ crassâ, subplanatâ.*

THE GROOVED RISSOA. Shell thick, pale, pyramidal; whorls six, spirally ribbed, ribs thick, angular, three above the suture, interstices serrated in pits; last whorl subventricose; aperture pyriform, outer lip thick, columella thick, somewhat flattened.

TROSCHEL. — ? MS. Brit. Mus.

*Hab.* Coast of Belgium.

Of a pale colour, more broadly pyramidal than *Rissoina Trachelis*.

Species 97. (Mus. Brit.)

RISSOA (OINA) FLEXUOSA. *Ris. testâ pyramidatâ, acuminatâ, medio spire subconcaâ; costis longitudinalibus, supra medium angulatis spirâliter subnodosis minutis; apertura brevi, subovata; labio interno superiore subcalloso, columellâ acutâ; labio externo intus tumido.*

THE FLEXUOUS RISSOA. Shell pyramidal, acuminated, rather concave in the middle of the spire; provided with few longitudinal ribs, angular above the middle, slightly notched; aperture short, subovate, inner lip callous above; columella acute; outer lip tumid within.

GOULD. — ? MS. Brit. Mus.

*Hab.* North America.

Species 98. (Mus. Brit.)

RISSOA (OINA) VILLEA. *Ris. testâ pyramidatâ, acuminatâ, albâ; anfractibus novem, prope suturam angulatis, costis numerosis angulatis longitudinalibus minutis; ultimo infra medium spirâliter costato, costis longitudinalibus desinuntibus; apertura parvâ, subpyriformi; columellâ infra rectâ.*

THE STEWARDNESS RISSOA. Shell pyramidal, acuminated, whitish; whorls nine, angular near the suture, provided with numerous angular longi-

tudinal ribs, the last spirally ribbed in the middle; the longitudinal ribs ending; aperture small, somewhat pyriform; columella straight below.

GOULD. Smithsonian Catalogue.

*Hab.* Loochoo.

In the middle of the last whorl the longitudinal ribs cease, and the lower part is only ribbed spirally.

Species 99. (Mus. Brit.)

RISSOA (OINA) EULIMOIDES. *Ris. testâ breviusculâ, albâ, politâ, latè caliter arcuatâ, acuminatâ; anfractibus senis, ultimo rotundo; apertura obliquè productâ, labio externo intus incrassato; columellâ latâ, crassâ, brevi.*

THE LIMBA-SHAPED RISSOA. Shell rather short, white, polished, laterally arched, acuminated; whorls six, last rounded; aperture obliquely produced, outer lip thickened within; columella broad, thick, short.

A. ADAMS. Proc. Zool. Soc. 1851, p. 279.

*Hab.* Isl. Capul, Philippines.

Species 100. (Mus. Brit.)

RISSOA (OINA) SEMIPLICATA. *Ris. testâ parvâ, politâ, rectè pyramidatâ, levi, semipellucidâ, tenuissimè longitudinalitèr plicatâ; apertura parvâ, subpyriformi, labio externo crasso, rotundo; columellâ parvâ, acuminatâ.*

THE HALF-PLATED RISSOA. Shell small, polished, smoothly pyramidal, thin, semipellucid, very finely longitudinally plaited; aperture small, rather pyriform, outer lip thick, rounded; columella small, acuminated.

PEASE. Proc. Zool. Soc. 1862.

*Hab.* Pacific.

Thinner, narrower, and more transparent than *S. latissima*.

Species 101. (Mus. Brit.)

RISSOA (OINA) BROWNIANA. *Ris. testâ parvâ, pyramidatâ, acuminatâ, fulvâ, levi; anfractibus senis, altè asculis, ultimo subrotundo; apertura pyriformi, labio externo obliquè productâ.*

BROWN'S RISSOA. Shell small, pyramidal, acuminate, fulvous, smooth; whorls six, rather elevated, the last somewhat round; aperture pyriform, outer lip obliquely produced.

D'ORRIGNY. Voyage dans l'Amérique Méridionale.  
Hab. St. Vincent's.

Species 102. (Mus. Brit.)

RISSOA (OINA) TRITICEA. *Ris. testâ brevi, crassâ, albâ, pupaformi; anfractibus brevibus, costatis; costis arcuatis, brevibus, rotundis, infra medium anfractus ultimi descendantibus; ultimo anfractu brevi; apertura parvâ, subvixiformi, anticè rotundatâ; labio crasso, rotundo; columellâ brevi, continuo.*

THE WHEAT RISSOA. Shell short, thick, white, pupa-shaped; whorls short, ribbed, ribs curved, smooth, round, ending below the middle of the last whorl, last whorl short; aperture small, rather auriform, anteriorly rounded, lip thick, rounded, columella short, continuous.

PEASE. Proc. Zool. Soc. 1869, p. 438.  
Hab. Pacific Ocean.

Species 103. (Mus. Brit.)

RISSOA (OINA) PHILIPPINI. *Ris. testâ turrîtâ, pallidè fulcâ, longitudinalitèr crebrè costatâ, interstitiis cancellatis; anfractibus senis, rectis ad suturam angulatis; ultimo anfractu infrà spirâlitèr costatâ, apertura parvâ, subovatâ, columellâ latâ, subarcuatâ.*

PHILIPPI RISSOA. Shell turreted, pale fulvous, longitudinally closely ribbed, interstices cancelled; whorls six, straight, with an angle at the suture, last whorl spirally grooved on the under side; aperture small, subovate; columella broad, a little curved.

PFIFFER. —? M.S. Brit. Mus.

*Rissoa cancellata*. Philippi.  
Hab. Cuba, Jamaica.

Species 104. (Mus. Brit.)

RISSOA (OINA) WOODWARDI. *Ris. testâ minutâ, breviter pyramidatâ, pallidissimè fulcâ; anfractibus senis, brevibus, longitudinalitèr costatis; costis obliquè arcuatis, brevibus, rotundis; ultimo anfractu infrà unicosato; apertura parvâ, pyriformi; labio externo crasso, anfractu apicali rotundo.*

WOODWARD'S RISSOA. Shell minute, shortly pyramidal, very pale fulvous; whorls six, short, longitudinally ribbed, ribs obliquely arched, smooth, rounded, last whorl single-ribbed below; aperture small, pyriform; outer lip thick, apical whorl rounded.

CARPENTER. Shells of Mazatlan, p. 357.  
*Rissoa claudestina*. C. B. Adams.  
*Rissoa firmata*. C. B. Adams.  
Hab. Mazatlan.

Species 105. (Mus. Brit.)

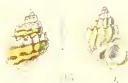
RISSOA (OINA) TROCHLEARIS. *Ris. testâ breviusculâ, crassâ, rubro fuscâ, spirâlitèr costis angulatis cinctâ; anfractibus senis, brevibus, medianis paulè inflatis; apertura albâ, subovatâ; columellâ crassâ, brevi; canali conspicuo, labio externo intus incrassato, extus crenato.*

THE COIL RISSOA. Shell rather short, thick, red-brown, spirally belted with angular ribs; whorls six, short, middle ones a little inflated; aperture white, subovate; columella thick, short; canal conspicuous, outer lip thickened within, crenated without.

CARPENTER. M.S. Smithsonian Inst. and B. M.  
*Rissoa sulvijera* var. Gould.  
*Rissoa ligata*. Gould.  
*Rissoa annulata*. Danbar.  
Hab. —?







# RISSOA.

PLATE XII.

## Species 106. (Mus. Watson.)

**RISSOA AULANTIACA.** *Ris. testâ pallidâ aurantâ, albâ, spirâ subequalitâ; anfractibus quinâ, convexis, costis, albis, spirâliter tenuiter costatis, superâ costis obliquis, sublistantibus, longitudinalibus, sculptis, ultimo anfractu infâ spirâliter conspicuè hirsutis; aperturâ ovatâ, labio lato, margine interno valvæ acutè producto.*

**THE ORANGE RISSOA.** Shell pale orange, raised, spire a little in steps; whorls five, rather convex, spirally finely ribbed, sculptured above with oblique, rather distant longitudinal ribs, last whorl with two spiral ribs below; aperture ovate, lip broad, inner margin anteriorly sharply produced.

WATSON. Proc. Zool. Soc. 1873, p. 367, Pl. XXXIV. f. 3.

*Hab.* Madeira.

## Species 107. (Mus. Watson.)

**RISSOA CRISPA.** *Ris. testâ parvâ, albâ, undulatim spirâliter costatâ, gradatâ, costis crassis longitudinalibus flexuosis ornatâ; apice obtuso; anfractibus quaternis, superâ medianâ angulatis, ultimo infâ spirâliter hirsutis, umbilicatis; aperturâ subtriangulâ, labio crasso, costis crasso, superâ infâque angulatâ.*

**THE CRISP RISSOA.** Shell small, whitish, spirally ribbed in waves, ornamented with thick longitudinal flexuous ribs; apex obtuse; whorls four, angular above the middle, last with two spiral ribs below, unbilicated; aperture subtriangular, lip thick, crenated outside, angular above and below.

WATSON. Proc. Zool. Soc. 1873, p. 369, Pl. XXXIV. f. 6.

*Hab.* Madeira.

## Species 108. (Mus. Marrat.)

**RISSOA MACANDREWII.** *Ris. testâ parvâ, brevî, rubrofusâ; anfractibus quinque, gradatis, angulatis, spirâliter crebrè costatis, costis perpendicularibus, crassis, superâ medianâ angulatis munitis, ultimo*

*infâ spirâliter uncostatis; aperturâ obliquè subovatis; costâ labiali crassa, rotundâ, spirâliter livida.*

**MACANDREW'S RISSOA.** Shell small, short, reddish-brown; whorls five, in steps, angular, spirally closely ribbed, strengthened with perpendicular thick ribs, with an angle above the middle, last with a single spiral rib below; aperture obliquely subovate, labial rib thick, rounded, spirally ridged.

WATSON. Proc. Zool. Soc. 1873, p. 372, Pl. XXXIV. f. 8.

*Hab.* Gorgulho, Madeira.

## Species 109. (Mus. Watson.)

**RISSOA MONIZIANA.** *Ris. testâ hircinisculdâ, fuscâ albâ, spirâliter lividâ, liris rotundis, approximatis; apice acuto; anfractibus quaternis, brevibus, superâ medianâ angulatis; aperturâ magnâ, rotundâ, costâ labiali subexpansâ, crassâ.*

**MONIZ'S RISSOA.** Shell rather short, almost white, spirally ridged, ridges rounded, close; apex acute; whorls four, short, angular above the middle; aperture large, rounded, labial rib rather expanded, thick.

WATSON. Proc. Zool. Soc. 1873, p. 369, Pl. XXXIV. f. 6.

*Hab.* Madeira.

## Species 110. (Mus. Watson.)

**RISSOA PICTA.** *Ris. testâ parvâ, trochiformi, distanter spirâliter striatâ, maculis fuscis quadratis in series tres dispositis ornatâ; anfractibus quinque, convexis, ultimo magno; aperturâ subtriangulâ, labio crasso; columellâ crassâ, arcuatâ.*

**THE PAINTED RISSOA.** Shell small, top-shaped, distantly spirally striated, ornamented with brown square spots arranged in three rows; whorls five, convex, last large; aperture subtriangular, lip thick; columella thick, arched.

JEFFREYS. Brit. Moll.

*Hab.* Madeira.

A narrower shell than *Rissoa depicta*, the whorls being more elongated and distinct.

Species 111. (Mus. Watson.)

RISSOA NOVARENSIS. *Ris. testâ parvâ, breviter ovato-conicâ, crassâ, pallidissimâ fulvâ, costis longitudinalibus frequentibus lineatis punctis arcuatis, infra medium desinentibus, et liris spiralibus tenuibus sculptâ, inter costas biserialitè fusco-maculatis, infra maculas spiritaliter tricostatis; anfractibus quaternis, brevibus, apicali rotundo, ultimo magno; aperturâ subrotundâ, labio crasso, rotundo.*

THE NOVARA RISSOA. Shell small, shortly ovate-conical, thick, very pale fulvous, sculptured with numerous ridged ribs a little curved, ending below the middle and slender spiral ridges, spotted with brown in two rows, three spiral ribs below the spots; whorls four, short, apical rounded, last large; aperture rather round, lip thick, rounded.

WATSON. Proc. Zool. Soc. 1873, p. 377, Pl. XXXV. f. 13.

*Hab.* Madeira.

Named after a frigate with which the shell had nothing to do.

Species 112. (Mus. Watson.)

RISSOA WATSONI. *Ris. testâ parvâ, tenuissimâ, trochiformi, liris spiralibus prominentibus rotundis cinctâ; anfractibus quaternis, apicali semitotundo, duobus medianis angulatis rugoso-costatis, inter costas costarum maculatis, ultimo magno, angulato, supra angulum planulato, longitudinalitè costato, inter costas rubro-maculato, medio et infri spiralitè solùm costato, costâ labiali haud marginem attingenti.*

WATSON'S RISSOA. Shell small, rather thin, trochus-shaped, girt with spiral prominent ridges; whorls four, apical semitotund, two middle angular, roughly ribbed, last large, angular, flattened, and longitudinally ribbed and spotted with red between the ribs above the angle, only spirally ribbed in the middle and below; labial rib not reaching the margin.

SCHWARZ. Proc. Zool. Soc. 1873, Pl. XXXV. f. 11.

*Hab.* Madeira.

Species 113. (Mus. Watson.)

RISSOA FEMINIMA. *Ris. testâ parvâ, oblongâ, albâ, opacâ, levigatâ; anfractibus quaternis, subelevatis, lateralitè rotundatis, ultimo magno, angustè umbilicatâ; aperturâ suboculâ, margine ferè integro, tenuissimo.*

THE VERY SMALL RISSOA. Shell small, oblong, white, opaque, smooth; whorls four, rather raised, laterally rounded, last large, narrowly umbilicated; aperture rather oval, margin nearly entire, rather thin.

MASONI. Proc. Zool. Soc. 1873, p. 385.

*Rissoa* *abjecta*. Watson.

*Hab.* Madeira.

Species 114. (Mus. Watson.)

RISSOA ALBIGO. *Ris. testâ parvâ, tenui, semipellucidâ, subovato-trochiformi, fasciis lineisque punctorum rubrorum pictâ; anfractibus quinis, brevibus, convexis; aperturâ magno, anticè rotundi, posticè acuminatâ, columelli altâ, subarcuatâ.*

THE PEARLY FILM RISSOA. Shell small, thin, semipellucid, subovate-trochiform, painted with bands and lines of red spots; whorls five, short, convex; aperture large, anteriorly rounded, posteriorly acuminated, columella high, rather arched.

WATSON. Proc. Zool. Soc. 1873, p. 379.

*Hab.* Madeira.

The colouring consists in spiral and perpendicular rows of minute red spots.

Species 115. (Mus. Watson.)

RISSOA GIBBERULA. *Ris. testâ brevi, quadrangulâ, solidâ, albâ, vel pallidâ fulvâ, spiritaliter angustè trifasciatâ, costis magnis obliquè flexuosis, distantibus, ad suturam acuminatis unguis, spirâ gradatâ, suturâ concavâ; anfractibus brevissimis, ultimo infri costâ spirali validâ desinente, latè umbilicatâ; aperturâ parvâ, perpendicularitè ovalâ, margine tenui, anticè prominenti, costâ labiali latissimâ, crassâ.*

THE LITTLE HUMPED RISSOA. Shell short, quadrangular, solid, white or pale fulvous, with three spiral narrow bands, strengthened with large obliquely flexuous distant ribs, pointed at the suture, spire graduated, suture concave; whorls very short, the last ending below in a solid spiral rib, broadly umbilicated; aperture small, perpendicularly oval, margin thin, prominent in front, labial rib very broad, thick.

WATSON. Proc. Zool. Soc. 1876, p. 371, Pl. XXXIV. f. 7.

*Hab.* Madeira.

This beautiful little shell has the general appearance of a *Cancellaria*, but is a true *Rissoa*.





117



116



118



119



As. 1



120



121



As. 2



123



122

# RISSOA.

PLATE XIII.

Species 116. (Mus. Watson.)

**RISSOA (GIBBATA) RISSOA.** *Ris. testâ parvâ, albâ, tenui, lris longi-  
tudinalibus laevibus annuosis, eleganter flexuosis,  
et strâs tenuissimis spirâlibus sculptâ; anfractibus  
quinis, apicali semicirculari, medianis convexis,  
ultimo ovato, subovato; aperturâ subovata, antice  
rotundâ, postice acuminatâ, labio integro, tenui.*

**THE CORIACUS'S RISSOA.** Shell small, white, thin,  
sculptured with longitudinal, thin, numerous  
ridges, elegantly flexuous and very fine spiral  
striae; whorls five, apical half-round, middle  
convex, last large, subovate; aperture subovate,  
rounded anteriorly, acuminate posteriorly, lip  
entire, thin.

**MANZONI.** Proc. Zool. Soc. 1873, p. 389, Pl. XXXVI.  
f. 27.

*Hab.* Santa Cruz, Madeira.

A light inflated white shell, beautifully sculptured.

Species 117. (Mus. — ?)

**RISSOA (JEFFREYSIA) OPALINA.** *Ris. testâ subglobosâ,  
fusco-cornuâ, diaphanâ, nitidâ; anfractibus qua-  
ternis, apicali semicirculari, duobus medianis brevi-  
bus, convexissimis, ultimo magno, inflato; aperturâ  
subrotundâ, margine integro.*

**THE OPALINE RISSOA.** Shell subglobose, horny-brown,  
diaphanous, shining; whorls four, apical half-  
round, two middle short, very convex, last large,  
inflated; aperture rather rounded, margin entire.

**JEFFREYS.** Brit. Moll.

*Hab.* Channel Islands (littoral.)

Species 118. (Mus. Brit.)

**RISSOA (JEFFREYSIA) DIAPHANA.** *Ris. testâ parvâ,  
nitidâ, fusco-cornuâ, diaphanâ, subconicâ; spirâ  
elevatâ, conicâ, obtusâ; anfractibus quinis, gra-  
dualiter crescentibus, convexis, ultimo subinflato;  
aperturâ subrotundâ, margine ferè continuo.*

**THE TRANSPARENT RISSOA.** Shell small, shining,  
horny-brown, transparent, rather conical; spire  
elevated, conical, obtuse; whorls five, gradually

increasing, convex, last rather inflated; aperture  
rather round, margin nearly continuous.

**ALPER.** — ? Forbes and Hanley, Brit. Moll.

*Hab.* Great Britain. Rare, littoral.

Species 119. (Mus. Brit.)

**RISSOA (OINA) FASCIATA.** *Ris. testâ albâ, acuminatâ,  
pallidè fulcâ, costarum-bifasciatâ, flexuosâ, inter-  
costatâ; anfractibus septem, declivibus; aperturâ  
subtrigoniâ, conuli conspicuâ, labio externo crasso,  
rotundâ; columellâ brevi, crassâ.*

**THE BAXTER RISSOA.** Shell raised, acuminate, pale  
fulvous, with two chestnut bands, with numerous  
flexuous ribs; whorls seven, sloped; aperture  
subtrigonal, canal conspicuous, outer lip thick,  
rounded; columella short, thick.

**ANGAS.** Proc. Zool. Soc. 1851, p. 234.

*Hab.* New Zealand.

Species 120. (Mus. — ?)

**RISSOA CASTANEA.** *Ris. testâ elevatâ, levigatâ, fuscâ,  
apice obtusâ; anfractibus quinis, convexissimis,  
gradualiter crescentibus, elevatis, ultimo majuscule;  
aperturâ subpyriformi, margine crassiusculo.*

**THE CHESTNUT RISSOA.** Shell raised, smooth, brown;  
apex obtuse; whorls five, rather convex, gradu-  
ally increasing, raised, last rather large; aperture  
rather pyriform, margin rather thick.

**JEFFREYS.** — ? Brit. Moll.

*Hab.* British Islands.

Species 121. (Mus. Brit.)

**RISSOA (OINA) COSTULATA.** *Ris. testâ parvâ, pupiformi,  
solidâ, longitudinaliter costatâ, albâ, supra medium  
anfractum castaneo interruptim fasciatâ; anfrac-  
tibus octavis, apicalibus alternatis, medianis sub-  
inflatis; aperturâ parvâ, margine tenui.*

**THE SMALL EBBED RISSOA.** Shell small, pupa-shaped,  
solid, longitudinally ribbed, white, interruptedly  
chestnut-banded above the middle of the whorls

whorls eight; apical attenuated, middle a little swelled; aperture small, margin thin.

PEASE. — ? MS. Brit. Mus.

Hab. Sandwich Islands.

Species 122. (Mus. — ? Copied.)

RISSOA (JEFFREYSIA) GULSONE. *Ris. testā parvā, fulvescenti, lævigatā, elevatā, spirā obtusā; anfractibus quinīs, convexis, gradatim crescentibus, ultimo angustiusculo, angustissimè umbilicato; aperturā subrotundā, anticè productā.*

WILSON'S RISSOA. Shell small, slightly fulvous, smooth, raised, spire obtuse; whorls five, convex, gradually increasing, last rather narrow, very narrowly umbilicated; aperture rather rounded, anteriorly produced.

CLARK. — ? British Mollusc.

Hab. Sandwith, Weymouth, Guernsey.

Species 123. (Mus. Brit.)

RISSOA (OINA) AUSTRALIS. *Ris. testā micatā, albā, costis nodosis, distantibus, longitudinalibus et tris partē spirālibus profundè cancellatā; anfractibus quinīs, biangularis; aperturā subtrigoniā, canali conspicuō; columellā crassā, labiō externo crasso, marginē interius crenulatā.*

THE AUSTRALIAN RISSOA. Shell very small, white, cancellated deeply with nodulous, distant, longitudinal ribs and few spiral ridges; whorls five, biangular; aperture subtrigonal, canal conspicuous; columella thick, outer lip thick, inner margin crenulated.

OWERBY.

Hab. Australia.

A deeply cancellated little species, not exactly resembling any yet described.

(ASSIMINEA)

Species 1. (Mus. Sowerby.)

ASSIMINEA GRAYANA. *Ass. testā conicā, lævigatā, epidermidē subviridi involutā; spirā acuminatā; anfractibus quinīs, declivibus, rectilateralibus; aperturā magis, subtrigoniā, intus castaneā, marginē continuū.*

GRAY'S ASSIMINEA. Shell conical, smooth, covered with greenish epidermis; spire acuminate; whorls five, sloped, straight-sided; aperture large, rather trigonal, chestnut within, margin continuous.

JEFFREYS. Trans. Linn. Soc.

Hab. Marshes of Kent.

Species 2. (Mus. Sowerby.)

ASSIMINEA LITTOREA. *Ass. testā globosā, subdiaphanā, lævigatā, fulvā; anfractibus tribus, superioribus brevissimis, ultimo magno, inflato, angustè umbilicato; aperturā latā, marginē tenui.*

THE SHORE ASSIMINEA. Shell globose, a little transparent, smooth, fulvous; whorls three, upper very short, last large, inflated, narrowly umbilicated; aperture broad, margin thin.

DELLE CHALJE. — ?

Hab. Shores at Weymouth. &c.



# RISSO.

|                                  | Plate. | Species |                                    | Plate | Species |
|----------------------------------|--------|---------|------------------------------------|-------|---------|
| <i>abyecta</i> , Watson          | XII.   | 113     | <i>Corilea</i> , D'Orbigny         | III.  | 24      |
| <i>abyssicola</i> , Forbes       | III.   | 23      | <i>costata</i> , Adams             | III.  | 20      |
| <i>acicula</i> , Risso           | II.    | 11      | <i>costulata</i> , Alder           | III.  | 29      |
| <i>acuta</i> , Desmarest         | II.    | 11      | <i>costulata</i> (Rissoina), Pease | XIII. | 121     |
| <i>acuta</i> , Draparnaud        | V.     | 41      | <i>crassa</i> , Agass.             | VIII. | 70      |
| <i>albida</i> C. B. Adams        | X.     | 92      | <i>crassilabrum</i> , Pease        | VII.  | 59      |
| <i>albigo</i> , Watson           | XII.   | 114     | <i>erebrilenta</i> , Sowerby       | VI.   | 56      |
| <i>Alderii</i> , Jeffreys        | VI.    | 49      | <i>erenuata</i> , Michaud          | IV.   | 32      |
| <i>anatina</i> , Draparnaud      | VI.    | 51      | <i>crispa</i> , Watson             | XII.  | 107     |
| <i>annulata</i> , Dunker         | XI.    | 105     | <i>crystallina</i> , Brown         | II.   | 19      |
| <i>approximata</i> , Brown       | IV.    | 35      | <i>Cuningii</i> , Reeve            | I.    | 4       |
| <i>Artensis</i> , Montcosiri     | IX.    | 84      | <i>cyclotoma</i> , Recluz          | III.  | 26      |
| <i>aurantiaca</i> , Watson       | XII.   | 106     | <i>decussata</i> , Montagu         | IX.   | 78      |
| <i>aureiscalpinum</i> , Linnaeus | II.    | 11      | <i>deformis</i> , Sowerby          | VII.  | 63      |
| <i>australis</i> , Sowerby       | XIII.  | 123     | <i>denticulata</i> , Risso         | IV.   | 1*      |
| <i>Barleii</i> (Odost.), Clarke  | VI.    | 52      | <i>depicta</i> , Montagu           | IX.   | 83      |
| <i>Barleii</i> , Jeffreys        | III.   | 27      | <i>Deshayesiana</i> , Recluz       | VII.  | 62      |
| <i>Beauii</i> , Huxley           | IV.    | 37      | <i>diaphana</i> , Alder            | XIII. | 118     |
| <i>Browniana</i> , D'Orbigny     | XI.    | 101     | <i>D'Orbignyana</i> , A. Adams     | I.    | 7       |
| <i>Bruguieri</i> , Payraudou     | I.     | 5       | <i>Eulimoides</i>                  | XI.   | 99      |
| <i>Bryerea</i> , Montagu         | I.     | 8       | <i>Europaea</i> , Risso            | I.    | 2       |
| <i>Burana</i> , Sowerby          | X.     | 90      | <i>erigua</i> , Michaud            | III.  | 29      |
| <i>caelata</i> , A. Adams        | II.    | 14      | <i>eximia</i> , Jeffreys           | VI.   | 52      |
| <i>calathisca</i> , Montagu      | I-V.   | 19      | <i>fasciata</i> , Agass.           | XIII. | 119     |
| <i>calathus</i> , Forbes, Huxley | V.     | 39      | <i>fimbriata</i> , Sowerby         | V.    | 45      |
| <i>Caledonica</i> , Crosse       | X.     | 86      | <i>firmata</i> , C. B. Adams       | XI.   | 104     |
| <i>canaliculata</i> , Schwarz    | VII.   | 59      | <i>flexuosa</i> , Gould            | XI.   | 97      |
| <i>Canariensis</i> , D'Orbigny   | IX.    | 82      | <i>fortis</i> , C. B. Adams        | IV.   | 30      |
| <i>cancellata</i> , Recluz       | III.   | 22      | <i>Fremiarillea</i> , Risso        | I.    | 2       |
| <i>cancellata</i> , Costa        | IV.    | 32      | <i>fulgida</i> , Adams             | VI.   | 50      |
| <i>carinata</i> , Costa          | II.    | 16      | <i>fulva</i> , Michaud             | VI.   | 55      |
| <i>castanea</i> , Jeffreys       | XIII.  | 120     | <i>gentilissiana</i> , Crosse      | V.    | 44      |
| <i>Catesbyana</i> , D'Orbigny    | X.     | 94      | <i>gibberula</i> , Watson          | XII.  | 115     |
| <i>Chesnellii</i> , Michaud      | X.     | 89      | <i>glabrata</i> , Megherle         | II.   | 19      |
| <i>cinez</i> , Donovan           | IV.    | 32      | <i>gracilis</i> , Macgillivray     | V.    | 40      |
| <i>cinez</i> , Linnaeus          | I.     | 2       | <i>grandata</i> , Philippi         | I.    | 2       |
| <i>cimicoides</i> , Forbes       | III.   | 25      | <i>Grayana</i> , Jeffreys (Assin)  | XIII. | 1       |
| <i>cineta</i> , A. Adams         | VIII.  | 71      | <i>Gulsonae</i> , Clarke           | XIII. | 122     |
| <i>cingillus</i> , Montagu       | II.    | 15      | <i>Guerinii</i> (—?)               | III.  | 29      |
| <i>claudestina</i> , C. B. Adams | XI.    | 104     | <i>hyalina</i> , Desmoulins        | IV.   | 33      |
| <i>clathrata</i> , A. Adams      | IX.    | 76      | <i>incerta</i> , Sowerby           | V.    | 45      |
| <i>comanalis</i> , Forbes        | V.     | 40      | <i>inconspicua</i> , Alder         | IV.   | 34      |
| <i>concinna</i> , A. Adams       | I.     | 9       | <i>insignis</i> , Ad. & Reeve      | VII.  | 61      |
| <i>coreacea</i> , Manzoni        | XIII.  | 116     | <i>insolita</i> , Deshayes         | V.    | 43      |

\* Erroneously referred to Plate I. fig. 1.

RISSO

|  | Plate. | Species. |  | Plate. | Species. |
|--|--------|----------|--|--------|----------|
| <i>intercepta</i> , Johnson.....           | IV.    | 36       | <i>scalaria</i> , A. Adams.....        | I.     | 6        |
| <i>labiosa</i> , Montagu.....              | II.    | 12       | <i>scalaroides</i> , Adams.....        | I.     | 1        |
| <i>laetea</i> , Desmoulins.....            | III.   | 22       | <i>semiglabrata</i> , A. Adams.....    | VII.   | 58       |
| <i>figata</i> , Gould.....                 | XI.    | 105      | <i>semistriata</i> , Montagu.....      | III.   | 28       |
| <i>liguea</i> , Thorpe.....                | IX.    | 81       | <i>semiplicata</i> , Pease.....        | XI.    | 100      |
| <i>lilacina</i> , Recluz.....              | IV.    | 33       | <i>similis</i> , Scacchi.....          | III.   | 29       |
| <i>litorea</i> , Delle Chiaje (Assim)..... | XIII.  | 2        | <i>Smithii</i> , Angus.....            | VIII.  | 58       |
| <i>levissima</i> .....                     | X.     | 93       | <i>soluta</i> , Philippi.....          | VI.    | 48       |
| <i>levissima</i> , C. B. Adams.....        | X.     | 93       | <i>spirata</i> , Sowerby.....          | II.    | 17       |
| <i>Macandrewi</i> , Watson.....            | XII.   | 108      | <i>splendida</i> , Eichl. ....         | IX.    | 79       |
| <i>maculata</i> , Sowerby.....             | IV.    | 31       | <i>striata</i> , Quoy.....             | II.    | 14       |
| <i>mamillata</i> , Risso.....              | I.     | 2        | <i>striata</i> , Montagu.....          | V.     | 40       |
| <i>marginatus</i> , Montagu.....           | II.    | 11       | <i>striaticostata</i> , D'Orbigny..... | X.     | 88       |
| <i>membranacea</i> , Lovén.....            | VIII.  | 67       | <i>striatula</i> , Montagu.....        | II.    | 16       |
| <i>minutissima</i> , Michaud.....          | V.     | 40       | <i>stricta</i> , Menke.....            | X.     | 87       |
| <i>Mohrensterni</i> , Deshayes.....        | VII.   | 57       | <i>striolata</i> , A. Adams.....       | VII.   | 65       |
| <i>Moniziana</i> , Watson.....             | XII.   | 109      | <i>subeocinna</i> , Sowerby.....       | IX.    | 85       |
| <i>monilis</i> , Fleming.....              | II.    | 16       | <i>subulata</i> , Adams.....           | IV.    | 36       |
| <i>monodonta</i> , Bérard.....             | VIII.  | 73       | <i>subulcata</i> , Philippi.....       | III.   | 28       |
| <i>Montagni</i> , Payraudeau.....          | I.     | 3        | <i>subumbilicata</i> , Berkely.....    | III.   | 27       |
| <i>nitida</i> , A. Adams.....              | VI.    | 53       | <i>sulcifera</i> , Tröschel.....       | XI.    | 96       |
| <i>nivea</i> , A. Adams.....               | X.     | 91       | <i>supracostata</i> — ?.....           | IV.    | 38       |
| <i>nodicincta</i> , A. Adams.....          | VIII.  | 72       | <i>tristriata</i> , Thomson.....       | III.   | 28       |
| <i>Novarensis</i> , Watson.....            | XII.   | 111      | <i>triticea</i> , Pease.....           | XI.    | 102      |
| <i>opalina</i> , Jeffreys.....             | XIII.  | 117      | <i>trochlearis</i> , Carpenter.....    | XI.    | 105      |
| <i>parva</i> , Costa.....                  | IV.    | 36       | <i>turricula</i> , Angus.....          | VIII.  | 69       |
| <i>perminuta</i> , Manzoni.....            | XII.   | 113      | <i>ulva</i> , Pennant.....             | III.   | 27       |
| <i>Philippiana</i> , Lyeffer.....          | XI.    | 103      | <i>unifasciata</i> , Montagu.....      | VI.    | 54       |
| <i>picta</i> , Jeffreys.....               | XII.   | 110      | <i>variabilis</i> , Muhlfeldt.....     | IX.    | 77       |
| <i>plicata</i> , Mühlfeldt.....            | III.   | 20       | <i>variegata</i> , Angus.....          | VII.   | 64       |
| <i>princeps</i> , C. B. Adams.....         | X.     | 95       | <i>ventricosa</i> , Desmoulins.....    | III.   | 21       |
| <i>proxima</i> , Alder.....                | II.    | 18       | <i>ventricosus</i> , Dillwyn.....      | V.     | 41       |
| <i>pulcherrima</i> , Jeffreys.....         | V.     | 47       | <i>ventrosa</i> , Montagu.....         | V.     | 41       |
| <i>pulchra</i> , Johnson.....              | III.   | 28       | <i>venusta</i> , Philippi.....         | II.    | 13       |
| <i>punctata</i> , Montagu.....             | IV.    | 35       | <i>villica</i> , Gould.....            | XI.    | 98       |
| <i>puncturata</i> , Macgillivray.....      | IV.    | 35       | <i>violacea</i> , Desmarest.....       | VIII.  | 74       |
| <i>pyramidalis</i> , A. Adams.....         | VIII.  | 66       | <i>virginea</i> , Brown.....           | II.    | 18       |
| <i>reticulata</i> , Sowerby.....           | VIII.  | 75       | <i>vitrea</i> , Montagu.....           | II.    | 19       |
| <i>rosea</i> , Deshayes.....               | V.     | 42       | <i>vittata</i> , Donovan.....          | II.    | 15       |
| <i>rubra</i> , Adams.....                  | VI.    | 54       | <i>Watsoni</i> , Scharrel.....         | XII.   | 112      |
| <i>rufilabris</i> .....                    | IV.    | 33       | <i>Woodwardi</i> , Carpenter.....      | XI.    | 104      |
| <i>rupestris</i> , Forbes.....             | II.    | 15       | <i>Zetlandica</i> , Montagu.....       | III.   | 26       |
| <i>Sagraiana</i> , D'Orbigny.....          | IX.    | 80       |  |        |          |

MONOGRAPH

OF THE GENUS

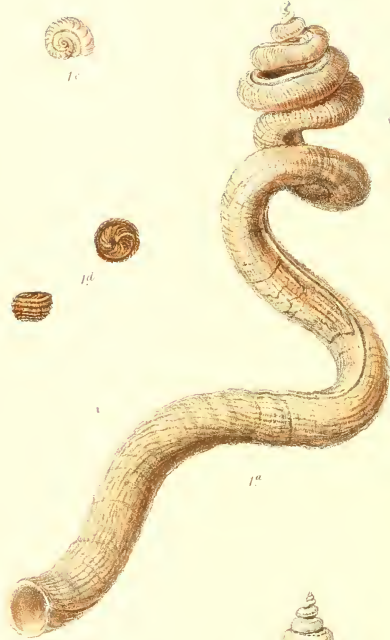
SILIQUARIA.

"Holy, holy, holy! Lord God Almighty!

All Thy works shall praise Thy Name, in earth, and sky, and sea."—*Bishop Heber.*







# SILIQARIA.

PLATE I.

Genus SILIQARIA. Brugière.

*Testa marina, tubuliformis, spiritaliter inciso-fissurata, versus apicem plerumque laxè spiralis, deinde irregulariter convoluta; operculum corneum, cylindricum, multilaminatum.*

Shell marine, tubuliform, with a spirally-incised fissure, generally loosely spiral towards the apex, afterwards irregularly twisted; operculum horny, cylindrical, consisting of numerous laminae.

Synonym. *TENAGODES*. Guettard.

It is not within the scope of this work to enter critically into questions of generic nomenclature. If it were, we should still be disinclined to change the generally adopted and almost universally recognised name given above. The animal was formerly supposed to be an annelid, but is now ascertained to be a mollusk, with a remarkably complicated operculum, not unlike that of a solarium. The examination we have made gives us nearly a dozen fairly distinct species, with one or two of more doubtful character. The siliquariae are widely spread, the typical species being found frequently in groups embedded in sponges and entangled in the closely-twined roots of fuca. The Australian one or two species are like ponderous and coarse imitations of the Mediterranean *S. anguina*, excepting in the character of the slit. There do not appear to be any northern species of this interesting genus. M. Otto Mörch, in his revision of the *Tenagodi* in the Zoological Proceedings, arranges the species into subgenera, and even into genera, by the characters of the slit. This, however, is so subject to variation in the same species, and even in the same individuals, that it is scarcely reliable even for specific, much less for generic, distinction.

Species I. (Fig. *a, b, c, d*, Mus. Brit. Sowb.)

SILIQARIA OBTUSA. *Sil. testâ elongatâ, anfractibus magnis, utriusque spiritaliter subvexis liohis, intus levissimalis, extus incrassatis, concentricè fissuratis,*

*aperturâ rotundâ, usari spirali simplicis, versus apicem frequenter obtusi.*

THE OBTUSE SILIQARIA. Shell elongated, whorls large, spirally, rather finely lirated, rather smoother within, thickened on the outside, concentrically fissured; spiral fissure simple, frequently closed towards the apex.

SCHUMACHER.

*Hab.* Mediterranean.

*Scopula anguina*, as of Linn. Lam. Phil. &c.

*Scopula annularis*, Dillwyn.

*Scopula angustus*, Montfort.

*Helix incisus*, Linn. test. jun.

This species being generally known by the name *Siliquaria anguina*, I should much have preferred retaining that name for it. But it appears perfectly clear that Born was wrong in taking what Linnæus erroneously introduced as a variety for the type of his species, which is the true *Scopula anguina* Linnæus, *S. varicata* Born. The name *S. obtusa* is founded upon what is a common variation in several species, namely, that of almost commencing with several broad, closely coiled whorls, so as to form a cylinder. *S. anguina* of Linnæus is carefully described as having the slit subarticulated, whereas that of the present species is quite simple.

Species 2. (Fig. *a, b*, Mus. Brit.)

SILIQARIA CUMINGII. *Sil. testâ elongatâ, albâ, angustè convolutâ, tenuissimè spiritali et striatâ, extus infra tenuiter concentricè incisâ; fissurâ spiritali articulatâ.*

CUMING'S SILIQARIA. Shell elongated, white, narrowly convolute, very finely spirally striated, finely concentrically incised on the lower part outside; spiral fissure articulated.

MÖRCH. Proc. Zool. Soc. 1860.

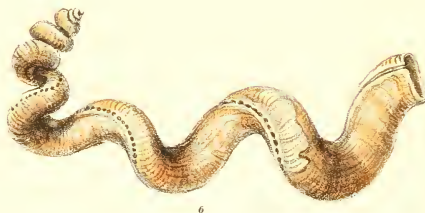
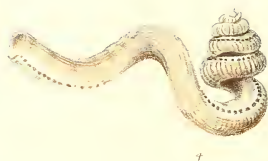
*Hab.* Isl. Ticao, Philippines; var. *b*. Japan.

Fig. *b* is a somewhat broader variety of this finely sculptured shell. The slit is articulated so as to present a chain-like appearance.









# SILIQUARIA.

PLATE II.

## Species 3. (Mus. Brit.)

**SILIQUARIA PONDEROSA.** *Sil. testē griseo-fusciscenti crassissimo, magno; anfractibus magnis, prope apicem et infra latē convolutis et approximatis, supra fissuram undulato-dentatis, intūs brevissimis, extūs incrassatis, rudē concentricē fissuratis, ultimo lato; fissurā spirali in anfractibus superioribus clausā, tūm denticulatā et articulatā, dein dē simplici.*

**THE PONDEROUS SILIQUARIA.** Shell brownish grey, very thick, large; whorls large, broadly convoluted and approximate near the apex and below: wavyly dentated above the fissure, rather smooth inside, thickened outside, roughly concentrically fissured; last loose; spiral fissure closed in the upper whorls, then denticulated or articulated, afterwards simple.

MÖRCH. (Tenagodus) Proc. Zool. Soc. 1860.

*Hab.* Port Essington.

We admit this species on account of the apparent distinctness of form, which may nevertheless be only analogous to the turbinated variety of *Siliquaria anguina*.

## Species 4. (Mus. Brit.)

**SILIQUARIA TROCHILEARIS.** *Sil. testē albidā, rugosā, prope apicem et versus medium densē convolutā; tubā magnitudine mediocrī; anfractibus subrugatis, concentricē rudē fissuratis; fissurā spirali rotundā et conspicuē articulatā.*

**THE TULLY SILIQUARIA.** Shell whitish, rugose, closely convoluted near the apex and towards the middle; tube moderate in size; whorls rather rough, concentrically rudely fissured; spiral fissure roundly and conspicuously articulated.

MÖRCH. (Tenagoda) Proc. Zool. Soc. 1860, p. 498.

*Hab.* Philippines.

The coiled portion of this species is close and compact, and the regular rounded articulations give a chain-like appearance to the fissure.

## Species 5. (Fig. a, b, Mus. Brit.)

**SILIQUARIA LACTEA.** *Sil. testē parvā, rutilā, vel foveā et violaceā, plerumque irregulariter contortā; tubā parvā, subrugosā, rarē striatā; anfractibus apicalibus spiritaliter pyramidalis; alteris subequalibus; fissurā articulatā, prope apicem per lamina partim clausā.*

**THE MILKY SILIQUARIA.** Shell small, white, or brown and violet, generally irregularly contorted; tube small, rather rough, rarely striated; apical whorls spirally pyramidal; others nearly equal; fissure articulated, partly closed near the apex by a lamina.

LAMARCK. Hist. Nat. Anim. s. Vert. V. p. 338.

*Hab.* Port Essington.

This little siliquaria is very gregarious, forming conglomerated masses. Fig. *b* represents a small portion of one of these masses.

## Species 6. (Mus. Brit.)

**SILIQUARIA AUSTRALIS.** *Sil. testē magnā, crassā, versus apicem pyramidalit, dein dē laevā; tubā magnā, regulariter crescenti, intūs tenuissimē striatā, extūs crassā, rugosā, concentricē fissurati; fissurā spirali rotundā articulatā, prope aperturam hiantē; marginibus crassis.*

**THE AUSTRALIAN SILIQUARIA.** Shell large, thick, pyramidal towards the apex, then loosened; tube large, regularly increased, very finely striated on the inner side, thick, rugose on the outer, concentrically fissured; spiral fissure roundly articulated, gaping near the aperture; margin thick.

QUOY et GAIMARD. Voyage de l'Astrolabe.

*Hab.* Australia.

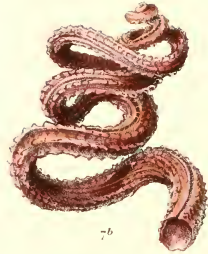
Although thicker and coarser in texture than the typical species, this species resembles it so much that it would be difficult to distinguish the two were it not for the round chain-like articulations of the spiral fissure. That of *S. obtusa* is quite simple.







7a



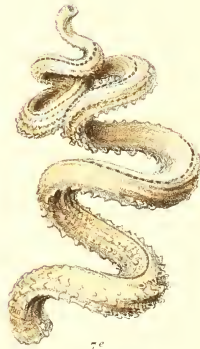
7b



7c



7d



7e

## SILIQVARIA.

PLATE III.

Species 7. (Fig. *a*, *b*, *c*, *d*, *e*, Mus. Brit. Sowb.)

SILIQVARIA ANGVINA. *Sil. testâ plerumque crassâ, latè obiregulariter contortâ, distanter spirâliter liratâ. Viris acutè squamatis vel echinatis; tubâ plerumque lenti crescenti; fissurâ spirâli angustissimâ in 3 velibus oblongo-articulatâ.*

THE SNAKE SILIQVARIA. Shell generally thick, broadly and irregularly twisted, distantly spirally ridged; ridges sharply squamose or spined; tube generally very slowly increasing; spiral fissure very narrow, with oblong articulations in parts.

LINNEUS, Syst. Nat. p. 1267.

*Serpula muricata*, Born.

*Tenagoda anguina*, Mörch.

*Siliquaria polygona*, Blainville.

*Siliquaria ruber*, Schumacher.

*Siliquaria papillosa* (?) Rees.

*Siliquaria laevigata*, Lamarek.

*Siliquaria sulcata*, Gray.

*Serpula echinata*, Gmel.

*Hob.* Moluccas, Ceylon.

It is not without hesitation that the varieties in form and colouring represented in the plate are united under one specific name. M. Mörch applies the name *T. muricata* to the pale yellow variety (fig. *d*), and that of *T. ruber* to the Ceylon purple, thick-shelled, flat-whorled variety. We thought at first that the specimen fig. *e* might represent a distinct species, the tube and whorls being rounder and more regularly increasing, and the ridges not being so strongly developed. But having the young specimen (fig. *c*) before us, with the apical whorls purple and smooth, and the lower pale and spinous, while in some parts of the most rounded whorls the ridges could easily be traced, we concluded that the union could be better maintained than the separation. It is not difficult, even with comparatively few specimens, to trace the species through all its forms. The rounded and angular, smooth and spinous, thick and slender, scales without ridges and ridges without scales, the dark purple, yellow, and white colours, the articulated, closed, and simple slit are to be found within a few specimens, and sometimes in a single one.









8.



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13.



14.

# SILICUARIA.

PLATE IV.

## Species 8. (Mus. Brit.)

SILICUARIA SENEGALENSIS. *Sil. testâ parvâ, rugosâ, rosâ et pallidâ fulvâ; tubi angustâtinâ mediocrî, vix crescenti; infractibus irregularibus parvis, intus subhevigatis, extus concentricè rugatis; fissurâ spirali articulatâ, tùm versus aperturam simplici.*

THE SENEGAL SILICUARIA. Shell small, rugose, pink or pale fulvous; tube of middle size, scarcely increasing; regular whorls few, rather smooth on the inner side, concentrically wrinkled on the outer; spiral fissure articulated, then simple towards the aperture.

RECLUS. *Revue Zoologique.*

*Tenagola incisâ*, Mörch, vix Chemn.

*Hab.* Senegal, Zanzibar?

In the rosy variety there is a strong resemblance to pink coral; the other varieties are unknown to us.

## Species 9. (Mus. Brit.)

SILICUARIA BERNHARDI. *Sil. testâ albâ, fuliginosa latâ, levî et elongatâ, angustâ et laxè circumulatâ, versus apicem irregulariter pyramidalâ; tubi angustâ, circumulatâ striatâ; fissurâ spirali rotundato-articulatâ.*

BERNHARD'S SILICUARIA. Shell white, clouded with fawn, thin, elongated, narrowly and loosely twisted, irregularly pyramidal towards the apex; tube narrow, crenulately striated; spiral fissure roundly articulated.

MÖRCH.

*Hab.* Senegal.

A large group in the British Museum, containing hundreds of specimens, testifies to the very gregarious nature of this species.

## Species 10. (Mus. Brit.)

SILICUARIA ENCAUSTICA. *Sil. testâ parvâ, crassâ, rugosâ, irregulariter pyramidalâ; tubi parvâ, intus hevigatâ, extus incrassatâ, rudè concentricè rugatâ et*

*fissurâ; fissurâ spirali circumulatâ superioribus clausâ, tùm articulatâ, deindè simplici.*

THE ENAMELLED SILICUARIA. Shell small, thick, rugose, irregularly pyramidal; tube small, smooth on the inner side, thickened on the outer, roughly concentrically wrinkled and fissured; spiral fissure closed in the upper whorls, then articulated, afterwards simple.

MÖRCH. *Proc. Zool. Soc.* 1860, p. 498.

*Hab.* Ceylon.

But for the very strongly wrinkled exterior, this shell would seem to bear a rather strong resemblance to *S. trochlearis*. In the latter species, however, the slit is articulated throughout.

## Species 11. (Mus. Brit.)

SILICUARIA TOSTIUS. *Sil. testâ parvâ, ferruginâ, ad apicem intus fissâ; tubi angustâ, levîsculâ; infractibus ad apicem orbiculatis; fissurâ spirali, articulatâ, utriusque lineâ denticulatâ marginatâ.*

THE BAKED SILICUARIA. Shell small, ferruginous, very strong brown at the apex; tube narrow, rather smooth; whorls orbicular at the apex; spiral fissure articulated, bordered on both sides with a denticulated line.

MÖRCH. *Proc. Zool. Soc.* 1860, p. 405.

*Hab.* Ceylon.

## Species 12. (Mus. Brit.)

SILICUARIA REENTZII. *Sil. testâ parvâ, superiè et ad medium spiritaliter pyramidalâ, fissâ; tubi parvâ, extus concentricè fissurâ, fissurâ spirali articulatâ.*

REENTZ'S SILICUARIA. Shell small, spirally pyramidal above and at the middle, brown; tube small, concentrically fissured outside; spiral fissure articulated.

MÖRCH. *Proc. Zool. Soc.* 1865.

*Hab.* —?

SILIQVARIÄ.—PLATE IV.

Species 13. (Mus. Brit.)

SILIQVARIÄ TAHITIENSIS. *Sil. testä loricatä, pallidä  
fulvâ; tubä angustä, laxè contortä, liratä, inter  
liras cancellatä; fissurä spirali angustä, simplici.*

THE TAHITIAN SILIQVARIÄ. Shell smooth, pale,  
fulvous; tube narrow, loosely twisted, ridged,  
cancellated between the ridges; spiral fissure  
narrow, simple.

MÖRCH. Proc. Zool. Soc.

*Hab.* South Seas.

We have only a fragment of this species, which M. Mörch describes as differing from *Sil. lactea* in the greater size, the stronger ridges, the cancellated interstices, and the narrow slit.

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Species not known.

*Sil. dubius, DeFrance: Sil. gigas, Lissou; Sil. porosa,  
Boch; Sil. (Ten.) Aquille, Mörch; Sil. (Ten.)  
cylindrella, Mörch; Sil. (Pyxipoma) Möbi,  
Morch.*

MONOGRAPH

OF THE GENUS

CYRENA.

Nature: God's pure work, unsullied by sin; and therefore the study  
of it is a pure delight to those who love Him."—*Dean Guadagni*







1



2<sup>a</sup>



2<sup>b</sup>



# CYRENA.

PLATE I.

## Genus CYRENA. *Linnæus*.

## Species 1. (Mus. Brit.)

*MOLLUSCA BIVALVIA GYRENA, bimussularia, fluviatile vel subfluviatile. Testâ æquilateralis, inæquilateralis, ovata, plus minusve orbicularis, tumida, concentricè rugata, vel rugata, epidermide cornea, solidâ, coloratâ; cardine crassa, dentibus cardinalibus duobus quasi tribus, latè, callosis elongatis, omniumquam æqualis; palli impressione integrâ, vel vix sinuata.*

*CYRENA GIANTIA. Cyr. testâ magna, ponderosa, orbiculatâ, ralde inæquilaterali, irregulariter subovata, epidermide crassi, nigra indurâ; intus intus inæquilateralis, partim purpurea lineatâ; latere costis hecæ, postico producto, obscurissimè angulato, cardine lato, dentibus cardinalibus integris, biszostis antice hecæ; ligamento magno, elongato.*

*MOLLUSCA BIVALVIA GYRENA, bimussular, fluviatile or subfluviatile. Shell equivalve, inequilateral, thick, more or less orbicular, tumid, concentrically grooved or wrinkled, covered with a horny solid epidermis; hinge thick, cardinal teeth two or three, lateral elongated, sometimes striated; pallid impression entire, or very slightly sinuated.*

THE GIANTIC CYRENA. Shell large, ponderous, rather oval, very inequilateral, irregularly grooved or covered with a thick black epidermis; interior white, thick, tinted in parts with purple anterior side short, posterior produced, very obscurely angular; hinge broad, cardinal teeth entire, anterior lateral short; ligament large, long.

PEMME. MS. Brit. Mus.

*Hab.* Philippines?

This species, having a short lateral tooth in front, is not very characteristic of the first or *Batissa* section.

## Species 2. (Mus. Brit.)

*CYRENA LENTICULARIS. Cyr. testâ rotundâ, lenticulari, albâ, subæquilateralâ, irregulariter rugatâ, epidermide solidâ, subviridi, nitenti indurâ, intus fere omnino purpurea rictis suffusâ; cardine subangusto, dente cardinali centrali bifido, lateralibus æqualiter elongatis, compressis, tenuissimè serratis.*

The shells composing this genus inhabit rivers and estuaries in tropical America, India, China, Australia, the Philippines and Islands of the Pacific. Although principally of freshwater habits, some are found in brackish water, and in the mud of mangrove swamps.

The distinctions between *Corbicula*, *Batissa*, and *Cyrena* seeming to me scarcely of generic importance, I have united them in this work under one generic term. It may, however, be convenient in the following list of specific numbers to designate the section to which each species belongs:—

Section 1. *BATISSA*. Lateral teeth straight and of moderate length. Species 1–21, 28.

Section 2. *CORBICULA*. Lateral teeth long, curved, and angular. Species 45–48, 51–61, 66–70, 72–77, 79–101.

Section 3. *CYRENA*. 22–27, 29–44, 49, 50, 62–65, 68, 71, 78, 102–114.

THE LENTICULAR CYRENA. Shell rounded, lenticular, high, subequilateral, irregularly wrinkled, covered with a solid rather green epidermis, suffused within nearly all over with vivid purple; hinge rather narrow, central cardinal tooth bifid, lateral equally elongated, compressed, very finely striated.

DESHAYES. Proc. Zool. Soc. 1854.

*Hab.* Philippines.







# CYRENA.

## PLATE II.

### Species 3. (Mus. Brit.)

CYRENA TRIQUETRA. *Cyr. testā subtrigona, albi, subcompressa, brevi, epidermide subviridi, partim nigrescenti induta; latere antico brevissimo, declivi; in unibus elevatis; latere postico angulato, margine dorsali declivi.*

THE THREE-CORNERED CYRENA. Shell rather trigonal, high, rather flat, smooth, covered with a rather green epidermis, blackish in parts; anterior side very short, sloped; umbones raised; posterior side angular, dorsal margin sloped.

DENHAYES. Proc. Zool. Soc. 1854, p. 13.

*Hab.* Philippines.

### Species 4. (Mus. Brit.)

CYRENA ROTUNDATA. *Cyr. testā rotundi, tumidi, inequilaterali, irregulariter rugata et sulcata, epidermide solida, subviridi, nitenti, medio radiatum striata induta; intus sparsim violascenti; latere antico brevi, compresso; latere postico tumidissimo, subvirigato, margine laterali subquadrato.*

THE ROUNDED CYRENA. Shell round, tumid, inequilateral, irregularly wrinkled and grooved, covered with a solid, greenish, shining epidermis, radiately striated in the middle; sparingly purpled within; anterior side short, compressed; posterior area very tumid, rather smooth, lateral margin rather square.

LEA. Trans. Am. Ph. Soc. Pl. XVII. f. 51.

*Hab.* East Indies.

More tumid in the middle, and more depressed at the dorsal margin than *Cyrena lenticularis*.

### Species 5. (Mus. Brit.)

CYRENA OBESA. *Cyr. testā subovata, levigata, castanea, tumidi, distanter leviter sulcata; latere antico brevi, tenuiter rugato, declivi; latere postico obscure triangulato; margine dorsali rectiusculo.*

THE FAT CYRENA. Shell subovate, smooth, chestnut, tumid, distantly slightly grooved; anterior side short, finely wrinkled, sloped; posterior side obscurely three-angled; dorsal margin rather straight.

HINDS. Voy. Sulphur.

*Hab.* Feejee Islands.

The posterior side is much produced, and the margin modified in shape by the three radiating obscure angles.

### Species 6. (Mus. Brit.)

CYRENA KERAUDRENI. *Cyr. testā magna, crassa, subovata, posticè distanter, anticè crebrè sulcata, epidermide nigra induta; intus margine cardinali postico purpureo maculato, medio subcaudato, latere antico brevi, declivi; latere postico pedunculo, subacuminato, ligamento maximo, elongato.*

KERAUDREN'S CYRENA. Shell large, thick, subovate, posteriorly distantly, anteriorly closely sulcated; covered with a black epidermis; with a purple spot on the posterior cardinal margin within, somewhat rayed in the middle; anterior side short, sloped; posterior side produced, a little acuminated, ligament very large, long.

LESSON. Voy. de la Coquille. Pl. II. f. 3.

*Hab.* Philippines.

Has very much the form and appearance of a large dark *Cyprina*.







7



8<sup>a</sup>



8<sup>b</sup>



9



## CYRENA.

PLATE III.

### Species 7. (Mus. Brit.)

CYRENA DUGUIS. *Cyr. testis elongato-subquadrata, umbos impressi, antici rugis elevatis, undulatis, unimulatis; offeentis liratis, postice levigata; latere antice brevis, rotundo; latere postico subquadrato, angulo dorsali impressi obliquè radiato; umbonibus depressis; margine ventrali reticulato.*

THE WONDERFUL CYRENA. Shell elongated-subquadrated, rather compressed, anteriorly ridged with raised, undulating, some of them bifurcated wrinkles, posteriorly smooth; anterior side short, round; posterior side rather square, obliquely rayed with a dorsal area; umbos depressed, ventral margin rather straight.

DESHAYES. Proc. Zool. Soc. 1854, p. 18.

*Hab.* Philippines.

The wrinkles on the anterior surface of this shell are very remarkable.

### Species 8. (Fig. a, b, Mus. Brit.)

CYRENA MINOR. *Cyr. testis ovato-subrotundis, depressis, compressis, subviridi-stramineis, umbro albo hircidiato, levigato; intus viride purpureo radiato; latere antice breviter lirato, brevis, valde declivi; latere postico latiori; umbonibus obtusis; margine dorsali depresso; carline angusto, dente laterali antice brevisseculo.*

THE SMALLER CYRENA. Shell ovate-roundish, depressed, compressed, greenish straw, with two

white rays, smooth; rayed with bright purple within; anterior side shortly ridged, short, much sloped; posterior side wider; umbos obtuse; dorsal margin depressed; hinge narrow lateral anterior tooth rather short.

PRIME. MS. Mus. Brit.

*Hab.* —

This little shell being rayed within and without, and being more depressed at the dorsal margin than most of the group to which it belongs, may show it to be a distinct species, rather than the young of some other.

### Species 9. (Mus. Brit.)

CYRENA UNIFORMIS. *Cyr. testis crassa, oblonga, reniformi, subrotunda, epidermide nigra, rugata radiata; latere antice brevis, margine dorsali declivi; umbonibus parvis incurvis, depressis, latere postico producto, margine dorsali arcuato, margine ventrali excavato; ligamento mucosum.*

THE UNIO-SHAPED CYRENA. Shell thick, oblong, kidney-shaped, rather arched, covered with a black, rough epidermis; anterior side short, dorsal margin sloped; umbos small, incurved, depressed; posterior side produced, dorsal margin arched; ventral margin excavated; ligament very large.

PRIME. Proc. Zool. Soc. 1860, p. 319.

*Hab.* — ?







10



11



12

# CYRENA.

## PLATE IV.

### Species 10. (Mus. Brit.)

CYRENA INFLATA. *Cyr. testâ tumidissimâ, crassâ, valdè inæquilaterali, epidermide rugosâ, crassâ, nigrâ indutâ, intûs versus marginem densè purpureâ, ad marginem nigrescenti; margine cardinali lato, fulcro latissimo, dente antico brevi, magno; latere antico brevi, angusto; latere postico expanso, inflato, ad marginem biangulato; margine dorsali elevato.*

THE INFLATED CYRENA. Shell very tumid, thick, very inequilateral, covered with a rough, thick black epidermis, deep purple within towards the margin, deepening into black at the margin; cardinal margin broad, fulcrum very broad; anterior tooth short, large; anterior side short, narrow; posterior side expanded, inflated, with two angles at the margin; dorsal margin raised.

PRIME. Proc. Zool. Soc. 1860, p. 20.

Hab. Nicobar Islands.

### Species 11. (Mus. Brit.)

CYRENA VENERIFORMIS. *Cyr. testâ ovatâ, solidâ, castaneâ, tumidâ; intûs purpureo partim suffusâ; latere antico brevi, declivi, ferè usque ad medium subregulariter lirato; latere postico inflato, tumido, ad marginem rotundato; umbonibus prominentibus.*

THE VENUS-SHAPED CYRENA. Shell ovate, solid, chestnut, tumid, suffused with purple inside; anterior side short, sloped, rather regularly ridged as far as the middle; posterior side in-

flated, tumid, rounded at the margin. umbones prominent.

SOWERBY.

*Batissa fuscata*. Prime.

*Cyrena fuscata* of Lamarek belongs to the section separated by authors as a genus under the name *Corbicula*. It is a very inconvenient practice, in naming new shells, to repeat a name already applied to a species in what has recently been considered the same genus.

### Species 12. (Mus. Brit.)

CYRENA PRODUCTA. *Cyr. testâ magnâ, altâ, subrotundâ, epidermide fusco-subeicidî nitenti indutâ, medio biconcavâ, utroque latere distanter sulcatâ; intûs roseâ, densè purpurascenti, latere antico brevissimo, arcu depressâ subulnulari, ad marginem sinuatâ; latere postico subquadrato, margine dorsali elevato; umbonibus elevatis, prominentibus, incurvis; ligamento magno, brevi.*

THE PRODUCED CYRENA. Shell large, elevated, rather round, covered with a greenish brown shining epidermis; smooth in the middle, distantly grooved on each side; rose, shading into deep purple within; anterior side very short, sinuated at the margin by a depressed lunule-like area; posterior side rather square, dorsal margin elevated; umbones raised, prominent, turned inwards; ligament large, short.

DESHAYES (*Batissa*). Proc. Zool. Soc. 1854, p. 13.

Hab. — ?









# CYRENA.

PLATE V.

## Species 13. (Mus. Brit.)

CYRENA AUSTRALIS. *Cyr. testâ ovatâ, crassâ, inflatâ, castaneâ, intus posticè roseo-purpurascenti radiatâ; latere antico brevi, angustato, subacuminato, subregulariter liato, prope marginem dorsalem arâ depressâ subsinuato; latere postico tumidissimo, radiâtim biangulato; umbonibus ventis, depressis.*

THE AUSTRALIAN CYRENA. Shell ovate, thick, inflated, chestnut, posteriorly rayed with rose-purple within; anterior side short, narrow, rather acuminate, nearly regularly ridged; slightly sinuated near the dorsal margin by a depressed area; posterior side very tumid, radiately biangular; umboes ovate, depressed.

DESHAYES. Proc. Zool. Soc. 1854, p. 14.

Hab. South Australia.

## Species 14. (Mus. Brit.)

CYRENA TENEBROSA. *Cyr. testâ ovato-oblongâ, compressâ; intus posticè dense purpureâ, extis epidermide fumoso-castaneâ indatâ; latere antico brevi, angusto, obtuso, liris acutiusculis rugato; umbonibus depressis; medio lateri, complanato; latere postico producto, lato, validè biangulato; margine dorsali rectiusculo, subelevato.*

THE SHADOWY CYRENA. Shell ovate-oblong, compressed; deep purple posteriorly within, covered outside with a smoky chestnut epidermis; anterior side short, narrow, obtuse, wrinkled with rather sharp ridges; umboes depressed, middle smooth, flat; posterior side produced, broad, with two strong angles, dorsal margin somewhat straight, rather raised.

HINDS. Voy. Sulphur.

Hab. Feejee Islands.

## Species 15. (Mus. Brit.)

CYRENA VIOLEACEA. *Cyr. testâ ovato-oblongâ, subcompressâ, castaneâ, intus violaceo suffusâ; latere*

*antico liris distinctis, conchalis sub-realis et medium extensis sculpto, margine dorsali dactyli; latere postico producto, obscure radiatim triangulato, margine dorsali elevato, arcuato, margine ventali paulò excavato.*

THE VIOLET CYRENA. Shell ovate-oblong, rather compressed, chestnut; suffused with violet within; anterior side sculptured with distinct ridges, some intercalated, extending to the middle, dorsal margin sloped; posterior side produced, with three obscure radiating angles; dorsal margin raised, arched, ventral margin a little excavated.

LAMARCK. Anim. s. Vert. Chénu: Illus. Conch. Pl. VII. f. 5.

Hab. Indian Ocean.

There can be little certainty as to the identification of this Lamarckian species. The specimen figured resembles in form and compression the one figured by Chénu as Lamarck's shell. It is, however, uncoated.

## Species 16. (Mus. Brit.)

CYRENA FORTIS. *Cyr. testâ subcompressâ, subovatâ, crassâ; intus dentibus lateralibus suboppositibus, elongatis, serratis, cardinalibus bifidis armatâ; extis epidermide cirriferâ, crassâ, subrugosâ indatâ; latere antico sulcis crebris sculpto; latere postico sulcis distantibus rugato; lato angulato, post angulum liris divergentibus subaculis rugato.*

THE STRONG CYRENA. Shell rather compressed, rather oval, thick; armed within with rather equal elongated, serrated, lateral and bifid cardinal teeth, covered outside with a greenish-brown, rather rough epidermis; anterior side sculptured with numerous ridges; posterior side wrinkled with distant sulci; broadly angular, behind the angle wrinkled with diverging, rather nodose ridges.

PRIME. Proc. Zool. Soc. 1860, p. 320.

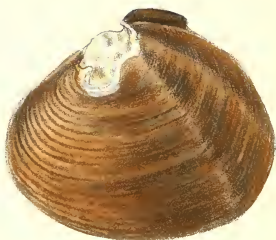
Hab. New Caledonia.







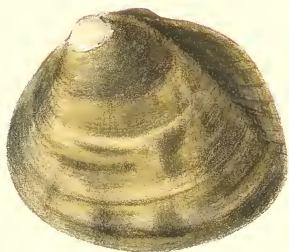
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# CYRENA.

PLATE VI.

## Species 17. (Mus. Brit.)

**CYRENA CHILDRENI.** *Cyr. testâ subrotundâ, compressâ, levigatâ, fusco-viridescenti, intus carneo violaceoque undulatâ; latere antico brevi, declivi, liris paucis brevibus rugatâ; latere postico subinflato, rotundatim angulatâ; margine dorsali rectâsculo, margine ventrali convexo, margine postico obliquè subquadrate.*

**CHILDREN'S CYRENA.** Shell rather rounded, compressed, smooth, greenish brown; within clouded with flesh tint and violet; anterior side short, sloped, wrinkled with few short ridges; posterior side rather inflated, roundly angular; dorsal margin rather straight, ventral margin convex, posterior margin obliquely subquadrate.

GRAY. MS. Mus. Brit.

*Hab.* Philippines.

## Species 18. (Mus. Brit.)

**CYRENA HUMEROSA.** *Cyr. testâ ovato-subtrigona, costatâ, latere antico brevi, declivi, subcunicinato, conspicuè lincato; umbonibus depressis, obtusis; latere postico obtusè triangulatâ, levigatâ, cœcus angulum posticum tumido, gibboso, margine dorsali elevato, subulato.*

**THE SHOULDERED CYRENA.** Shell ovate-subtrigonal, chestnut, anterior side short, sloped, rather acuminated, conspicuously ridged; umbones depressed, obtuse; posterior side with two obtuse angles, smooth, very tumid and gibbous, dorsal margin raised, somewhat winged.

DESHAYES. Proc. Zool. Soc. 1854, p. 14.

*Hab.* — ?

Although a little resembling *Cyr. triquetra*, Desh., this species is not so elevated at the dorsal margin, nor so directly sloped in front.

## Species 19. (Mus. Brit.)

**CYRENA JAYENSIS.** *Cyr. testâ rotundâ, altâ, solidâ, tumidi, costatâ, versus marginem viridescenti; latere antico brevissimo, ad marginem arâ depressâ undatâ, sulcis brevibus rugatâ; umbonibus rotundis, prominentibus; latere postico inflato, rotundâ, margine dorsali elevato; ligaturato margini.*

**JAY'S CYRENA.** Shell round, high, solid, tumid, chestnut, becoming greenish towards the margin: anterior side very short, sinuated at the margin by a depressed area, wrinkled with short grooves; umbones rounded, prominent; posterior side inflated, round, dorsal margin raised; ligament large.

LEA. Trans. Am. Ph. Soc. Vol. 5. Pl. XVII, f. 52.

*Hab.* Waigiore.

## Species 20. (Mus. Brit.)

**CYRENA GRACILIS.** *Cyr. testâ subrotundâ, complanatâ, fuscis-stramineâ, intus carneo purpureoque suffusâ; latere antico brevissimo, arâ depressâ angustâ, superius declivi; latere postico obliquè angulatâ, post angulum liris denticatis distinctibus rugatâ; margine dorsali ferè recto, margine postico obliquè subtruncato.*

**THE SLENDER CYRENA.** Shell rather round, flat, smoky straw, within suffused with flesh and purple; anterior side very short, with a narrow depressed area, sloped above; posterior side obliquely angular, wrinkled behind the angle with diverging ridges; dorsal margin nearly straight, posterior margin obliquely truncate.

PRIME. Proc. Zool. Soc. 1860, p. 319.

*Hab.* — ?

## Species 21. (Mus. Brit.)

**CYRENA CORBULOIDES.** *Cyr. testâ obliquè subtrigona, subcompressâ, altâ, complanatâ; viciè viridifuscescenti; epidermide undulatim striatâ indatâ; latere antico brevissimo, margine laterali valdè declivi, umbonibus elevatis; latere postico obscure trigono, margine ventrali rectâsculo.*

**THE CORBULA-SHAPED CYRENA.** Shell obliquely subtrigonal, subcompressed, high, flat, bright brownish green, covered with a wavy striated epidermis, anterior side very short, lateral margin much sloped downwards, umbones raised; posterior side obscurely trigonal, ventral margin rather straight.

DESHAYES. Proc. Zool. Soc. 1854, p. 14.

*Hab.* Louisiade Archipelago.







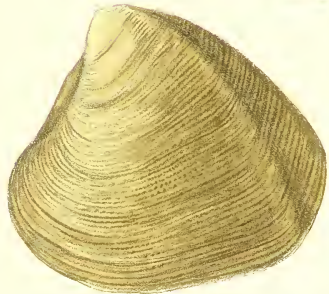
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26



# CYRENA.

PLATE VII.

2nd Division, Cyrena proper. Anterior lateral tooth short, not serrated.

## Species 22. (Mss. Brit.)

CYRENA PAPUA. *Cyr. testâ oratâ, compressâ, stramineâ, concentricè subdistanter fimbriatâ striatâ; versus umbones utriusque areâ impressâ marginatâ; latere antico brevi, rotundo, margine dorsali convexo, declivi; latere postico producto, radiatim angulatâ, margine dorsali prope umbones convexo, tum declivi, margine terminali breviter truncato; umbonibus depressis.*

THE PAPUA CYRENA. Shell ovate, compressed, straw-coloured, concentrically rather distantly fringed-striated; bordered on each side near the umbones with an impressed area; anterior side short, round, dorsal margin convex, sloped downwards; posterior side produced, radiately angular, dorsal margin convex near the umbones, then sloped downwards, terminal margin shortly truncated; umbones depressed.

LESSON. Guérin: Mag. Zool. Pl. XI.

Hab. — ?

## Species 23. (Mus. Brit.)

CYRENA BENGALENSIS. *Cyr. testâ solidâ, tumidâ, crassâ, subtriangulâ, fusco-nigrescenti, rugoso-striatâ; latere antico albo, brevissimo, declivi, amplo; latere postico producto, margine dorsali longè declivi, ad terminum truncato, ante angulum vix excavato.*

THE BENGAL CYRENA. Shell solid, tumid, thick, subtriangular, blackish-brown, roughly striated; anterior side high, very short, sloped, full; posterior side produced, dorsal margin with a long slope, truncated at the end, very slightly excavated in front of the angle.

LAMARCK. Anim. sans Vert. Cyrena, 10.

Hab. Bengal.

## Species 24. (Mus. Brit.)

CYRENA CYPRINOIDES. *Cyr. testâ magnâ, altissimâ, rotundo-subquadratâ, subcitrillâ fuscâ, rugoso-striatâ; latere antico brevissimo, subtus umbones excavato, areâ subanulari impresso; umbonibus convexis, fere terminalibus; latere postico subquadrato, radiatim impresso, margine dorsali convexo, margine terminali sinuato.*

THE CYPRINA-LIKE CYRENA. Shell large, very high, roundly subquadrated, greenish-brown, roughly striated; anterior side very short, excavated under the umbones, impressed with a lunule-like area; umbones incurved, nearly terminal; posterior side rather square, radiately impressed dorsal margin arched, terminal margin sinuous.

GOÛV. Voyage de l'Astrolabe. Pl. LXXXII. f. 1.

Hab. — ?

## Species 25. (Mus. Brit.)

CYRENA TRIANGULARIS. *Cyr. testâ triangulâ, altissimâ, compressâ, concentricè tenuiter, minute angulatâ striatâ; latere antico brevissimo, versus marginem centralem acuminatim producto, subtus umbones subexcavato, fere perpendiculariter declivi; umbonibus altissimis; latere postico versus marginem radiatim impresso, margine terminali subnervato, margine dorsali longè arcuatim declivi.*

THE TRIANGULAR CYRENA. Shell trigonal, very high, compressed, concentrically finely, minutely, wavily striated; anterior side very short, acuminately produced towards the ventral margin, somewhat excavated under the umbones, almost perpendicularly sloped; umbos very high; posterior side radiately impressed not far from the margin, dorsal margin with a long, arched slope.

METCALFE. MS. Cum Coll.

Hab. — ?

## Species 26. (Mus. Brit.)

CYRENA SINUOSA. *Cyr. testâ subquadratâ, altissimâ, ponderosâ, epidermide fusco-nigrescenti rugoso-striatâ indolâ; latere antico brevi, infere subrotundâ; umbonibus fere terminalibus; latere postico producto, subquadrato, sulcis duobus sinuatis radiatim impressis, margine terminali sinuato, margine dorsali arcuatim declivi.*

THE SINUOUS CYRENA. Shell subquadrated, rather high, ponderous, covered with a blackish-brown roughly-striated epidermis; anterior side short, roundish below, umbones nearly terminal; posterior side produced, rather square, radiately impressed with two sinuated grooves, terminal margin sinuous, dorsal margin sloped with a curve.

DESHAYES. Proc. Zool. Soc. 1854, p. 18.

Hab. Ceylon.







27<sup>a</sup>



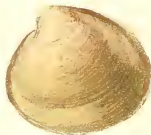
27<sup>b</sup>



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# CYRENA.

PLATE VIII.

Species 27. (Fig. *a, b*, Mus. Brit.)

CYRENA CARDIFORMIS. *Cyr. testâ tenuissimâ, sub-  
triangulâ, profundâ, inflatâ; obscure fuscâ, intus  
concentricè purpureo-nubulatâ, extus concentricè  
subdistanter striatâ; latere postico brevi, excavato,  
superiorem marginem impresso; latere postico producto,  
dorsali, ad terminum breviter truncato; umbonibus  
inflatis, rotundis; margine centrali convexo, prope  
terminum posticum parvâ concavo.*

THE HEART-SHAPED CYRENA. Shell rather thin, sub-  
triangular, deep, inflated; dull brown, sometimes  
clouded with purple inside, outside concentrically  
rather distantly striated; posterior side produced,  
sloped, shortly truncated at the end; umboes  
inflated, rounded; ventral margin convex, a  
little concave near the end.

DESHAYES. — ? MS. in Cum. Coll.

Hab. Payta, Peru.

Species 28. (Mus. Brit.)

CYRENA DIVERGATA. *Cyr. testâ crassâ, tumidiorentâ,  
nigrescenti, concentricè, undulatum, late striatâ;  
intus pallidè carnea; latere antico brevissimo, de-  
clivi, subexcavato; umbonibus depressis, fere termi-  
nalibus, latere postico tumido, angulato, post  
angulum et parvâ ante dicaricatum rugato, margine  
dorsali arcuato.*

THE DIVERGENT CYRENA. Shell thick, rather tumid,  
nearly black, with concentric undulating broad  
striae; pale, fleshy within; anterior side very  
short, sloped, slightly excavated; umboes de-  
pressed, almost terminal, posterior side tumid,  
angular, behind and a little before the angle  
divergently wrinkled; dorsal margin arched.

DESHAYES. Proc. Zool. Soc. 1874, p. 17.

Hab. New Guinea.

Species 29. (Mus. Brit.)

CYRENA PANAMAENSIS. *Cyr. testâ inflatâ, globosâ, altâ,  
fuscisubviridâ, latere antico subtus umbones rotundè  
excavato, intus rotundè producto; umbonibus ob-  
ovatis, rotundis; margine centrali convexo; latere*

*postico angulato, ad angulum obscure sessilè truncato,  
area postangulari convexâ, planulatâ.*

THE PANAMA CYRENA. Shell inflated, globose, high,  
greenish-brown; anterior side roundly excavated  
under the umboes, roundly produced below;  
umboes elevated, round; ventral margin convex;  
posterior side angular; very obscurely keeled at  
the angle, postangular area cornered, flat.

PRIME. — ? MS. Mus. Brit.

Hab. Panama.

Species 30. (Mus. Brit.)

CYRENA MARITIMA. *Cyr. testâ inflatâ, subglobosâ,  
altissimâ, epidermide papyraceâ indutâ, concen-  
tricè striatâ; margine dorsali atrinque declivi;  
latere postico angulato, ad angulum obtusè ca-  
rinato; umbonibus rotundis, inflatis.*

THE MARITIME CYRENA. Shell inflated, subglobose,  
very high, covered with a papyraceous epi-  
dermis, concentrically striated; dorsal margin  
sloped on each side; posterior side angular, with  
an obscure keel at the angle; umboes rounded, in-  
flated.

C. B. ADAMS. Proc. Zool. Soc. 1854, p. 355.

Hab. — ?

Species 31. (Fig. *a* and Fig. *b, c*, Pl. X. Mus. Brit.  
and Sowerby.)

CYRENA CAROLINIENSIS. *Cyr. testâ altâ, brevi, tumidâ,  
vulvè inflatâ, epidermide rugoso-striatâ, olivaceâ  
vel pallidè fulcâ indutâ, intus subtus umbones  
caruâ, ad latera carinâque purpureo-maculatâ  
et rotundâ; latere antico brevissimo, declivi; um-  
bonibus altis, tumidis, prominentibus; latere pos-  
tico lato, subtruncato, margine dorsali declivi.*

THE CAROLINA CYRENA. Shell raised, short, tumid,  
much inflated, covered with a roughly striated  
olive or pale fulvous epidermis, fleshy within,  
under the umboes spotted and rayed, with purple  
at the sides and hinge; anterior side very short,  
sloped; umboes high, tumid, prominent; pos-  
terior side broad, slightly truncated, dorsal  
margin sloped.

Bosc. Nich. Enc. Am. Pl. I. f. 10.

Hab. S. Carolina, N. America.









# CYRENA.

PLATE IX.

## Species 32. (Mus. Sowerby.)

**CYRENA OLIVACEA.** *Cyr. testâ tenui, striatâ, subtri-  
gona, subtriangulâ, undulatim striatâ, latibâ purpureâ,  
dentibus cardinalibus parvis, lateralibus anticis  
hæcivæntibus; latere antico declivi; latere postico  
angulato, margine dorsali declivi, laterali obliquè  
truncato, infâ acuminato, margine centrali ante  
angulum excavato, umbonibus subcentralibus.*

**THE OLIVACEOUS CYRENA.** Shell thin, straw-coloured,  
greenish, subtrigonal, undulately striated, inside  
purple, cardinal teeth small, anterior lateral  
rather short; anterior side sloped, posterior  
side angular, dorsal margin sloped, lateral ob-  
liquely truncated; acuminated below; ventral  
margin excavated in front of the angle; umboes  
nearly central.

**CHARACTER.** — ? MS.  
**Hab.** California.

## Species 33. (Mus. Brit.)

**CYRENA OBSCURA.** *Cyr. testâ crassi, trigonâ, subova-  
tâ, pressâ, elevatissimâ, epidermide nigra, crassi, densè  
striatâ indutâ; latere antico brevi, subexcavato,  
arâ lunulari impressa; latere postico angulato,  
caldâ declivi, margine centrali ante angulum sub-  
excavato.*

**THE OBSCURE CYRENA.** Shell thick, trigonal, some-  
what compressed, much elevated, covered with  
a black, thick, closely striated epidermis; anterior  
side short, rather excavated, impressed with a  
lunular area; posterior side angular, much sloped,  
ventral margin a little hollow in front of the  
angle.

**PRIME.** Proc. Zool. Soc. 1860, p. 321.  
**Hab.** New Granada.

## Species 34. (Mus. Brit.)

**CYRENA FONTANELI.** *Cyr. testâ altissimâ, subtriangulâ,  
crassi, compressâ; densè costatâ, striatâ; latere  
antico brevi, declivi, margine centrali rotundo;  
umbonibus leviter subacuminatis; latere postico  
subovato angulato, caldâ declivi, infâ acuminato.*

**FONTANEL'S CYRENA.** Shell very high, subtrigonal,  
thick, compressed; deep chestnut, striated; an-  
terior side short, sloped, ventral margin rounded;  
umboes elevated, rather acuminated; posterior

side rather acutely angled, much sloped, acumi-  
nated below.

**D'ORRIGNA.** — ? MS.

**Hab.** — ?

## Species 35. (Mus. Brit.)

**CYRENA VENTRICOZA.** *Cyr. testâ subovata, crassa, tumida,  
pallidè stramineâ, levigatâ; latere antico brevi,  
rotundo; latere postico producto, margine dorsali  
declivi, margine terminali truncato, epidermide  
nigra.*

**THE VENTRICOSE CYRENA.** Shell subovate, thick,  
tumid, pale straw, smooth; anterior side short,  
rounded; posterior side produced, dorsal margin  
sloped, terminal margin slightly truncated.

**DESHAYES.** Proc. Zool. Soc. 1854, p. 16.  
**Hab.** Australia.

## Species 36. (Mus. Brit.)

**CYRENA ESSINGTONENSIS.** *Cyr. testâ ovata, costata,  
distanter concentricè fimbriatâ-striatâ; latere antico  
brevi, declivi, arâ lunulari impressa; latere postico  
producto, margine dorsali arcuato; margine cen-  
trali convexo; umbonibus depressis.*

**THE PORT-ESSINGTON CYRENA.** Shell ovate, chestnut,  
distantly concentrically fringe-striated; anterior  
side short, sloped, impressed with a lunular area;  
posterior side produced, dorsal margin arched;  
ventral margin convex; umboes depressed.

**DESHAYES.** Proc. Zool. Soc. 1854, p. 19.  
**Hab.** Port-Essington, Australia.

## Species 37. (Mus. Brit.)

**CYRENA OBLONGA.** *Cyr. testâ oblongo-ovata, crassi,  
undulatim subdistanter striatâ, stramineo-rubesc-  
centi; latere antico brevissimo, subtus umbones  
excavato, arâ lunulari impressa; latere postico  
producto, obscure angulato, ad terminum truncato,  
margine dorsali declivi.*

**THE OBLONG CYRENA.** Shell oblong-ovate, thick, rather  
distantly wavyly striated, reddish straw, anterior  
side rather short, hollow under the umboes, im-  
pressed with a lunular area; posterior side  
produced, with an obscure angle, truncated at  
the end; dorsal margin sloped.

**DESHAYES.** Proc. Zool. Soc. 1854, p. 341.  
**Hab.** — ?







# CYRENA.

PLATE X.

Fig. 31, b, c. CYRENA CAROLINIENSIS. (See Pl. VIII.)

## Species 38. (Mus. Brit.)

CYRENA MITIDULA. *Cyr. testâ ovatâ, subcompressâ, concentricè leviter striatâ, stramineâ, anticè breviori, subacuminatâ, posticè magis expansâ, obtusâ; umbonibus subdepressis, marginè dorsali posticè parvè, anticè valdè declivi.*

THE SHINING LITTLE CYRENA. Shell ovate, subcompressed, concentrically finely striated, straw-coloured, in front rather short, subacuminated, posteriorly more expanded, obtuse; umbones rather depressed, dorsal margin a little sloped behind, much in front.

DES-HAYES. Proc. Zool. Soc. 1854, p. 21.

*Hab.* — ?

## Species 39. (Mus. Brit.)

CYRENA SUBLOBATA. *Cyr. testâ magis, crassâ, oblongâ, epidermide fuscâ, rugosâ imbutâ; latere antico hexagono, sub umbones arcu lunulari convexâ impresso; latere postico producto, radiatim hisulento, margine dorsali arcuato declivi, margine terminali leviter sinuato lobato.*

THE SUBLOBED CYRENA. Shell large, thick, oblong, covered with a brown rough epidermis; anterior side very short, impressed with lunular convex area; posterior side produced, with two radiating grooves, dorsal margin sloped in an arch, terminal margin sinuously slightly lobed.

DES-HAYES — ? MS. Cum. Col.

*Hab.* The Louisiade Archipelago.

In some degree like *Cyrena Cyprinoides*, but more oblong, and having a double groove at the back, which gives a lobed character to the posterior margin.

## Species 40. (Mus. Brit.)

CYRENA CALEDONIA. *Cyr. testâ subquadrate, subepidermide crassâ, rugosâ, olivaceo-fuscâ, anticè leviter striatâ, stris spatuloso-umbonibus; latere antico brevissimo, arcu lunulari impresso, margine laterali fere perpendiculari; umbonibus subterminalibus; latere postico subquadrate, margine dorsali arcuato, margine terminali sinuato.*

THE CALEDONIAN CYRENA. Shell subquadrate, thick covered with a thick, rough, olive-brown epidermis, distantly striated, striae with a scaly fringe, anterior side very short, impressed with a lunular area; lateral margin almost perpendicular; umbones nearly terminal; posterior side rather square, dorsal margin arched, terminal margin sinuated.

GASSIES. — ? MS. Brit. Mus.

*Hab.* New Caledonia.

## Species 41. (Mus. Brit.)

CYRENA FALLAX. *Cyr. testâ obliquè subtriangulâ, tumidâ, medio distanter, ad latera dense striatâ, surdè olivaceâ, prope umbones subgibbosâ; latere antico brevi, declivi, arcu lunulari, convexâ impressâ; umbonibus declivè, anticè, margine dorsali declivi, margine postico-laterali breviter truncato.*

THE FALLACIOUS CYRENA. Shell obliquely subtriangular, tumid, striated distantly in the middle, closely at the sides, dull olive, rather gibbous near the umbones; anterior side short, sloped, lunule, impressed with a convex lunular area, umbones elevated, oval, posterior area sloped, dorsal margin sloped, postero-lateral margin shortly truncated.

DES-HAYES. Proc. Zool. Soc. 1854, p. 15.

*Hab.* — ?







44



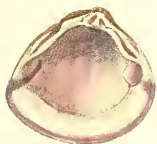
43



45



46



47 a



47 b



48



48



49



50



# CYRENA.

PLATE XI.

(Species 42 inadvertently omitted.)

## Species 43. (Mus. Brit.)

**CYRENA TRIGONA.** *Cyr. testâ ovata, subinæquilaterali, stramineâ, concentricè tenuiter striatâ; latere postico recto, subarcuatum declivi, prope marginem angulato; margine ventrali convexo; latere antico subarcuato, umbonibus versus marginem anticam declinatis; margine antico validè declivi.*

**THE TRIGONAL CYRENA.** Shell ovate, rather inequilateral, straw-coloured, concentrically finely striated; posterior side the larger, sloped in a slight curve, angular near the margin, ventral margin convex; anterior side slightly acuminated, umbones inclined towards the anterior margin, anterior margin much sloped.

**DESHAYES.** Proc. Zool. Soc. 1854, p. 344. **Hanley,** Conch. Ind. Pl. 155.

*Hab.* Pondicherry.

This is given on the authority of the British Museum (as type) and the Conch. Ind., but the shell is far from being of a trigonal form.

## Species 44. (Mus. Brit.)

**CYRENA BENSONI.** *Cyr. testâ subovata, subcompressâ, stramineâ, tenuissimè radiatâ, tenuiter undulatum concentricè rugatâ, æquilaterali; latere antico prope marginem angulato; latere postico angulato, ad angulum dextrorsum rugatâ; umbonibus centralibus intus etâque rubris.*

**BENSON'S CYRENA.** Shell subovate, subcompressed, straw-coloured, very finely rayed, wrinkled with fine concentric undulations, equilateral; anterior side angulated near the margin; posterior side angular, divergently wrinkled at the angle; umbones central, red inside and out.

**DESHAYES.** Proc. Zool. Soc. 1876, p. 345. *Hab.* River Jumna.

Said to be notable for its general smoothness. To the writer it appears most remarkable for the acutely angular diverging wrinkles on the posterior angle.

## Species 45. (Mus. Hanley.)

**CYRENA IRRAWADDICA.** *Cyr. testâ trigono-subovata, albi, ventricosa, concentricè profundè rugatâ, ad umbones carulosa; infra olivacea, intus purpureâ, umbonibus subcentralibus, elevatis, margine dorsali utrinque declivi; margine ventrali validè convexo.*

**THE IRRAWADDY CYRENA.** Shell trigono-subovate, blue at the umbones, olivaceous below, purple within; umbones nearly central, raised, dorsal margin sloped on each side; ventral margin very convex.

**BLANDFORD.** MS. Hanley. Conch. Ind. Pl. 155. *Hab.* River Irrawaddy, Pegu, Ava.

## Species 46. (F. a, b, Mus. Sowerby.)

**CYRENA ERONA.** *Cyr. testâ altissimâ, solidiusculâ, subæquilatrali, trigonâ; intus omnia, prope marginem densissimè purpureâ, dentibus lateralibus elongatis, serratis, cardinalibus tribus, elongatis; latere antico breviusculo, arcu semilunatâ, planulatâ, latere postico infra subpubeto, umbonibus elevatissimis; liris concentricis distinctibus, tenuibus.*

**THE TRIANGULAR CYRENA.** Shell very high, rather solid, subequilateral, trigonal, purpled within all over, very deeply near the margin: lateral teeth elongated, serrated; cardinal three; anterior side rather short, with a semilunar, flattened area; posterior side a little produced below, umbones much raised; concentric ridges distant, thin.

**DESHAYES.** MS. Proc. Zool. Soc. 1854, p. 354.

*Cyrena triangularis.* Deshayes?

*Hab.* —?

## Species 47. (a, b, Mus. Sowerby.)

**CYRENA RADIATA.** *Cyr. testâ altâ, obliquè subtrigona, tumida, regulariter subdistanter lirata, intus utrinque radiâtim purpureo-fuscâ; latere antico breviusculo, arcu depressâ, lunulari; latere postico obliquè paulo producto, radiâtim angulato; umbonibus elevatis, acuminatis, marginibus laterales declivibus.*

THE RAYED CYRENA. Shell elevated, obliquely sub-trigonal, tumid, regularly rather distantly ridged, radiately banded within on each side with purple; anterior side rather short, with a depressed lunular area; posterior side a little produced obliquely, radiately angular; umboes elevated, acuminated, lateral margins sloped.

HANLEY. —? MS.

Hab. —?

Species 48. (Mus. Hanley.)

CYRENA OCCIDENS. *Cyr. testā ovatā, subcompressā, subdepressā, inaequilaterali, lineis subdistantibus, regularibus concentricè rugatā; intūs purpureā, subtus umboes triradiatā; apice coruleo; epidermide nitenti, subviridi; latere antico breviusculo, ovato, uniradiato; latere postico paulo producto, subattenuato, ad terminum subtruncato.*

THE SUN-SET CYRENA. Shell ovate, slightly compressed, slightly depressed, inequilateral, concentrically wrinkled with rather distant, regular ridges; purple within, three-rayed under the umboes; apex blue; epidermis shining, greenish; anterior side rather short, with a single ray of blue; posterior side a little produced, rather attenuated, slightly truncated at the end.

BENSON. Deshayes, Cat. Mus. Brit.

Sikkim, Bundelkund.

The umbonal rays from which the name is derived are not always present in the specimens.

Species 49. (Mus. Hanley.)

CYRENA STRIATELLA. *Cyr. testā subovatā, subviridi, subcoruleā, subinflatā; distanter regulariter rugatā; umbonibus moderatè elevatis; intūs purpureā; latere antico breviusculo, rotundo, uniradiato; latere postico producto, subtruncato; margine dorsali utrinque declivi.*

THE SMALL-STRIATED CYRENA. Shell subovate, greenish, rather blue, slightly inflated, distantly regularly wrinkled; umboes moderately raised, purple within; anterior side rather short, rounded, single-rayed; posterior side produced, slightly truncated; dorsal margin sloped on each side.

DESHAYES. Proc. Zool. Soc. 1854, p. 344.

Hab. Pondicherry.

Species 50. (Mus. Hanley.)

CYRENA BENGALENSIS. *Cyr. testā parvā, ovatā, roseo-fulvā, tenuiter liratā, compressā; latere antico angusto, subacuminato, breviusculo; latere postico paulo magis producto; umbonibus moderatè declivibus.*

THE BENGAL CYRENA. Shell small, ovate, pinky-fulvous, finely ridged, compressed; anterior side narrow, rather acuminated; rather short; posterior side a little more produced; umboes moderately sloped.

DESHAYES. Proc. Zool. Soc. 1854, p. 344.

Hab. River Juma.





32



31a



33



37b



34



35



36



38a



37a



38

# CYRENA.

PLATE XII.

Species 51. (Fig. a, b, Mus. Brit.)

CYRENA COE. *Cyr. testā subtriangul. crassā, tenuibā, altā; aurantio-fusca, vel griseā, purpureo-fuscolibā; tentaculis subulā; sulcis versus marginem longis acutiusculis, ad latera crassibus; latere antico brevī, superius abbreviato; latere postico producto, angulato, margine dorsali declivi, margine laterali leviter; intus albā, medio purpurā.*

THE HEART CYRENA. Shell subtriangular, thick, tumid, high, orange-brown, or grey, banded with purple, finely grooved, grooves more numerous towards the margin, fading off at the sides; anterior side short, excavated above; posterior side produced, angular, dorsal margin sloped, terminal margin truncated, white within, purplish in the middle.

LAMARCK. *Anim. sans Vert.*

*Cyrena coarctata*. Deshayes.

*Hab.* River Euphrates. (small var.)

Species 52. (Mus. Brit.)

CYRENA RHOMBODEA. *Cyr. testā orato-subtriangul. subdepressā, superius regulariter rugatā, versus marginem breviusculā, latere postico angulato, post angulum complanato, margine dorsali declivi, latere antico brevi; subulibus levibus, subacuminatis, margine laterali retibusculato.*

THE RHOMBODAL CYRENA. Shell ovate, subtriangular, subdepressed, regularly wrinkled above, rather smooth towards the margin, posterior side angular, flattened behind the angle, dorsal margin sloped; anterior side short; umbones raised, rather raised, slightly acuminated, ventral margin rather straight.

PRIME. Catalogue of Corbiacule, 3, 1863.

*Hab.* Malacca.

Species 53. (Mus. Brit.)

CYRENA CUMINGII. *Cyr. testā subovata, inflata, tenui, subaurantibā, liris distantibus, acutis, hinc-illuc concentricis rugatā; latere antico brevi, subrotundo; latere postico producto, leviter angulato, ad terminum truncato, margine dorsali declivi.*

CUMING'S CYRENA. Shell rather oval, inflated, thin, rather orange, wrinkled with distant, sharp, here and there concurrent ridges; anterior side short, rather round; posterior side produced, slightly angular, truncated at the end; dorsal margin sloped.

DESHAYES.

*Hab.* Philippines.

Species 54. (F. a, b, Mus. Hauley.)

CYRENA ORIENTALIS. *Cyr. testā solida, subtriangul. altā, liris crassis, columnis, rugatā, epidermide nitenti, aurantio-dianthi, nigrescenti, intus, intus purpureā; latere antico breviusculo, margine laterali declivi; latere postico angulato, caldē declivi, ad terminum truncato.*

THE ORIENTAL CYRENA. Shell solid, subtriangular, high, wrinkled with thick, rounded ridges; covered with a shining orange-olive blackish epidermis, purple within, anterior side rather short, lateral margin sloped, posterior side angular, much sloped, truncated at the end.

LAMARCK.

*Cyrena fluminilis*. Müller.

*Hab.* India, (var. f, b). Japan.

Species 55. (Mus. Brit.)

CYRENA YOKOHAMENSIS. *Cyr. testā ovata, solidā, subdepressā, subdistanter concentricē liratā; epidermide nitenti, crassā, nigrescenti intus, intus purpureā; latere antico brevissimo; latere postico angulato, obliquē truncato, subacuminato.*

THE YOKOHAMA CYRENA. Shell ovate, solid, rather depressed, rather distantly concentrically ridged; covered with a thick, shining, blackish epidermis, purple within; anterior side very short, posterior side angular, obliquely truncated, rather acuminated.

SOWERBY.

*Hab.* Yokohama, Japan.

CYRENA.—PLATE XII.

Species 56. (Mus. Brit.)

CYRENA FLUMINEA. *Cyr. testâ subtrigona, altâ, ferè æquilaterali, latâ, epidermide subaurantiâ levigatâ indatâ; liris distantibus validis rugatâ; umbonibus elevatis, subaruminatis, margine dorsali utrinque declivi; latere postico obscure angulato, ad terminum truncato; dentibus lateralibus elongatis.*

THE RIVER CYRENA. Shell trigonal, high, nearly equilateral, broad, covered with a smooth, somewhat orange epidermis, wrinkled with distant, strong ridges; umboes raised, slightly acuminated, dorsal margin sloped on each side; posterior side with an obscure angle, truncated at the end; lateral teeth elongated.

LAMARCK. *Anima sans Vert.* V. VI. p. 274.

*Hab.* China, &c.

Species 57. (F. a. b, Mus. Hanley and Brit.)

CYRENA PUSILLA. *Cyr. testâ parvâ, ovatâ, albidâ, vel purpurascenti, vel fusco-flavâ, subcompressâ, medio tumidâ, tenuissimè rugatâ; latere antico*

*breviüsculo, latere postico magis producto, subtruncato.*

THE DWARF CYRENA. Shell small, oval, whitish or purple, or brownish-yellow, rather compressed, tumid in the middle, very finely wrinkled; anterior side rather short; posterior side more produced, slightly truncated.

PHILIPPI. —? Mus. Brit.

*Hab.* Upper Nile, Syene.

Species 58. (Mus. Brit.)

CYRENA COMPRESSA. *Cyr. testâ subovatâ, compressâ, concentricè leviter rugatâ, ad latera hexigata, epidermide pallidâ indatâ; latere antico breviüsculo, rotundo; latere postico angulato, obliquè truncato, margine dorsali valdè declivi.*

THE FLATTENED CYRENA. Shell subovate, compressed, concentrically slightly wrinkled, smooth at the sides, covered with a pale epidermis, anterior side rather short, round, posterior side angular, obliquely truncated, dorsal margin much sloped.

MOUSSON. *Deshayes, B. M. Cat.* 1854.

*Hab.* Java.







# CYRENA.

PLATE XIII.

## Species 59. (Mus. Brit.)

**CYRENA AFRICANA.** *Cyr. testâ subcompressâ, subtriangulari, fuscâ, tenuiter concentricè rugatâ; intus medio violaceâ, dentibus lateralibus aequalibus; apice obtusâ, margine dorsali utriusque declivi; umbone postico laterali subtruncato; subâ convexâ immixtâ, subcrenatis.*

**THE AFRICAN CYRENA.** Shell rather compressed, somewhat trigonal, brown, finely concentrically wrinkled, dull violet within; lateral teeth equal; apex raised, dorsal margin sloped downwards on each side, posterior lateral margin somewhat truncated; wrinkles dying out towards the margin.

**KEUSS.** *Sud-Afrikanischen Mollusken*, p. 8, Tab. I. f. 8.

*Cyrena Goudotiana.* KEUSS, in correspondence.

*Hab.* River Guaritz, South Africa.

## Species 60. (Mus. Brit.—Hanley.)

**CYRENA CASHMIRIENSIS.** *Cyr. testâ compressâ, albâ, subtriangulari, regulariter, profundè, et densè concentricè rugatâ, epidermidè fusco-olivaceâ intus; intus densè violaceâ, et albâ; umbonibus cuneatis, declivis, margine dorsali utriusque declivi, margine postico laterali subtruncato; margine centrali truncato; subâ ad latera crenatis.*

**THE CASHMERE CYRENA.** Shell compressed, raised, subtrigonal, regularly, deeply, and closely concentrically ridged, covered with a blackish-brown epidermis, deeply violet or white within; umbones rounded, raised, dorsal margin sloped on each side, postero-lateral margin rather truncated, ventral margin rounded; grooves disappearing at the sides.

**DESHAYES, PRIME.** *Pro. Ac. Nat. Sci. Phil.* 1854.

*Hab.* Cashmere.

M. Hanley has a single valve of this shell densely purple within; while the specimens in the British Museum are pure chalky white.

## Species 61. (Mus. Sowerby.)

**CYRENA LARGILLIERTI.** *Cyr. testâ subtriangulari, tumidi, epidermidè stramineo-olivaceâ intus, umbonibus irregulariter rugatis, postico brevissimâ; intus prope marginem purpureo-fuscato; umbonibus tumidis, purpureo tricoloratis, declivis, margine dorsali utriusque declivi, margine postico truncato, latera postico truncata, subangulata.*

**LARGILLIERT'S CYRENA.** Shell trigonal, tumid, covered with an olive-straw epidermis, anteriorly somewhat irregularly wrinkled, posteriorly rather more smooth; banded with purple inside near the margin; umbones tumid, three-rayed with purple, raised; ventral margin rounded; posterior side truncated, slightly angular.

**PHILIPPI.** *Zeitschrift für Malak.* 1844.

*Hab.* China.

## Species 62. (Mus. Sowerby.)

**CYRENA SUMATRENSIS.** *Cyr. testâ subovato, tumidi, concentricè irregulariter rugatâ, epidermidè olivaceo-fuscâ, subfulvaceâ intus; intus albâ, medio pallidissimâ aversâ, dente cardinali antice brevissimo, postico magis crasso; latera antice brevia, margine dorsali declivi; latera postice magis producta, margine dorsali declivo; umbonibus obtusissimis, depressis.*

**THE SUMATRA CYRENA.** Shell subovate, tumid, concentrically irregularly wrinkled, covered with an olive-brown slightly leafy epidermis; white within, very pale orange in the middle; anterior cardinal tooth very short, posterior more remote; anterior side short, dorsal margin sloped; posterior side more produced, dorsal margin raised; umbones very obtuse, depressed.

**SOWERBY.** *Genera of Shells.* No. 2.

*Cyrena Saigouensis.* — ?

*Hab.* Sumatra.—Saigon, China.

## CYRENA—PLATE XIII.

## Species 63. (Mus. Brit.)

CYRENA WOODIANA. *Cyr. testâ subovatâ, albâ, obliquâ, epidermide crassa, nitenti, olivaceo-nigricanti, aurantio-fusciatâ indutâ, medio distanter rugatâ, latere antico brevissimo, margine dorso-laterali valdè declivi; umbonibus elevatis, margine ventrali valdè convexo; latere postico producto, angulato, subacuminato, margine ventrali sursum declivi, margine dorsali longè declivi.*

WOOD'S CYRENA. Shell subovate, high, oblique, covered with a thick, shining, blackish-olive epidermis, banded with orange, distantly wrinkled in the middle; anterior side very short, dorso-lateral margin much sloped; umbones raised, ventral margin very convex; posterior side produced, angular, slightly acuminated, ventral margin sloped upwards, dorsal margin with a long slope.

LEA. Trans. Amer. Phil. Soc. 1832.

*Cyrena Primeana*. Mörch.

Hab. China.

*Cyrena similis*, Gray, and *Cyrena grandis*, Deshayes, both resemble this species, which, however, is much more oval and higher than either. The first-named is a more triangular shell with a radiated angle, while the second holds a middle station between the other two.

## Species 64. (Mus. Brit.)

CYRENA SIMILIS. *Cyr. testâ ponderosâ, subtrigona, tumidâ, irregulariter rugatâ, epidermide ferruginea, striatâ indatâ; latere antico brevi, latere dorsali declivi; latere postico producto, acuminato-substrato, angulato, margine laterali longè declivi.*

THE SIMILAR CYRENA. Shell ponderous, subtrigonal, tumid, irregularly wrinkled, covered with a ferruginous, striated epidermis; anterior side short, dorsal margin sloped downwards; posterior side produced, acuminated, somewhat beaked, angular; dorsal margin with a long slope.

GRAY, Griffith's Cuvier. 1834.

Hab. Philippines.

See remark on the preceding species.

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Fig. 47, *c*. (Mus. Hanley.)

CYRENA RADIATA. Young. See Plate XI. for species.

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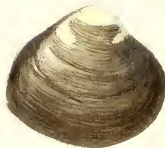
Fig. 48, *b*. (Mus. Brit.)

CYRENA OCCIDENS var. See Plate XI. for species.





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# CYRENA.

PLATE XIV.

Species 65. (Mus. Brit.)

*CYRENA BIVALENS.* *Cyr. testā subtriangulā, solidā, altā, rugulosa; liris approximatis ad latera cavatis concentricis rugatis; epidermide dense olivaceo-olivacea; umbones; latera antica rotundata, infra umbones excavata; latera postica angulata, obliqui truncata; umbonibus parvis, subrotatis, subrosceis.*

**THE THIN CYRENA.** Shell subtriangular, solid, high, regularly concentrically wrinkled with approximate ridges, obsolete at the sides; covered with a dark blackish-olive epidermis; anterior side rounded, excavated near the umbones; posterior side angular, obliquely truncated; umbones prominent, rather pink.

VON BELM. Phil. Abhd. III. 110, Pl. 3, 1849.

Hab. Java.

Species 66. (Mus. Sowerby.)

*CYRENA CONFINNA.* *Cyr. testā grisea, fusca, tumidissima, subtriangulā, solidā, altā, liris crebris, pro-pagatis, ad latera cavatis rugatis, intus pallidā subultra, ad latera purpurea biradiatā; latera antica liris, tumidissima, infra umbones excavata; latera postica producta, subacuminata, angulata, ad latera antica subtruncata, subultra.*

**THE NEAR CYRENA.** Shell grayish-brown, very tumid, subtriangular, solid, high, wrinkled with close, deep ribs continued at the sides, pale violet within, with a purple ray at each side; anterior side short, very tumid, excavated at the umbones; posterior side produced, slightly acuminated, angular, subtruncated, and beaked at the end.

SOWERBY.

Hab. — ?

I have seen only one specimen of this species. Its locality is unknown.

Species 67. (Mus. Hanley.)

*CYRENA GRAVILIS.* *Cyr. testā tumidā, depressā, ovatā, levī, liris irregularibus, majusculis, distantibus, concentricis, ad latera obsolete rugatis, epidermide*

*aurantio-subultra intus; liris ad marginem cardinalium purpurea, cetera marginem flavida; latera postica producta, rix truncata, subacuminata, latera antica rotunda, infra umbones excavata; umbonibus rovis, obtusis.*

**THE SLENDER CYRENA.** Shell tumid, depressed, ovate, thin, wrinkled with irregular, rather large, distant, concentric ridges, obsolete at the sides, covered with a greenish-orange epidermis, inside purple at the hinge margin, yellowish towards the margin; posterior side produced, scarcely truncated, subacuminated, anterior side rounded, excavated beneath the umbones; umbones pinkish, obtuse.

PREME. American Journal of Conchology, X. 389. 1862.

Hab. Java.

Species 68. (Mus. Brit.)

*CYRENA BULLATA.* *Cyr. testā altā, tumidissima, breviusculā, epidermide rugosa, leviter striatā, fumoso-fusca intus; latera antica brevia, subrotunda; latera postica magis producta, obtuse angulata, margine dorsali declivi; umbonibus rotatis, obtusissimis; margine ventrali convexo.*

**THE BULLATED CYRENA.** Shell high, very tumid, rather short, covered with a rough, finely striated smoky-brown epidermis; anterior side short, rather round; posterior side more produced, obtusely angular; dorsal margin sloped; umbones oval, very obtuse; ventral margin convex.

SOWERBY.

*Cyrena insignis.* Deshayes.

Hab. California.

Having already figured a species of *Cyrena* (*Dalissa*) under the name of *insignis*, Deshayes, we cannot repeat the name in a second division of what we regard as the same genus.

Species 69. (Mus. Brit.)

*CYRENA CYRENIFORMIS.* *Cyr. testā crassā, altissima, subtriangulā, tumidā, subobliquā, distanter rugatā,*

CYRENA.—PLATE XIV.

*epidermide levigatâ fusco-subviridâ, intus violacê; latere postico obliquè producto, angulato, versus marginem levigato; latere antico brevi, declivi, infra umbones areâ levigatâ lunulato; umbonibus productis.*

THE CYRENIFORM CYRENA. Shell thick, very high, subtrigonal, tumid, rather oblique, distantly wrinkled, covered with a smooth, greenish-brown epidermis, violet within; posterior side obliquely produced, angular, smooth towards the margin; anterior side short, sloped, with a smooth lunular area; umbones produced.

PRIME — ? (Corbicula) MS. Brit. Mus.

Hab. — ?

It would be better to avoid giving such specific names to species of very closely allied genera as cannot with propriety be used when the genera are considered as one. Such tautologies as the 'Cyrenishaped Cyrena' would not then occur.

Species 70. (Mus. Hanley.)

CYRENA SELCATINA. *Cyr. testâ subtrigoniâ, roseo-purpureâ, altâ, tenuissimè sulcatâ striatâ, postico et ad latera brevissimè, epidermide stramineâ indatâ, intus purpureo marginatâ; umbonibus elevatis, margine dorsali utrinque declivi, infra umbones areâ pullidâ, planulatâ; antico subexcavatâ; margine ventrali convexo.*

THE FINE-GROOVED CYRENA. Shell subtrigonal, purplish-pink, high, very finely groove-striated, posteriorly and at the sides rather smooth, covered with a straw-coloured epidermis, purple-bordered within; umbones elevated, dorsal margin sloped on each side with a pale, flattened area, slightly excavated anteriorly; ventral margin convex.

DESHAYES. Proc. Zool. Soc. London. 1864.

Hab. China.

Species 71. (Mus. Brit.)

CYRENA GRANDIS. *Cyr. testâ majus, ovato-subtrigoniâ, irregulariter rugatâ, subcompressâ, intus et ad umbones roseo-aurantiâ; latere antico brevi; latere postico acuminato, angulato; margine ventrali valdè convexo; margine dorsali utrinque declivi.*

THE LARGE CYRENA. Shell large, ovate-subtrigonal, irregularly wrinkled, compressed within and at the umbones pinky orange; anterior side short; posterior side acuminate, angular; ventral margin convex; dorsal margin sloped on each side.

DESHAYES — ? MS. Brit. Mus.

Hab. — ?

About half way in character between *C. Woodwardiana* and the more beaked and acuminate *C. similis*.





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# CYRENA.

PLATE XV.

Species 72. (Mus. Brit.)

CYRENA CLASSULA. *Cyr. testâ altissimi, subtriangulâ, angustatâ, subarcuatâ, tenuiter levatâ, crassi, epidermide olivaceâ indutâ, ad apicem latissimâque convexâ, rotundâ; latere postico arcuato, prope marginem lateralem angulatâ; latere antico subarcuato; umbonibus incurvatis fere lateraliter terminalibus.*

THE THICK CYRENA. Shell very high, subtriangular, narrow, rather arched, finely ridged, thick, covered with an olive epidermis; bluish at the tip and inside; posterior side arched, angular near the margin; anterior side somewhat excavated; umboes curved inwards, almost terminal at the side.

MUSSON — ? MS. in Brit. Mus.  
Hab. Lebanon.

Species 73. (Mus. Brit.)

CYRENA AMEUGEA. *Cyr. testâ subtriangulâ, subquadrilaterâ, olivaceo-nigricantâ, moderatè tumidâ, tenuiter levatâ; latere antico declivi, subrotundâ; latere postico declivi, obscure hinc angulatâ.*

THE AMEUGEAN CYRENA. Shell subtriangular, blackish-olive, moderately tumid, finely ridged; anterior side sloped downwards, rather round; posterior side sloped downwards, with two obscure angles.

DESHAYES. Proc. Zool. Soc. London. XXII. p. 345.  
Hab. River Euphrates.

Species 74. (Mus. Sowerby.)

CYRENA MANILLENSIS. *Cyr. testâ crassi, subrhomboidâ, distanter levatâ, versus umbones griseâ, versus marginem subaurantâ, intus albâ convexâ, epidermide nitenti indutâ; latere antico brevi, margine dorsali declivi, laterali brevi, truncatâ; latere postico productâ, margine dorsali declivi, terminali truncatâ; umbonibus rotundis.*

THE MANILLA CYRENA. Shell thick, rather rhomboidal, distantly grooved, grey towards the umboes, somewhat orange, bluish-white within,

covered with a shining epidermis; anterior side short, dorsal margin sloped, lateral short, truncated; posterior side produced, dorsal margin sloped, terminal, truncated; umboes round.

PHILIPPI. Abild. Zeit. f. Malak. 1841.  
Hab. Manilla.

Species 75. (Mus. Brit.)

CYRENA NEPEANENSIS. *Cyr. testâ subrhomboidâ, fuscâ vel aurantâ, levâ, levigatâ, compressâ; latere antico breviusculo; latere postico magis productâ, latè truncatâ; apice parvo, subacuminatâ, margine dorsali utriusque leviter declivi; margine ventrali breviusculo.*

THE NEPEAN CYRENA. Shell rather rhomboidal, brown or orange, straight, smooth, compressed; anterior side rather short; posterior side more produced, broadly truncated; apex small, somewhat acuminated; dorsal margin slightly sloped on each side; ventral margin rather straight.

LESSON — ? MS. Brit. Mus.  
Hab. River Nepea.

Species 76. (Mus. Brit.)

CYRENA REGULARIS. *Cyr. testâ pallidâ, subovatâ, subdepressâ, regulariter echinè levatâ; latere antico breviusculo, subacuminatâ, infra umbonem excavatâ; latere postico latè truncatâ, margine dorsali declivi; umbonibus obtusis, depressis.*

THE REGULAR CYRENA. Shell pale, rather oval, rather depressed, regularly, closely ridged; anterior side rather short, slightly acuminated, excavated below the umboes; posterior side broadly truncated, dorsal margin sloped; umboes obtuse, depressed.

PRIME — ? MS. Brit. Mus.  
Hab. — ?

Species 77. (Mus. Brit.)

CYRENA OVALINA. *Cyr. testâ ovatâ, tumidâ, epidermidè nitenti, nigrescenti indutâ, rugis distantibus, sup-*

*rioribus validis, costiosis, versus marginem ventralen evanidis, posticè obsolete indutà; latere antico breviusculo, rotundo; latere postico producto, latè truncato; umbonibus obtusissimis, margine dorsali utriusque levigato, margine ventrali repulidè convexo.*

THE OVAL CYRENA. Shell ovate, tumid, covered with a shining, blackish epidermis dying out towards the ventral margin, posteriorly obsolete; anterior side rather short, rounded; posterior side produced, broadly truncated; umbones very obtuse, dorsal margin smooth on each side, ventral margin equally convex.

DESHAYES. Proc. Zool. Soc. 1854, p. 343.

*Hab.* Port Essington, Australia.

Species 78. (Mus. Brit.)

CYRENA MAXIMA. *Cyr. testâ subtrigona, altissimâ, subcompressâ, levi, rugis paucis, distantibus, posticè evanidis irregulariter cinctâ; epidermide flavido-subaurantiâ indutâ; latere antico brevî, arcu lunulari convexo; latere postico producto, infra medium acuminato, margine dorsali longè declivi, convexo; umbonibus elevatis; margine ventrali prominenter convexo.*

THE VERY LARGE CYRENA. Shell rather trigonal, very high, rather compressed, smooth, irregularly belted with few, distant wrinkles disappearing posteriorly, covered with a yellowish-orange epidermis; anterior side short, lunular area convex; posterior side produced, acuminated below the middle, dorsal margin with a long slope, convex; umbones raised; ventral margin prominently convex.

DESHAYES. Proc. Zool. Soc. 1860, p. 321.

*Hab.* — ?

Species 79. (Mus. Brit.)

CYRENA BRAZILIANA. *Cyr. testâ altâ, tenuissimè lirata, subrotundâ, intus albâ; latere antico rotundo, brevi; latere postico obliquè producto, margine dorsali longè declivi; epidermide aurantio-straw-colourâ, costis angustè fasciatâ, umbonibus elevatis, versus laterem anticum declinatis.*

THE BRAZILIAN CYRENA. Shell high, very finely grooved, rather rounded; white within, anterior side rounded, short; posterior side obliquely produced, dorsal margin with a long slope; epidermis orange-straw, with narrow bands of chestnut; umbones raised, turned towards the anterior side.

DESHAYES. Cat. Brit. Mus. 1854.

*Hab.* Brazil.

Species 80. (Mus. Brit.)

CYRENA TENUISTRATA. *Cyr. testâ subtrigona, altâ, pullidè fulcâ, ferè levigatâ, compressâ, obscure tenuissimè striatâ; latere antico brevi, usque ad marginem ventralen declivi, margine ventrali rotundo, producto, latere postico declivi, producto, infra medium subacuminato, margine ventrali sursum acclivi; umbonibus elevatis.*

THE FINE-STRIATED CYRENA. Shell subtrigonal, high, pale fulvous, almost smooth, compressed, obscurely, very finely striated; anterior side short, sloped down to the ventral margin; ventral margin round, produced, posterior side sloped downwards, produced, slightly acuminated below the middle, ventral margin sloped upwards; umbones elevated.

PRIME. Proc. Zool. Soc. 1860, p. 323.

*Hab.* — ?

Species 81. (Mus. Brit.)

CYRENA PARACENSIS. *Cyr. testâ altissimâ, angustâ, liris irregularibus posticè evanidis rugatâ, obscure olivaceâ, intus purpurâ; latere antico brevissimo, margine laterali rectiusculo; latere postico, margine dorsali breviter declivi, margine laterali obliquè declivi; margine ventrali subconvexo.*

THE PARACA CYRENA. Shell very elevated, narrow, wrinkled with irregular ridges, posteriorly fading, obscurely olivaceous, purple within; anterior side very short, lateral margin rather straight; posterior side, dorsal margin shortly sloped, lateral margin obliquely sloped; ventral margin rather convex.

D'ORBIGNY — ? MS. Brit. Mus.

*Hab.* Paraca.





83



82 a



81



84 b



85



86



87 a



88



89 b



89

# CYRENA.

PLATE XVI.

Species 82. (Fig. 87, Mus. Brit.)

**CYRENA AUSTRALIS.** *Cyr. testā ovato-subtriangulā, depressā, compressā, pubescentē fuscov-fusca, vel fusca, sub-striatā, tero antice et leviter rugatā; latere antice brevi, margine latero-dorsali declivi, levigatā; latere postico producto, infra medium acuminatā, margine dorsolaterali convergēseculo, declivi, levigatā.*

**THE AUSTRALIAN CYRENA.** Shell ovate-subtriangular, depressed, compressed, very pale smoky-fulvous, or brown, or orange, irregularly and slightly wrinkled; anterior side short, latero-dorsal margin sloped, smooth; posterior side produced, acuminate below the middle, dorso-lateral margin rather convex, sloped, smooth.

DESHAYES. Ed. Lamareck.

Hab. Isl. of Timor.

Species 83. (Mus. Brit.)

**CYRENA LYDIGIANA.** *Cyr. testā tumidā, subrotundā, orbiculatā, latitudinem aequalē, aquilatā, cœqualiter subparallelē et subdistanter rugatā, infra griseo-subviridē, supra nigricantē, castaneo radiatā, intus dense violaceā; umbonibus rotundis, elevatis, margine dorsali utrinque declivi; latere postico infra medium subacuminatā.*

**THE LYDIG CYRENA.** Shell tumid, rather rounded, the height equalling the breadth, equilateral, regularly rather equally and distantly wrinkled, greyish-green below, blackish above, rayed with chestnut, deep purple within; umbones rounded, raised, dorsal margin sloped on each side; posterior side rather acuminate below the middle.

PRINCE. Cal. Corb. 3. 1863.

Hab. Siam.

Species 84. (Mus. Brit.)

**CYRENA SEMISULCATA.** *Cyr. testā oblongā, depressā, ferè levigatā, leviter partim rugatā, obscurē fusca, caeruleo-fuscatā, intus dense purpureā; latere antice brevissimo, infra umbones subcurvato, margine dorsali valde declivi; latere postico*

*pre-brevi, oblongo, utrinque distinctè leviter declivi, margine laterali valde truncato.*

**THE HALF-OBSOLETE CYRENA.** Shell oblong, depressed, almost smooth, slightly wrinkled in parts, dull fulvous, banded with blue, deep purple within; anterior side very short, slightly hollow under the umbones, dorsal margin much sloped; posterior side produced, oblong, dorsal margin slightly sloped, lateral margin broadly truncated.

DESHAYES. Proc. Zool. Soc. 1854, p. 342.

Hab. Pondicherry.

Species 85. (Mus. Brit.)

**CYRENA OBSOLETE.** *Cyr. testā obliquè triangulā, alta, tenuissimè striatā, compressā, superiō subviridē, medio rufo-fusca, intus purpureā; latere antice brevi, valde declivi; umbonibus elevatis, subrotundis, margine ventrali convexo; latere postico producto, declivi, infra medium acuminatā.*

**THE OBSOLETE CYRENA.** Shell obliquely trigonal, high, very finely striated, compressed, greenish above, reddish-brown in the middle, purple within; anterior side short, much sloped; posterior side produced; umbones raised, somewhat acuminate, ventral margin convex; posterior side produced, sloped, acuminate below the middle.

DESHAYES. Proc. Zool. Soc. 1854, p. 345.

Hab. — ?

Species 86. (Mus. Brit.)

**CYRENA INCRASSATA.** *Cyr. testā subovatā, depressā, crassa, subcompressā, dense fusco-subviridē, tenuissimè striatā, ferè levigatā, antice distanter tenuiter rugatā; latere antice brevissimo, infra umbones excavato; umbonibus antice inclinatīs, depressis; latere postico producto, acuminato, margine arcuatā declivi.*

**THE THICKENED CYRENA.** Shell rather oval, depressed, thick, slightly compressed, dark greenish-brown, very finely striated, almost smooth, with distant slender wrinkles; anterior side very short, lat-

CYRENA.—PLATE XVI.

low under the umbones; umbones leaning to the front, depressed; posterior side produced, acuminate, margin sloped in an arch.

DESHAYES. Proc. Zool. Soc. 1854, p. 342.

Hab. — ?

Species 87. (Fig. a, b, Mus. Brit.)

CYRENA VARIEGATA. *Cyr. testâ altâ, subrotundâ, tenui, subviridi et nigra, vel subaurantiâ, nebulis radiisque variegatâ, tenuissimè striatâ, vix rugatâ, latere postico producto, rotundo, latere antico brevissimo.*

THE VARIEGATED CYRENA. Shell high, rather rounded, thin, greenish or black, or rather orange, variegated with clouds and rays of purple, very finely striated, scarcely wrinkled, posterior side produced, rounded, anterior side very short.

DESHAYES. MS. Mus. Cuming.

Hab. La Plata.

Species 88. (Mus. Sowerby.)

CYRENA MALLACENSIS. *Cyr. testâ tenui, subrhomboidâ, fumoso olivaceâ, nitenti, regulariter, distanter, acutè rugatâ, intus albâ; latere antico brevi, declivi; latere postico producto, obliquè truncato.*

THE MALACCA CYRENA. Shell thin, subrhomboidal, smoky-olive, shining, regularly, distantly, sharply wrinkled, white within; anterior side short, sloped; posterior side produced, obliquely truncated.

DESHAYES. Proc. Zool. Soc. 1854, p. 343.

Hab. Malacca.

Species 89. (Mus. Hanley.)

CYRENA NITENS. *Cyr. testâ subaurantiâ, nitenti, compressâ, subdepressâ, obliquè trigonâ, tenuiter sulcatâ, intus et ad umbones subrosâ; latere antico brevi, rectiusculo, vix declivi; latere postico obliquè producto, margine dorsali longè declivi, ad marginem ventralem acuminato; marginem ventrali rectiusculo.*

THE SHINING CYRENA. Shell rather orange, shining, compressed, rather depressed, obliquely trigonal, finely grooved, rather pink at the umbones; anterior side short, rather straight, much sloped; posterior side obliquely produced, dorsal margin with a long slope, acuminate at the ventral margin; ventral margin rather straight.

DESHAYES. MS. Cum. Coll.

Hab. — ?





91



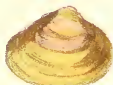
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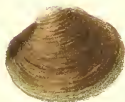
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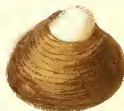
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99



100



101



# CYRENA.

PLATE XVII.

Species 90. (Mus. Hanley.)

**CYRENA ANGASI.** *Cyr. testâ ovato-oblongâ, subchona-  
boidâ, tenui, depressâ, subcompresâ, intus et ad  
apicem subrosâ vel cinerâ, epidermidè flavidâ  
tenui indutâ; latere antico brevi, angustè sub-  
truncato; latere postico producto, obtusè angulato,  
latè truncato.*

**ANGAS'S CYRENA.** Shell ovate-oblong, somewhat  
rhomboidal, thin, depressed, rather compressed,  
pinkish or ashy within and at the apex, covered  
with a thin yellowish epidermis; anterior side  
short, narrowly subtruncated; posterior side  
produced, obtusely angular, broadly truncated.

PRIME. Cat. Corb. 1863, p. 4.

Hab. Murray River, South Australia.

Species 91. (Mus. Hanley.)

**CYRENA JAPONICA.** *Cyr. testâ altâ, trigonâ, compressâ,  
subsolidâ, nitidâ, fuscosecosteâ, sulcis partim  
obsoletis rugatâ; intus crassâ apicem purpureo  
strigatâ, ad latera marginemque cavatâ; latere  
antico rudi declivi, breviori, latere postico obtusè  
angulato, obliquè truncato, supè rudi declivi.*

**THE JAPAN CYRENA.** Shell high, trigonal, compressed,  
rather solid, shining, smoky chestnut, wrinkled  
with partly obsolete grooves, striped with purple  
inside towards the apex, bluish at the sides  
and edge; anterior side much sloped, shorter;  
posterior side obtusely angular, obliquely trun-  
cated, superiorly declivi.

PRIME. Ann. Lyc. New York, 1864.

Hab. Japan.

A beautiful little shell, having much the aspect of  
a young *Cytherea*.

Species 92. (Mus. Hanley.)

**CYRENA TUMIDA.** *Cyr. testâ subtrigonâ, altâ, tenui,  
subequilaterali, tumidi, irregulariter distanter  
rugatâ, ad latera purpureo-fuscâ, epidermidè  
aurantiâ indutâ, intus et ad apicem densè pur-  
purâ; latere postico longiusculo, obtusissimè an-  
gulato.*

**THE TUMID CYRENA.** Shell trigonal, high, thin, some-  
what equilateral, tumid, irregularly distantly

wrinkled, purple-brown at the sides, covered  
with an orange-brown epidermis, deep purple  
within and at the apex; posterior side rather  
long, very obtusely angular.

DESHAYES. Proc. Zool. 1854, p. 343.

Hab. BORNEO.

Species 93. (Mus. Hanley.)

**CYRENA ARATA.** *Cyr. testâ ovatâ, tenuissimâ, rosaceâ,  
tumidissimâ, liris marginis, distantibus ad latera  
subobliquè terminantibus rugatâ, epidermidè au-  
rantiâ-flavidiâ indutâ; latere antico educto, rudi  
inflato; latere postico magis producto, subat-  
tenuato, angustè truncato.*

**THE PLOUGHED CYRENA.** Shell ovate, very thin, pinkish,  
very tumid, wrinkled with large, distant ridges,  
terminating rather obliquely at the sides, covered  
with an orange-yellow epidermis; anterior side  
rounded, much inflated; posterior side more  
produced, slightly attenuated, narrowly trun-  
cated.

BLANFORD. — ? MS. Hanley Coll.

Hab. TERASSERIM.

Species 94. (Mus. Hanley.)

**CYRENA PROLONGATA.** *Cyr. testâ ovato-subtrigonâ, de-  
pressâ, elongatâ, compressâ, tenuissimè liratâ,  
epidermidè tenui, stramineâ, indutâ, intus sub  
ceruleo, albâ; latere antico brevi, declivi, latere  
postico attenuato, subacuminato.*

**THE LENGTHENED CYRENA.** Shell ovate-subtrigonal,  
depressed, elongated, compressed, very finely  
ridged, covered with a thin straw-coloured epi-  
dermis, bluish white within; anterior side short,  
sloped; posterior side attenuated, sulcated.

PRIME. — ? MS. Hanley's Collection.

Hab. Wide Bay, Australia.

Species 95. (Mus. Hanley.)

**CYRENA MÜLLERIANA.** *Cyr. testâ subrotundâ, altissimâ,  
tumidâ, intus extusque densè purpurâ, epidermidè  
subcicridi, nitenti indutâ, liris rutilis distantibus,  
nonnullis concurrentibus rugatâ; umbonibus feri-  
centralibus, elevatis, margine dorsali utriusque  
declivi.*

MÜLLER'S CYRENA. Shell rather round, very high, tumid, deep purple within and without, covered with a greenish shining epidermis, wrinkled with strong, distant ridges, some of them running into each other; umbones nearly central, raised, dorsal margin sloped downwards on each side.

PRIME. —? MS. Hanley's Collection.

Hab. Fuh Chan, China.

Species 96. (Mus. Hanley.)

CYRENA LIMOSA. *Cyr. testâ alta, ovato-subrotundâ, compressâ, tenuiter liratâ, forcè æquilaterali, intus extusque purpureâ, epidermide subviridi vel nigricanti indutâ; latere antico quam posticum breviori, margine dorsali convexo-declivi; latere postico subrotundo, margine dorsali paulò elevato; umbonibus versus latus anticum inclinatâ, margine ventrali convexo.*

THE MUDDY CYRENA. Shell high, ovate-subrotund, compressed, finely ridged, almost equilateral, purple inside and out, covered with a greenish or blackish epidermis; anterior side shorter than posterior, with dorsal margin convexly sloped; posterior side rather rounded, dorsal margin a little raised; umbones leaning towards the anterior side, ventral margin convex.

MATON. Hanley, in Photographic Illustrations.

Hab. La Plata.

Species 97. (Mus. Brit.)

CYRENA MOUSSONIANA. *Cyr. testâ ovatâ, subcompressâ, tenuiter costâ, medio liratâ, ad latera levigatâ, epidermide densè olivaceâ vel flavidâ indutâ, intus albâ; latere antico brevi, rotundo; latere postico producto; margine dorsali rectiusculo, paulò declivi, margine laterali latè truncato.*

MOUSSON'S CYRENA. Shell ovate, rather compressed, rather thin, ridged in the middle, smooth at the sides, covered with a dark olive or rather yellow epidermis, white within; anterior side short, round, posterior side produced; dorsal margin rather straight, a little sloped, lateral margin broadly truncated.

DESHAYES. —? MS. Brit. Mus.

Hab. —? —?

Species 98. (Mus. Brit.)

CYRENA FRAGILIS. *Cyr. testâ oblongâ, tenuissimâ, densè subviridi, liris distantibus subobliquis, posticè ecanalis, nonnullis concorrentibus rugatâ, intus albâ; latere antico brevi, infra umbones excavato; latere postico oblongo, margine dorsali leviter declivi, margine terminali latè, obliquè truncato.*

THE FRAGILE CYRENA. Shell oblong, very thin, deep greenish, wrinkled with distant, rather oblique ridges disappearing posteriorly, some running into each other, white within; anterior side short, hollowed beneath the umbones; posterior side oblong, dorsal margin slightly sloped, terminal margin broadly, obliquely truncated.

DESHAYES. —? MS. Brit. Mus.

Hab. —? —?

Species 99. (Mus. Brit.)

CYRENA SQUALIDA. *Cyr. testâ tenui, oblongâ, depressâ, compressâ, epidermide sorlidè olivaceâ, violaceo-nubulatâ indutâ, ad latera levigatâ, medio irregulariter rugatâ; latere antico brevi, rotundo, infra umbones excavato, latere postico producto; margine dorsali declivi, margine laterali obliquè truncato, infra subacuminato.*

THE SQUALID CYRENA. Shell thin, oblong, depressed, compressed, covered with a dirty olive epidermis clouded with violet, smooth at the sides, irregularly wrinkled in the middle; anterior side short, rounded, hollowed under the umbones; posterior side produced, dorsal margin sloped, lateral margin obliquely truncated, slightly acuminated below.

DESHAYES. Proc. Zool. Soc. 1854, p. 342.

Hab. —? —?

Species 100. (Mus. Brit.)

CYRENA SALMACIDE. *Cyr. testâ donaciformi, tenui, levigatâ, albâ, purpureo-nubulatâ; latere antico alto, brevissimo, umbonibus acutis, margine dorsali vulgè declivi, latere postico producto, acuminato.*

THE SALMACIDIAN (?) CYRENA. Shell donax-shaped, thin, smooth, whitish, clouded with purple; anterior side high, very short; umbones acute, dorsal margin much sloped, posterior side produced, acuminated.

MORELET —? MS. Brit. Mus.

Hab. —? —?





# CYRENA.

PLATE XVIII.

Species 101. (Mus. Brit.)

**CYRENA OVALIS.** *Cyr. testâ ovata, orbata, subanguliferâ, regulariter, dense striatâ, cœlephatâ, olivaceo-nigrescenti, distinctâ lobatâ, intus purpureâ; latere antico brevissimâ, reticulatâ; latere postico latè subterminantibus umbonibus elevatis, purpureo perpendiculariter fasciatâ.*

**THE OVAL CYRENA.** Shell thin, ovate, subequilateral, regularly and very closely ridged, covered with an olive-blackish, shiny epidermis, purple within; anterior side the shorter, rounded; posterior side broadly subtruncated; umbones raised, perpendicularly banded with purple.

**PRIME.** Journal de Conchyliologie, Pl. 2, f. 6.

*Hab.* — ?

The ridges in this corbieula are more fine, close, and continuous than either of the two similarly shaped species.

Species 102. (Mus. Brit.)

**CYRENA FLORIDANA.** *Cyr. testâ brevi, altâ, crassâ, tumidissimâ, inequaliter subtrigona, brevis-gatâ, subtus epidermidem rosâ, intus carvâ, epidermidâ flavo-fulvâ, castaneo maculatâ; latere postico desinente angulato, ad angulum f. r. curvato, infra acuminatâ; umbonibus tumidis, elevatis; latere antico brevi, declivi.*

**THE FLORIDA CYRENA.** Shell short, high, thick, very tumid, inequilaterally trigonal, smooth, pinky under the epidermis, flesh-coloured within; epidermis yellowish fawn, spotted with chestnut; posterior side sloped, almost keeled at the angle, a-termined below; umbones tumid, raised; anterior side short, sloped.

**CONRAD.** Freshwater Shells of United States.

*Hab.* Florida.

Species 103. (Mas. Brit.)

**CYRENA ISOCARDIODES.** *Cyr. testâ brevi, altissimâ, tenui, tumidissimâ, superâe subtrigona, epidermidè largigatâ, tenui, corvâ lobatâ, intus ad carinam et subtus umbones purpureâ; latere antico brevissimo, subtus umbones evocato, versus medianâ valdè inflato; umbonibus substantibus, latere*

*postico subangulato, angulato, truncato, marginè ventrali valdè convexo.*

**THE ISOCARDIA-LIKE CYRENA.** Shell short, very high, thin, very tumid, triangular at the upper part, covered with a smooth, thin, horny epidermis, purple inside at the hinge, and under the umbones; anterior side very short, excavated beneath the umbones; umbones a little distant, posterior side rather beaked, angular, truncated; ventral margin very convex.

**DESHAYES** — ? MS. Cnm. Col.

*Hab.* — ?

Species 104. (Mus. Brit.)

**CYRENA SOLIDA.** *Cyr. testâ crassâ, angulâ, breviter subobovata, tumidissimâ, epidermidè tenui, sinâ lobatâ, antico leviter angulâ; latere antico brevissimo, umbonibus fere terminalibus; latere postico producto, obtusè angulato; marginè latero dorsali elongato, arcuato; marginè ventrali convexo, versus angulum posticam versus acclivi.*

**THE SOLID CYRENA.** Shell thick, large, shortly sub-rhomboidal, very tumid, covered with a very thin epidermis, anteriorly lightly wrinkled; anterior side very short, umbones nearly terminal, posterior side produced, obtusely angular; dorsal margin lengthened, arched; ventral margin convex, sloped up towards the posterior angle.

**DESHAYES** — ? MS. Cnm. Coll.

*Hab.* Australia.

Species 105. (Mus. Brit.)

**CYRENA JUKESII.** *Cyr. testâ ovata, compressâ, largigatâ, epidermidè fuscâ, crenulatâ striatâ lobatâ; latere antico brevi; latere postico producto, marginè dorsali arcuatâ declivi.*

**JUKES'S CYRENA.** Shell ovate, compressed, smooth, covered with a brown epidermis with crenulated striae; anterior side short; posterior side produced, dorsal margin slightly arched, sloped downwards.

**DESHAYES.** Proc. Zool. Soc. 1854, p. 19.

*Hab.* Port Essington.

CYRENA.—PLATE XVIII.

Species 106. (Mus. Brit.)

CYRENA PLACIDA. *Cyr. testâ ovato-rotundatâ, compressâ, albâ, levigatâ, epidermide striatâ indutâ, ferè equilaterali, intus pallidè roseâ, lateribus rotundis, umbonibus depressis, obtusissimis.*

THE PLACID CYRENA. Shell ovately rounded, compressed, high, smooth, covered with a striated epidermis, almost equilateral, pale rose within, sides rounded; umboes depressed, very obtuse.

DESHAYES. Proc. Zool. Soc. 1854, p. 19.

*Hab.* —? Cum. Coll.

Species 107. (Mus. Brit.)

CYRENA NOTABILIS. *Cyr. testâ subrhomboidali, depressâ, subcompressâ, tenuiter striatâ, epidermide tenuis-*

*simâ indutâ; latere antico brevi, rotundo, infra umbones excavato; latere postico oblongo, angulato, post angulum extâs intusque purpureo, margine dorsali paulò declivi, arcuato, margine terminali latè truncato.*

THE REMARKABLE CYRENA. Shell subrhomboidal, depressed, rather compressed; finely striated, covered with a very thin epidermis; anterior side short, rounded, excavated under the umboes; posterior side oblong, angular, purple within and without behind the angle, dorsal margin a little sloped, arched, terminal margin broadly truncated.

DESHAYES. Proc. Zool. Soc. 1854, p. 21.

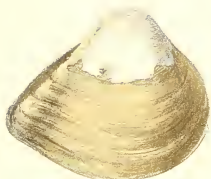
*Hab.* Payta, Peru.

Having much the form of a *Cypricardia*.

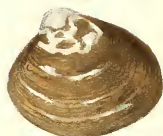




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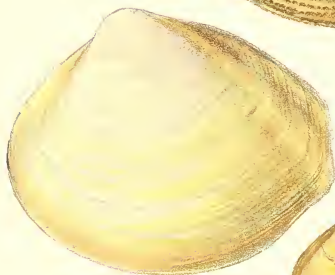
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110



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114



113



# CYRENA.

PLATE XIX.

Species 108. (Mus. Sowerby.)

CYRENA HESPERIDENS. *Cyr. testis parvus, tenuissimè flexus, subquadratus, valde inequilaterali; marginis dorsalis utriusque valde declivi, arcu purpureo, utriusque valvis emarginatis; latere antico breviusculo, declivi, subacuminato, latere postico attenuatim producto, ad brevissimam acuminato.*

THE HESPERID CYRENA. Shell small, very finely ridged, trigonal, very inequilateral; dorsal margin much sloped on each side, with a semilunar area of purple on each valve; anterior side rather short, sloped, rather acuminated, posterior side taperingly produced, acuminated at the end.

SOWERBY.

Hab. Florida.

This species belongs to the *Charicula* group in the character of the hinge.

Species 109. (Mus. Brit.)

CYRENA ANOMALA. *Cyr. testis tenuissimè inflata, altè, subtriangulati, epidermide tenui, pallidè subviridi induta, intus ad cardinem et infra umbones purpurea; latere antico inflato, rotundè, brevi; umbonibus inflatis, rotundis, marginis ventrali valde convexo; latere postico producto, acutè rostrato, attenuato.*

THE ANOMALOUS CYRENA. Shell very thin, inflated, high, subtriangular, covered with a thin greenish epidermis, purple within on the hinge and under the umbones; anterior side inflated, rounded, short; umbones inflated, rounded, ventral margin very convex; posterior side produced, sharply beaked, attenuated.

DESHAYES. Proc. Zool. Soc. 1854, p. 51.

Hab. Bay of Caraccas.

Very full and globular in front, compressed and narrowed to a point at the back.

Species 110. (Mus. Sowerby, odd valves.)

CYRENA MEXICANA. *Cyr. testis ovato, inflata, tenui, epidermide obscure fuscè induta, intus pallidissimè*

*carnea, ad latere posticum porpurea; latere antico brevissimo, medio inflato; latere postico producto, marginis latero-dorsali declivi, marginis terminali obtuso, obtusissimè angulato.*

THE MEXICAN CYRENA. Shell ovate, inflated, thin, covered with a dull brown epidermis, very pale flesh-colour within, purple at the posterior side, anterior very short, middle inflated; posterior side produced, dorso-lateral margin sloped, terminal margin obtuse, very obtusely angular.

BODDERS and SOWERBY. Zool. Journ. V. 5.

Hab. Mazatlan, Mexico.

Species 111. (Mus. Sowerby.)

CYRENA CEYLONICA. *Cyr. testis magna, solida, subtriangulati, subcompressa, altè, subequilaterali, epidermide tenui, flavidi, fimbriatim striatè induta; latere postico obtusè biangulato, ante angulum anticam subconcave, post angulum posticum concavato, valde declivi; latere antico breviusculo, marginis latero-dorsali conjuncto, declivi.*

THE CEYLON CYRENA. Shell large, solid, subtriangular, subcompressed, high, subequilateral, covered with a thin, yellowish epidermis, with fringed striae; posterior side obtusely two-angled, rather concave in front of the anterior angle; flattened, much sloped behind the posterior angle; anterior side rather short, latero-dorsal margin flattened, sloped.

CHEMINITZ. (Venus) Marl. and Chemn.

*Venus concolor.* Gmel.

*Cyrena Zeylanica.* Lamarek.

*Cyrena pallida.* Deshayes.

Hab. Ceylon.

Species 112. (Mus. Brit.)

CYRENA COMITA. *Cyr. testis ovato-oblongi, depressè, tumida, crassè, laxigata, epidermide pallidè flavidi attentè induta; latere antico brevi; latere postico producto, subattenuato, angulato, ante angulum subcompresso, marginis dorsali declivi, marginis terminali biangulato, truncato.*

THE SPRUCE CYRENA. Shell ovate-oblong, depressed.

CYRENA.—PLATE XIX.

tumid, thick, smooth, covered with a pale yellowish shining epidermis; anterior side short; posterior side produced, rather attenuated, angular, rather flattened in front of the angle; dorsal margin sloped, terminal margin biangular, truncated.

DESHAYES. Proc. Zool. 1854, p. 21.

*Hab.* — ?

Species 113. (Mus. Sowerby.)

CYRENA BUSCHII. *Cyr. testâ veneriformi, ovato-subtriangulari, solidâ, subcompressâ, epidermide fusco-flaviddâ fimbriatâ striatâ indatâ; latere antico brevi, prope marginem dorso-lateralem plavulato; latere postico magis producto, margine dorso-laterali arcuato; umbonibus elevatis, versus latus anticum inclinatâ.*

VON BUSCH'S CYRENA. Shell venus-shaped, ovately subtriangular, solid, rather compressed, covered with a brownish-yellow epidermis; anterior side short, flattened near the dorso-lateral margin; posterior side more produced, dorso-lateral

margin arched; umboes raised, leaning towards the anterior margin.

PHILIPPI — ? Adams' Genera.

*Lauda.* Deshayes.

*Hab.* — ?

Species 114. (Mus. Brit.)

CYRENA EQUILATERALIS. *Cyr. testâ subtriangulari, compressâ, altâ, subequilaterali, fulvo-subaurantiâ, levigatâ; latere antico breviusculo, declivi, infra umboes excavato; latere postico paulo magis producto, infra acuminato, prope marginem dorso-lateralem angulato.*

THE EQUILATERAL CYRENA. Shell rather trigonal, compressed, high, nearly equilateral, fulvous orange, smooth; anterior side rather short, sloped, hollowed under the umboes; posterior side a little more produced, acuminated below, with an angle near the dorso-lateral margin.

DESHAYES. Proc. Zool. Soc. 1854, p. 20.

*Hab.* Cayenne.

## CYRENA.

|  | Thom. | Species. |   | Plate. | Page. |
|--|-------|----------|---|--------|-------|
| aequilatralis. <i>Deshayes</i> .....                   | XIX.  | 114      | Floridana. <i>Ceatal</i> .....                      | XVIII. | 102   |
| Africana. <i>Keesse</i> .....                          | XIII. | 59       | flammea. <i>Lamarek</i> .....                       | XII.   | 56    |
| ambigua. <i>Deshayes</i> .....                         | XV.   | 73       | Fontainei. <i>D'Oehlberg</i> .....                  | IX.    | 34    |
| Angasi. <i>Prine</i> .....                             | XVII. | 90       | fortis. <i>Prine</i> .....                          | V.     | 16    |
| angulata. <i>Deshayes</i> , not met with               |       |          | fragilis. <i>Deshayes</i> .....                     | XVII.  | 98    |
| anomala. <i>Deshayes</i> .....                         | XIX.  | 109      | fuscata. ( <i>Batissa</i> ) <i>Prine</i> .....      | IV.    | 21    |
| arata. <i>Bluffel</i> .....                            | XVII. | 93       | galathea. <i>Morch</i> , not met with               |        |       |
| arabata. <i>Deshayes</i> , not met with                |       |          | gigantea. <i>Prine</i> .....                        | I.     | 1     |
| Anstralis. <i>Deshayes</i> ( <i>Batissa</i> ) * ..     | V.    | 13       | gracilis. <i>Prine</i> ( <i>Batissa</i> ) * .....   | VI.    | 20    |
| Anstralis. <i>Deshayes</i> ( <i>Corbicula</i> ) * ..   | XVI.  | 82       | gracilis. <i>Prine</i> ( <i>Corbicula</i> ) * ..... | XIV.   | 67    |
| Bengalensis. <i>Deshayes</i> ( <i>Corbicula</i> ) * .. | XI.   | 50       | grandis. <i>Deshayes</i> .....                      | XIV.   | 71    |
| Bengalensis. <i>Lamarck</i> ( <i>Cyrena</i> ) * ..     | VII.  | 23       | <i>Gauritziana</i> . <i>Krauss</i> .....            | XIII.  | 59    |
| Bonsoni. <i>Deshayes</i> .....                         | XI.   | 44       | humerosa. <i>Deshayes</i> .....                     | VI.    | 18    |
| Braziliana. <i>Deshayes</i> .....                      | XV.   | 79       | incrassata. <i>Deshayes</i> .....                   | XVI.   | 86    |
| Bullata. <i>Sowerby</i> .....                          | XIV.  | 68       | inflata. <i>Prine</i> .....                         | IV.    | 10    |
| Busehii. <i>Philippi</i> .....                         | XIX.  | 113      | insignis. <i>Deshayes</i> .....                     | III.   | 7     |
| Caledonica. <i>Gassies</i> .....                       | X.    | 40       | insignis. <i>Deshayes</i> .....                     | XIV.   | 68    |
| Carolinensis. <i>Bosc</i> .....                        | VIII. | 31       | Iravaldia. <i>Deshayes</i> .....                    | XI.    | 45    |
| Cashmirensis. <i>Deshayes</i> .....                    | XIII. | 60       | isocardiodes. <i>Deshayes</i> .....                 | XVIII. | 103   |
| Ceylanica. <i>Chevrolat</i> .....                      | XIX.  | 111      | Japonica. <i>Prine</i> .....                        | XVII.  | 91    |
| Childreni. <i>Guy</i> .....                            | VI.   | 17       | Jayensis. <i>Lot</i> .....                          | VI.    | 19    |
| coaxana. <i>Gmel</i> .....                             | XIX.  | 111      | Jukesii. <i>Deshayes</i> .....                      | XVIII. | 105   |
| compressa. <i>Mousson</i> .....                        | XII.  | 58       | Kerandreni. <i>Lesson</i> .....                     | II.    | 6     |
| compta. <i>Deshayes</i> .....                          | XIX.  | 112      | Largillierti. <i>Philippi</i> .....                 | XIII.  | 61    |
| concinna. <i>Sowerby</i> .....                         | XIV.  | 66       | luta. <i>Deshayes</i> .....                         | XIX.   | 113   |
| convolviva. <i>Caillaud</i> .....                      | XII.  | 51       | lenticularis. <i>Deshayes</i> .....                 | I.     | 2     |
| cor. <i>Lamarck</i> .....                              | XII.  | 51       | limosa. <i>Maton</i> .....                          | XVII.  | 96    |
| corbuloides. <i>Deshayes</i> .....                     | VI.   | 21       | Lydigiana. <i>Prine</i> .....                       | XVI.   | 83    |
| cordiformis. <i>Deshayes</i> .....                     | VIII. | 27       | maetroides. <i>Desh.</i> , not met with             |        |       |
| crassula. <i>Mousson</i> .....                         | XV.   | 72       | Mallaccensis. <i>Deshayes</i> .....                 | XVI.   | 88    |
| Cumingii. <i>Deshayes</i> .....                        | XII.  | 53       | Manillensis. <i>Philippi</i> .....                  | XV.    | 74    |
| Cyprinoides. <i>Guy</i> .....                          | VII.  | 24       | maritima. <i>C. B. Adams</i> .....                  | VIII.  | 30    |
| Cyrena. <i>Prine</i> .....                             | XVII. | 95       | maxima. <i>Deshayes</i> .....                       | XV.    | 78    |
| cyreniformis. <i>Prine</i> .....                       | XIV.  | 69       | Mexicana. <i>Sowerby</i> and <i>Sowerby</i>         | XIX.   | 110   |
| decipiens. <i>Deshayes</i> , not met with              |       |          | minor. <i>Prine</i> .....                           | III.   | 8     |
| depressa. <i>Lamarck</i> , not met with                |       |          | Moussoniana. <i>Deshayes</i> .....                  | XVII.  | 97    |
| divaricata. <i>Deshayes</i> .....                      | VIII. | 28       | Mulleriana. <i>Prine</i> .....                      | XVII.  | 95    |
| donaciformis. <i>Sowerby</i> .....                     | XIX.  | 108      | nitens. <i>Deshayes</i> .....                       | XVI.   | 89    |
| erosa. <i>Deshayes</i> .....                           | XI.   | 46       | Nepeanensis. <i>Lesson</i> .....                    | XV.    | 75    |
| Essingtonensis. <i>Deshayes</i> .....                  | IX.   | 36       | nitidula. <i>Deshayes</i> .....                     | X.     | 38    |
| eximia. <i>Dkr.</i> , not met with                     |       |          | notabilis. <i>Deshayes</i> .....                    | XVIII. | 107   |
| fallax. <i>Deshayes</i> .....                          | X.    | 41       | obesa. <i>Hinds</i> .....                           | II.    | 5     |

\* Owing to the separation of *Cyrena* into separate genera, authors have repeated specific names. The above instances were not observed till too late for avoidance or explanation in the plates.

## CYRENA.

|   | Plate.    | Species. |   | Plate. | Species. |
|---|-----------|----------|---|--------|----------|
| oblonga. <i>Deshayes</i> .....                | IX.       | 37       | salmacidae. <i>Morelet</i> .....            | XVII.  | 100      |
| obscura. <i>Prime</i> .....                   | IX.       | 33       | scmisulcata. <i>Deshayes</i> .....          | XVI.   | 84       |
| obsoleta. <i>Deshayes</i> .....               | XVI.      | 85       | similis. <i>Gray</i> .....                  | XIII.  | 64       |
| occidens. <i>Benson</i> .....                 | XI. XIII. | 48       | sinuosa. <i>Deshayes</i> .....              | VII.   | 26       |
| olivacea. <i>Curpenter</i> .....              | IX.       | 32       | solida. <i>Deshayes</i> .....               | XVIII. | 104      |
| orientalis. <i>Lamarck</i> .....              | XII.      | 54       | squalida. <i>Deshayes</i> .....             | XVII.  | 99       |
| ovalina. <i>Deshayes</i> .....                | XV.       | 77       | striatella. <i>Deshayes</i> .....           | XI.    | 49       |
| ovalis. <i>Prime</i> .....                    | XVIII.    | 101      | sublobata. <i>Deshayes</i> .....            | X.     | 39       |
| pullida. <i>Deshayes</i> .....                | XIX.      | 111      | suborbicularis. <i>Phel.</i> , not met with |        |          |
| Papua. <i>Lessou</i> .....                    | VII.      | 22       | sulcata. <i>Deshayes</i> .....              | XIV.   | 70       |
| Panamaensis. <i>Prime</i> .....               | VIII.     | 29       | sumatrensis. <i>Saengerby</i> .....         | XIII.  | 62       |
| Panormitana. <i>Bison</i> , not met with      |           |          | tenebrosa. <i>Hinds</i> .....               | V.     | 14       |
| Paracensis. <i>D'Orbigny</i> .....            | XV.       | 81       | tenuistriata. <i>Prime</i> .....            | XV.    | 80       |
| Paranensis. <i>D'Orb.</i> , not met with      |           |          | trigona. <i>Deshayes</i> .....              | XI.    | 43       |
| Peruviana. <i>Deshayes</i> , not met with     |           |          | Iravatica. <i>Blanford</i> .....            | XI.    | 45       |
| Petitiana. <i>Bourg</i> , not met with        |           |          | triangularis. <i>Metcalf</i> .....          | VII.   | 25       |
| placida. <i>Deshayes</i> .....                | XVIII.    | 106      | trigonella. <i>Lamck.</i> , not met with    |        |          |
| <i>Primoana</i> . <i>Mösch</i> .....          | XIII.     | 63       | triquetra. <i>Deshayes</i> .....            | II.    | 3        |
| producta. <i>Deshayes</i> .....               | IV.       | 12       | tumida. <i>Deshayes</i> .....               | XVII.  | 92       |
| prolongata. <i>Prime</i> .....                | XVII.     | 94       | turgida. <i>Lea</i> , not met with          |        |          |
| pusilla. <i>Philippi</i> .....                | XII.      | 57       | unififormis. <i>Prime</i> .....             | III.   | 9        |
| radiata. <i>Hübner</i> .....                  | XI. XIII. | 47       | Vaukorensis. <i>Quoy</i> , not met with     |        |          |
| <i>Ramondi</i> . <i>Bourg</i> , not met with  |           |          | variegata. <i>Deshayes</i> .....            | XVI.   | 87       |
| recurvata. <i>Valenciennes</i> , not met with |           |          | venetiformis. <i>Sowerby</i> .....          | IV.    | 11       |
| regularis. <i>Prime</i> .....                 | XV.       | 76       | ventricosa. <i>Deshayes</i> .....           | IX.    | 35       |
| rhomboidea. <i>Prime</i> .....                | XII.      | 52       | violacea. <i>Lamarck</i> .....              | V.     | 15       |
| rivalis. <i>Von Busch</i> .....               | XIV.      | 65       | Woodiana. <i>Lea</i> .....                  | XIII.  | 63       |
| rotundata. <i>Lea</i> .....                   | II.       | 4        | Yokohamensis .....                          | XII.   | 55       |
| Saigouensis — ? .....                         | XIII.     | 62       | <i>Zeylanica</i> . <i>Lamarck</i> .....     | XIX.   | 111      |

MONOGRAPH

OF THE GENUS

S P H Æ R I U M.

With Thee, by Whom were all things made, we praise

For ever, and tell out in sweetest lays

An endless All-time — Now



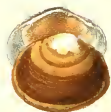




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# SPIÆRIUM.

PLATE I.

## Genus SPIÆRIUM. *Synopsis.*

MOLLUSCUM ACEPHOLOPODUM, BIMUSCULOSUM, FLUVIATILE, SIPHONIBUS SEPARATIS. *Testa tenuis, intus tenuiter testacea, exterior cornea, apiculis, fere apiculato-ralis, plerumque inflata. Cardio utriusque valvæ dentibus duobus cardinalibus discrepantibus, lateralibus elongatis, compressis, duplicatis et simplicibus. Valli impressionibus integris.*

MOLLUSC ACEPHOLOPODUS, BI-MUSCULAR, FLUVIATILE, WITH SEPARATED SIPHONS. Shell thin, thinly shelly within, horny without, equivalve, nearly equilateral, generally inflated. Hinge in each valve with two cardinal diverging teeth, lateral teeth, two and one in each valve, elongated, compressed. Pallial impression entire.

Synonymy. *Cyclus*. Brugnière.

The chief difference between this genus and *Pisidium* is to be found in the siphons of the animal, which are divided in the former, and separated in the latter. The shells, however, are in general to be distinguished by those of the present genus being less oblique, and more equilateral. Wherever there are rivers and lakes, are also to be found shells of the *Sphaerium* genus, excepting, perhaps, in the torrid regions. They abound in Europe and North America. The British Museum, largely reinforced by the Cumingian Collection, presents a large array of species which are given in this monograph, besides others which are accessible to me; still, however, leaving some which cannot be got together for identification.

### Species 1. (Mus. Brit.)

SPIÆRIUM STEINBUCHII. *Sph. testâ parvâ, politâ, sub-obliquâ, semipellucidâ, pallidâ; latere postico obliquè productâ, margine dorsali declivi; latere antico breviusculo; umbonibus prominentibus, versus laterem anticum inclinatis.*

STEINBUCH'S SPIÆRIUM. Shell small, polished, rather oblique, semipellucid, pale; posterior side obliquely produced, dorsal margin sloped; anterior

side rather short; umbos prominent, leaning towards the anterior side.

MÜLLER. Adams. Geneva.

Hab. Greenland.

### Species 2. (Mus. Brit.)

SPIÆRIUM TRANSVERSUM. *Sph. testâ transversè ovatâ, pallidè corneâ, tenui, opacâ, umbonibus ovalis, subcentralibus, margine dorsali rectiusculo; latere antico breviusculo, marginibus lateralibus sub-truncatis, margine ventrali convexo.*

THE TRANSVERSE SPIÆRIUM. Shell transversely ovate, pale horn, thin, opaque, umbos ovate, subcentral, dorsal margin rather straight; anterior side rather shorter, posterior lateral margin, a little obliquely truncated, ventral margin convex.

SAY. Proc. Acad. Nat. Sci. Phil. 1862.

Hab. United States.

### Species 3. (Mus. Brit.)

SPIÆRIUM RIVALIS. *Sph. testâ rectiusculâ, subargis, laterali, inflatâ, transversâ, corneâ, fusco-subviridi, fasciatâ; umbonibus ovalis, magis; margine ventrali recto, lateribus subtruncatis.*

THE RIVER SPIÆRIUM. Shell rather straight, nearly equilateral, inflated, transverse, horny, banded with greenish brown; umbos oval, large; ventral margin straight, sides rather truncated.

Drap. Moll. Pl. X.

Hab. Europe.

Generally regarded as a variety of *Sphaerium corneum*, but more transverse and rhomboidal.

### Species 4. (Mus. Sowerby.)

SPIÆRIUM RIVICOLUM. *Sph. testâ magnâ, ovali, tenuiter sulcatâ, intus fusco-viridi, intus medio carneâ, versus marginem corneâ; umbonibus subcentralibus, obtusis, margine dorsali utriusque declivi.*

THE RIVER-DWELLING SPIÆRIUM. Shell large, oval,

finely grooved, deep greenish-brown, within fleshy in the middle, blue towards the margin; umboes rather central, obtuse, dorsal margin sloped at both sides.

LAMARCK. Anim. s. Vert.

*Cyclus cocorum*. Dilwyn.

*Hab.* Great Britain. Europe generally.

Species 5. (*f, a, b*, Pl. V. Mus. Brit.)

SPILERIUM LACUSTRE. *Sph. testâ ovata, inflatâ, pallidâ, heri, latere antico breviori, latere postico vie obliquè truncato, margine dorsali subrectivo.*

THE PALE SPILERIUM. Shell ovate, inflated, pale, smooth, anterior side shorter; posterior side, scarcely obliquely truncated, dorsal margin a little sloped.

DESPARNAUD. Hist. Moll. p. 130, Pl. X. f. 6, 7.

*Cyclus neab*. Ferrussac.

*Cyclus pallidum*. Gray.

*Hab.* Regent's Park, London. France.

Species 6. (Mus. Sowerby.)

SPILERIUM LENTICULARIS. *Sph. testâ subcompressâ, pallidâ, breviter ovali, cocco-griseoviti, alti; umbonibus subcentralibus, margine dorsali utrinque declivè, margine postico obtusissimo truncato.*

THE LENTICULAR SPILERIUM. Shell rather compressed, polished, shortly oval, greyish horn, high; umboes rather central, dorsal margin sloped on each side; posterior margin very obtusely truncated.

SOWERBY.

*Hab.* —? We have no locality for this rather peculiar shell.

Species 7. (Mus. Brit.)

SPILERIUM SULCATUM. *Sph. testâ magis, inflatâ, sub-rhomboidali, validè sulcatâ, fusco-subviridi, tenuicorâ; umbonibus subcentralibus, prominentibus; angulis dorsali utrinque parvis declivè, marginibus lat. callosis obliquè subtruncatis, margine ventrali rectiusculo.*

THE GROOVED SPILERIUM. Shell large, inflated, rhomboidal, strongly sulcated, greenish brown, transverse; umboes nearly central, prominent; dorsal margin a little sloped on each side;

lateral margins a little truncated obliquely; ventral margin rather straight.

LAMARCK. Anim. s. Vert.

*Hab.* Massachusetts.

Species 8. (Mus. Hanley.)

SPILERIUM INDICUM. *Sph. testâ subrotundâ, pallidâ, heri, altiusculâ; umbonibus subcentralibus, prominentibus, rotundis, margine ventrali convexo, margine dorsali postico rectiusculo.*

THE INDIAN SPILERIUM. Shell rather rounded, pale, smooth, rather high; umboes rather central, prominent, rounded, ventral margin convex, dorsal margin rather straight posteriorly.

DESHAYES. Proc. Zool. Soc. 1854, p. 342.

*Hab.* Loodiana, India.

Species 9. (Mus. Brit.)

SPILERIUM SCALDANUM. *Sph. testâ oblongo-subquadrati, pallidè aurantiâ, tumida, brevigata, subinequilaterali, latere antico breviori; umbonibus prominentibus; margine dorsali postico rectiusculo, margine ventrali rectiusculo.*

SCALD'S SPILERIUM. Shell oblong-subquadrate, pale orange, tumid, smooth, rather inequilateral, anterior side shorter; umboes prominent, postero-dorsal margin rather straight, ventral margin rather straight.

NORMAND. Note Cycl. Nord. p. 3, 1854.

*Hab.* Europe.

Species 10. (Mus. Brit.)

SPILERIUM CALYCATUM. *Sph. testâ subquadrati, complanati, compressi, inequilaterali; latere antico breviori, obliquè subtruncato, margine dorsali recto, heri; latere postico expanso; obliquè quadrato, margine dorsali recto, paulo elevato; umbonibus acutis, tuberculo calyciformi desinenti.*

THE CAPPED SPILERIUM. Shell rather square, flattened, compressed, inequilateral; anterior side shorter, obliquely subtruncated, dorsal margin straight, short; posterior side expanded, obliquely square, dorsal margin straight, a little raised; umboes sharp, ending in a little cup-shaped tubercle.

DESPARNAUD. Moll. Pl. X. f. 14, 15.

*Hab.* Europe.

Quite distinct from *Cyclus lacustris* of the same author.





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# SPHERIUM.

PLATE II.

Species 11. (Mus. Brit.)

**SPHERIUM NUCLEUS.** *Sph. testâ tumidâ, altâ, pallidâ, cæpâ, fuscâ griseâ ornatâ, subhomboidâ; subæquali; umbonibus unguis, obtusis, margine dorsali leviter reticulato, margine ventrali cætescente, marginibus lateralibus subtruncatis.*

**THE NUT-LIKE SPHERIUM.** Shell tumid, high, pale, horny, ornamented with grey bands, subrhomboidal, nearly equilateral; umbones large, obtuse; dorsal margin rather straight on each side, ventral margin rather straight, lateral margins a little truncated.

STÜDER. Jay's Catalogue.

*Hab.* Moravia.

Species 12. (Mus. Brit.)

**SPHERIUM FISIDIOIDE.** *Cyr. testâ rividi, subdistanter sulcatâ, obliquâ, tumidâ, lateri quam altâ; latere postico obliquè producto, margine dorsali declivi; latere antico breviori, margine dorsali declivi; umbonibus elevatis, tumidis, rotundis.*

**THE FISIDIUM-SHAPED SPHERIUM.** Shell green, rather distantly grooved, oblique, tumid, longer than high; posterior side obliquely produced, dorsal margin sloped downwards, anterior side shorter, dorsal margin sloped, umbones elevated, tumid, rounded.

GRAY. MS. Brit. Mus.

*Hab.* Europe.

Species 13. (Mus. Brit.)

**SPHERIUM STRIATINUM.** *Sph. testâ subhomboidâ, subdistanter sulcatâ, obliquâ; latere antico brevi, iris rubidâ; latere postico obliquè producto, ad marginem in centralium obtusè angulato, iris subcæcis; margine dorsali declivi, margine postico-laterali obliquè truncato.*

**THE LITTLE STRIATED SPHERIUM.** Shell rather rhomboidal, rather distantly sulcated, oblique; anterior side short, ridges strong; posterior side obliquely produced, obtusely angular at the ventral

margin, ridges almost disappearing; dorsal margin sloped, postero-lateral margin obliquely truncated.

LAMARCK. Anim. s. Vert. Cyelas. Sp. 10.

*Hab.* South America.

Species 14. (Mus. Brit.)

**SPHERIUM TUMIDUM.** *Sph. testâ subrotundâ, tumidâ, rotundâ et distanter levitè, fuscâ ornatâ, altâ, latere subangulâtâ; latere antico rotundâ, latere postico subobliquè producto, postè marginem centralem subangulato.*

**THE TUMID SPHERIUM.** Shell rather round, tumid, strongly and distantly ridged, horny-brown, high, rather orange within; anterior side round, posterior side rather obliquely produced, acuminate near the posterior margin.

BAIRD. Proc. Zool. Soc. 1853. p. 69.

*Hab.* Vancouver's Island.

Species 15. (Fig. a, b, Pl. IV.)

**SPHERIUM PARTUMIUM.** *Sph. testâ pallidâ, flavidâ, et griseo-ornatâ, subrotundâ, tumidâ, altâ, breviquâ; latere antico brevi, rotundâ; latere postico subquadrato, subquadrato.*

**THE PRODUCTIVE SPHERIUM.** Shell pale yellowish, horny-grey, rather rounded, tumid, high, smooth; anterior side short, round; posterior side a little produced, rather square.

SAY. Gould. Invertebrata, p. 75. f. 55.

*Hab.* Ohio.

Species 16. (Mus. Brit.)

**SPHERIUM RUGOSUM.** *Sph. testâ solidiusculâ, subhomboidâ, subcicridi-fuscâ, medio sulcatâ, ad latere breviquâ; latere antico brevi, ad marginem dorsalem subangulato, latere truncato; latere postico productâ, obliquè truncato.*

**THE RUGOSE SPHERIUM.** Shell rather solid, subrhomboidal, greenish-brown, sulcated in the

SPLERIUM.—PLATE II.

middle, smooth at the sides; anterior side short, a little cornered at the dorsal margin, truncated at the side; posterior side produced, obliquely truncated.

WHITMORE. MS. Mus. Brit.

*Hab.* — ?

Species 17. (Fig. a, b, c, and d, Pl. V. Mus. Brit.)

SPLERIUM CORNEUM. *Sph. testā breviter ovatā, tumidā, subrotundā, fusca vel flavidā, griseo-fusciatā, vel albidā; umbonibus obtusis, margine dorsali utrinque declivi; marginibus latero-ventralibus obtusissimè truncatis.*

THE HORN Y S P L E R I U M. Shell shortly ovate, tumid, rather round, brown or yellow, or banded with grey or whitish; umboes obtuse, dorsal margin sloped on both sides; lateral margins very obtusely truncated.

LINNÆUS (*Tellina cornea*.) Syst. Nat.

*Cyclas ricollis*. Draparnaud.

*Hab.* Great Britain. Europe generally.

Species 18. (Mus. Brit.)

SPLERIUM TERVERIANUM. *Sph. testā subglobosā, ultri, ad apicem corvā, fere omnino costatā; latere antico ante umboes excavato; umbonibus prominentibus, latere postico inflato, margine dorsali declivi.*

TERVER'S SPLERIUM. Shell rather globose, high, horny at the apex, chestnut nearly all over, anterior side excavated in front of the umboes; umboes prominent, posterior side inflated, dorsal margin sloped.

DUPUY. Extr. Gall. Test. 87, 1849.

*Hab.* France.

Species 19. (Mus. Brit.)

SPLERIUM CONSOBRINUM. *Sph. testā compressā, subquadrata, levigatā, corvā; latere antico brevi, depresso, latere postico subexpanso; margine dorsali elevato, marginibus latero-ventralibus rectiusculis; umbonibus parvis, acutis.*

THE RELATED SPLERIUM. Shell compressed, subquadrate, smooth, horny; anterior side short, depressed; posterior side rather expanded; dorsal margin raised, lateral and ventral margins rather straight; umboes small, sharp.

CAILLAUD. Voyage de la Méroë.

*Hab.* Pyrmont.

A smaller species than *Sph. calyculatum*, resembling it, but without the calyx-shaped tubercle.

Species 20. (Mus. Brit.)

SPLERIUM OCCIDENTALE. *Sph. testā subcompressā, ovato-subquadrata, corvā-flavescenti, levigatā; lateribus subtruncatis, margine dorsali antico declivi, postico paulo elevato.*

THE WESTERN SPLERIUM. Shell rather compressed, ovato-subquadrate, yellowish, horny, smooth: sides a little truncated, anterior dorsal margin sloped downwards, posterior a little raised.

PRIME. MS. Mus. Brit.

*Hab.* Montreal.





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# SPHERIUM.

PLATE III.

Species 21. (Mus. Brit.)

**SPHERIUM MACULATUM.** *Sph. testâ parvâ, albi, compressâ, subquadratâ, levî, coracâ, maculis nigris variegatâ; latere antica brevi, ante umbones parvâ coracatâ; latere postica magis expanso, subquadrato, margine dorsali rectilinculo, margine laterali latè truncato.*

**THE SPOTTED SPHERIUM.** Shell small, high, compressed, rather square, thin, horny, variegated with blackish spots; anterior side short, a little excavated in front of the umbones; posterior side more expanded, rather square, dorsal margin rather straight, lateral margin broadly truncated.

**MORELET.** Test. Nov. p. 25. 1851.  
*Hab.* Yucatan, Mexico.

Species 22. (Mus. Brit.)

**SPHERIUM MADAGASCARIENSE.** *Sph. testâ ovato-subrhomboidâ, ferrugineâ, coracis-subcitrilli, fasciatâ, humida, concentricè minutissimè striatâ, margine dorsali rectilinculo, marginibus lateralibus subcuneatis; umbonibus obtusis.*

**THE MADAGASCAR SPHERIUM.** Shell ovate, subrhomboidal, ferruginous or banded with greenish horn, tumid, concentrically very minutely striated, dorsal margin rather straight, lateral margins rather truncated; umbones obtuse.

**TRISIAN (?)** MS. Mus. Brit.  
*Hab.* Madagascar.

Species 23. (Mus. Brit.)

**SPHERIUM STRAMINEUM.** *Sph. testâ subrhomboidâ, solidâ, epidermidè fulvo-flavida indurâ; medio cervice apicem distans et levati, ad latera et cervice marginem ventrali levigatâ; umbonibus rotundis prominulibus.*

**THE STRAW-COLOURED SPHERIUM.** Shell subrhomboidal, solid, covered with a fulvous yellowish epidermis; middle, towards the apex, distantly ridged, smooth at the sides and towards the ventral margin; umbones rounded, prominent.

**CONRAD.** Silliman's Journal, Vol. XXV., p. 342.  
*Hab.* Missouri.

Species 24. (Mus. Brit.)

**SPHERIUM ELEGANS.** *Sph. testâ levî, albi, compressâ, subquadratâ, levigatâ, pallidi coracâ, lineâ nigrescentibus et fasciis albis ornatâ; umbonibus subventralibus, margine dorsali utriusque parvâ declivi.*

**THE ELEGANT SPHERIUM.** Shell thin, high, compressed, rather flat, smooth, pale horn, ornamented with dark lines and white bands; umbones nearly central, dorsal margin a little sloped on each side.

**ADAMS.** Boston Journal of Science, 4. Pl. IV. f. 2.  
*Hab.* Vermont.

Species 25. (Mus. Brit.)

**SPHERIUM EBURNÆUM.** *Sph. testâ altâ, solidâ, eburnâ, levigatâ, rotundis-subquadratâ; latere antica angustiori, brevi, rotundâ; latere postica expanso, lato, subquadrato, margine dorsali recto, ad truncum emutato.*

**THE IVORY SPHERIUM.** Shell high, solid, ivory-white, smooth, roundly subquadrate; anterior side narrower, shorter, rounded; posterior side expanded, broad, rather square, dorsal margin straight, cornered at the end.

**ANTHONY (?)** MS. Brit. Mus.  
*Hab.* United States.

Species 26. (Mus. Brit.)

**SPHERIUM FABALE.** *Sph. testâ compressâ, leviter subcâtâ, costatâ, epidermidè ferrugineâ indurâ, subcâtâ, depressâ, valde inequilaterali; latere antica brevi, declivi, subacuminato; latere postica productâ, lato, margine dorsali declivi, subcâtâ, margine ventrali rectilinculo.*

**THE BEAN SPHERIUM.** Shell compressed, slightly grooved, chestnut, covered with a ferruginous epidermis, rather oval, depressed, very inequilateral; anterior side short, sloped, rather acuminate; posterior side produced, broad, dorsal margin raised, slightly arched; ventral margin rather straight.

**PRIME.** Proc. Soc. Nat. Hist. Brit. IV. 1851, p. 159.

*Sphaerium castaneum*. Prime.  
*Sphaerium sulcensosa*. Charpentier.  
*Hab.* United States.

Species 27. (Mus. Brit.)

SPHERIUM SEMILE. *Sph. testá subovata cæl subrhomboidéa, cornéa, subequilaterali, liris pallidis, versus apicem fortioribus rugatá; latere antico declivi, infra subacuminato, latere postico obliquè et obtusissimè truncato.*

THE SIMILAR SPHERIUM. Shell subovate or subrhomboidal, horny, nearly equilateral, wrinkled with strong ridges, stronger towards the apex; anterior side sloped, rather acuminated below; posterior side obliquely and very obtusely truncated.

SAY. Nichol's Encycl. Am. Ed. 11.  
*Hab.* North America.  
*Cyclus Sarrigota*. Lamareck.

It is not so rhomboidal as *Sphaerium sulcatum*, and the sulci are larger at and towards the apex.

Species 28. (Mus. Brit.)

SPHERIUM TRUNCATUM. *Sph. testá parvâ, pallidè cornéa, griseoventi, compressâ, subobliquâ; latere antico brevi, subrotundo; latere postico expanso, obliquè truncato.*

THE TRUNCATED SPHERIUM. Shell small, pale horn, greyish, compressed, rather oblique; anterior

side short, rather round; posterior side expanded, obliquely truncated.

LINSLEY. Amer. Journ. Sci. N. Ser. VI. p. 234.  
*Hab.* United States.

Species 29. (Mus. Brit.)

SPHERIUM INCURVUM. *Sph. testá parvâ, oblongâ, compressâ, subferrugineâ; latere antico brevissimo, depresso; latere postico producto, truncato; umbonibus acuminatis, incurvis.*

THE INCURVED SPHERIUM. Shell small, oblong, compressed, rather ferruginous; anterior side very short, depressed; posterior side produced, truncated; umboes acuminated, turned inwards.

GUPPY. Proc. Sci. Assn. Trinidad. 1872.  
*Hab.* Isl. Trinidad.

Species 30. (Mus. Brit.)

SPHERIUM ELEVATUM. *Sph. testá rotundâ, albâ, pallidissimè aurantio-cornéa; latere antico brevi, rotundo; latere postico subexpanso, ad marginem dorsalem cuneato; umbonibus rotundis, prominentibus.*

THE RAISED SPHERIUM. Shell rounded, high, very pale, orange-tinted, horny; anterior side short, round; posterior side a little expanded, cornered at the dorsal margin; umboes round, prominent.

HALDEMAN. Proc. Ac. Nat. Hist. Phil. I p. 53.  
*Hab.* America.





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# SPHÆRIUM.

PLATE IV.

Species 31. (Mus. Sowerby.)

**SPHÆRIUM CAROLINENSIS.** *Sph. testâ subcompressâ, altâ, rotundâ-subquadratâ, fusco-cornuâ; latere antico subcavato, angustâ; latere postico obliquè obtusissimè truncato; marginè ventrali paulò convexo; umbonibus parvis, haud prominentibus.*

**THE CAROLINA SPHÆRIUM.** Shell rather compressed, high, subquadrate, brown-horny; anterior side rather round, narrow; posterior side obliquely very obtusely truncated; ventral margin a little convex; umbones small, not prominent.

**DESHAYES.** Lamarck. N. ed. Anni. sans Vert.  
*Hab.* Carolina, United States.

Species 32. (Mus. Brit.)

**SPHÆRIUM RHOMBOIDEUM.** *Sph. testâ subovatâ, pallidâ, lævi, alliusculâ; latere antico breviusculo, marginè dorsali depresso, latere postico subreptato, subtruncato; marginè ventrali retiusculo; umbonibus prominentibus, acuminatis.*

**THE RHOMBOIDAL SPHÆRIUM.** Shell subovate, pale, smooth, rather high; anterior side rather short, dorsal margin depressed, posterior side a little expanded, slightly truncated; ventral margin rather straight; umbones prominent, acuminated.

**SAY.** Journ. Acad. Nat. Sci. 2. p. 389.  
*Hab.* Vermont.

Species 33. (Mus. Sowb.)

**SPHÆRIUM SECURIS.** *Sph. testâ subquadratâ, griseo-cornuâ, tumidâ, brevitatè, umbonibus productis, calyculatis; latere antico brevi, rectiusculo; latere postico curvato, latè truncato, marginè ventrali paulò convexo.*

**THE HATCHET SPHÆRIUM.** Shell subquadrate, grey-horny, tumid, smooth; umbones produced, calyculated; anterior side short, rather straight; posterior side cornered, broadly truncated, ventral margin a little convex.

**PRIME.** Proc. Zool. Soc. Nat. Hist. Bost. iv. p. 160. 1851.  
*Hab.* United States.

Species 34. (Mus. Brit.)

**SPHÆRIUM DISTORTUM.** *Sph. testâ solidâ, obliquâ, anticè subovatâ, posticè brevitatè, cornu-subcitrili, latere antico brevi, rotundo, amplo; latere postico obliquè producto, angustâ, post umbones excavato, marginè terminali obliquè truncato.*

**THE DISTORTED SPHÆRIUM.** Shell solid, oblique, anteriorly grooved, posteriorly smooth, greenish horny, anterior side short, round, full; posterior side obliquely produced, narrow, excavated behind the umbones, terminal margin obliquely truncated.

**C. B. ADAMS.**  
*Hab.* America.

Species 35. (Mus. Brit.)

**SPHÆRIUM CREPLINI.** *Sph. testâ subglobosâ, subrotundâ, lineis nigrescentibus et fasciis albis concentricè cinctâ; latere postico brevi, ad marginem dorsalem convexo; latere antico obliquè producto, rotundo, ante umbones excavato.*

**CREPLIN'S SPHÆRIUM.** Shell rather globose, rather rounded, concentrically belted with dark lines and whitish bands; posterior side short, cornered at the dorsal margin; anterior side obliquely produced, round, excavated in front of the umbones.

**DUXER.** Zeit. für Malak. 20, 1845.  
*Hab.* Europe.

This little rounded shell has a peculiar bend forward in the anterior side, with a hollow under the umbones.

Species 36. (Mus. Brit.)

**SPHÆRIUM SOLIDUM.** *Sph. testâ subquadratâ, solidâ, tumidâ, cornuâ, griseo-fuscatâ, regulariter subcicatâ; umbonibus productis, subcentralibus, marginè dorsali utrinque paulò declivi; lateribus obtusissimè subtruncatis, marginè ventrali retiusculo.*

**THE SOLID SPHÆRIUM.** Shell subquadrate, solid, tumid,

horny, banded with grey, regularly grooved; umboes produced, nearly central, dorsal margin slightly sloped on both sides; sides very obtusely truncated, ventral margin rather straight.

NORMAND. Nat. Cycl. Valenc. 6, f. 34.  
Hab. France.

## Species 37. (Mus. Brit.)

SPHERIUM NOVE-ZELANDIE. *Sph. testâ parvâ, semipellucidâ, compressâ, cornâ, griseo-fusciatâ, lavi, subquadratâ, anticè rotundâ, posticè obtusè truncatâ, umbonibus subcentralibus.*

THE NEW ZEALAND SPHERIUM. Shell small, semipellucid, compressed, horny, banded with grey, smooth, rather square, anteriorly rounded, posteriorly obtusely truncated; umboes nearly central.

DESHAYES. Proc. Zool. Soc. 1854, p. 342.  
Hab. New Zealand and New Holland.

## Species 38. (Mus. Brit.)

SPHERIUM SUBTRANSVERSUM. *Sph. testâ hyalinâ, compressâ, pallidè stramineâ, versus apicem cornuâ; latere antico subacuminato; latere postico lato, subexpanso; margine dorsali recto, margine laterali obliquè truncato.*

THE SUBTRANSVERSE SPHERIUM. Shell hyaline, compressed, pale straw, fleshy towards the apex; anterior side rather acuminated; posterior side broad, slightly expanded; dorsal margin straight, lateral margin obliquely truncated.

PRIME. Proc. Zool. Soc. 1860, 322.  
Hab. Mexico.

## Species 39. (Mus. Brit.)

SPHERIUM SOLIDUM. *Sph. testâ ovato-subtrigona, solidâ, rugatâ, rugis versus apicem magis distantibus; latere antico breviusculo, declivi; latere postico obliquè truncato, prope marginem ventralem producto, subacuminato, margine dorsali declivi.*

THE SOLID SMALL SPHERIUM. Shell ovate-subtrigonal, solid, wrinkled, wrinkles more distant towards the apex; anterior side rather short, sloped, posterior side obliquely truncated, produced near the ventral margin, slightly acuminated, dorsal margin sloped.

PRIME. Proc. Soc. Nat. Hist. Bost. iv. 158, 1852.  
Hab. North America.

## Species 40. (Mus. Brit.)

SPHERIUM FUNCTIFERUM. *Sph. testâ parvâ, compressâ, obliquè subrotundâ, semipellucidâ, pallidissimâ, umbonibus anticè inclinatâ, acutis; margine dorsali utrinque recto; margine postico-ventrali subproducto.*

THE FUNCTURED SPHERIUM. Shell small, compressed, a little obliquely rounded, semipellucid, very pale, umboes leaning anteriorly, sharp, dorsal margin straight on each side; postero-ventral margin slightly produced.

GUPPY — ? MS. Mus. Brit.  
Hab. Trinidad.





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# SPHERIUM

PLATE V.

Plate V. (Mus. Brit.)

Fig. 17 *d* Sphaerium cornutum, var. *glassianus*, Macgillivray v. Pl. II.

Fig. 5 *b*. Sphaerium lacustre. See Plate I.

Species 41. (Mus. Brit.)

**SPHERIUM INCOGNITUM.** *Sph. testis securiformi, flavilobocornu, superius succinea, levigata, obliqua, inaequilaterali; latere antico brevi, obliquo truncato; latere postico subexpanso, marginae postico centrali obliquo producto, marginae dorsali elevato; marginae ventrali rectiusculo, lato; umbonibus productis, subacuminatis.*

**THE INCOGNITUM SPHERIUM.** Shell hatchet-shaped, yellowish-flesh, amber above, smooth, oblique, inequilateral; anterior side short, obliquely truncated; posterior side a little expanded; postero-ventral margin obliquely produced, dorsal margin raised; ventral margin rather straight, broad; umbos produced, a little acuminated.

PRIME. Proc. Zool. Soc. Gost.

*Hab.* Asia Minor.

Species 42. (Mus. Brit.)

**SPHERIUM BORNEENSE.** *Sph. testis oblongi, ferrugini, tenuiter striati, fuscolobocornu angulatum maculati; latere antico subconvexo; latere postico obliquo, subquadrato, marginae centrali rectiusculo; marginae dorsali utriusque parvis declivi.*

**THE BORNEAN SPHERIUM.** Shell oblong, ferruginous, finely striated, angularly spotted with dull brown; anterior side rather round; posterior side oblique, rather square, ventral margin rather straight, dorsal margin on each side a little sloped.

SOWERBY.

*Hab.* Borneo.

Species 43. (Mus. Sowerby.)

**SPHERIUM ELONGATUM.** *Sph. testis unguis, oblongi, tumidi, subovati, subciliati, cernuus apicem griseus*

*cornu; umbonibus obtusis; apicem subconvexilobus; latere antico breviusculo; latere postico parvis ciliatis obliquo, productis, marginae laterali oblique subtruncata, utriusque parvis declivibus; marginae dorsali utriusque recta, brevi.*

**THE ELONGATED SPHERIUM.** Shell large, oblong, tumid, subovate, greenish, horny gray towards the apex; umbos obtuse, depressed, nearly central; anterior side rather short; posterior side a little more obliquely produced, lateral margin obliquely slightly truncated; ventral margin rather straight, elongated; dorsal margin on each side straight, short.

SOWERBY.

*Hab.* — ?

We have no information respecting the locality of this rather handsome species, of which the three fine specimens in our possession are the only ones we have seen.

Species 44. (f. a, b, Mus. Brit.)

**SPHERIUM MOERMONIUM.** *Sph. testis solidi, subquadrati, fere levigati, albi, subaequilaterali, cornu, fusco-fasciati et levigati; tubis cernuatis, fasciatis; latereibus obtusissimè truncatis; umbonibus rotundis obtusis; marginae dorsali utriusque brevi, eis declivi.*

**THE MOERMON'S SPHERIUM.** Shell solid, rather square, nearly smooth, high, subequilateral, horny, banded and lined with brown; bluish within, banded; sides very obtusely truncated; umbos rounded, obtuse, dorsal margin short on each side, scarcely sloped.

SOWERBY.

*Hab.* Great Salt Lake.

Broader and more solid than the European *Sph. rivularis*.

Species 45. (Fig. a, b, Mus. Brit.)

**SPHERIUM CAPENSE.** *Sph. testis subquadratum ovato, tumido, ferrugini, tubis subrimosis, fasciatis, umbonibus rotundis; latere antico brevi, depresso*

*rotundō; latere postico obscure angulato, obtusissimè subquadrato.*

THE VINOUS SPHERIUM. Shell subquadrately ovate, tumid, ferruginous, a little wine-coloured, banded; umboes rounded; anterior side short, depressed, rounded; posterior side obtusely angular, very obtusely quadrate.

SOWERBY.

*Hab.* S. Africa.

*Spherium Capense* of Krauss is a more shortly ovate and more compressed lenticular shell than this.

Species 46. (Mus. Brit.)

SPHERIUM TRANSLUCIDUM. *Sph. testā parvā, translucentā, subcompressā, oblongā, anticō subacuminatā, posticō expansā, latē subtruncatā, margine ventrali convexo, lato, margine dorsali brevissculo, recto; umbonibus acutis.*

THE TRANSLUCID SPHERIUM. Shell small, translucent, rather compressed, oblong, anteriorly slightly acuminated, posteriorly expanded, broadly sub-

truncated, ventral margin convex, broad; dorsal margin rather short, straight; umboes sharp.

SOWERBY.

*Hab.* Palm-tree Creek, Australia.

Species 47. (Mus. — ? Copied.)

SPHERIUM FERRUGINEUM. *Sph. testā parvā, tenui, fuscā, obliquā, levi, valdè inequilaterali; latere antico brevissimo, angusto, subacuminato, margine ventrali acilico; latere postico expanso, oblongo, margine dorsali convexissculo; margine postico-laterali obliquè subtruncato.*

THE FERRUGINOUS SPHERIUM. Shell small, thin, brown, oblique, smooth, very inequilateral; anterior side very short, narrow, subacuminate, ventral margin sloped upwards; posterior side expanded, oblong, dorsal margin rather convex, postero-lateral margin obliquely subtruncated.

KRAUSS. Sudafrikanischen Mollusken.

*Hab.* River Kybisa, S. Africa.

Resembling *Sph. incarum*.

# SPHERIUM.

|  | PLATE  | FIGURE |  | PLATE | FIGURE |
|--|--------|--------|--|-------|--------|
| Boracicum, <i>Sowerby</i> . . . . .        | V.     | 42     | ovale, <i>Ferrussac</i> . . . . .        | I.    | 3      |
| calyculatum, <i>Desfontaines</i> . . . . . | I.     | 10     | pallidum, <i>Gray</i> . . . . .          | I.    | 5      |
| Capense, <i>Kew</i> . . . . .              | V.     | 45     | partumicum, <i>Goebel</i> . . . . .      | II.   | 15     |
| Carolinensis, <i>Deshayes</i> . . . . .    | IV.    | 31     | Pisidioides, <i>Gray</i> . . . . .       | II.   | 12     |
| castaneum, <i>Primo</i> . . . . .          | III.   | 26     | panctiferum, <i>Guppy</i> . . . . .      | IV.   | 49     |
| consobrinum, <i>Griffard</i> . . . . .     | II.    | 19     | rhomboideum, <i>Say</i> . . . . .        | IV.   | 32     |
| cornutum, <i>Leveillé</i> . . . . .        | II, V. | 17     | rivalis, <i>Drap.</i> . . . . .          | I.    | 3      |
| ereplini, <i>Dicks</i> . . . . .           | IV.    | 35     | rivicolum, <i>Letourneux</i> . . . . .   | I.    | 4      |
| distortum, <i>C. B. Adams</i> . . . . .    | IV.    | 34     | rugosum, <i>Whitmore</i> . . . . .       | II.   | 16     |
| eburneum, <i>Adhony</i> . . . . .          | III.   | 25     | scaldianum, <i>Normand</i> . . . . .     | I.    | 9      |
| elegans, <i>Adams</i> . . . . .            | III.   | 24     | securis, <i>Primo</i> . . . . .          | IV.   | 33     |
| elevatum, <i>Haldeman</i> . . . . .        | III.   | 30     | simple, <i>Say</i> . . . . .             | III.  | 27     |
| elongatum, <i>Sowerby</i> . . . . .        | V.     | 43     | solidum, <i>Normand</i> . . . . .        | IV.   | 36     |
| fabale, <i>Primo</i> . . . . .             | III.   | 26     | solidulum, <i>Primo</i> . . . . .        | IV.   | 39     |
| ferrugineum, <i>Kew</i> . . . . .          | V.     | 47     | Steinbuchii, <i>Mulle</i> . . . . .      | I.    | 1      |
| inconspicuum, <i>Primo</i> . . . . .       | V.     | 41     | stramineum, <i>Conrad</i> . . . . .      | III.  | 23     |
| incurvum, <i>Guppy</i> . . . . .           | III.   | 29     | striatum, <i>Letourneux</i> . . . . .    | II.   | 13     |
| Indicum, <i>Deshayes</i> . . . . .         | I.     | 8      | subtransversum, <i>Primo</i> . . . . .   | IV.   | 38     |
| lacustre, <i>Desfontaines</i> . . . . .    | I, V.  | 5      | sulcatum, <i>Letourneux</i> . . . . .    | I.    | 7      |
| lenticularis, <i>Sowerby</i> . . . . .     | I.     | 6      | sulculosum, <i>Charpentier</i> . . . . . | III.  | 26     |
| maculatum, <i>Muhl</i> . . . . .           | III.   | 21     | Terracianum, <i>Dupuy</i> . . . . .      | II.   | 18     |
| Madagascariense, <i>Trestau</i> . . . . .  | III.   | 22     | translucidum, <i>Sowerby</i> . . . . .   | V.    | 46     |
| Mormonicum, <i>Sowerby</i> . . . . .       | V.     | 44     | transversum, <i>Say</i> . . . . .        | I.    | 2      |
| Novaezelandiae, <i>Deshayes</i> . . . . .  | IV.    | 37     | truncatum, <i>Tinsley</i> . . . . .      | III.  | 28     |
| nucleus, <i>Stuber</i> . . . . .           | II.    | 11     | tumidum, <i>Baird</i> . . . . .          | II.   | 14     |
| occidentale, <i>Primo</i> . . . . .        | II.    | 20     |  |       |        |



MONOGRAPH

OF THE GENUS

PLANORBIS.

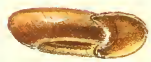
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Lord, Thy glory fills the heavens,  
Earth is with its fulness stor'd :  
Unto Thee be glory given,  
Holy, holy, holy, Lord! — *Bishop Mant*

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7a

6b

7b



# PLANORBIS.

PLATE I.

Genus PLANORBIS. *Guetard.*

Molluscum aquaticum.

*Testa intermedium sinistralis, spiralis, discoides, spirâ depressâ, anfractibus tribus ad septenis; aperturâ semilunari, vel ovatâ vel trigonâ, margine plerumque tenui.*

MOLLUSC, FRESHWATER. Shell spiral, sometimes sinistral, spire depressed, whorls three to seven; aperture semilunar, or ovate or trigonal, margin generally thin.

SYNONYMS. *Corelus*, Adams, *Orbis*, Schroet. Inclisus. *Planorbula*, Hald. *Soguentini*.

The late Mr. G. B. Sowerby, in his *Genera of Shells*, expresses his conviction that the Planorbis are sinistral shells, because when the shell is so placed that the aperture is on the left side, the whole of the whorls of what seems to be the spire are visible, while what is then the lower disc is hollow, and the apical whorls are more or less engulfed. This, however, is not the case throughout the genus, but chiefly among the typical forms. The Messrs. Adams describe the genus as consisting of dextral shells. My impression is that some are sinistral and others dextral. My attention had not been drawn to the subject before several plates had been drawn, and some of the figures being placed as if dextral will seem to have an upside-down appearance. The genus is widely diffused throughout all parts of the globe. Wherever there are ditches, ponds, wells, and rivers, there the Planorbis appear.

Species 1. (Fig. a, b, Mus. Sowerby.)

PLANORBIS CORNEUS. *Pla. testâ tumidâ, latâ, sinistrali, corneâ, levigatâ, medio anfractuum castaneâ; spirâ omevâscentâ, anfractibus senis, concavâ, calis, rapidi crescentibus, prope suturam rotundis; tum declivibus, infus ventricosâ; disco inferiori concavâ, anfractibus rotundis, apicalibus obtectis, aperturâ latâ, albâ, subquadratâ.*

THE HORNY PLANORBIS. Shell tumid, broad, sinistral, horny, smooth, chestnut in the middle of the whorls; spire rather concave; whorls six, rather convex, rapidly increased, rounded near the suture, then sloped, ventricose below; lower

disc concave, whorls rounded, apical hidden; aperture broad, high, subquadrate.

LINNEUS. *Systema Naturæ.*

*Hab.* Great Britain.

The specimen represented by figure b belongs to a recently discovered albino variety.

Species 2. (Mus. Brit.)

PLANORBIS TRIVOLVIS. *Pla. testâ tumidâ, altâ, pallidâ fusci, obliquè rugatâ, sinistrali; spirâ excavatâ, angustâ, supra suturam elevatâ, angulatâ; anfractibus quaternis superiôr, tribus inferiôr apparentibus; aperturâ subtrigonâ, altâ, intus castaneomarginatâ.*

THE THREE-WHOLED PLANORBIS. Shell tumid, high, pale brown, obliquely wrinkled, sinistral; spire hollowed, narrow, raised above the suture, angular; whorls, four appearing above, three below; aperture subtrigonal, high, bordered inside with chestnut.

*SAY.* American Conchology, 1860.

*Hab.* New York.

Species 3. (Mus. Sowerby.)

PLANORBIS PERUVIANUS. *Pla. testâ albidâ, semipellucidâ, altâ, sinistrali, spirâ angustâ, anfractibus quaternis, angustâ, supra suturam elevatâ, ultimo magno, subdeclivi; versus aperturam calidè expanso; suturâ profundâ; aperturâ subtrigonâ, supra infraque anfractum ultimum productâ, disco inferiori excavato, anfractibus rotundis, apicali obtecto.*

THE PERUVIAN PLANORBIS. Shell whitish, semipellucid, rather high, sinistral, spire narrow, whorls four, narrow, raised above the suture; last large, somewhat sloped, much expanded towards the aperture; suture deep; aperture subtrigonal, produced above and below the last whorl; lower disc hollow, whorls rounded, the apical one hidden.

BRODERIP. *Proc. Zool. Soc.* 1842, f. 125.

*Hab.* Peru.

Species 4. (And Fig. b, Pl. X., Mus. Sowerby.)

**PLANORBIS CORPULENTUS.** *Pla. testâ tenui, inflatâ, subglobosâ, subviridè cornèâ, concentricè obliquè rugatâ, altâ, superne angulatâ, infrâ subangulatâ, sinistrali; spirâ infundibulatâ, anfractibus supra suturam elevatis, angulatis, lateraliter planulatis; medio altis, convexis; ultimo versus aperturam expansis; aperturâ maximâ, supra infraque ultimum anfractum productis, superne subangulatâ, infernè latâ, margine crasso, intùs castaneo; disco superiori profundè umbilicato.*

**THE CORPULENT PLANORBIS.** Shell thin, inflated, subglobose, greenish horny, concentrically obliquely wrinkled, high, angular above, a little angular below, sinistral; spire funnelled, whorls raised above the suture, angular, laterally flattened, high, convex in the middle; last expanded towards the aperture; aperture very large, produced above and below the last whorl, rather narrow above, broad below, margin expanded, chestnut within; upper disc deeply umbilicated.

SAY. Albers. Mon. Pl. III. f. 79.

Hab. Winnipeck River.

It is difficult to distinguish the less developed forms of this species from the more elevated forms of *Planorbis lentus*. The latter is a stouter shell, with the wrinkles more defined, and it is never quite so high. *Planorbis trivoleis* is considerably more depressed than either.

Species 5. (Mus. Sowerby, &c.)

**PLANORBIS COMPLANATUS.** *Pla. testâ dextrali coraco-fuleâ, lœvigatâ, compressâ, superne convexiusculâ, infernè planulatâ; spirâ medio subconvatâ; anfractibus quinis, moderatè crescentibus, ultimo infrâ carinatis; aperturâ obliquè subovatâ, supra anfractum ultimum elevatâ et productâ.*

**THE FLATTENED PLANORBIS.** Shell horny fulvous, smooth, compressed, rather convex above, flattened below; spire a little hollowed in the middle; whorls five, increasing moderately, last

keeled below; aperture obliquely subovate, raised and produced above the last whorl.

LINNEUS. *Systema Nature.*

*Planorbis marginalis.* Draparnand.

*Planorbis umbilicatus.* Müller.

Hab. France, England, Sicily.

Species 6. (Fig. a, b, Mus. Brit.)

**PLANORBIS OLIVACEUS.** *Pla. testâ sinistrali, depressâ, olivaceo-fuscâ, nitenti, latâ, superne declivi, infrâ latissimâ, spirâ concavâ, angustatâ, anfractibus senis, compressis, supra suturam paulò elevatis, tam lentè declivibus; aperturâ subtrigonâ, margine inferiori obliquè productâ; disco inferiori concavo.*

**THE OLIVE PLANORBIS.** Shell sinistral, depressed, olive-brown, shining, broad, sloped above, very broad beneath; spire concave, narrow; whorls six, compressed, a little raised above the suture, then gently sloped; aperture subtrigonal, lower margin obliquely produced; lower disc concave.

SPEIX. *Testacea Braziliæna.* p. 26, Pl. XVIII. f. 1, 2.

*Planorbis Cunninghamus.* Dunker. Proc. Zool. 1843.

Hab. Brazil.

Species 7. (Mus. Brit.)

**PLANORBIS BICARINATUS.** *Pla. testâ sinistrali, tenui, lœvigatâ, altissimâ, pallidè stramineâ; spirâ angustâ, propemodè infundibulatâ, anfractibus tribus, superne infernèque carinatis; ultimo anfractu maximo, ad aperturam altissimo, superne acuminato, infrâ latiusculo; disco inferiori profundè umbilicato, anfractu apicali oblecto.*

**THE TWO-KEELED PLANORBIS.** Shell sinistral, thin, smooth, very high, pale straw; spire narrow, deeply funnelled, whorls three, keeled above and below; last whorl very large, very high at the aperture, acuminated above, rather wide below; lower disc deeply umbilicated, apical whorl hidden.

SAY. *Journ. Nat. Sci. Phil.*

Hab. River Ohio.





# PLANORBIS.

PLATE II.

Species 8. (Mus. Sowb.)

PLANORBIS NUBILIFUS. *Pla. testâ albidi, parvâ, subd. pressâ, a circumbo quatuor, rapidè crescentibus, laticostis, ad marginem spinosis annulatis, ult. annulo albo, disco superiori planulato, anfractibus planis umbilicatis; disco inferiori latè usque subulicem umbilicat.*

THE SPINULATED PLANORBIS. Shell whitish, small, rather depressed, whorls four, quickly enlarging, ridges horny, annulated with horny ridges spinous at the margin, last disjoined, upper disc flattened with round-depressed whorls; lower disc broadly umbilicated as far as the apex.

LINNAEUS. Systema Naturæ.

*Planorbis tuberculatus*. Müller.

*Planorbis eridatis*. Desparmand.

*Hab.* France, Great Britain.

Species 9. (Fig. a, b, Mus. Sowb.)

PLANORBIS CONTOURTS. *Pla. testâ fulvâ, multiteriter depressâ, superius planulata, infri angulatum umbilicatâ; anfractibus sensis, latè crescentibus, angustis, superius cotundatis, infri ad marginem umbilicatâ angulatis, umbilico angustâ, profunda; apertura subulicari.*

THE EYEN-WHORLED PLANORBIS. Shell fulvous, moderately depressed, flattened above, angularly umbilicated below; whorls six, slowly increased, narrow, rounded above, angular at the edge of the umbilicus, umbilicus narrow, deep; aperture semi-lunar.

MÜLLER. Drap. Mol. Pl. I. f. 39-41.

*Planorbis crassus* —?

*Planorbis umbilicatus* —?

*Hab.* England, France.

Species 10. (Fig. a, b, Mus. Sowb.)

PLANORBIS GLABER. *Pla. testâ subcoraciâ, nitenti, altissenti, anfractibus tribus, rapidè crescentibus, ultimo lato, superius subplanulatis, disco superiori quam inferiori angustiori, disco inferiori plano, tuberculato; apertura obliquâ, labio externo convexo obliquo.*

THE SMOOTH PLANORBIS. Shell somewhat orange, shining, rather elevated; whorls three, quickly increasing; the last wide, rather flattened at the top, upper disc a little narrower than lower; lower disc flat, tuberculated; aperture oblique, outer lip convexly oblique.

JEFFREYS —? British Mollusca, &c.

*Planorbis levis*. Alder.

*Hab.* Penzance, Falmouth, Swansea, Belfast, &c.

Species 11. (Fig. a, b, Mus. Brit.)

PLANORBIS CAMPANULATUS. *Pla. testâ alid, levisssimè obliquè levitè; anfractibus sensis, rapidè crescentibus, externis magis; disco superiori profundi excavato, anfractibus internis calatis, externis rotundis, ultimo convexo apertura contracta, limbo expanso; disco inferiori anfractibus prope suturam angulatis; apertura subpyriformi, expansâ, superius elevatâ, intus contractâ.*

THE BELL PLANORBIS. Shell high, finely obliquely ridged; whorls six, rapidly increased, outer one large; upper disc deeply hollow, inner whorls hidden, outer rounded, last contracted towards the aperture, then expanded; lower disc with whorls angular near the suture; aperture rather pyriform, expanded, raised above, contracted within.

SAY. Journ. Am. Soc. Phil. Vol. II. p. 166.

*Hab.* Newport, Iowa, U.S.

Species 12. (Mus Sowerby.)

PLANORBIS CARINATUS. *Pla. testâ depressâ; anfractibus quatuor, cæcis paulo infra medium acutè carinatis; ultimo lato; disco superiori convexo, anfractibus convexis; disco inferiori magis convexo, anfractibus subplanulatis.*

THE KEELED PLANORBIS. Shell depressed; whorls four, sharply keeled on the outer side a little below the middle; last broad; upper disc hollow, whorls convex; lower disc more convex, with rather flattened whorls.

MÜLLER. Drap. Mol. Pl. 2. f. 13, 14.

*Helix planorbis*. LINNÆUS.

*Planorbis planatus* —?

PLANORBIS.—PLATE II.

*Planorbis lutescens*. Lamarek.

*Hab.* Britain and other parts of Europe.

Resembling *Planorbis marginatus*, but with outer whorls wider, and the keel planed more towards the middle of the whorls.

Species 13. (Fig. a, b, Mus. Brit.)

PLANORBIS VORTEX. *Pla. testâ depressâ, utrinque complanatâ; anfractibus octavis, angustissimis, lentè crescentibus; disco superiori subzcurato, inferiori paulò convexo, anfractibus angustè propè suturam elevatis.*

THE VORTEX PLANORBIS. Shell depressed, flattened on both sides; whorls eight, very narrow, slowly increasing; upper disc a little hollow, lower a little convex, with whorls narrowly raised near the suture.

LINNÆUS. (*Helix*) Systema Nature.

*Planorbis compressus*. Michelet.

*Hab.* Europe generally.

Species 14. (Fig. a, b, Mus. Sowerby.)

PLANORBIS SPIROBIS. *Pla. testâ compressâ; anfractibus senis, lentè crescentibus, superiorè angustioribus; disco superiori angustiori, planulato; disco inferiori concavo; apertura supra anfractum ultimam elevatâ; infriè productâ, rotundâ.*

THE SPIROBIS PLANORBIS. Shell compressed; whorls six, slowly increasing, narrower above; upper disc narrower, flattened; lower disc concave; aperture raised above the last whorl, produced, rounded below.

MÜLLER. Verm., Test. et Fluv. p. 161. No. 347.

*Hab.* Britain, France.

Species 15. (Fig. a, b, Mus. Sowerby.)

PLANORBIS NITIDIS. *Pla. testâ compressâ, succineâ, medio obtusè angulatâ, suprâ infrièque ferè æqualior convexâ; ultimo anfractu maximo; disco spirali contracto, planato, anfractibus internis angustis; disco inferiori latè excavato.*

THE NEAT PLANORBIS. Shell flattened, amber, obtusely angular in the middle, almost equally convex above and below: last whorl very large; spiral disc contracted, flattened, with narrow inner whorls; lower disc broadly excavated.

MÜLLER. Drap. Moll. Pl. 2, f. 20-22.

*Hab.* Britain, France.

Species 16. (Fig. a, b, Mus. Sowerby.)

PLANORBIS LACUSTRIS. *Pla. testâ compressâ, succineâ, internè divisâ, lineis rubris distantibus, obliquè concentricis extèris notatâ; superiorè subconicâ; spirâ minimâ; medio subcutè angulatâ, infra angulatum planulato, umbilicato.*

THE LAKE PLANORBIS. Shell compressed, amber, internally divided, externally marked by distant obliquely concentric red lines; somewhat conical above; spire very small; middle rather sharply angular, flattened below the angle, umbilicated.

LIGHTFOOT. — ? Brit. Moll.

*Siguanina lineata*. — ?

*Hab.* Ponds and ditches in England.





18



17



a



b

19



20



21 a



21 b



22 b



22 a



a



b

22



a

23



b



a



b

23



# PLANORBIS.

PLATE III.

## Species 17. (Mus. Sowerby.)

**PLANORBIS ALBUS.** *Pla. testâ pallidissimâ, depressâ, spooliter liris tenuibus hirsutis ornatâ; anfractibus paucis, ultimo maximo; apertura obliquè productâ; disco superiori lenticulari, disco inferiori concavo.*

**THE WHITE PLANORBIS.** Shell very pale, depressed, spirally ornamented with thin hairy ridges; whorls few, last very large; aperture obliquely produced; upper disc lenticular; lower disc concave.

MÜLLER. Drap. Moll. Pl. I. fig. 45-48.

*Planorbis hispidus*, Draparnaud.

*Hab.* Britain, France.

## Species 18. (Mus. Sowb.)

**PLANORBIS ARMIGERUS.** *Pla. testâ subdepressâ, solidiusculâ, pallidè cornèâ; anfractibus quinis, subcompressis, ultimo supernè subcontracto, supra anfractibus spirales elevato, versus aperturam depresso; disco inferiori profundè umbilicato; apertura declivi, intus prope marginem incrassata, ovato.*

**THE ARMOR-BEARING PLANORBIS.** Shell rather depressed, solid, pale horny; whorls five, rather compressed, last rather contracted above, raised above the spiral whorls, depressed towards the aperture; lower disc deeply umbilicated; aperture sloped, thickened within near the margin, ovate.

SAY. Halleman's Monograph, Pl. IV. f. 11-15.

*Hab.* New York.

## Species 19. (Fig. a, b, Mus. Sowerby.)

**PLANORBIS SUCCINEUS.** *Pla. testâ depressâ, succinèâ, politâ; anfractibus quaternis, sublentè crescentibus, apicalibus angustis, cetero tumido; disco inferiori latè concavo, subcomplanato; apertura depressâ, obliquè ovali, angustâ.*

**THE AMBER PLANORBIS.** Shell depressed, amber, polished, whorls four, rather slowly increasing, apical ones narrow, last tumid; lower disc widely

concave, rather flattened; aperture depressed, obliquely ovate, narrow.

SOWERBY.

*Hab.* — ?

Two specimens are all I have seen of this pretty little amber-coloured species.

## Species 20. (Fig. a, b, c, Mus. Brit.)

**PLANORBIS REDFIELDI.** *Pla. testâ pallidè fulcâ, albi, anfractibus paucis, suprâ infrâque carinatis; disco superiori profundè excavato, ultimo anfractu convexo; disco inferiori profundissimè umbilicato; apertura altissimâ, supernè expansâ, auriformi, suprâ infrâque angulatâ.*

**THE EARED PLANORBIS.** Shell pale fawn, high, whorls few, keeled above and below; upper disc deeply excavated, last whorl convex; lower disc very deeply umbilicated; aperture very high, expanded above, auriform, angular above and below.

C. B. ADAMS. Conch. Contrib. p. 23.

*Hab.* Jamaica.

## Species 21. (Fig. a, b, Mus. Sowerby.)

**PLANORBIS COARCTATUS.** *Pla. testâ altâ, pallidè stramineâ; anfractibus quinis, compressis, suprâ infrâque rotundè angulatis, medio convexis; disco superiori profundè excavato, disco inferiori complanato, anfractibus gradatim crescentibus, ultimo anfractu versus aperturam angustato, apertura angustâ, subovatâ, margine paulò expanso, intus contracto.*

**THE CONTRACTED PLANORBIS.** Shell high, pale straw; whorls five, compressed, roundly angular above; convex in the middle; upper disc deeply excavated; lower disc flattened, whorls gradually increasing, last whorl narrow towards the aperture; aperture narrow, rather oval, margin a little expanded, narrow within.

SOWERBY.

*Hab.* — ?

PLANORBIS.—PLATE III.

Species 22. (Fig. a, b, Mus. Sowerby.)

PLANORBIS OBBICULATUS. *Pla. testâ depressâ, albâ, semipellucidâ; anfractibus quinis, supernè concavis-planulatis, latiusculis, infrâ angustatis; apertura obliquè elevatâ, margine inferiori sursùm aedivi.*

THE OBBICULAR PLANORBIS. Shell depressed, white, semipellucid; whorls five, convexly flattened above, rather broad, narrow below; aperture obliquely raised, lower margin sloped upwards.

MORELET — ? Adams.

*Hab.* — ?

Species 23. (Fig. a, b, Mus. Sowerby.)

PLANORBIS PHILIPPINARUM. *Pla. testâ depressâ, grisâ, subopacâ; anfractibus senis, subcompressis, suprâ infrâque concaviusculis, medio obtusissimè angulatis; disco inferiori planulato; disco superiori magis concavo; apertura supernè paulò elevatâ.*

THE PHILIPPINE PLANORBIS. Shell depressed, grey, rather opaque; whorls six, rather compressed, rather convex above and below, very obtusely

angular in the middle; lower disc flattened, upper disc more concave; aperture a little raised above.

DENKER, C. B. Adams. P. Z. 1848.

*Hab.* Philippines.

This shell is stouter and deeper than the preceding, and the discs are less flattened.

Species 24. (Mus. Sowerby.)

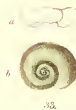
PLANORBIS LUGUBRIS. *Pla. testâ aliiusculâ, tenui, levigatâ, nitenti, castaneâ; anfractibus quinis, supernè rotundis, latiusculis, infrâ magis contractis; disco superiori profundò excavato, disco inferiori subviridi, subcontracto.*

THE DARKSOME PLANORBIS. Shell rather deep, thin, smooth, shining, chestnut; whorls five, rather rounded above, rather broad, more contracted below; upper disc deeply excavated; lower disc greenish, rather contracted.

WAGNER, Spix, Testacea Braziliana. P. 27. No. 2.

*Hab.* Brazil.





# PLANORBIS.

## PLATE IV.

Species 25. (Mus. Sowerby.)

**PLANORBIS DIANGULATUS.** *Pla. testâ altiusculâ, solidâ, jamoso-fusci, utrinquè angulatum latè umbilicatum destrali; anfractibus paucis, supra infroque subcarinatis, aperturâ subtrigoniâ, declivi, infro acuminiatâ labio externo intus incrassato.*

**THE TWO-ANGLED PLANORBIS.** Shell rather high, solid, smoky-brown, angularly broadly umbilicated on each side; whorls few, keeled above and below; aperture subtrigonal; sloped, acuminiated below; outer lip thickened within.

—? Sowerby.

*Hab.* Brazil.

The whorls are not flattened at the top, as in *Planorbis bicarinatus*, but the lower funnel-shaped umbilicus is very similar.

Species 26. (Fig. a, b, Mus. Brit.)

**PLANORBIS COSTULATUS.** *Pla. testâ parvâ, compressissimâ, obliquè concentricè costulatâ, carulo-subtrigoni; anfractibus paucis, rapidè crescentibus, superne lentè convexis, ultimo magno; aperturâ obliquè suboriatâ, disco inferiori subplanulato.*

**THE RIBBED PLANORBIS.** Shell small, very compressed, obliquely concentrically ribbed, greenish blue; whorls few, rapidly increased, slightly convex above, last large; aperture obliquely rather oval; lower disc a little flattened.

**KRAUSS.** Sudafrikan. Mollusken. Tab. V. f. 8.

*Hab.* Natal.

Species 27. (Fig. a, b, Mus. —? Copied.)

**PLANORBIS BENGALENSIS.** *Pla. testâ compressâ, tenui, pallidè succinatâ, levi, superne convexâ, infro planulatâ, anfractibus tribus, apicalibus paulo depressis; umbilico basali parvo; aperturâ subtrigoniâ.*

**THE BENGAL PLANORBIS.** Shell compressed, thin, pale amber, smooth, convex above, flattened below, whorls three, apical a little depressed, basal umbilicus small; aperture subtrigonal.

**DUNKER.** Index Molluscorum. Tab. II. f. 1-4.

*Hab.* Bengal.

This shell does not appear from Dunker's figure to have the chambered character of the *Septentina* group, as shown in *Planorbis calathus*, which it somewhat resembles otherwise, although not nearly so tumid.

Species 28. (Mus. Sowerby.)

**PLANORBIS APTINIS.** *Pla. testâ corvâ, tumidâ; spirâ concavâ, anfractibus quinque altiusculis, prope suturam subangulatia elevatis, tum declivibus, infro rotundatis, apicali obtuso; aperturâ majusculâ, superne depressâ.*

**THE RELATED PLANORBIS.** Shell horny, tumid; spiræ concave, whorls five, rather high, subangularly elevated near the suture, then sloped, rounded beneath, the apical one hidden; aperture rather large, depressed above.

**ADAMS, C. B.** Conchological Contributions, p. 44.

*Hab.* Jamaica.

More depressed and slight than *Planorbis cornuæ*, with the whorls beneath more deeply sunk in the umbilicus.

Species 29. (Mus. Brit. Sowb.)

**PLANORBIS DECLIVIS.** *Pla. testâ altâ, angustiusculâ, corvâ vel subcavaâ, tenuissimè liratâ; spirâ planiusculâ, anfractibus angustis, ultimo magno, superne angustè elevato, tum declivi, infro rotundo. disco inferiori profundè concavo, anfractibus rotundis; aperturâ magnâ, auriformi, infro calthæ expanso, productâ.*

**THE SLOPED PLANORBIS.** Shell raised, rather narrow, horny, or chestnut, very finely ridged; spiræ rather flat, whorls narrow, last large, narrowly raised above, then sloped, rounded below, lower disc deeply concave, whorls rounded, aperture large, ear-shaped, much expanded and produced below.

**SOWERBY.**

*Hab.* —?

Differing from *Planorbis cornuæ* in the narrowness and elevation of the whorls, and in the great expansion and production of the lower part of the mouth.

Species 30. (Fig. 1, a, b, Mus. Hanley.)

PLANORBIS CALATHUS. *Pla. testâ parvâ, dextrali, nitenti, succinâ, internâ segmentatâ, extis fasciis albis obliquè radiatibus ornatâ, superne convexâ, infra planulatâ, spirâ valdè contractâ; anfractibus tribus, ultimo magno, subconico, infra acutè angulato, angustè umbilicato.*

THE BASKET PLANORBIS. Shell small, dextral, shining, amber, divided by segments within, ornamented without by white rayed bands, convex above, flattened below; spire much contracted, whorls three; last large, somewhat conical, acutely angular, narrowly umbilicated.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. V. (1850), p. 349.

*Hab.* Moradabad, Kattiawar, Ceylon, Cashmere.

Belonging to the 'Segmentaria' group.

Species 31. (Mus. Hanley.)

PLANORBIS EXUSTUS. *Pla. testâ subviridi, fascio, tenuiter lineatâ, spirâ subplanulatâ, anfractibus tribus, ultimo maximo, aperturâ superne subangulatim elevato, tum depresso, declivi, infra expansâ, subproductâ, disco inferiori latè concavo.*

THE BURNT PLANORBIS. Shell greenish brown, finely ridged; spire rather flattened; whorls three, last large; aperture angularly raised, then depressed, sloped, expanded below, rather produced; lower disc broadly concave.

DESHAYES. Belanger's Voyage. Ind. Ori. Zool. p. 417.

*Planorbis Indicus.* Benson.

This appears quite distinct from *Planorbis coromandelicus* in form and surface.

Species 32. (Fig. a, b, Mus. — ? Copied.)

PLANORBIS NATALIS. *Pla. compressâ, fimofo-fuscâ; spirâ subplanulatâ, anfractibus quaternis, rotundis; ultimo lato, medio prominenti; disco inferiori latè concavo; aperturâ compressâ, lateraliter elongatâ.*

THE NATAL PLANORBIS. Shell smoky brown; spire rather flat, whorls four, rounded; last broad, prominent in the middle; lower disc broadly concave, aperture compressed, laterally elongated.

KRAUSS. Sudafrikanischen Mollusken. Tab. V. f. 9.

*Hab.* Cape Natal, S. Africa.

Species 33. (Mus. — ? Copied.)

PLANORBIS PFEIFFERI. *Pla. testâ olivaceâ, levi, subcompressâ; spirâ subcomplanatâ, anfractibus tumidis, rotundis, superne compressiusculis, infra angustatis; aperturâ rotundè subquadratâ; disco inferiori angustè umbilicato.*

PFEIFFER'S PLANORBIS. Shell olive, smooth, rather compressed; spire rather flattened, whorls tumid, rounded, convex above, narrow below; aperture roundly subquadrate; lower disc narrowly umbilicated.

KRAUSS. Sudafrikanischen Mollusken. Tab. V. f. 33.

*Hab.* Cape Natal, South Africa.

Species 34. (Mus. Brit.)

PLANORBIS COROMANDELICUS. *Pla. testâ altâ, castaneo-cornuâ, tenui, levigatâ, irregulariter undatâ; spirâ contractâ, concavâ; anfractibus quaternis, supra suturam angulatim elevatis, perpendiculariter subcomplanatis; ultimo magno, ad aperturam expanso; aperturâ supra suturam elevato, tum declivi, infra obliquè expansâ, productâ; disco inferiori concavo, anfractibus rotundis, apicali obtecto.*

THE COROMANDEL PLANORBIS. Shell high, chestnut-horn, smooth, irregularly undated; spire contracted, concave; whorls four, angularly raised above the suture, perpendicularly flattened, last large, expanded towards the aperture; aperture raised above the suture, then sloped, obliquely expanded, produced; lower disc concave, whorls rounded, apical one hidden.

KÜSTER, as of Fabricius.

*Hab.* Co. of Coromandel.







# PLANORBIS.

PLATE V.

Species 35. (Fig. a, b, Mus. Brit.)

PLANORBIS SIBIRICUS. *Pla. testâ parvâ, tumidâ, dextrâ, rubescenti-cornuâ; spirâ planulatâ, anfractibus tribus ad quaternos, tumidis, subrotundis; disco inferiori valdè concavo, anfractu apicali profundi oblecto; apertura obliquè subovatâ.*

THE SIBERIAN PLANORBIS. Shell small, tumid, dextral, reddish horn; spire flattened, whorls three to four, tumid, rather round; lower disc very concave, apical whorl deeply hidden; aperture obliquely subovate.

DUNKER. Proc. Zool. Soc. 1848, p. 42.

Hab. Siberia.

Species 36. (Fig. a, b, Mus. Brit.)

PLANORBIS STUHLZNERI. *Pla. testâ dextrâ, pallidissimè fulvâ, solidâ, compressâ, disco superiori complanato, inferiori ad marginem convexo, limbo angulato, planulato, medio latè umbilicato; anfractibus quinque, superiorè convexiusculis, superius medium subangulatis, tumescens columellam inclinatâ; apertura obliquè subovatâ.*

STUHLZNER'S PLANORBIS. Shell dextral, very pale fulvous, solid, compressed; upper disc flattened, lower convex at the margin, then angular, flattened, broadly umbilicated in the middle; whorls five, rather convex above, subangular above the middle, then sloped inwards towards the columella; aperture obliquely subovate.

DOHEN. Proc. Zool. Soc. 1858.

Hab. Ceylon.

Species 37. (Fig. a, b, Mus. Brit.)

PLANORBIS GILBERTI. *Pla. testâ subcompressâ, dextrâ, tenui, fere albâ; spirâ parvâ; anfractibus tribus; ultimo magno, tumido, superius subconvexo, infra medium obtusè angulato; disco inferiori planulato, umbilicato; apertura angustâ, infra medium angulata.*

GILBERT'S PLANORBIS. Shell subcompressed, dextral, thin, almost white; spire small; whorls three,

last large, tumid, rather conical above, obtusely angular below the middle; lower disc flattened, umbilicated; aperture narrow, angular below the middle.

DUNKER. Proc. Zool. Soc. 1848, 40.

Hab. East Australia.

Species 38. (Fig. a, b, c, Mus. Brit.)

PLANORBIS EBURNÆUS. *Pla. testâ altâ, tumidâ, undulatâ, levi, albâ, medio anfractuum costarum fasciatâ; apice parvo, anfractibus tribus, superiorè subplanulatis, tum declivibus, infra inflatis, ultimo magno, alto, rapidè crescenti; disco inferiori convexo, anfractu apicali oblecto; apertura magno, superius flexuosim depressâ, infra inflatâ, productâ.*

THE IVORY PLANORBIS. Shell high, tumid, undulating, smooth, white, banded with chestnut in the middle of the whorls; apex small, whorls three, rather flattened above, then sloped, inflated below; last large, high, rapidly increased; lower disc convex, apical whorl hidden; aperture large, flexuously depressed above, inflated below, produced.

GRAY — ? MS. Mus. Brit.

Hab. Ceylon.

Species 39. (Fig. a, b, Mus. Brit.)

PLANORBIS OBTUSUS. *Pla. testâ compressâ, subconvexâ, ferruginâ, apice lato, planulato; anfractibus quinque, lentè crescentibus, convexiusculis, superius subdeclivibus, infra obtusè angulatis, infra angulum planulatis; apertura obliquè subovatâ, infra obtusè angulata.*

THE OBTUSE PLANORBIS. Shell compressed, rather rough, ferruginous, apex broad, flattened; whorls five, slowly increased, rather convex; rather sloped above, obtusely angular below, flattened below the angle; aperture obliquely subovate, obtusely angular below.

DESHAYES. Proc. Zool. Soc.

Hab. Adelaïde.

Species 40. (Fig. a, b, Mus. Brit.)

PLANORBIS BRUNNEUS. *Pla. testâ subglobosâ, altâ, levî, ferruginâ, spirâ parvâ, anfractibus tribus, superne contractis, suprâ suturam, elevatis, subangulatis, tum rotundis, medio inflatis; disco inferiori angustè umbilicato, apertura semilunari, infrâ productâ, expansâ.*

THE BROWN PLANORBIS. Shell subglobose, high, smooth, ferruginous, spire small, whorls contracted above, raised, a little angular above the suture, then rounded, inflated in the middle; lower disc narrowly umbilicated; aperture semilunar, produced and expanded below.

GRAY. Adams. Genera.

*Hab.* Bombay.

Species 41. (Fig. a, b, Mus. Brit.)

PLANORBIS MACNABIANUS. *Pla. testâ tenuissimâ, pellucidâ, succineâ, utrinque planulatâ, compressissimâ; anfractibus septem, lentissimè crescentibus, apertura subrhomboidè; infrâ angulatâ.*

MACNAB'S PLANORBIS. Shell very thin, pellucid, amber, flattened on both sides, very compressed; whorls seven, very slowly increased; aperture subrhomboidal, angular below.

ADAMS, C. B. Conchological Contributions, p. 42.

*Hab.* Jamaica.

Species 42. (Mus. Brit.)

PLANORBIS TENIATUS. *Pla. compressâ, dextrâ, pallidè cornè; spirâ parvâ, anfractibus quaternis vel quinis, internis tribus angustissimis, ultimo tumido, latiusculo, utrinque rotundato; medio fasciato, apertura obliquè oblongâ.*

THE RIBAND PLANORBIS. Shell compressed, dextral, pale horny; spire small, whorls four or five, inner three very narrow; last tumid, rather broad, rounded on both sides, banded in the middle, aperture obliquely oblong.

MORELET. Adams. Genera.

*Hab.* Isle of Pines.

Species 43. (Fig. a, b, Mus. Brit.)

PLANORBIS STAGNICOLO. *Pla. testâ dextrali, complanatâ, olivaceâ, minutissimè liratâ, superne convexiusculâ, anfractibus tribus, rapidè crescentibus, ultimo lato; apertura obliquè subovatâ; disco inferiori concavo, anfractibus conspicuis, planulatis.*

THE STILL-WATER PLANORBIS. Shell dextral, flattened, olive, very finely ridged; rather convex above; whorls three, quickly increasing, last broad; aperture obliquely subovate; lower disc concave, whorls conspicuous, flattened.

MORELET. —? Adams. Gen. of Shells.

*Hab.* —?

Very like *Planorbis albus* in form, but of a dark green colour, and finely wrinkled.





# PLANORBIS.

## PLATE VI.

Species 44. (Fig. a, b, Mus. Brit.)

**PLANORBIS HINDSIANUS.** *Pla. testâ parvâ, dextrali, compressâ, pallidâ succinâ, supernè convexâ, infrâ concavâ, lavi; spirâ parvâ, anfractibus tribus, duobus apicalibus angustis, ultimo lato, rapidè crescenti; aperturâ latâ, perobliquâ.*

**HINDS' PLANORBIS.** Shell small, dextral, compressed, pale amber, convex above, concave below, smooth, spire small, whorls three, two apical narrow, last broad, rapidly enlarged; aperture broad, very oblique.

DUNKER. Proc. Zool. Soc. 1848, p. 41.

*Hab.* Pana Islands.

Species 45. (Fig. a, b, Mus. Brit.)

**PLANORBIS CATILLUS.** *Pla. testâ atrinque compressâ, parvâ, albâ, dextrali; spirâ compressâ, anfractibus quinque, angustis, levè crescentibus, infrâ angulatis; aperturâ obliquè subovatâ, angustiusculâ, antè productâ, margine inferiori subangulatâ.*

**THE LITTLE DISH PLANORBIS.** Shell compressed on both sides, small, white, dextral, spire compressed, whorls five, narrow, slowly increased, angular below; aperture obliquely subovate, rather narrow, anteriorly produced, lower margin rather angular.

ANTON. — ? Adams. Genera of Mollusca.

*Hab.* — ?

Species 46. (Fig. a, b, Mus. Brit.)

**PLANORBIS SALLEANUS.** *Pla. testâ tumidâ, dextrali, ferruginâ, leviusculâ; spirâ subcompressâ, angustâ; anfractibus quateris, altis, supernè angustatis, infrâ medianè inflatis; aperturâ subobliquè ovatâ, antè subseptusâ; disco inferiori lato, umbilicatâ.*

**SALLE'S PLANORBIS.** Shell tumid, dextral, ferruginous, rather smooth; spire rather compressed, narrow; whorls four, raised, narrow above, inflated below the middle; aperture rather obliquely

ovate; anteriorly rather expanded; lower disc broadly umbilicated.

DUNKER. Proc. Zool. Soc. 1853, p. 54.

*Hab.* St. Domingo.

Species 47. (Fig. a, b, Mus. Brit.)

**PLANORBIS INFLATUS.** *Pla. testâ magis, robustâ, altâ, lævigatâ, pallidâ olivaceâ, infrâ medianè intusque costatâ; spirâ parvâ, profundè concavâ; anfractibus quateris, apicalibus tribus parvis, ultimo altissimo, supra suturam perelevato, rotundo, infrâ medianè magis inflato; disco inferiori concavo, anfractu apicali oblecto; aperturâ subauriformi, altâ, margine inferiori subrepresso.*

**THE INFLATED PLANORBIS.** Shell large, robust, high, smooth, pale olive, chestnut below the middle and within; spire small, deeply concave; whorls four, three apical small, last very high, much raised above the middle, round, more inflated below the middle; lower disc concave, apical whorl hidden; aperture rather ear-shaped, lower margin a little expanded.

DUNKER. Proc. Zool. Soc. 1848, p. 40.

*Hab.* — ?

Species 48. (Fig. a, b, Mus. Brit.)

**PLANORBIS CIRCUMLINEATUS.** *Pla. testâ succinâ, subpellucidâ, tumidiusculâ, dextrali, lavi; spirâ parvâ, anfractibus quateris, rapidè crescentibus, ultimo lato, prope aperturam subrepresso, aperturâ obliquè subovatâ, angustiusculâ, infrâ paulo expansâ.*

**THE CIRCUMLINEAR PLANORBIS.** Shell amber, rather pellucid, rather tumid, dextral, smooth; spire small, whorls four, rapidly increasing, last broad, a little expanded near the aperture; aperture obliquely subovate, rather narrow; a little expanded below.

SHUTTLEWORTH. — ? MS. Mus. Brit.

*Hab.* Porto Rico.

PLANORBIS.—PLATE VI.

Species 49. (Fig. a, b, Mus. Brit.)

PLANORBIS TERVERSANUS. *Pla. testâ tumidâ, pallidissimè corvâ, brevitatè; spirâ parvâ, planulatâ, anfractibus tribus, ultimo tumido, supra suturam rotundè elevatâ; operaturâ obliquâ, angustâ, superiôrè subtilitatè; disco inferiori concavo.*

THE THREE-TURNED PLANORBIS. Shell tumid, very pale horn, smooth; spire small, flattened; whorls three, last tumid, roundly elevated above the suture; aperture oblique, narrow, rather dilated above; lower disc concave.

D'ORBIGNY. —? MS. Coll. Cum. in Brit. Mus.

*Hab.* St. Thomas, West Indies.

Species 50. (Fig. a, b, Mus. Brit.)

PLANORBIS ANDECOLUS. *Pla. testâ albâ, altâ, dextrali; spirâ subcomplanatâ, anfractibus tribus, convexis; ultimo maximo, altissimo versus marginem superiorè et paulò supra mediùm, angulatò infrâ, ad marginem inferiorè subcarinato, post carinam latè et profundè umbilicatò; operaturâ paulò depressâ, trigonâ, anticè productâ, acuminatâ, superiôrè latâ, subdepressâ.*

THE PLANORBIS OF THE ANDES. Shell white, high, dextral; spire rather flattened; whorls three, convex; last very large, very high, angular near the upper margin and a little above the middle,

slightly keeled at the lower margin, broadly and deeply umbilicated behind the keel; aperture a little depressed, trigonal, anteriorly produced, acuminate, broad, rather depressed above.

D'ORBIGNY. Voyage dans l'Amérique Méridionale. Pl. XLV.

*Hab.* South America.

Species 51. (Mus. Brit.)

PLANORBIS TENAGOPHILUS. *Pla. testâ, compressâ, solidâ, griseo-fulvâ; utriusque concavâ; apicè umbilicatò; anfractibus quinque, supra suturam angulatis; ultimo magno, superiôrè declivi, infrâ subcentricâ, disco inferiori lato, versus marginem complanato, medio (haurâ profundè) umbilicatò.*

THE SHALLOW-WATER PLANORBIS. Shell broad, compressed, solid, fulvous-gray; concave on each side; apex umbilicated; whorls five, angular above the suture, last large, sloped above, somewhat ventricose below, lower disc broad, flattened towards the margin, umbilicated (not deeply) in the middle.

D'ORBIGNY. Voy. Amér. Meridionale, Pl. XLV., f. 17-20.

*Hab.* South America.

The funnel-shaped umbilicus on the spire is narrower and more decidedly angular than in *Planorbis convolutus*.





53



52



54



55. a



a



b

56



a



57 b



58 b



59 a



a



b

59



58 a



# PLANORBIS.

PLATE VII.

Species 52. (Fig. a, b, Mus. Brit.)

PLANORBIS KERATOIDES. *Pla. testâ subcompressâ, albidâ, superi truncato-conicâ, inferrâ planulatâ, cœvitatâ, ad mediâ umbilicâ infundibuliformi excavatâ; spirâ depressâ, anfractibus quaternis, ultimo magno.*

THE SHEAR-SHAPED PLANORBIS. Shell a little compressed, whitish, trimento-conical above, flattened below, keeled, hollowed in the middle, with a funnel-shaped umbilicus; spire depressed, whorls four, last large.

D'ORBIGNY. Voy. Amér. Mériid. Pl. XLV., f. 1-4.

Hab. S. America.

Species 53. (Mus. Brit.)

PLANORBIS LUCIDUS. *Pla. testâ compressâ, semipel-lucidâ, lœvi, obscurâ castaneo-cœvitatâ; spirâ depressâ, anfractibus quinâ subplanulatis, ultimo convexâ, infra mediâ subangulatâ; disco inferiori concavo, angustissimo, aperturâ subquadratâ, inferrâ latissimâ.*

THE LUCID PLANORBIS. Shell compressed, semipellucid, smooth, chestnut-horn; spire depressed, whorls five, rather flat, last convex, rather angular below the middle; lower disc concave, rather narrow, aperture rather square, rather broad below.

PHILIPPI — ? MS. Brit. Mus.

Hab. — ?

Species 54. (Fig. a, b, Mus. Brit.)

PLANORBIS SEPTEMGYRATUS. *Pla. testâ valdè depressâ, utrinque concavâ, fuscescenscœvitatâ, anfractibus septenis, angustissimis, ultimo angustâ, aperturâ parvâ, obliquè oratâ.*

THE SEVEN-WHORLED PLANORBIS. Shell much de-

pressed, concave on both sides, brownish-green, whorls seven, very narrow, last narrow; aperture small, obliquely ovate.

ZEGLER — ? MS. Brit. Mus.

Hab. Vienna.

A remarkably thin, wafer-like shell.

Species 55. (Fig. a, b, Mus. Sowerby.)

PLANORBIS BECKIANUS. *Pla. testâ tumidâ, sinistrâ, brevitatâ, cornuâ, medio anfractuum et inferrâ castaneo, spirâ depressâ, anfractibus quaternis, supra suturâ elevatis, rotundis, ultimo maximo, ventricosâ, rotundo, inferrâ latissimo, aperturâ magnâ; disco inferiori profundè excavato, anfractu apicali obtoto.*

BECK'S PLANORBIS. Shell tumid, sinistral, smooth, horn, chestnut at the middle of the whorls and below; spire depressed, whorls four, raised above suture, rounded, last large, ventricose, rounded, rather broad below; aperture large, lower disc deeply excavated, apical whorl hidden.

DUNKER — ? Ad. Gen. of Sh.

Hab. — ?

Little differing from *Planorbis cornuus*, but with the whorls more uniformly rounded than in that somewhat variable species.

Species 56. (Fig. a, b, Mus. Brit.)

PLANORBIS PALLIDUS. *Pla. testâ tumidissimâ, lœvi, pallidè cœvitatâ, utrinque subcomplanatâ; spirâ angustâ, anfractibus quaternis, rapidè crescentibus, ultimâ latissimo, superiè declivi, infra mediâ inflato, disco inferiori subcomplanato; aperturâ obliquè suboriatâ, margine superiori sinuatiâ pro-ducto, depresso.*

PLANORBIS.—PLATE VII.

THE PALE PLANORBIS. Shell rather tumid, smooth, pale horn, flattened on each side; spire narrow, whorls four, quickly increasing, last rather broad, sloped above, inflated below the middle; lower disc a little flattened; aperture obliquely subovate, lower margin sinuously produced, depressed.

C. B. Adams. Basl. Proc. Nat. Hist. Vol. II. p. 102.  
*Hab.* Jamaica.

Species 57. (Fig. a, b, Mus. Brit.)

PLANORBIS CHILENSIS. *Pla. testâ tumidiâsculâ, albâ, superiù complanâtâ; infri concavâ; anfractibus quinis, mediocriter crescentibus, ultimo tumido; aperturâ magnâ, subquadratâ, margine inferiori rectiâsculâ.*

THE CHILI PLANORBIS. Shell rather tumid, white, flattened above, concave below; whorls five, moderately increased, last tumid; aperture large, rather square, lower margin rather straight.

ANTON —? MS. Brit. Mus.  
*Hab.* Chili.

Species 58. (Fig. a, b, Mus. Brit.)

PLANORBIS LANIERANUS. *Pla. testâ depressâ, corneo-castaneâ, translucidâ, lævigatâ; spirâ compressâ, parvâ; anfractibus quaternis, ultimo superiù latiusculâ, infri angustiori, aperturâ angulatâ.*

LANIER'S PLANORBIS. Shell depressed, horny chestnut, translucent, smooth; spire compressed, small; whorls four, last rather broad above, rather narrower below.

D'ORBIGNY. Moll. Cuba.  
*Hab.* Isl. Cuba.

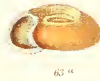
Species 59. (Fig. a, b, Mus. Brit.)

PLANORBIS ROSSMÄSLERI. *Pla. testâ parvâ, compressâ, ferruginâ; spirâ subcomplanatâ, anfractibus quaternis, rapidè crescentibus, rotundis; disco inferiori umbilicato; aperturâ obliquè ovatâ.*

ROSSMÄSLER'S PLANORBIS. Shell small, compressed, ferruginous; spire rather flattened, whorls four, quickly increased, rounded; lower disc umbilicated; aperture obliquely ovate.

SCHMIDT —? Adams, Genera of Shells.  
*Hab.* Anerswald, near Leipsic.





# PLANORBIS.

PLATE VIII.

Species 60. (Fig. a, b, Mus. Brit.)

PLANORBIS SPENCERI. *Pla. testâ parvâ, flavido-fuscâ, subdepressâ, sinistrali, laevigatâ; spirâ complanatâ, parvâ, anfractibus quateris, ultimo latissimis. Lab. superâ convexoconvexo, ad marginem obscuremâi complato, infra angulum angustatâ; disco inferiori excavato; aperturâ semilunari.*

SPENCER'S PLANORBIS. Shell small, yellowish-brown, subdepressed, sinistral, smooth; spire flattened, small, whorls four, last rather broad, rather convex above, very obscurely angular at the margin, narrowed below; lower disc excavated; aperture semilunar.

ALLEN — ? MS. Brit. Mus.

*Hab.* Portugal.

Species 61. (Fig. a, b, Mus. Brit.)

PLANORBIS NITIDULUS. *Pla. testâ tenui, pellucidâ, pallidissimâ cornuâ, tumidâisensili; spirâ planâisensili, medio excavatâ, angustâ, anfractibus quateris, utraque tumidâisensilis; disco inferiori excavato; aperturâ superâ labi, infri angustatâ.*

THE NEAT LITTLE PLANORBIS. Shell thin, pellucid, very pale horn, rather tumid; spire rather flat, a little excavated in the middle, narrow; whorls four, rather tumid on each side; lower disc excavated; aperture broad above, narrow below.

DUNKER. Proc. Zool. Soc. 1848, p. 49.

*Hab.* Malacca.

Species 62. (Fig. a, b, Mus. Brit.)

PLANORBIS UNGULATUS. *Pla. testâ latâ, depressâ, arcuâtâ, corneo-rufoescenti; spirâ rix convexâ, anfractibus septenis, latè crescentibus, superâ angulatâ, subcarinata; disco inferiori convexo; aperturâ obliquâ, superâ venter angulatâ, productâ.*

THE TALONED PLANORBIS. Shell broad, depressed,

arched, reddish-horny, spire hardly convex; whorls seven, slowly increased, angular above, somewhat keeled, lower disc convex; aperture oblique, sharply angular above, produced.

CHITTY — ? MS. Brit. Mus.

*Hab.* Jamaica.

The sharp prominent angle in the margin of the whorls, with the slightly arched under surface, gives the profile of this shell a talon-like appearance.

Species 63. (Fig. a, b, Mus. Brit.)

PLANORBIS COMMUTATUS. *Pla. testâ sinistrali, tumidi, ventricosis, pallidi fuscâ, tenui; spirâ infundibulâtâ; anfractibus quinâ, angulatis, superâ angustatis, infri ventricosis, rotundis; disco inferiori profundi umbilicato, anfracta apicali oblecto; aperturâ rotundo-subtriangulâ.*

THE CHANGED PLANORBIS. Shell sinistral, tumid, ventricose, pale brown; spire funnelled, whorls five, angular, narrow, ventricose, rounded below; lower disc deeply umbilicated, apical whorl hidden; aperture roundly subtriangular.

DUNKER — ? MS. Brit. Mus.

*Hab.* N. America.

Species 64. (Fig. a, b, Mus. Brit.)

PLANORBIS ARCTICUS. *Pla. testâ parvâ, pallidâ fulvâ, subdepressâ; spirâ parvâ, pauli excavatâ; anfractibus tribus, rotundis, capitè crescentibus, tumidâisensilis, disco inferiori late umbilicato, aperturâ rotundâ.*

THE ARCTIC PLANORBIS. Shell small, pale fulvous, rather depressed; spire small, a little excavated; whorls three, rounded, quickly increasing, rather tumid, lower disc broadly umbilicated; aperture rounded.

BECK — ? MS. Mus. Brit.

*Hab.* Greenland.

PLANORBIS.—PLATE VIII.

Species 65. (Fig. *a, b*, Mus. Brit.)

PLANORBIS GRACILENTUS. *Pla. testâ dextrali, albidâ, opacâ; spirâ planiusculâ; anfractibus quintis, apicalibus angustis, externis latiusculis, ad aperturam subdiatatis; apertura subtriangulâ; disco inferiori lotè umbilicâto.*

THE SLENDER PLANORBIS. Shell dextral, whitish, opaque; spire rather flat; whorls five, apical narrow, external rather broad; a little dilated at the aperture; aperture a little trigonal; lower disc broadly umbilicated.

GOULD —? MS. Brit. Mus.

*Hab.* Colorado Desert.

Species 66. (Fig. *a, b*, Mus. Brit.)

PLANORBIS DEPRESSISSIMUS. *Pla. testâ complanatâ, pallidè depressâ, pellucidâ, pallidè concolâ, spirâ complanatâ; anfractibus septenis, tenuibus, lentè crescentibus, superne ad marginem acutè angulatâ; disco inferiori planulatâ; apertura lateraliter elongatâ, angulo externo acuto.*

THE VERY FLAT PLANORBIS. Shell flattened, much depressed, pellucid, pale horn, spire flattened; whorls seven, thin, slowly increased, at the margin above sharply angular; lower disc flattened; aperture laterally lengthened, outer angle sharp.

MORICAND —? MS. Mus. Brit.

*Hab.* —? —?

The whorls are perhaps the flattest of any in the genus.

Species 67. (Fig. *a, b*, Mus. Brit.)

PLANORBIS SUBANGULATUS. *Pla. testâ pallidè concolâ, tumidiusculâ, sinistrali; anfractibus tribus, rapidè crescentibus, superne convexis, latiusculis; disco superiori lato, convexo; inferiori subangulato, excavato; apertura superne lateraliter productâ, infra versus medium inclinâtâ.*

THE SUBANGULAR PLANORBIS. Shell pale, horny, rather tumid, sinistral whorls three, quickly increased; convex, rather broad; upper disc broad, convex, lower rather angular, excavated; aperture laterally produced above, inclined towards the middle below.

PHILIPPI. *Encycl.* 2, Pl. XXI, f. 6.

*Hab.* Malta, Sicily.

Species 68. (Mus. Brit.)

PLANORBIS SERICEUS. *Pla. testâ sinistrali, tumidiusculâ, pallidè fuscâ, spirâ angustè infundibulatâ; anfractibus quintis, superne angulatis, angustatis; disco inferiori excavato, anfractibus rotundis; apertura subtriangulâ, infra expansâ, rotundâ.*

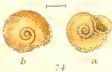
THE CHICORY PLANORBIS. Shell sinistral, rather tumid, pale brown, spire narrowly funnelled; whorls five, angular above, narrow; lower disc excavated, whorls rounded; aperture subtriangular, expanded, rounded below.

DUNKER. *Proc. Zool. Soc.* 1848, 42.

*Hab.* —? —?

Differing from *Planorbis concoloratus* in the proportionate narrowness of the whorls, and the funnel-shaped excavation is more angular, distinct, and narrow.







# PLANORBIS.

PLATE IX.

## Species 69. (Mus. Brit.)

**PLANORBIS ELEGANTULUS.** *Pla. testâ obliquè compressâ, pellucidâ, coracâ, dextrali, tenuiter striatâ, superâi convexâ, infâi concavâ; spirâ parvâ, anfractibus tribus, ultimo lato, ad aperturam obliquè expansâ; aperturâ perobliquè ovatâ.*

THE ELEGANT PLANORBIS. Shell obliquely compressed, transparent, horny, dextral, finely striated, convex above, concave below; spire small, whorls three, last wide, obliquely expanded at the aperture; aperture very obliquely ovate.

DOBSON. Proc. Zool. Soc. 1858, p. 134.

*Hab.* —?

## Species 70. (Mus. Hanley.)

**PLANORBIS TROCHOIDEUS.** *Pla. testâ tumidioculâ, lani, semipellucidâ, subciliâ, distanter concentricè allopunctatâ, superâi convexâ, infâi subcomplanatâ, angustissimè umbilicatâ, internè segmentatâ; spirâ angustissimâ, ultimo anfractu superâi latè expansâ; infra medium unguato, acutè coriatis.*

THE TROCHIFORM PLANORBIS. Shell rather tumid, thin, semipellucid, rather green, distantly concentrically banded with white, convex above, rather flattened below, very narrowly umbilicated, internally divided in segments; spire very narrow, last whorl broadly expanded above; angular below the middle, acutely keeled.

BENSON. Asiatic Society Bengal, 1836, p. 742.

*Hab.* Barrackpore.

Remarkable for the way in which the outer whorl covers the inner, and the very small opening left in the centre of the upper and under discs.

## Species 71. (Mus. Brit.)

**PLANORBIS MORICANXI.** *Pla. testâ sinistrali, tumidâ, ferruginâ; spirâ angustè infundibulatâ, anfractibus supra suturam angulatim elevatis; ultimo latè declivi; aperturâ triangulâ, infra medium subangulatâ, infra subrotundâ; disco inferiori umbilicato.*

MORICAND'S PLANORBIS. Shell sinistral, tumid, ferruginous; spire narrow, with narrow funnel-shaped cavity, whorls raised angularly above the suture, last broadly sloped; aperture trigonal, rather angular below the middle, a little rounded underneath; lower disc umbilicated.

BECK. Adams, Genera of Shells.

*Hab.* —?

A narrower shell than *Planorbis tenagophilus*, with the funnel-shaped opening more narrow and angular.

## Species 72. (Fig. a, b, c, Mus. Brit.)

**PLANORBIS MULTIVALVIS.** *Pla. testâ coracâ, sinistrali, altâ; spirâ exertâ, subturretâ; anfractibus septenis, superâi angustatis unguatis, ultimo compresso, alto, propè aperturam contracto tum tumidâ, ad aperturam expanso; aperturâ elevatâ, margine expansâ; disco inferiori profundè umbilicato; anfractibus rotundis, tribus apicalibus obtusis.*

THE MANY-WHORLED PLANORBIS. Shell horny, sinistral, high, spire exerted, subturreted; whorls seven, narrow and angular above, last compressed, deep, contracted near the aperture, then tumid, expanded at the aperture; aperture raised, margin expanded, lower disc deeply umbilicated; whorls rounded, three apical hidden.

CASE. Adams, Genera of Shells.

*Hab.* Lake Superior, Michigan.

In the contraction and swelling of the last whorl near the mouth, and expansion of the lip, this shell resembles *Planorbis campanulatus*, but the whorls of the spire are more numerous and are pushed out conically.

## Species 73. (Fig. a, b, Mus. Brit.)

**PLANORBIS FERRUGINEUS.** *Pla. testâ tumidâ, ventricosâ, sinistrali, castaneo-rufâ; spirâ concavâ, anfractibus senis, subangulatis, supra suturam elevatis, infra angulum subelecticibus, ultimo lato, infra subconvexâ; aperturâ obliquè subtriangulâ; disco inferiori latè concavo; anfractibus subrotundis.*

PLANORBIS.—PLATE IX.

THE FERROUGINOUS PLANORBIS. Shell tumid, ventricose, sinistral, chestnut horn, spire concave; whorls six, rather angular, raised above the suture, rather sloped below the angle, last broad, rather convex below; aperture obliquely subtrigonal; lower disc broadly concave, whorls somewhat rounded.

SPIX. Test. Braz. Tab. XVIII., f. 1-2.

Hab. Brazil.

The whorls are more angular above than is the case in *Planorbis oliveaceus*.

Species 74. (Fig. a, b, Mus. Brit.)

PLANORBIS FUSCUS. *Pla. testâ dextrali, depressâ, ferruginâ, superâ concavâ, infra latè excavatâ; spirâ angustâ; anfractibus tribus, ultimo lato; aperturâ obliquè angustâ, margine integrâ.*

THE BROWN PLANORBIS. Shell dextral, depressed, iron-rust, rather convex above, broadly excavated below, spire narrow; whorls three, last broad; aperture obliquely narrow, margin entire.

DUNKER. Proc. Zool. Soc. 1848, p. 42.

Hab. Valparaiso.

Species 75. (Fig. a, b, Mus. Brit.)

PLANORBIS NANUS. *Pla. testâ pallidè fulvâ, dextrali, compressâ, superâ concavâ, infra latè et profundè umbilicatâ; spirâ angustâ, compluatâ;*

*anfractibus tribus, obliquè striatis, rapulè crescentibus, ultimo latissimo; aperturâ depressâ, latissimâ, lobis externo superâ obliquè producta.*

THE DWARF PLANORBIS. Shell pale fulvous, dextral, compressed, rather convex above, broadly and deeply umbilicated below; spire narrow, flat; whorls three, obliquely striated, rapidly increased, last very broad; aperture depressed, very broad, outer lip obliquely produced above.

BENSON. Proc. Zool. Soc. 1856, p. 186.

Hab. India.

Species 76. (Mus. Brit.)

PLANORBIS MODICUS. *Pla. testâ cornèâ, tumidâ, sinistrali, spirâ infundibulatâ; anfractibus quinâ, propè suturam elevatis et angulatis, ultimo lato, declivi, concentricè tenuiter rugatâ; aperturâ subtrigonâ, disco inferiori concavo, anfractibus subplanulatis.*

THE MIDDLING PLANORBIS. Shell horny, tumid, sinistral, spire funnel-shaped; whorls five, raised and angular near the suture, last broad, sloped, concentrically finely wrinkled; aperture subtrigonal, lower disc concave, whorls rather flat.

BENSON. Adams, Genera of Mollusca.

Hab. India.

Belonging to the same group as *Planorbis corneus*, but smaller, with narrow, angular, funnel-like spiral excavation.





# PLANORBIS.

PLATE X.

Species 77. (Fig. *a, b*, Mus. Hanley.)

PLANORBIS UMBILICALIS. *Pla. testā dextrali, segmentatā, fusca, tenui, nitenti, levigatā, superne tumida, infra planiuscula, infra medium carinata; spirā angustā, planatā; anfractibus tribus, ultimo magno, lato, supra carinam tumido; apertura obliquē lato, margine superiori sinuatum producto, disco inferiori medio angustē umbilicato.*

THE UMBILICAL PLANORBIS. Shell dextral, divided in segments, brown, thin, shining, smooth, tumid above, rather flat below, keeled below the middle; spire narrow, flat; whorls three, last large, broad, tumid above the middle; aperture obliquely broad, upper margin sinuously produced, lower disc narrowly umbilicated in the middle.

BENSON. Journ. Asi. Soc. Bengal, Vol. V. p. 741.

*Hab.* East Bengal.

Species 78. (Fig. *a, b*, Mus. Hanley.)

PLANORBIS VENOSUS. *Pla. testā dextrali, segmentatā, pallidi subviridi, levigatā, superne truncato-conicā, infra subplanatā, medio angustē umbilicatā; spirā angustissimā, ultimo anfractu latissimā; infra medium acutē carinato; apertura trigonā, margine supero inflexoque flexuosim depresso.*

THE MIREY PLANORBIS. Shell dextral, divided in segments, greenish, smooth, truncated-conical above, rather flat below, narrowly umbilicated in the middle; spire very narrow, sharply keeled below the middle; aperture trigonal, margin flexuously depressed above and below.

BENSON. Ann. Nat. Hist. 1850, p. 349.

*Hab.* Near Moradabad, Ceylon.

Species 79. (Fig. *a, b*, Mus. Hanley.)

PLANORBIS CANTORI. *Pla. testā sordide subviridi, dextrali, segmentatā, superne tumidā, infra convexiusculā, medio umbilicatā; spirā latiusculā, ultimo anfractu lato, infra medium obtusē carinato;*

*apertura subtrigonā; margine supero flexuosim producto.*

CANTOR'S PLANORBIS. Shell dull greenish, dextral, divided in segments, tumid above, convex below, umbilicated in the middle; spire rather broad, last whorl broad, obtusely keeled below the middle; aperture rather trigonal, upper margin flexuously produced.

BENSON. Ann. Nat. Hist. 1850, p. 349.

*Hab.* Barrackpore, India.

Species 80. (Fig. *a, b*, Mus. Brit.)

PLANORBIS PONSONBYI. *Pla. testā dextrali, altissimā, ventricosā, albā, epidermide tenui pallide flavido indatā, superne subconicā, infra latē et profundi umbilicatā; spirā subturretatā; anfractibus duobus, brevibus, subangulatis, ultimo anfractu supero planulato, marginibus superiori inferiorique carinatis; apertura latā, subtrigonā, infra acuminatā, superne expansā.*

PONSONBY'S PLANORBIS. Shell dextral, very high, ventricose, white, covered with a yellowish thin epidermis, a little conical above, broadly and deeply umbilicated below; spire subturreted; whorls two, short, rather angular, last whorl flattened above, upper and lower margin keeled; aperture broad, rather trigonal, acuminated below, expanded above.

SMITH. (*Carinifer.*) Proc. Zool. Soc. 1875, No. 2.

*Hab.* California.

In *Planorbis bicarinata* and *P. aurita*, the spire is sunk, and not, as in this species, exerted. Otherwise, the two former much resemble the latter. I cannot see any reason for separating these shells generically. At least one very different species has an exerted spire.

Species 81. (Mus. Brit.)

PLANORBIS NEWBERRYI. *Pla. testā dextrali, altissimā, ventricosā, coracā, epidermide tenui indatā, infra*

late et profundè infundibulata; spirâ exsertâ; anfractibus duobus, subangulatis, ultimo anfractu magno, ventricoso, superè inferèneque crenulatum carinato, medio obscure carinato; aperturâ trigonâ, ferè ad medium ultimi anfractus depressâ, superè angulatâ, infra angulum productâ, infra medium angustatâ, acuminatâ.

**NFWBERY'S PLANORBIS.** Shell dextral, very high, ventricose, horny, covered with a pale thin epidermis, with a deep and wide funnel-shaped cavity below; spire exerted; whorls two, rather angular, last whorl large, ventricose, crenulately keeled above and below, obscurely keeled in the middle; aperture trigonal, depressed almost to the middle of the last whorl, angular above, produced below the angle, narrow and acuminated below the middle.

LEE. Proc. Acad. Phil. 1854, p. 51.

Genus. *Curiajex*. Binney.

Hab. California.

Species 82. (Mus. Sowerby.)

**PLANORBIS OBESES.** *Pla. testâ tumidâ, altâ, sinistrali, castaneo-subviridâ, tenui, inflatâ; spirâ angustissimâ, angulatim concavâ; anfractu ultimo magno, superè angulato, inferè rotundo; aperturâ semicirculari, disco inferiori medio concavo, anfractibus apicalibus obtusis.*

**THE FAT PLANORBIS.** Shell tumid, high, sinistral, greenish chestnut, thin, inflated; spire rather narrow, angularly concave; last whorl large, angular above, rounded below; aperture semicircular, lower disc concave in the middle, apical whorls hidden.

DUNKER. Proc. Zool. Soc. 1848, p. 41.

Hab. —?

Species 83. (Mus. Sowerby.)

**PLANORBIS LENTUS.** *Pla. testâ fusco-subviridâ, medio anfractuum subcavata, sinistrali, tumidâ, altâ; spirâ depressâ; anfractibus planiusculis, prope suturam obscure carinatis, ultimo concentricè lirato, tumidè spiritaliter striatâ; disco inferiori excavato, anfractu apicali oblecto; aperturâ magnâ, ad anfractum ultimum contractâ, paulò elevatâ; intus fenoso-fusâ, margine incrassato, steruoso, albo.*

**THE SLACK PLANORBIS.** Shell greenish-brown, bluish in the middle of the whorls, sinistral, tumid, high; spire depressed; whorls rather flat, obscurely keeled near the suture, last concentrically ridged, finely spirally striated, lower disc hollow, apical whorl hidden; aperture large, contracted at the last whorl, a little raised, smoky-brown within, margin thickened, white.

SAY. ALBES. Monogtaph. Planorbis, Pl. III. f. 4-6.

Hab. S. Carolina.

More tumid and deep, and less sloped at the top of the whorls than *Planorbis tricoloris*.

Species 84. (Mus. Brit.)

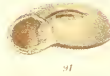
**PLANORBIS PEREGRINUS.** *Pla. testâ subcompressâ, dextrali, pallidissimè corvâ; obliquè striatâ; spirâ angustissimo, medio subcavato; ultimo anfractu lato, tumido, supra medium obscurissimè angulato; disco inferiori angulatim umbilicato; aperturâ subquadrangulatâ.*

**THE WANDERING PLANORBIS.** Shell subcompressed, dextral, very pale horn, obliquely striated; spire rather narrow, slightly excavated in the middle; last whorl broad, tumid, very obscurely angular above the middle, lower disc angularly umbilicated; aperture slightly quadrangular.

D'ORBIGNY. Voy. Amér. Mérid. Pl. XLIV. f. 13-16

Hab. Bahia.







# PLANORBIS.

PLATE XI.

Species 85. (Mus. Sowerby.)

**PLANORBIS MERGUIENSIS.** *Pla. testâ fissâ, concentricè transtere striatâ, tumida, angustâ, albâ, sinistrali; spirâ parvâ, infundibulatâ; anfractibus apicalibus angustis, ultimo superne angulato, supra suturam elevato; medio et infra rotundato; apertura semilunari, supra anfractum ultimum elevata, in-lis castaneo, margine subexpanso, latius incrassato.*

**THE MERGUI PLANORBIS.** Shell brown, concentrically finely striated, tumid, narrow, high, sinistral; spire small, funnelled; apical whorls narrow, last angular above, raised above the suture; rounded in the middle and below; aperture semilunar, raised above the last whorl, chestnut within, margin a little expanded, thickened within.

**PHILIPP.** — ? Hanley, Indian Shells.  
*Hab.* Mergui, Burmah.

Species 86. (Fig. a, b, Mus. Sowerby.)

**PLANORBIS CONCAVUS.** *Pla. testâ parvâ, albâ, depressâ, dextrali, levigatâ; spirâ planiusculâ, anfractibus quateris, caputê evanescentibus, superne inferneque rotundatis; apertura obliquè rotundâ, magnâ; disco inferiori concavo.*

**THE CONCAVE PLANORBIS.** Shell small, white, depressed, dextral, smooth; spire rather flat, whorls four, quickly increased, rounded above and below; aperture obliquely rounded, large; lower disc hollow.

**ANTHOXY.** — ? MS. Mus. Brit.  
*Hab.* River Ohio.

Species 87. (Fig. a, b, Mus. Sowerby.)

**PLANORBIS PARVUS.** *Pla. testâ depressâ, complanatâ, sculpellatâ, subcicubâ, fuscâ, dextrali; spirâ latâ, subcomplanatâ; anfractibus quateris, superne evanescentibus, inferne rotundatis; ultimo latiusculo; apertura obliquè subovata, depressâ; disco inferiori convexo.*

**THE SMALL PLANORBIS.** Shell depressed, flat, semi-pellucid, greenish brown, dextral; spire broad, flattened; whorls four, convex above, rounded below; last rather broad; aperture obliquely subovate, depressed; lower disc concave.

**SAY.** Alb. Monog. Pl. IV. f. P, 20.

*Planorbis fallax.* Say (?)  
*Hab.* New York.

Species 88. (Mus. Brit.)

**PLANORBIS DEFLEXUS.** *Pla. testâ depressâ, pallidè con-necâ, levigatâ, dextrali; spirâ angustâ, depressâ, anfractibus tribus, superne convexis, inferne rotundis, rapide evanescentibus, ultimo lato; apertura magnâ, validè deflexâ.*

**THE DOWN-BENT PLANORBIS.** Shell depressed, pale horn, smooth, dextral; spire narrow, depressed, whorls three, convex above, rounded below, rapidly increased, last broad; aperture large, strongly deflected.

**SAY.** Long's Expedition, Appendix, Pl. XV. f. 8.  
*Planorbis circus.* Adams.

*Hab.* River Ohio.

Species 89. (Mus. Brit.)

**PLANORBIS ORIENTALIS.** *Pla. testâ levi, irregulârè undulatâ, flavidè albâ, sinistrali; spirâ angustâ, depressâ; anfractibus supra suturam parvè charactis, ultimo lato, declivi, cernens aperturam expansâ; apertura supra infrique compressâ, angustâ, obliquè deflexâ; margine sinuato; disco inferiori convexo.*

**THE ORIENTAL PLANORBIS.** Shell thin, irregularly undulated, yellowish white, sinistral; spire narrow, depressed; whorls a little raised above the suture; last broad, sloped, expanded towards the aperture; aperture compressed above and below, large, obliquely deflected; margin sinuous; lower disc concave.

**LAMARCK.** Anim. s. Vert.  
*Hab.* India.

Species 90. (Mus. Brit.)

PLANORBIS STRAMINEUS. *Pla. testâ tumidâ, depressâ, dextrali, stramineâ; spirâ complanâtâ, medio subdepressâ, anfractibus quaternis, superne planulatis, medio ventricosâ, infra rotundis; disco inferiori excavato, anfractu apicali oblecto.*

THE STRAW-COLOURED PLANORBIS. Shell tumid, depressed, dextral, straw-coloured; spire flattened, middle rather depressed, whorls four, flattened above, ventricose in the middle, rounded below; lower disc excavated, apical whorl hidden.

DUNKER. Proc. Zool. Soc. 1848, p. 42.

*Hab.* — ?

Species 91. (Mus. Brit.)

PLANORBIS GLABRATUS. *Pla. testâ sinistrali, pulvocrorneâ, tumidâ, subdepressâ, levigatâ; spirâ angustâ, depressâ, anfractibus angustis supra suturam elevatis; ultimo lato, superne declivi; aperturâ magnâ, margine inferiori producto; disco inferiori medio excavato.*

THE POLISHED PLANORBIS. Shell sinistral, fulvous-horny, tumid, somewhat depressed, smooth; spire narrow, depressed; whorls narrowly raised above the suture; last broad, sloped above; aperture large, lower margin produced, and lower disc hollowed in the middle.

SAY. Adams' Genera of Mollusca.

*Hab.* Florida.

Species 92. (Fig. a, b. Mus. Sowerby.)

PLANORBIS ANTIQUENSIS. *Pla. testâ latâ, compressâ, levigatâ, fusco-corneâ, sinistrali; spirâ depressâ, anfractibus quinis, compressis, rotundis, prope marginem supra suturam elevatis, rapide crescentibus; ultimo latiusculo; aperturâ magnâ, declivâ, subtriangulâ; disco inferiori concavo.*

THE ANTIQUA PLANORBIS. Shell broad, compressed, smooth, brown-horny, sinistral; spire depressed, whorls five, compressed, rounded, raised near

the margin above the suture, quickly increased; last broad; aperture large, raised, rather trigonal; lower disc concave.

*Guileing.* — ?

*Hab.* Antigua, West Indies.

Species 93. (Fig. a, b, Mus. Hanley.)

PLANORBIS CONVEXIUSCULUS. *Pla. testâ subcomplanâtâ, albâ, tumidiusculâ, levigatâ, dextrali; anfractibus quaternis, rapide crescentibus; ultimo lato, versus aperturam expanso; aperturâ obliquè subovatâ, supra ultimum anfractum elevato; disco inferiori excavato.*

THE RATHER CONVEX PLANORBIS. Shell rather flattened, white, rather tumid, smooth, dextral; whorls four, rapidly increased; last broad, expanded towards the aperture; aperture obliquely subovate, raised above the last whorl; lower disc excavated.

HUTTON. Journ. Asiat. Soc. Beng. 1849, Vol. XVIII. p. 652.

*Hab.* Afghanistan.

Species 94. (Fig. a, b, Mus. Sowerby.)

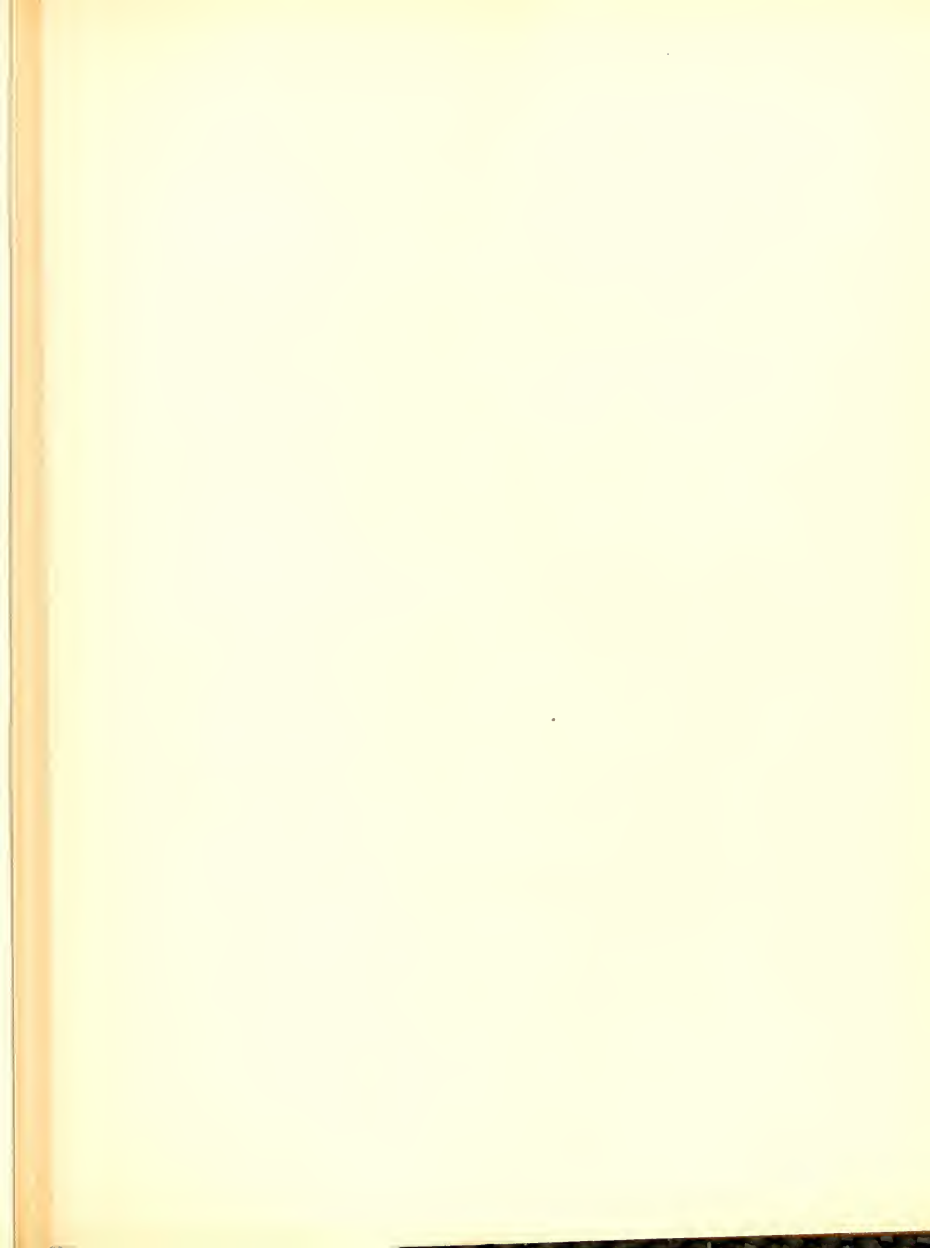
PLANORBIS EXACTUS. *Pla. testâ depressâ, fusco-corneâ, dextrali, superne convexâ, inferne planiusculâ, paulo infra medium acutè carinatâ; aperturâ compressâ, lateraliter obliquè elongatâ, margine externo acuminatâ; disco inferiori subcomplanâtâ, medio umbilicatâ.*

THE SHARP PLANORBIS. Shell depressed, brown-horny, dextral, convex above, rather flat below, sharply keeled a little below the middle; aperture compressed, laterally obliquely elongated, outer margin acuminate; lower disc rather flat, umbilicated in the middle.

SAY. Journ. Amer. Journ. Soc. Phil.

*Planorbis Indicus.* Benson.

*Hab.* United States.





107



108



109



110



111



a



b

112



b

113



114



115



b

116



117



118

# PLANORBIS.

PLATE XII.

Species 95. (Fig. a, b, Mus. Brit.)

**PLANORBIS PANAMENSIS.** *Pla. testâ parvâ, albâ, compressâ, semipellucidâ, dextrali; spirâ parvâ; aufractibus tribus, depresso-concavis, distinctis, rapidè crescentibus; ultimo lato; disco inferiori concavo, aufractibus rotundis; aperturâ subovate.*

**THE PANAMA PLANORBIS.** Shell small, whitish, compressed, semipellucid, dextral; spire small; whorls three, depressed, convex, distinct, quickly increased; last broad; lower disc concave, aufractibus rotundis, aperture subovate.

D'ORBIGNY, Proc. Zool. Soc. 1848, p. 41.

*Hab.* Panama.

Resembling *Planorbis albus*, but with the whorls more rounded and distinct.

Species 96. (Mus. — ? Copied.)

**PLANORBIS HELVICUS.** *Pla. testâ latâ, complanatâ, dextrali, fusco-ferrugineâ, striatâ, paulo arcuatâ; spirâ planulatâ, aufractibus quinis, rotundis; aperturâ obliquè oratâ, subrotundâ; disco inferiori excavato.*

**THE NAIL-SHAPED PLANORBIS.** Shell broad, flat, dextral, rusty-brown, striated, a little arched; spire flattened, whorls five, round; aperture obliquely rounded-oval; lower disc hollow.

D'ORBIGNY, Voy. Amér. Mérid. Pl. XLV. fig. 9-12.

*Hab.* South America.

Species 97. (Mus. — ? Copied.)

**PLANORBIS PAROPSEIDES.** *Pla. testâ rectâ, parvâ, latâ, arenâ, subcomplanatâ, dextrali, fusco, ferrugineâ, obliquè striatâ; spirâ complanatâ, aufractibus quinis, superne subcomplanatis, angustis, infra medium tumidiusculis, aperturâ depressâ, infra paulo inflatâ; disco inferiori latè umbilicato.*

**THE 'DISH-LIKE' PLANORBIS.** Shell straight, small, rather broad, flattish, dextral, rusty-brown, obliquely striated; spire flattened; whorls five, rather flattened above, narrow, rather tumid below the middle, aperture depressed, a little inflated below; lower disc broadly umbilicated.

D'ORBIGNY, Voy. Amér. Mérid. Pl. XLV. f. 5-8.

*Hab.* South America.

Species 98. (Fig. a, b, Mus. Brit.)

**PLANORBIS HELDOPHILUS.** *Pla. testâ planatâ, subdepressâ, pallidè fulvâ, sinistrali, levigatâ; spirâ infundibulatâ; aufractibus quinis, tumidiusculis, supra suturam angulatum elevatis, infra rotundis; ultimo superne subangustatâ, tum declivi, versus aperturam expanso; aperturâ superne subacuminatâ, infra latâ.*

**THE SUN-LOVING PLANORBIS.** Shell flattened, subdepressed, pale fulvous, sinistral, smooth; spire funnelled; whorls five, rather tumid, angularly raised above the suture, rounded below; last somewhat angular above, then sloped, expanded towards the aperture; aperture subacuminated above, broad below.

D'ORBIGNY, Voy. Amér. Mérid. Pl. XLV. f. 13-16.

*Hab.* South America.

Species 99. (Fig. a, b, Mus. Brit.)

**PLANORBIS ANATINUS.** *Pla. testâ minutâ, tumidâ, corneâ, depressâ, subglobosâ; spirâ parvâ, subarcuatâ; aufractibus tribus, altis, medio convexis; aperturâ angustâ, semilunari; disco inferiori angustè umbilicato.*

**THE DUCK'S PLANORBIS.** Shell minute, tumid, horny, depressed, subglobose; spire small, slightly excavated; whorls three, high, convex in the middle; aperture narrow, semilunar, lower disc narrowly umbilicated.

D'ORBIGNY, Voy. Amér. Mérid. Pl. XLV. fig. 17-20.

*Hab.* South Africa.

Species 100. (Fig. a, b, Mus. Brit.)

**PLANORBIS ARAKANENSIS.** *Pla. pallidè corneâ, translucidâ, tumidâ, dextrali; spirâ angustâ; aufractu ultimo tumidâ, superne subangustatâ, infra medium ventricoso; disco inferiori concavo, aufractu apicali obtecto.*

**THE ARAKAN PLANORBIS.** Shell pale horn, translucent, tumid, dextral; spire narrow; last whorl tumid, a little angular above, ventricose below the middle; lower disc concave, apical whorl hidden.

GOULD. — ? MS. Brit. Mus.

*Hab.* Trinidad.

PLANORBIS.—PLATE XII.

Species 101. (Fig. a, b, Mus. Brit.)

PLANORBIS ISABEL. *Pla. testâ parvâ, tumidâ, albâ, dextrali, ferruginosâ, levigatâ; spirâ parvâ, sub-complanatâ; anfractibus tribus, angustiscentis, superâ subangulatis, tùm dextribus; ultimo magno, prope aperturam expanso; disco inferiori umbilicato; aperturâ angustâ, semilunari, margine superiori sinuatim producta.*

THE ISABEL PLANORBIS. Shell small, tumid, high, dextral, ferruginous, smooth; spire small, rather flat; whorls three, rather narrow, slightly angular above, then sloped; last large, expanded near the aperture; lower disc umbilicated; aperture narrow, semilunar, upper margin sinusely produced.

Morelet. —? Adams. Genera of Mollusca.

Hab. —? —————

Species 102. (Fig. a, b, Mus. Brit.)

PLANORBIS ACIES. *Pla. testâ parvâ, utrinque complanatâ, albâ, levigatâ; anfractibus quinque, subrotundis, superâ angustiscentis, inferâ magis rotundis; aperturâ obliquè oratâ, supra suturam elevatâ.*

THE SPEAR PLANORBIS. Shell small, flattened on each side, white, smooth; whorls five, rather rounded, rather narrow above, more rounded below; aperture obliquely ovate, raised above the suture.

Porro. Meg. Villa. Cat. 1844, p. 8.

Hab. Milan. —————

Species 103. (Mus. Brit.)

PLANORBIS LARGILLIERTI. *Pla. testâ truncato-conicâ, castaneâ, altiusculâ, nitenti, infra medium sub-  
pbulatâ, superâ declivi; spirâ angustatâ, anfractibus tribus, angustissimis, ultimo magno, tumido; aperturâ subtrigoniâ, margine superiori flexuosim depressâ; disco inferiori angustè umbilicato.*

LARGILLIERT'S PLANORBIS. Shell truncated-conical, chestnut, rather raised, shining, rather flattened below the middle, sloped above; spire narrow; whorls three, very narrow, last large, tumid; aperture rather trigonal; upper margin flexu-ously depressed; lower disc with a narrow umbilicus.

— MS.

Hab. —? —————

Species 104. (Fig. a, b, Mus. Sowerby.)

PLANORBIS VERMICULARIS. *Pla. testâ olivaceo-viridi, politâ, parvâ, dextrali; spirâ planiusculâ, anfractibus quinque, rotundis, angustatis, declivibus, infra medium subcentricosis, subangulatis; disco inferiori concavo; aperturâ subtrigoniâ.*

THE VERMICULAR PLANORBIS. Shell olive-green, polished, small, dextral; spire rather flattened; whorls five, rounded, narrow, sloped, rather ventriose below the middle, slightly angular; lower disc concave; aperture subtrigonal.

SOWERBY.

Hab. —? —————

Shell with a broader disc and more whorls than *Planorbis patrens*, which, from its colour and general form, it resembles.







# PLANORBIS.

PLATE XIII.

Species 105. (Fig. a, b, Mus. Brit.)

**PLANORBIS PERFORATUS.** *Pla. testâ parvâ, tumidâ, pallidè coruscâ, truncato-subconicâ, spirâ angustissimâ, anfractu ultimo tumido, albo, superâ declivi, infra medium ventricosâ; disco inferiori plumulato, medio angustissimâ et profundè umbilicato.*

**THE PERFORATED PLANORBIS.** Shell small, tumid, pale horn, truncated-subconical, spire very narrow, last whorl tumid, raised, sloped above, ventricose below the middle; lower disc flattened, narrowly and deeply umbilicated in the middle.

GOULD —? MS. Mus. Brit.

*Hab.* United States.

Species 106. (Mus. Brit.)

**PLANORBIS CULTRATUS.** *Pla. testâ pellucidâ, hyalina, albâ, truncato-conicâ, spirâ parvâ, anfractibus tribus, depressis; anfractu ultimo declivi, infra plumbo, margine acuminato; apertura obliquè subtriangulâ, angustâ; margine externo infere acutè angulato; disco inferiori plano, medio angustè umbilicato.*

**THE SHARPENED PLANORBIS.** Shell pellucid, hyaline, white, truncato-conical, spire small, whorls three, sunk; last whorl sloped, flattened below, margin acuminated; aperture obliquely subtriangular, narrow; outer margin sharply angular below; lower disc umbilicated.

D'ORBIGNY —? MS. Mus. Brit.

*Hab.* St. Vincent.

Species 107. (Mus. Brit. —? Copied.)

**PLANORBIS MONTANUS.** *Pla. testâ depressâ, pallidè fulvâ, sinistrali; spirâ infundibulâtâ; anfractu ultimo tumido, superâ inférie angulato; disco inferiori convexo; apertura subquadralateralî, magnâ, superâ anfractuum ultimorum elevatâ.*

**THE MOUNTAIN PLANORBIS.** Shell depressed, pale fulvous, sinistral; spire funnelled; last whorl tumid, angular above and below; lower disc concave; aperture rather quadrilateral, large, raised above the last whorl.

D'ORBIGNY. Voy. Amér. Mérid. Pl. XLIV. f. 5, 8.

*Hab.* South America.

Species 108. (Mus. Brit.)

**PLANORBIS AMMON.** *Pla. testâ sinistrali, maximè concentricissimâ, albâ, pallidè subviridi-fulvâ, concentricè rugatâ; spirâ profundè infundibulâtâ; anfractibus quaternis, superâ suturam rotundè elevatâ; ultimo lato, rapidè crescenti, ad aperturam expanso; disco inferiori profundè excavato; apertura magnâ, altissimâ, subulatâ, superâ superâ suturam elevatâ, acuminatâ; infra anfractuum ultimorum rotundè productâ, intus subcastaneo, margine interno incrassatâ.*

**THE AMMON PLANORBIS.** Shell sinistral, very large, very ventricose, high, pale greenish-fawn, concentrically wrinkled; spire deeply funnelled; whorls four, roundly elevated above the suture; last wide, rapidly enlarged, expanded at the aperture; lower disc deeply hollow; aperture large, very high, subovate, raised above over the suture, acuminated; roundly produced below the last whorl, rather chestnut within, lower margin thickened.

GOULD. United States' Expedition.

*Hab.* America.

The deep specimen of *Pla. corputentus*, figured in the first plate, resembles this species, but is not nearly so high nor so ventricose, and the upper part of the whorls are angular instead of being round.

Species 109. (Mus. Brit.)

**PLANORBIS ELEVATUS.** *Pla. testâ parvâ, albâ, dextrali, levigatâ, altiusculâ; spirâ plumulatâ, anfractibus concentricis, ultimo subquadrato, superâ declivi, superâ inférie angulato; apertura infra angulata ultimi anfractûs depressâ, magnâ, superâ inférie angulatâ, medio convexâ; disco inferiori angulata convexo.*

**THE ELEVATED PLANORBIS.** Shell small, white, dextral, smooth, rather high; spire flat, whorls a little convex, last rather square, sloped above, angular above and below; aperture depressed below the angle of the last whorl, convex in the middle; lower disc angularly concave.

SAY. Journ. Bost. Soc. Nat. Hist. 3, Pl. III. f. 15.

*Hab.* Vermont.

The above name is probably given to the shell because the last whorl against the mouth is raised considerably above the aperture.

Species 110. (Mus. Brit.)

PLANORBIS LENTICULARIS. *Pla. testâ parvâ, subcompressâ, fuscâ, brevi, dextrali; spirâ planiusculâ, anfractibus tribus, convexiusculis, ultimo supernè angulato, carinato, infra angustatâ; disco inferiori profundè umbilicato; aperturâ subtrigoniâ, ad angulum externum subacuminatâ.*

THE LENTICULAR PLANORBIS. Shell small, rather flat, brown, smooth, dextral; spire rather flattened, whorls three, rather convex, last angular above, keeled, narrow below; lower disc deeply umbilicated; aperture subtrigonal, acuminated at the outer angle.

HARTMAN — ? Adams, Genera of Mollusca.

*Planorbis opercularis*, Gould.

*Hab.* Sacramento River.

Species 111. (Fig. a, b, Mus. Brit.)

PLANORBIS GUADALOUPENSIS. *Pla. testâ sinistrali, compressâ, latâ, fulvâ, politâ; spirâ convexâ, anfractibus senis, convexiusculis; ultimo anfractu magno, supra suturam elevatâ, tum declivi, infra latiusculâ; disco inferiori convexo; aperturâ subtrigoniâ, margine inferiori ad anfractum ultimum producto.*

THE GUADALOUPE PLANORBIS. Shell sinistral, compressed, broad, fulvous, polished; spire concave, whorls six, convex; last whorl large, raised above the suture, then sloped, rather broad below; lower disc convex; aperture rather trigonal, lower margin produced on the body whorl.

SOWERBY. Genera of Recent and Fossil Shells.

*Hab.* Guadeloupe.

Species 112. (Mus. Brit.)

PLANORBIS DILATATUS. *Pla. testâ albâ, dextrali, supernè angulatiâ, infra angulum angustatâ, disco inferiori profundè excavato, aperturâ maximâ, trigoniâ, supernè complanatâ, infra acuminatâ.*

THE DILATED PLANORBIS. Shell white, dextral, angular above, narrow below the angle, lower disc deeply excavated, aperture very large, trigonal, flattened above; acuminated below.

PFEIFFER. Moll. de l'Allemagne, Vol. II. p. 165.

*Hab.* Massachusetts.

The last whorl suddenly expands towards the mouth, which is the largest of the whole genus in proportion to the body whorl.

Species 113. (Mus. Brit.)

PLANORBIS SWINHOEII. *Pla. testâ subdepressâ, semipellucidâ, fuscâ, subconvexo-truncatâ, supernè planulatâ, medio subangulatum productâ, infra planulatâ; disco inferiori angustè umbilicato; aperturâ subtrigoniâ, margine externo producto, margine superiori flexuosim depressâ.*

SWINHOE'S PLANORBIS. Shell subdepressed, semipellucid, brown, rather angularly truncated, flattened above, somewhat angularly produced in the middle, flattened below, lower disc narrowly umbilicated; aperture rather trigonal, outer margin produced; upper margin flexuously depressed.

H. ADAMS. Proc. Zool. Soc.

*Hab.* Isl. Formosa.





115 a



111



113 b



112



117



118



120



119



122



123



121

# PLANORBIS.

PLATE XIV.

## Species 114. (Fig. *a, b*, Mus. Brit.)

**PLANORBIS DEFORMIS.** *Pla. testâ parvâ, cinereo-ferruginea, complanata, dexterali; spirâ planulatâ; anfractibus quaternis, tumidis, subrotundis; ultimo versus aperturam irregulariter tumido, ad marginem expanso; apertura arcuatim-coactâ, anfractum ultimum suprâ infroque superante; disco inferiori ad marginem planulato, medio concavo.*

**THE DEFORMED PLANORBIS.** Shell small, rusty-grey, flattened, dextral; spire flattened, whorls four, tumid, rather rounded, last irregularly swelled, expanded at the margin; aperture curved-conical, extending above and below the last whorl; lower disc flattened at the margin, concave in the middle.

LAMARCK. Anim. sans Vert.

*Hab.* —?

The last whorl becomes tumid a little way before the expansion of the aperture.

## Species 115. (Fig. *a, b*, Mus. Brit.)

**PLANORBIS ALEXANDRINUS.** *Pla. testâ dexterali, subcompressâ, fulvâ, anfractibus quaternis, ultimo latiusculo, medio tumido, infra subangustato; apertura subtrigona, dentibus quinque laminatis longè internis armatâ; margine intus incrassato; disco inferiori latè umbilicato.*

**THE ALEXANDRINE PLANORBIS.** Shell dextral, rather compressed, fulvous, whorls four, last rather wide, middle tumid, rather narrow below; aperture subtrigonal, armed far back internally with five teeth; margin thickened within; lower disc broadly umbilicated.

EHRENSBERG. Roth. Moll. Sp. Pl. II. f. 8.

Genus, *Planorbula*, Haldeman.

*Hab.* Egypt.

This species belongs to the section which has been separated under the generic name of *Planorbula*. Far back in the throat may be seen laminated plates jutting out so as to contract the opening.

## Species 116. (Mus. Brit.)

**PLANORBIS DENTATUS.** *Pla. testâ dexterali, compressâ, fulvâ, spirâ planiusculâ; anfractibus convexis, superne latiss, infra median angustatis, disco superiori lato, disco inferiori angustato, profundè et angustè excavato; apertura magna, infra anfractum ultimum productâ, longè intus laminatim tridentatâ, margine intus incrassato.*

**THE TOOTHED PLANORBIS.** Shell dextral, compressed, fulvous, spire rather flat; whorls convex, broad above, narrow below the middle, upper disc broad, lower disc narrow, deeply and narrowly excavated; aperture large, produced below the last whorl, with three laminar teeth far within, margin thickened within.

DUNKEE. (*Planorbula*) —? Adams' Gen. of Moll.

*Hab.* —?

## Species 117. (Fig. *a, b*, Mus. Brit.)

**PLANORBIS ALBICANS.** *Pla. testâ albâ, solidiusculâ, dexterali, spirâ planulatâ; anfractibus convexiusculis, quaternis, moderatè crescentibus, ultimo ad aperturam valdè deflexo, disco inferiori angulatum excavato; apertura usque ad marginem inferiorem ultimi anfractûs depressâ.*

**THE WHITISH PLANORBIS.** Shell whitish, rather solid, dextral, spire rather flattened; whorls four, rather convex, moderately increased, last much bent down at the aperture, lower disc angularly convex; aperture bent down to the lower margin of the last whorl.

PFEIFFER.

*Hab.* Lima.

## Species 118. (Fig. *a, b*, Mus. Brit.)

**PLANORBIS COMPRESSUS.** *Pla. testâ compressâ, latiusculâ, pallidâ, brevitatâ, dexterali, superne angustatâ, infra latâ, subconicâ, spirâ depressâ; apertura obliquè pyramidalatâ, superne angustatâ, margine inferiori productâ.*

THE COMPRESSED PLANORBIS. Shell compressed, rather broad, pale, smooth, dextral, narrowed above, broad below, somewhat keeled, spire depressed; aperture obliquely pyramidal, angular above, lower margin produced.

HUTTON. Journ. Asi. Soc. Beng. Vol. III. p. 91.

*Planorbis Toubanicensis*. Mousson.

*Hab.* River Gauges.

Species 119. (Mus. Brit.)

PLANORBIS DENTIFERUS. *Pla. testâ angustâ, tumidâ, albâ, spirâ planiusculâ; anfractibus quaternis, altis, superâ ventricosis, inferâ subangustatis, disco inferiori subangustè excavato; aperturâ magnâ, auriformâ, superâ infraque ultimam anfractum productâ, longè intus quinqueferarum laminarum dentatâ.*

THE TOOTH-BEARING PLANORBIS. Shell narrow, tumid, whitish, spire rather flat; whorls four, high, ventricose above, slightly narrowed below, lower disc rather narrowly excavated; aperture large, ear-shaped, produced above and below the last whorl, with five laminar teeth far within.

ADAMS, C. B. Contributions to Conchology.

*Hab.* Jamaica.

Species 120. (Fig. a, b, Mus. Hanley.)

PLANORBIS HYPTIOCYCLOS. *Pla. testâ tumidâ, albâ, dextrali, spirâ depressâ; anfractibus tribus, luteisculis, supra suturam tumidè elevatis; aperturâ supra suturam levitè, tum delevitè, margine inferiori obliquâ, disco inferiori excavatâ.*

THE REFLECTED PLANORBIS. Shell tumid, whitish, dextral, spire depressed; whorls three, rather broad, raised in a swelling above the suture; aperture raised above the suture, then sloped, lower margin oblique, lower disc excavated.

BENSON. Ann. Nat. Hist. 1863, Ser. III. Vol. II. p. 89.

*Hab.* Ceylon.

Species 121. (Fig. a, b, Mus. Hanley.)

PLANORBIS ROTULA. *Pla. testâ parvâ, pallidè fulcâ, tumidè; cavâ, levigatâ, dextrali, spirâ depressâ;*

*anfractibus quinis, convexis, supra suturam paulè elevatis, disco inferiori latè concavo, anfractibus rotundis; aperturâ obliquè ovatâ.*

THE LITTLE WHEEL PLANORBIS. Shell small, pale fulvous, rather tumid, smooth, dextral, spire depressed; whorls five, convex, a little raised above the suture, lower disc broadly concave, whorls round; aperture obliquely ovate.

BENSON. Ann. Nat. Hist. 1863, Series II. Vol. V. p. 351.

*Hab.* Moradabad.

Species 122. (Fig. a, b, Mus. Brit.)

PLANORBIS CORINNA. *Pla. testâ parvâ, albâ, levigatâ, dextrali; anfractibus quaternis, rotundis, distinctis; disco superiori subdepresso, disco inferiori concavo; aperturâ transversè subovata.*

THE CORINNA PLANORBIS. Shell small, whitish, smooth, dextral; whorls four, rounded, distinct; upper disc rather depressed, lower disc concave; aperture transversely subovate.

GRAY. Proc. Zool. Soc. 1850.

*Hab.* New Zealand.

Species 123. (Fig. a, b, Mus. Brit.)

PLANORBIS INTERTEXTUS. *Pla. testâ angustâ, altâ, sinistrali, tenuissimè striatâ, costancâ, distanter concentricè albo-fasciatâ et nigro-lineatâ, spirâ medio angustè infundibulatâ; anfractu ultimo supra suturam angulatim elevato, disco inferiori lato, angulato, excavato; aperturâ altâ, subtriangulâ, intus grisâ.*

THE TEXTILE PLANORBIS. Shell narrow, high, sinistral, very finely striated, chestnut, distantly concentrically white-banded and black-lined, spire narrowly funnelled in the middle; last whorl raised above the suture in an angle, lower disc broad, angular, hollow; aperture high, sub-triangular, grey within.

SHUTTLEWORTH. —? MS. Brit. Mus.

*Hab.* Florida.

Resembling *Planorbis biangulatus*, excepting in the white bands bordered by dark lines appearing on the surface of the outer whorl.

# PLANORBIS.

|   | Plate. | Species. |  | Plate. | Species. |
|---|--------|----------|--|--------|----------|
| <i>Aeies</i> , <i>Porto</i> .....                             | XII.   | 102      | <i>costulatus</i> , <i>Krauss</i> .....                | IV.    | 26       |
| <i>affinis</i> , <i>Abbas</i> .....                           | IV.    | 28       | <i>cultratus</i> , <i>D'Orbigny</i> .....              | XIII.  | 106      |
| <i>albicans</i> , <i>Pfiffer</i> .....                        | XIV.   | 117      | <i>declivis</i> , <i>Sowerby</i> .....                 | IV.    | 29       |
| <i>albus</i> , <i>Müller</i> .....                            | III.   | 17       | <i>deflexus</i> , <i>Say</i> .....                     | XI.    | 88       |
| <i>Aldermani</i> , C. B. Ad. Not identified.                  |        |          | <i>deformis</i> , <i>Lamarck</i> .....                 | XIV.   | 114      |
| <i>Alexandrinus</i> , <i>Elzeuberg</i> .....                  | XIV.   | 115      | <i>dentatus</i> , <i>Dunker</i> .....                  | XIV.   | 116      |
| <i>ammonis</i> , <i>Beck</i> . Not identified.                |        |          | <i>dentiferus</i> , <i>Abbas</i> .....                 | XIV.   | 119      |
| <i>Ammon</i> , <i>Gould</i> .....                             | XIII.  | 108      | <i>depressissimus</i> , <i>Möbius</i> .....            | VIII.  | 66       |
| <i>amatus</i> , <i>D'Orbigny</i> .....                        | XII.   | 99       | <i>dilatatus</i> , <i>Pfiffer</i> .....                | XIII.  | 112      |
| <i>Andeodius</i> , <i>D'Orbigny</i> .....                     | VI.    | 50       | <i>obliquus</i> , <i>Hartman</i> . Unidentified.       |        |          |
| <i>anisus</i> , <i>Beck</i> . Not identified.                 |        |          | <i>eburneus</i> , <i>Göy</i> .....                     | V.     | 38       |
| <i>Antiguensis</i> , <i>Gubbling</i> (?) .....                | XI.    | 92       | <i>elegantulus</i> , <i>Dobson</i> .....               | IX.    | 69       |
| <i>antropus</i> , <i>Conrad</i> . Not identified.             |        |          | <i>elevatus</i> , <i>Say</i> .....                     | XIII.  | 109      |
| <i>Arakanensis</i> , <i>Gould</i> .....                       | XII.   | 100      | <i>evagnotus</i> , <i>Conrad</i> . Not identified.     |        |          |
| <i>Areticus</i> , <i>Beck</i> .....                           | VIII.  | 64       | <i>exacutus</i> , <i>Say</i> .....                     | XI.    | 94       |
| <i>armigerus</i> , <i>Say</i> .....                           | III.   | 18       | <i>exustus</i> , <i>Deshayes</i> .....                 | IV.    | 31       |
| <i>arritus</i> , <i>Sowerby</i> ( <i>Redfield</i> , by error) | III.   | 29       | <i>ferugineus</i> , <i>Spie</i> .....                  | IX.    | 73       |
| <i>Babiana's</i> , <i>Dunker</i> . Not identified.            |        |          | <i>Folkii</i> , <i>Dunker</i> . Not identified.        |        |          |
| <i>Beekianus</i> , <i>Dunker</i> .....                        | VII.   | 55       | <i>fuscus</i> , <i>Dunker</i> .....                    | IX.    | 74       |
| <i>Bengalensis</i> , <i>Dunker</i> .....                      | IV.    | 27       | <i>Gilberti</i> , <i>Dunker</i> .....                  | V.     | 37       |
| <i>biangulatus</i> , <i>Sowerby</i> .....                     | IV.    | 25       | <i>glaber</i> , <i>Jaffreys</i> (?) .....              | II.    | 19       |
| <i>bicarinatus</i> , <i>Say</i> .....                         | I.     | 7        | <i>glabratus</i> , <i>Say</i> .....                    | XI.    | 91       |
| <i>brauneus</i> , <i>Göy</i> .....                            | V.     | 40       | <i>gracilentus</i> , <i>Gould</i> .....                | VIII.  | 65       |
| <i>enlithus</i> , <i>Benson</i> .....                         | IV.    | 39       | <i>Gaadaloupenis</i> , <i>Sowerby</i> .....            | XIII.  | 111      |
| <i>empannulatus</i> , <i>Say</i> .....                        | II.    | 11       | <i>heliophilus</i> , <i>D'Orbigny</i> .....            | XII.   | 98       |
| <i>Cantori</i> , <i>Benson</i> .....                          | X.     | 79       | <i>heloicus</i> , <i>D'Orbigny</i> .....               | XII.   | 96       |
| <i>carinatus</i> , <i>Müller</i> .....                        | II.    | 12       | <i>hemisphaerata</i> , <i>Benson</i> . Not identified. |        |          |
| <i>catillus</i> , <i>Abbas</i> (?) .....                      | VI.    | 45       | <i>Hindsiannus</i> , <i>Dunker</i> .....               | VI.    | 44       |
| <i>Chilensis</i> , <i>Abbas</i> .....                         | VII.   | 57       | <i>humilis</i> , C. B. Adams. Not identified.          |        |          |
| <i>Chinoensis</i> , <i>Dunker</i> . Not identified.           |        |          | <i>hypticyclos</i> , <i>Benson</i> .....               | XIV.   | 120      |
| <i>circumlineatus</i> , <i>Shuttleworth</i> .....             | VI.    | 48       | <i>laticus</i> , <i>Benson</i> .....                   | XI.    | 94       |
| <i>coarctatus</i> , <i>Sowerby</i> .....                      | III.   | 21       | <i>inflatus</i> , <i>Dunker</i> .....                  | VI.    | 47       |
| <i>conosus</i> , <i>Benson</i> .....                          | X.     | 78       | <i>intermelius</i> , <i>Charp</i> . Not identified.    |        |          |
| <i>commutatus</i> , <i>Dunker</i> .....                       | VIII.  | 63       | <i>intertextus</i> , <i>Shuttleworth</i> .....         | XIV.   | 123      |
| <i>complanatus</i> , <i>Linnaeus</i> .....                    | I.     | 5        | <i>Isabel</i> , <i>Morlet</i> .....                    | XII.   | 101      |
| <i>compressus</i> , <i>Hutton</i> .....                       | XIV.   | 118      | <i>kermatoides</i> , <i>D'Orbigny</i> .....            | VII.   | 52       |
| <i>concurvus</i> , <i>Anthony</i> .....                       | XI.    | 86       | <i>lacustris</i> , <i>Lightfoot</i> .....              | II.    | 16       |
| <i>contortus</i> , <i>Müller</i> .....                        | II.    | 9        | <i>Lanieranus</i> , <i>D'Orbigny</i> .....             | VII.   | 58       |
| <i>convexiusculus</i> , <i>Hutton</i> .....                   | XI.    | 93       | <i>Largillierii</i> —? .....                           | XII.   | 103      |
| <i>coratus</i> , <i>Adanson</i> . Not identified.             |        |          | <i>lenticularis</i> , <i>Hartman</i> (?) .....         | XIII.  | 110      |
| <i>coriuna</i> , <i>Gray</i> .....                            | XIV.   | 122      | <i>lentus</i> , <i>Say</i> .....                       | X.     | 83       |
| <i>corneus</i> , <i>Linnaeus</i> .....                        | I.     | 1        | <i>leucostoma</i> = <i>spirorbis</i> .....             | II.    | 14       |
| <i>Coromandelicus</i> , <i>Käster</i> .....                   | IV.    | 34       | <i>limosa</i> , <i>Dunker</i> . Unidentified.          |        |          |
| <i>corpulentus</i> , <i>Say</i> .....                         | IX.    | 4        | <i>lucidus</i> , <i>Philippi</i> (?) .....             | VII.   | 33       |

PLANORBIS.

|   | Plate. | Species. |   | Plate. | Spec. |
|---|--------|----------|---|--------|-------|
| lugubris, <i>Wagner</i> .....               | III.   | 24       | Ponsonbyi, <i>Smith</i> .....   | X.     | 80    |
| Maenabianus, <i>Adams</i> .....             | V.     | 41       | Redfieldi, <i>C. B. Adams</i> ( <i>succineus</i> ,<br>Sowb. by error) ..... | III.   | 19    |
| magnificus, <i>Conrad</i> . Not identified. |        |          | <i>regularis</i> , <i>Lea</i> . Unidentified.                               |        |       |
| marmoratus, <i>Michaud</i> . Unidentified.  |        |          | Rossmäsleri, <i>Schmidt</i> .....   | VII.   | 59    |
| Merguensis, <i>Philippi</i> .....           | XI.    | 85       | rotula, <i>Benson</i> .....   | XIV.   | 121   |
| medians, <i>Benson</i> .....                | IX.    | 76       | <i>Rapelli</i> , <i>Dunker</i> . Unidentified.                              |        |       |
| montanus, <i>D'Orbigny</i> .....            | XIII.  | 107      | Salcaanus, <i>Dunker</i> .....  | VI.    | 46    |
| Moricandi, <i>Deek</i> .....                | IX.    | 71       | septemgyratus, <i>Zeigler</i> .....   | VII.   | 54    |
| multivalvis, <i>Cuse</i> .....              | IX.    | 72       | sericeus, <i>Dunker</i> .....   | VIII.  | 68    |
| nannus, <i>Benson</i> .....                 | IX.    | 75       | Sibiricus, <i>Dunker</i> .....  | V.     | 35    |
| Natalis, <i>Krauss</i> .....                | IV.    | 32       | sindicus, <i>Benson</i> . Omitted.  |        |       |
| nautilus, <i>Linnaeus</i> .....             | II.    | 8        | Spenceri, <i>Allen</i> .....  | VIII.  | 60    |
| Newberryi, <i>Lea</i> .....                 | X.     | 81       | spirorbis, <i>Müller</i> .....  | II.    | 14    |
| nitidulus, <i>Dunker</i> .....              | VIII.  | 61       | stagnicola, <i>Morelet</i> .....  | V.     | 43    |
| nitidus, <i>Müller</i> .....                | II.    | 15       | Stelzneri, <i>Dohrn</i> .....   | V.     | 36    |
| obesus, <i>Dunker</i> .....                 | X.     | 82       | stramineus, <i>Dunker</i> .....   | XI.    | 90    |
| obtusus, <i>Deshayes</i> .....              | V.     | 39       | subangulatus, <i>Philippi</i> .....   | VIII.  | 67    |
| olivaceus, <i>Spix</i> .....                | I.     | 6        | subernatus, <i>Carpenter</i> . Omitted.                                     |        |       |
| opercularis, <i>Gould</i> .....             | XIII.  | 110      | succineus, <i>Sowb.</i> , see <i>Redfieldi</i> .....                        | III.   | 19    |
| orbiculatus, <i>Morelet</i> .....           | III.   | 22       | Swinhoci, <i>H. Adams</i> .....   | XIII.  | 113   |
| orientalis, <i>Lamarck</i> .....            | XI.    | 89       | teniatus, <i>Morelet</i> .....  | V.     | 42    |
| pallidus, <i>C. B. Adams</i> .....          | VII.   | 56       | tenagophilus, <i>D'Orbigny</i> .....  | VI.    | 51    |
| Panamensis, <i>D'Orbigny</i> .....          | XII.   | 95       | tersversanus, <i>D'Orbigny</i> .....  | VI.    | 49    |
| parallelus, <i>Say</i> . Unidentified.      |        |          | <i>Tondaunensis</i> , <i>Mousson</i> .....                                  | XIV.   | 118   |
| paropscides, <i>D'Orbigny</i> .....         | XII.   | 97       | trivolvus, <i>Say</i> .....   | I.     | 2     |
| parvus, <i>Say</i> .....                    | XI.    | 87       | trochoides, <i>Benson</i> .....   | IX.    | 70    |
| peregrinus, <i>D'Orbigny</i> .....          | X.     | 84       | umbilicatus, <i>Benson</i> .....  | X.     | 77    |
| perforatus, <i>Gould</i> (?) .....          | XIII.  | 105      | ungulatus, <i>Chitty</i> .....  | VIII.  | 62    |
| Peruvianns, <i>Broderip</i> .....           | I.     | 3        | vermicularis, <i>Souceby</i> .....  | XII.   | 104   |
| Pfeifferi, <i>Krauss</i> .....              | IV.    | 33       | vortex, <i>Linnaeus</i> .....   | II.    | 13    |
| Philippinarum, <i>Dunker</i> .....          | III.   | 23       |   |        |       |



MONOGRAPH  
OF THE GENUS  
PLANAXIS.

By Thy kind power and influencing care  
The various creatures live, and move, and are. — *Milton*







2



1



3



4a



5



6



4b



5a



7b



4c

# PLANAXIS.

PLATE I.

## Genus PLANAXIS. *Letourbeck*

*Testa ovato-conica, solida, plerumque spiritaliter sulcata; spira plerumque brevis, conica; apertura subtriangularis, labris dilatato-lirata, subse- biter canalifera, emarginata; columella subarenata, planata, ad lateralem truncata; operculum ovato-oblongum, mucositate, nucleo fere terminali.*

Shell ovately conical, solid, generally spirally grooved; spire for the most part short, conical; aperture rather trigonal, tooth-ridged within, with a slight canal and notch in front; columella slightly arched, flattened, truncated at the end; operculum ovate-oblong, with one-whorled spire, nucleus nearly terminal.

Few genera so restricted in numbers are so widely spread in their habitats. We have identified 39 species, of which the greater number are tenants of Australian, South Sea Island, and Philippine groups. The Red Sea and Persian Gulf, the Mauritius and West Indies contribute their portion; the Chinese and Indian Seas have several, but there are no European species. The animals are marine, but partly amphibious, and spend a large portion of their existence above water. The slight canal and notch at the front of the aperture, and the flattened columella terminating in a notch, render this genus characteristic and easily distinguishable.

### Species 1. (Mus. Hanley.)

**PLANAXIS ENCAUSTICUS.** *Pla. testâ crassâ, brevî, albâ, areolarâ, fuscoque ochrabatâ et fasciatâ, brevitatâ; anfractibus senis ad septimos, ultimo ventricoso, infra medianam rotundè, ad suturam angustè angulato, nigro-punctato, spiritaliter, tenuiter, distanter, infra anopulum validè sulcato; apertura castaneâ, columellâ brevi, latè truncatâ, prope suturam validè callusâ; labro intus distanter et validè dentato-lirato.*

**THE ENAMELLED PLANAXIS.** Shell thick, short, whitish, clouded, and banded with blue and brown, smooth; whorls six to seven, the last ventricose, roundly angular below the middle, and narrowly at the suture; black-spotted, spirally, finely, distantly grooved, strongly below the angle; aperture chestnut, columella short, broadly truncated, with a strong callus near the suture.

outer lip distantly and strongly tooth-ribbed within.

SMITH. Proc. Zool. Soc. 1872, p. 38.

*Hab.* Arracan.

In the specimens from which the description was taken (no others being known) the upper whorls are much corroded, and the body whorl being smooth, with spiral grooves almost obsolete above, gives the remaining surface a sort of enamelled appearance.

### Species 2. (Mus. Brit.)

**PLANAXIS CASTANEUS.** *Pla. testâ subpyriformi, brevitatâ, castaneâ, spiritaliter tenuiter striatâ, longitudinally obliquè subliratâ; spira elevatâ, acuminatâ, anfractibus senis, convereiscentibus; ultimo bulbiformi, apertura parvâ, labro intus 7-denticulato, margino tenui, columellâ subarenatâ, infra subexpansâ.*

**THE CHESTNUT PLANAXIS.** Shell somewhat pyriform, smooth, chestnut, spirally finely striated, longitudinally obliquely slightly ridged, spire raised, acuminate, whorls six, rather convex; end bulb-shaped, aperture small, outer lip seven-toothed within, margin thin, columella slightly arched, rather expanded below.

SMITH. Proc. Zool Soc. 1872, p. 41.

*Hab.* — ?

### Species 3. (Mus. Brit.)

**PLANAXIS CRASSISPIRA.** *Pla. testâ oblongâ, subdistans, spiritaliter sulcatâ, griseâ, nigro-punctatâ; spira elevatâ, crassâ, subcylindricâ, obtusâ; anfractu ultimo obtusè angulato, apertura parvâ, subtriangulâ, columellâ albâ, infra latè productâ, labro intus validè dentato.*

**THE THICK-SPIRED PLANAXIS.** Shell oblong, rather distantly spirally grooved, grey, spotted with black; spire elevated, thick, subcylindrical, obtuse; last whorl obtusely angular; aperture small, subtriangular, columella white, broadly produced below; outer lip strongly toothed within.

SMITH. Proc. Zool. Soc. 1872, p. 39.

*Hab.* — ?

Differing from *Planaxis subcatus* in the narrow, straight-sided form.

## Species 4. (Fig. a, b, c, Mus. Hanley.)

**PLANAXIS SULCATUS.** *Pla. testâ trochiformi, crassi, profundè sulcatâ, fusco-rubescenti, nigro alboque maculatâ, costis prominentibus; spirâ conico, anfractibus quinis, ultimo magno, infra medium obscure angulato; aperturâ subtrigoni, columellâ coarctatâ, lato, ad suturam valdè callosâ et canaliculatâ; labro intus validè lieto-denticulato, margine crenulato.*

**THE GROOVED PLANAXIS.** Shell trochus-shaped, thick, deeply-grooved, spotted with reddish-brown, black and white, ribs prominent; spire conical; whorls five, last large, obscurely angular below the middle; aperture subtrigonal, columella rather straight, broad, with a strong callosity and a canal at the suture; outer lip strongly toothed within, margin crenulated.

**BORN.** (Buccinum) Mus. Vindob. p. 258, Pl. X. f. 5, 6.

*Planaxis buccinoides.* Deshayes.

*Planaxis undulata.* Lamarck.

*Buccinum pyramidale.* Lamarck.

*Hab.* Australia, Philippines, Mauritius, South Africa.

## Species 5. (Mus. Brit.)

**PLANAXIS OBSCURUS.** *Pla. testâ angustâ pyramidatâ, profundè et crebri sulcatâ, griseâ, maculatâ; spirâ elevatâ, anfractibus quinis, aperturâ breviusculâ, canali postico lato, columellâ arcuatâ, ad terminum acutè truncatâ; labro intus validè denticulato, margini tenui, subflexuoso.*

**THE OBSCURE PLANAXIS.** Shell narrowly pyramidal, deeply and closely grooved, grey, spotted; spire elevated, whorls five; aperture rather short, sharply truncated; outer lip strongly toothed within, margin thin, rather flexuous.

**A. ADAMS.** Proc. Zool. Soc. 1851, p. 271.

*Hab.* — ?

The whorls are more straight-sided than in *Planaxis planicostata*, and the grooves narrower.

## Species 6. (Mus. Brit.)

**PLANAXIS BREVICULUS.** *Pla. testâ breviter trochiformi, lato, crassi, spirâ brevi (inferè magis profundè)*

*sulcatâ; griseo-brunneâ, nigro maculatâ; spirâ brevi, anfractibus quinis, ultimo maximo, infra medium obscure angulato; aperturâ subtrigoni, fuscâ, ad marginem nigro maculatâ, columellâ brevi, superè validè callosâ, infra lato, latè truncatâ, labro fusco, liris dentiformibus magnis.*

**THE SHORT LITTLE PLANAXIS.** Shell shortly trochus-shaped, broad, thick, spirally-grooved (more deeply below), grey-brown, spotted with black; spire short, whorls five, last very large, obscurely angular; aperture subtrigonal, brown, black-spotted at the margin, columella short, with a strong callus above, broad below, broadly truncated, outer lip brown, with large tooth-shaped ridges.

**DESHAYES.** Mag. de Zool. 1844, Pl. CVIII.

*Hab.* Guam and New Guinea.

Broader and more finely grooved than *Planaxis sulcata*.

## Species 7. (Mus. Hanley.)

**PLANAXIS NUCLEUS.** *Pla. testâ ovato-acuminatâ, nigro-fuscâ, prope suturam, infra medium et post marginem aperturâ profundè sulcatâ, medio levigatâ; spirâ breviusculâ, acuminatâ; anfractibus brevibus, unguiculatis; aperturâ pyriformi, longiusculâ, valdè sinuè bicaniculatâ, columellâ latissimâ, planulatâ, medio longitudinaliter sulcatâ, termino subcordato; labro externo expanso, validè crenulato.*

**THE LITTLE NUT PLANAXIS.** Shell ovate-acuminate, black-brown, deeply grooved near the suture, below the middle and behind the margin of the aperture, smooth in the middle; spire rather short, acuminate, whorls short, a little convex; aperture pyriform, rather long, strongly bicamculated, columella very broad, flattened, with a longitudinal groove in the middle, with rather round end; outer lip expanded, strongly crenulated.

**LAMARCK.** Anim. s. Vert. Vol. VII. p. 249.

*Planaxis semisulcata.* Sowerby.

*Hab.* West Indies, Jamaica.

The grooves, which are deep at the margins and lower part of the last whorl, are obsolete in the middle of the whorls.





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14 a



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14 b



16



# PLANAXIS.

## PLATE II.

### Species 8. (Mus. Hanley.)

**PLANAXIS NIGRITELLUS.** *Pla. testâ brunneo-nigrescenti; spirâ obtusâ, conicâ; anfractibus quinis, converis-âsculis, distanter sulcatis, ultimo magno, sulcis medio subovatis; columellâ superâ callusâ, arcuatâ; labro subpatulo, intus tenuiter lirato.*

**THE LITTLE BLACK PLANAXIS.** Shell blackish brown; spire obtuse, conical; whorls five, rather convex, distantly sulcated; last large, with the sulci nearly obsolete in the middle; columella callous above, arched; outer lip rather patulous, finely ridged within.

**FORBES.** (*Nigritella*.) Proc. Zool. Soc. 1850. Pl. II. f. 6.

*Planaxis acutus.* Menke.

*Planaxis obsoletus.* Menke.

The above name is given to the species by Mr. Smith on account of the name *acutus* being previously applied to another species.

*Hab.* Mazatlan.

### Species 9. (Mus. Brit.)

**PLANAXIS ACUTUS.** *Pla. testâ brunneâ, acutâ pyrami- datâ; anfractibus septenis, converis, medio levigatis, spirâ infraqve tenuiter sulcatis; apertura brevius- culâ, latâ, subovata; columellâ latâ, labro intus tenuiter lirato.*

**THE ACUTE PLANAXIS.** Shell brown, sharply pyramidal; whorls seven, convex, smooth in the middle, finely sulcated above and below; aperture rather short, broad, slightly blue; columella broad; outer lip finely ridged within.

**KRAUSS.** Südafrikaischen Mollusken. Tab. VI., f. 2. *Hab.* Natal.

### Species 10. (Mus. Brit.)

**PLANAXIS ATRORUPUREUS.** *Pla. testâ nigro-plumbeâ, oblongâ, obtusâ, levigatâ, anfractibus tribus, parvis converis, ultimo infri sulcis tribus leviter sculptis; apertura subtriangulâ, castaneâ, labro intus levigato, superâ subdepresso.*

**THE PURPLE-BLACK PLANAXIS.** Shell black-lead, oblong, obtuse, smooth, whorls three, rather convex, last lightly sculptured below with three grooves; aperture subtriangular, brown; outer lip smooth within, slightly depressed above.

**RECLUZ.** Revue Zoologique, 1843, p. 261.

*Planaxis Albersii.* Dunker.

*Hab.* South Seas.

### Species 11. (Mus. Hanley.)

**PLANAXIS SIMILIS.** *Pla. testâ subpyramidatâ, brunneâ, omnino subtiliter sulcatis, sulcis prope suturam et infra medium fortioribus; spirâ pyramidatâ, acuminatâ; anfractibus septenis, superioribus converisâsculis; apertura purpurascenti, labro crasso, intus dentato-lirato, callo labiali postico distincto, parvo; rimâ angustâ.*

**THE SIMILAR PLANAXIS.** Shell rather pyramidal, brown, in every part rather distantly grooved; grooves stronger near the suture and below the middle; spire pyramidal, acuminated; whorls seven, upper rather convex; aperture purplish, lip thick, tooth-ridged within, posterior labial callus distinct, small; notch narrow.

**SMITH.** Proc. Zool. Soc. 1872, p. 41.

*Hab.* Sandwich Islands.

More conical than *Planaxis Hanleyi*, with less expanded aperture, thicker outer lip and nearly equal grooves in every part.

### Species 12. (Mus. Hanley.)

**PLANAXIS HANLEYI.** *Pla. testâ subovatâ, brunneâ; spirâ converis-conicâ; anfractibus senis, moderatè converis, apicalibus politis, cæteris spirâ infraqve spirâliter sulcatis; ultimo magno, infri fortissimè sulcato; apertura magno, patulâ; labro tenuissimè, intus tenuissime lirato, rimâ suturali subrotundâ.*

**HANLEY'S PLANAXIS.** Shell subovate, brown; spire convexly conical; whorls six, moderately convex;

apical polished, others spirally grooved above and below; last large, very strongly grooved below; aperture large, patulous; outer lip very thin, very finely ridged within, sutural notch rather rounded.

SMITH. Proc. Zool. Soc. 1872.

*Hab.* Sandwich Islands.

Mr. Smith mentions as a variety a specimen in which the posterior callus and inflected edge of the outer lip almost meet, so as to form a rounded hole like that in *Pupina*. I regard this as only a slight malformation. Yet the slit in this species is generally rounder than in *Planaxis similis*.

Species 13. (Mus. Hanley.)

PLANAXIS NIGER. *Pla. testâ nigra, ovato-pyramidalâ, spirâ acuminatâ, anfractibus senis, apicalibus albis, pallidis, ultimo magno, epidermide tenui, subviridi, inflexi angustè sulcato; apertura subtrigona, canali antice rotunda, canali postice lata; labro expanso, puctulo, intus incrassato, tenuissimè crenulato.*

THE BLACK PLANAXIS. Shell black, ovately pyramidal, spire acuminated, whorls six, apical, white, polished, last large, covered with a greenish epidermis, narrowly grooved below; aperture rather trigonal, anterior canal rounded, posterior canal broad; outer lip expanded, patulous, thickened and very finely crenulated within.

QUOY. (*Nigra*.) Voyage de l'Astrolabe, p. 49.

*Hab.* New Ireland.

Species 14. (Mus. Hanley.)

PLANAXIS LABIOSUS. *Pla. testâ obliquè subpyramidalâ, griseâ, fuscis nigrescentibus, medio angustatis cinctâ, epidermide densè ciliatâ intus, anfractibus quinque, apicali acuto, ultimo maximo; apertura magna intus, prope marginem crassâ, brevitatâ.*

THE LIPPED PLANAXIS. Shell obliquely subpyramidal, grey, and girt with blackish bands, narrow in the middle, covered with a thickly ciliated epidermis,

whorls five, apical sharp, last very large; aperture large, thick within, near the margin, smooth.

ADAMS (A.) Proc. Zool. Soc. 1851, p. 272.

*Planaxis plumbea*. Pease.

*Planaxis Browni*. Danker.

*Planaxis pedicularis*. Kusten.

*Hab.* Sandwich Islands.

Species 15. (Mus. Hanley.)

PLANAXIS CINGULATUS. *Pla. testâ ovate-pyramidalâ, spiritaliter crebrè sulcatâ; anfractibus septenis, superè fuscè late fuscatis, medio angustè lineatis; apertura breviusculâ, purpurascenti, labio externo intus livo dentato, margine lineo-punctato; columellâ subumbilicatâ.*

THE BELTED PLANAXIS. Shell sharply pyramidal, spirally closely grooved; whorls seven, broadly banded above with brown, narrowly lined in the middle; aperture rather short, purplish, outer lip tooth-ridged within, margin line-spotted; columella subumbilicated.

ADAMS (Arthur). Proc. Zool. Soc. 1851, p. 271.

*Hab.* China Seas.

Species 16. (Mus. Hanley.)

PLANAXIS STRIATULUS. *Pla. testâ ovato-pyramidalâ; fulvâ, levigatâ, rubra spiritaliter lineatâ; spirâ acuminatâ, conicâ; anfractibus senis; apertura breviusculâ, columellâ laboque purpureis, labro intus incrassato, rive lirato.*

THE STRIATED PLANAXIS. Shell pyramidal; fulvous, smooth, spirally lined with red; spire acuminated, conical; whorls six; aperture rather short, columella and outer lip purple, outer lip thickened within, scarcely ridged.

PHILIPPI. Zeitschrift für Malak. 1851, p. 91.

*Hab.* — ?

The species is subject to some variation, one variety being nearly white and another (in the British Museum) with only a broad cerulean band in the middle of the whorls.





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23a



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23b



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# PLANAXIS.

PLATE III.

Species 17. (Mus. Hanley.)

**PLANAXIS SUTURALIS.** *Pla. testâ parvâ, albâ, crassiusculâ, turritâ, pyramidalâ, apice acuminatâ; anfractibus plenâ, suturâ creantâ separatis, spirâliter profundè subvatis, superiôrè angulatis, inter sulcos planatis, columellâ superiôrè breviter callosâ, canali postico brevi, aperturâ brevi; labro crasso, dentibus interioribus lîriformibus decem.*

**THE SUTURAL PLANAXIS.** Shell small, white, rather thick, turreted, pyramidal; apex acuminate; whorls seven, separated by a deep suture, spirally deeply grooved, angular above, flat between the grooves; columella shortly callous above, posterior canal short; aperture short; outer lip thick, inner ridges-shaped teeth ten.

SMITH. Proc. Zool. Soc. 1872.

*Hab.* Chinese Seas.

Species 18. (Mus. Brit.)

**PLANAXIS ALER.** *Pla. parvâ, oblongo-pyramidalâ, nigri, obscurissimè fasciatâ; spirâ elongatâ, conicâ, anfractibus scâis, laterâliter subconplanatis, allium nigrescentib; aperturâ parvâ, breviter subtrigoniâ, intûs septem-liriatâ; canali postico nullo.*

**THE DARK PLANAXIS.** Shell small, oblong-pyramidal, black, very obscurely banded; spire elongated, conical, whorls six, laterally rather flat, last rather large; aperture small, shortly subtrigonal, with seven internal ridges; no posterior canal.

PEASE. (*Proc.*) American Journ. of Conchology.

*Hab.* Marquesas Islands.

In the obscurity of the dark colouring, light interstices of dark lines can be traced; and the species somewhat resembles the more obscure varieties of *Planaxis lineata*.

Species 19. (Mus. Hanley.)

**PLANAXIS ABBREVIATUS.** *Pla. testâ nigri, levigatâ, subovatâ, brevi; spirâ brevissimâ, anfractibus quaternâis, allium uncinâ, infôrè quinqueseleato, aperturâ parvâ convexâ, nigriâ, intûs tenuiter liriatâ, canali postico latidensulo.*

**THE ABBREVIATED PLANAXIS.** Shell black, smooth, subovate, short; spire very short, whorls four, last large, five-grooved below; aperture blackish-

purple, large, finely ridged within, posterior canal rather wide.

PEASE. (*Abbr. citâ.*) Proc. Zool. Soc. 1865, p. 515.

*Hab.* Sandwich Islands.

Considerably shorter in the spire than *Planaxis niger* of Guoy, which it otherwise much resembles.

Species 20. (Mus. Hanley.)

**PLANAXIS LINEATUS.** *Pla. testâ parvâ, oblongo-pyramidalâ, fulcâ vel griseâ, ovatâ spirâliter rubro vel nigro spirâliter lineatâ et fasciatâ, spirâ elongatâ, acuminatâ, anfractibus scâis ad septem, quatuor primis sulcato-liriatâ; aperturâ brevi, subtrigoniâ, intûs distanter dentato-liriatâ, canali postico nullo.*

**THE LINEATED PLANAXIS.** Shell small, oblong-pyramidal, fulvous or grey, variously spirally lined and banded; spire elongated, acuminate, whorls six or seven, first four groove-ridged; aperture short, subtrigonal, distantly tooth-ridged within, no posterior canal.

COSTA. (*Buccinum.*) Brit. Conch. p. 130.

*Buccinum pedicularè.* Lamarck.

*Hab.* West Indies.

This well-known West Indian shell was first described by Da Costa as British. A foreign specimen must have come into his hands by mistake.

Species 21. (Mus. Hanley.)

**PLANAXIS SUCCINCTUS.** *Pla. testâ parvâ, ovato-pyramidalâ, fulcâ subdistanter tenuiter rubro-lineatâ; spirâ subelevatâ, acuminatâ; anfractibus scâis, concentricis, superioribus lirato-sulcatis; aperturâ brevissimâ, latâ, intûs liriatâ, canali postico nullo.*

**THE LINE-SHIRT PLANAXIS.** Shell small, ovately pyramidal, fulvous, rather distant, finely red-lined; spire slightly elevated, acuminate; whorls six, rather convex, upper groove-ridged; aperture rather short, broad, ridged within; no posterior canal.

A. ADAMS. Proc. Zool. Soc. 1851, p. 272.

*Hab.* West Indies.

The lines are thinner and more distant, the whorls are more rounded and the spire is shorter in pro-

PLANAXIS.—PLATE III.

portion to the aperture than in *Planaxis lineatus*. Yet the variations in individuals is such that the two species are determined with difficulty.

Species 22. (Mus. — ? Copied)

PLANAXIS HERMANNSENI. *Testâ parvâ, solidâ, ovato-oblongâ, atro-fuscâ, lineis fulvis cinctâ; spirâ acuminatâ, anfractibus senis, convexis, apicalibus sulcatis, ultimo infrâ sulcato, ventricoso; caudâ post columellam umbilicatâ; aperturâ ovatâ, patulâ, albâ, lineatâ, intus incrassatâ, liratâ.*

HERMANNSEN'S PLANAXIS. Shell small, solid, ovately oblong, black-brown, girt with fulvous lines; spire acuminate; whorls six, convex, apical, grooved, last grooved below, ventricose, cauda umbilicated behind the columella; aperture ovate, patulous; white, lined, thickened within, ridged.

DUNKER. *Ind. Moll.* p. 16. Pl. II. f. 33.

*Hab.* Benguela.

Species 23. (Mus. Brit.—Hanley.)

PLANAXIS VARIABILIS. *Plâ. testâ parvâ, elongatâ, albâ, lineis spiralibus rubescentibus ornatâ, spirâ conicâ, rectilaterali, acuminatâ; anfractibus superioribus sulcatis, ultimo suprâ infrâque validè, medio leviter sulcato; aperturâ parvâ, brevî; columellâ infrâ brunneo tinctâ, collo canalique posticis nullis.*

THE VARIABLE PLANAXIS. Shell small, elongated, white, ornamented with spiral reddish lines, spire conical, straight-sided, acuminate; upper whorls grooved, last grooved strongly above and below, slightly in the middle; aperture small, short; columella tinged with brown below; no posterior callus or canal.

SMITH. *Proc. Zool. Soc.* 1872, p. 44.

*Hab.* Fiji Islands. Var. China Seas.

Figure *b* represents the variety in the Collection of Sylvanus Hanley, Esq.

Species 24. (Mus. Brit.)

PLANAXIS VIRGATUS. *Plâ. testâ elongatâ, fuscâ, lineis spiralibus paucis, et strigis longitudinalibus irregularibus ornatâ; spirâ acuminatim productâ; anfractibus octonis, convexiusculis, superioribus sulcatis, ultimo infrâ sulcato; aperturâ subovatâ, parvâ; labro acutè marginato; intus incrassato, denticulato; collo canalique posticis nullis.*

THE STRIPED PLANAXIS. Shell elongated, fulvous, ornamented with few spiral lines and longitudinal irregular stripes, spire acuminately produced; whorls eight, rather convex, upper grooved, last grooved below; aperture subovate, small; outer lip sharp-edged; thickened within, denticulated; no posterior callus or canal.

SMITH. *Proc. Zool. Soc.* 1872, p. 44.

*Hab.* Fiji Islands.

Species 25. (Mus. Hanley.)

PLANAXIS STRIGATUS. *Plâ. testâ parvâ, albâ, solidâ, spiritaliter distanter rubro-lineatâ; spirâ acuminatâ, anfractibus novenis, superioribus sulcatis, penultimo leviter striato; ultimo infrâ sulcato; aperturâ spiram longitudine æquantî; columellâ labroque albis vel pullillè violaceis; labro intus incrassato, denticulato, margine acuto.*

THE STREAKED PLANAXIS. Shell small, white, solid; spirally distantly red-lined; spire acuminate, whorls nine, upper grooved, last finely striated; last grooved below; aperture equalling spire in length; columella and lip white or pale violet, outer lip thickened within, denticulated, margin sharp.

HANLEY. *MS.* in Coll.

*Hab.* Pacific.

Neither the *P. virgatus* var. so marked in the British Museum, nor the "*strigatus* var." in Mr. Hanley's Collection seem to me to agree with the type of Mr. Smith's *P. virgatus*, but resemble each other, with the exception that the former has a little purple in the lips.





27



26a



28



26b



29a



29b



30a



31



30b



32



# PLANAXIS.

## PLATE IV.

### Species 26. (Mus. Hanley.)

**PLANAXIS PLANICOSTATUS.** *Pla. testâ trochiformi, magna, solida, fusca, epidermide tenuiter rugatâ indurâ, costis planatis latis cinctâ, interstitiis profundis; spirâ conici, aufractibus septenis ad suturam angustis angulatis; suturâ profundâ, ultimo margini, infra medianam obscurissimè angulato; apertura subtriangulâ, columellâ latè planatâ, collo postico continuo, labro ad marginem tenui, crenulato, sperâ depresso, intus liris dentiformibus septenis aequalibus, canali postico angusto elongato.*

**THE FLAT-RIBBED PLANAXIS.** Shell trochus-shaped, large, solid, brown, covered with a finely wrinkled epidermis, girt with flat, broad ribs; interstices deep; spine conical, whorls seven, narrowly angular at the suture; suture deep; last large, very obscurely angular below the middle; aperture subtriangular, columella broadly flattened, posterior callus very large, outer lip thin, crenulated at the margin, depressed above, strengthened within with seven tooth-like ridges; posterior canal narrow, elongated.

SOWERBY. Append. Tank. Cal. p. 13. 1825.

*Planaxis ovaliculata.* DAVAL.

*Planaxis circinata.* LESSON.

*Hab.* Galapagos Island and Panama.

### Species 27. (Mus. Hanley.)

**PLANAXIS FUSCUS.** *Pla. testâ tenui, elongatâ, politâ, semipellucidâ, albidi, liris rubris paucis distantibus cinctâ; spirâ elongatâ; aufractibus octonis, converiscentibus, spirâliberè breviter sulcatis, ultimo elongato, infra colidè sulcato et ventricoso; apertura brevi, angustâ, labro tenui, collo canaliculo postico nullis.*

**THE THIN PLANAXIS.** Shell thin, elongated, polished, semipellucid, whitish, girt with few distant red lines; spine elongated; whorls eight, rather

convex, spirally lightly grooved, last elongated, strongly grooved and ventricose below the middle, aperture short, narrow, outer lip thin, no posterior callus or canal.

SMITH. Proc. Zool. Soc. 1872. p. 45.

*Hab.* —?

### Species 28. (Mus. Brit.)

**PLANAXIS INEPTUS.** *Pla. testâ parvâ, pallidissimè fulvâ, supra suturam rubro lineatâ, spirâliberè sulcatâ; spirâ elongatâ, aufractibus septenis, converiscentibus, ultimo ventricoso, medio hiliato; apertura brevi, subrotundâ.*

**THE UNIMPORTANT PLANAXIS.** Shell small, very palfulvous, with a red line above the suture, spirally grooved; spine elongated, whorls seven, rather convex; last ventricose, with two lines in the middle; aperture short, rather rounded

GOULD. (*Inopta.*) Proc. Boston. Soc. Nat. Hist. 1869.

*Hab.* Kikaia Bay.

### Species 29. (Fig. a, b, Mus. Brit.)

**PLANAXIS ZONATUS.** *Pla. testâ parvâ, politâ, solidi, albidi, supra suturam et medio infroque aufractibus ultimi liris rubris cinctâ; aufractibus septenis, ultimo subventricoso; apertura latè, brevi; labro prope marginem incrassato, denticulato.*

**THE BANDED PLANAXIS.** Shell small, polished, solid, whitish, girt with a red line above the suture and in the middle and below the middle of the last whorl; whorls seven, last rather ventricose; aperture broad, short; outer lip thickened near the margin, denticulated.

A. ADAMS. Proc. Zool. Soc. 1851, p. 271.

*Hab.* Calapan, Philippines.

### Species 30. (Fig. a, b, Mus. Hanley.)

**PLANAXIS SAVIGNYI.** *Pla. testâ magna, crassi, breviter trochiformi, infra medianam subangulatâ, omnicostâ*

*crebrè sulentà, griseo-fusca; strigis numerosis angustis, undulatis, longitudinalibus ornata; spirà brevi; anfractibus quinis, brevibus, convexisculis; ultimo magno, supra medium tumidissimo; apertura subtrigona, labro intus calidè dentato, lirato, margine fusco, tenui, crenato, columellà brevissculà, callo postico conspicuo.*

SAVIGNY'S PLANAXIS. Shell large, thick, shortly trochiform, slightly angular below the middle, numerously grooved all over, grey brown, ornamented with numerous narrow undulating longitudinal stripes; spire short; whorls five, short, rather convex; last large, rather tumid above the middle, aperture rather trigonal; outer lip strongly tooth-ridged within, margin broad, thin, crenated, columella rather short; posterior callus conspicuous.

DESHAYES. Mag. Zool. 1844. Pl. CIX.

Hab. Red Sea.

The sulci are more numerous than in *Planaxis sulcatus*, and not deeply cut.

Species 31. (Mus. Brit.)

PLANAXIS LINEOLATUS. *Pla. testa parvi, densè spiràlitér sulcatà, rubro lineatà, subventricosà, spirà acuminatà, anfractibus convexisculis; apertura subrotundà, columellà tenui, calidè arcuatà, labro intus denticulatò, propè marginem incurvato, marginem rotundò.*

THE FINE-LINED PLANAXIS. Shell small, closely spirally grooved, lined with red, rather ventricose; spire acuminate, whorls rather convex; aperture rather round, columella thin, much arched, outer lip denticulated within, thickened near the margin, margin rounded.

GOULD. Otia Conch. p. 60.

Hab. Wilson's Island, near the Sandwich Islands.

Species 32. (Mus. Hanley.)

PLANAXIS LONGISPIRA. *Pla. testà parvè, elongatà, angustà, albidi, medio ultimi anfractis et infriò rubro bilineatà; spirà productà, anfractibus convexisculis, levibus, pallidis, ultimo basi sulcatò; apertura parvè, quam spirà longe breviori; columellà brevi, arcuatà, pallidè violaceà; labro crassissimo, callo postico nulla.*

THE LONG-SPIRED PLANAXIS. Shell small, elongated, narrow, whitish, with two red lines in the middle of the last whorl and below; spire produced, whorls rather convex, smooth, polished; last grooved at the base; aperture small, much shorter than spire; columella short, arched, pale violet; outer lip rather thick; no posterior callus.

SMITH. Proc. Zool. Soc. 1872. p. 45.

Hab. Chinese Seas.





74.



75.



76.



36.



77.



37.



78.



79.



79.



80.

# PLANAXIS.

PLATE V

Species 33. (Mus. Brit.)

**PLANAXIS FULVUS.** *Pla. testâ albi, apert. ovato-angulati, ad apicem fulvâ, spirâ elevatâ, anfractibus octonis, inferioribus convexis, spirâ alte subulatis, costis sub. subtilibus striatis; apertura subovata; labro ad marginem acuto, lacinia emarginata, intus incrassato, denticulato; columella breviter, callo postico parvo.*

**THE COBBY PLANAXIS.** Shell white, small, ovately acuminate, fulvous at the apex; spire raised, mucronated; whorls eight, lower convex, spirally grooved, ribs between the grooves divided; aperture subovate, outer lip sharp at the margin, spotted with brown, thickened and denticulated within; columella arched, posterior callus small.

SMITH. Proc. Zool. Soc. 1872, p. 42

*Hab.* St. Thomas and St. Vincent, West Indies.

The ribs are divided by a spiral line in the centre.

Species 34. (Fig. a, b, Mus. Brit.)

**PLANAXIS FUNGOSOSTRIATUS.** *Pla. testâ angustâ pyramidalâ, lineis micantissimâ puncto-striatis spirâliter elevatâ, brevi, pallidi fulvâ, arenâ parvis subquadantâ costâmicâ seriatis dispositis arenatâ; spirâ elongatâ, anfractibus senis, convexis, sensim, altâ subulatis; apertura brevi, subovata, antice callo emarginatâ, margini labii mucronatâ.*

**THE FUNGUS-STRIATED PLANAXIS.** Shell narrowly pyramidal, spirally encircled with very minute puncture-striated lines, smooth, pale fulvous, ornamented with small square chestnut spots; spire elongated, whorls six, rather convex, last rather ventricose; aperture short, subovate, anteriorly strongly notched, margin of the outer lip spotted.

SMITH. MS. Mus. Brit.

*Hab.* —?

Species 35. (Fig. a, b, Mus. Hanley.)

**PLANAXIS BRASILIENSIS.** *Pla. testâ elongato-pyramidalis, brevi, albi, crassissimâ, epidermide pilosâ intus; spirâ elevatâ, anfractibus septenis, supe-*

*rioribus frequenter, areâ mucronâ albâ, vix inclinata albâ arenatâ; apertura parva, ovato-angulata, labro ad marginem mucronâ, spirâ angustâ elevatâ, anfractibus senis, convexis, sensim, altâ subulatis; apertura brevi, subovata, antice callo emarginatâ, margini labii mucronatâ.*

**THE BRAZILIAN PLANAXIS.** Shell elongate-pyramidal, smooth, white, very thick, covered with a velvety epidermis; spire raised, whorls seven, upper often banded with grey, last obtusely angular below the middle; aperture small, ovate, fulvous, outer lip tumid at the back, bent down above the margin, much thickened and denticulated within; columella short, thickened, arched, produced anteriorly, anterior canal lengthened, tumid outside.

LAMARCK. (Buccinum.) Anim. s. Vert. Vol. VII, p. 272.

*Planaxis mollis.* Sowerby.

*Buccinum levigatum.* Wood.

*Planaxis fulva.* A. Adams.

*Planaxis piper.* Forbes.

*Hab.* Brazil.

Species 36. (Fig. a, b, Mus. Hanley and Brit.)

**PLANAXIS (QUOYIA) MICHAUDI.** *Pla. testâ pyramidalâ, elevatâ, levigatâ, fuscâ, fulvâ vel griseo-longitudinaliter fasciatâ; spirâ elongatâ, conicâ; anfractibus septenis, convexis, sensim, altâ inflexo-angulata, super cavârem canalâ leviter spirâliter striatâ; apertura brevi, subtriangula, columellâ superâ quadratum emissa, acutâ undulatâ, ad terminum truncatâ; labro intus truncato-lirato-denticulato; canali antico brevi, obtuso.*

**MICHAUD'S PLANAXIS.** Shell pyramidal, raised, smooth, brown, longitudinally striped with fawn or grey; spire elongated, conical; whorls seven, rather convex, last angular below the middle, lightly spirally striated above the varix of the canal; aperture short, subtriangular, columella cut out in a square above, with a sharp tooth, truncated at the end; outer lip finely ridge-toothed; anterior canal short, round.

CROSSE and FISCHER. Journ. Conch. Vol. XI, p. 375

*Hab.* Eastern Seas.

PLANAXIS.—PLATE V

The variety in the British Museum is banded longitudinally with light grey, and that in M. Hanley's collection is of a more uniform brown colour. The shell is more slender than *Quoyia decollata*, which is deeply grooved.

Species 37. (Fig. a, b. Mns. Hanley.)

PLANAXIS (Quoyia) DECOLLATA. *Pla. testâ oblongo-pyramidalâ, spirâliter radiâle sulcatâ, subciliâ fibrâ, fusco longitudinaliter strigatâ, sulcis prope suturam et supra caricem canalis majoribus; angustibus lateraliter costâscentis, superioribus deciduis; aperturâ brevi, subtriangulâ, columellâ superâ quadratum excisi, acutâ undulatâ, ad marginem truncatâ; labro intus tenuiter lineato-dentatâ; canali ostio brevi, obuso.*

THE DECOLLATED PLANAXIS. Shell oblong-pyramidal, spirally strongly grooved, greenish-fawn, longitudinally striped with brown, grooves larger near the suture and above the canal varix; whorls laterally rather straight, upper deciduous;

aperture short, rather trigonal, columella cut out above in a square, with a sharp tooth; anterior canal short, rounded.

GRAY. Proc. Zool. Soc. 1847, p. 138.

*Hab.* New Guinea, Philippines.

Species 38. (Mus. Brit.)

PLANAXIS (Holecostoma) PILIGER. *Pla. testâ ovata, brevi, latè plumbeo fuscâ; spirâ brevissimâ; aperturâ magna, ovatâ, canali postico elongato, sinuato, columellâ arcuatâ, infusâ latâ, latè truncatâ, labro intus leviter dentato, margine superâ flexuoso.*

THE HAIRY PLANAXIS. Shell ovate, smooth, broadly banded with plum-colour; spire very short; aperture large, oval, posterior canal elongated, sinuous, columella arched, broad below, broadly truncated, outer lip lightly toothed, margin flexuous above.

PHILIPPI. Zeitschrift für Malak. 1848, p. 164.

*Holecostoma stigerum*, A. Adams.

*Hab.* Mauritius

## PLANAXIS.

|   | Plate. | Species. |  | Page.   |
|---|--------|----------|--|---------|
| <i>aberratus</i> , Pease                      | III.   | 19       | <i>Menckens</i> , Dunker. Not identified.      |         |
| <i>acutus</i> , Krauss                        | II.    | 9        | <i>Michaudi</i> , Crasse and Fischer           | V. 36   |
| <i>albipes</i> , Menke                        | II.    | 8        | <i>Mollis</i> , Sowerby                        | V. 35   |
| <i>Albivittis</i> , Dunker                    | II.    | 10       | <i>nucleus</i> , Lamarek                       | I. 7    |
| <i>apiculatus</i> , A. Adams. Not identified. |        |          | <i>Nicolariensis</i> , Zeebor. Not identified. |         |
| <i>ater</i> , Pease                           | III.   | 18       | <i>niger</i> , Quoy                            | II. 13  |
| <i>atropurpureus</i> , Reclus                 | II.    | 10       | <i>nigritellus</i> , Forbes                    | II. 8   |
| <i>Brasilianus</i> , Lamarek                  | V.     | 35       | <i>obscurus</i> , A. Adams                     | I. 5    |
| <i>breviculus</i> , Deshayes                  | I.     | 6        | <i>obsoletus</i> , Menke                       | II. 8   |
| <i>brevis</i> , Quoy. Not identified.         |        |          | <i>pedicularis</i> , Lamarek                   | III. 20 |
| <i>Bronni</i> , Dunker                        | II.    | 14       | <i>pedicularis</i> , Kuster (?)                | II. 14  |
| <i>Buccianus</i> , A. Adams. Not identified.  |        |          | <i>pigea</i> , Forbes                          | V. 35   |
| <i>buccinoides</i> , Deshayes                 | I.     | 4        | <i>piliger</i> , Philippi                      | V. 38   |
| <i>caudiculata</i> , Duval                    | IV.    | 26       | <i>planicostata</i> , Sowerby                  | IV. 26  |
| <i>castaneus</i> , Smith                      | I.     | 2        | <i>plumbea</i> , Pease                         | II. 14  |
| <i>cingulatus</i> , Adams                     | II.    | 15       | <i>puncto-striatus</i> , Smith                 | V. 34   |
| <i>circinata</i> , Lesson                     | IV.    | 26       | <i>pyramidale</i> , Lamarek                    | I. 4    |
| <i>crassispira</i> , Smith                    | I.     | 3        | <i>Savignyi</i> , Deshayes                     | IV. 30  |
| <i>decollata</i> , Gray                       | V.     | 37       | <i>senisulcata</i> , Sowerby                   | I. 7    |
| <i>choreus</i> , Smith                        | V.     | 33       | <i>setigemma</i> , A. Adams                    | V. 38   |
| <i>encanstiens</i> , Smith                    | I.     | 1        | <i>similis</i> , Smith                         | II. 11  |
| <i>fasciatus</i> , Pease. Not identified.     |        |          | <i>striatulus</i> , Philippi                   | II. 16  |
| <i>fulva</i> , A. Adams                       | V.     | 35       | <i>strigatus</i> , Hanley                      | III. 25 |
| <i>Gouldii</i> , Smith. Not identified.       |        |          | <i>succinctus</i> , A. Adams                   | III. 21 |
| <i>Hanleyi</i> , Smith                        | II.    | 12       | <i>sulcatus</i> , Born                         | I. 4    |
| <i>Hermaunseui</i> , Dunker                   | III.   | 22       | <i>suturalis</i> , Smith                       | III. 17 |
| <i>hircinus</i> , Philippi. Not identified.   |        |          | <i>toniatus</i> , Philippi. Not identified.    |         |
| <i>ineptus</i> , Gould                        | IV.    | 28       | <i>tenuis</i> , Smith                          | IV. 27  |
| <i>labiosus</i> , Adams                       | II.    | 14       | <i>undulata</i> , Lamarek                      | I. 4    |
| <i>lavigatum</i> , Wood                       | V.     | 35       | <i>variabilis</i> , Smith                      | III. 23 |
| <i>lineatus</i> , Costa                       | III.   | 20       | <i>virgatus</i> , Smith                        | III. 21 |
| <i>lineolatus</i> , Gould                     | IV.    | 31       | <i>zonatus</i> , A. Adams                      | IV. 29  |
| <i>longispira</i> , Smith                     | IV.    | 32       |  |         |





MONOGRAPH

OF THE GENUS

VELORITA.

Thou jubilant abyss of ocean cry,

Alleluia!

Ye tracts of earth and continents reply,

Alleluia! — *Neal.*







1a



1b



1c



2a



2b

## VELORITA.

### Genus VELORITA. Gray.

#### MOLLUSCUM ACEPHALOPODOUM, BIMUSCULOSUM, FLUVIATILE.

*Testa crassa, solidâ, æquivalvi, epidermide crassâ, albenti inlucida; umbonibus a cardine separatis; sordine crassa, utriusque valvæ dentibus tribus cardinalibus divergentibus; dentibus lateralibus, antice brevissimo, angulato, postico elongato. Pallii impressio posticæ angulatum sinuosa. Ligamentum externum, æquatum.*

#### MOLLUSCUM ACEPHALOPODOUM, BIMUSCULARE, FLUVIATILE.

Shell thick, solid, equivalve, covered with a thick, shining epidermis; umbones separated from hinge. Hinge thick, with three diverging cardinal teeth in each valve; lateral teeth, anterior rather short, angular, posterior elongated. Impression of the mantle posteriorly, angularly sinuated. Ligament external, large.

The two species described are from Japan and Cochin, in India. The former is the well-known *Velorita cyprinoides*, and the latter recently described by Mr. Smith of the British Museum. We are unacquainted with the so-called *Velorita recurvata* of Valenciennes. The solidity of the shell, the very peculiarly angular front lateral tooth, and the separation by a small area of the umbones, are the characteristics of the genus.

#### Species 1. (Mus. Sowerby.)

*VELORITA CYPRINOIDES. Vel. testâ altissimâ, solidissimâ, humidissimâ, valvâ obliquâ, iris concentricis distantibus, plerumque ad latera continuis rugatâ, intus albâ, et roseo violaceoque tinctâ; latere antico brevissimo, perpendiculari, infra umbones areâ subrotundâ, planulatâ; latere postico producto, infra uncinato, angulato, subarcuato, post angulum planulatâ.*

THE CYPRINA-LIKE VELORITA. Shell very high, very solid, very tumid, very oblique, wrinkled with distant concentric ridges, for the most part continued to the sides, white, or tinged with rose or violet within; anterior side very short, perpendicular, with a rather rounded, flattened area; posterior side produced, acuminate below, angular, slightly keeled, flattened behind the angle.

GRAY. —? MS. Brit. Mus.

*Hab.* Japan.

#### Species 2. (Mus. Brit.)

*VELORITA COCHINENSIS. Vel. testâ subovatâ, latâ, obliquâ, subcompressâ, iris concentricis distantibus, plerumque posticæ post medianâ discontinuis rugatâ, intus salmonicâ et aurantiâ; latere antico brevi, fere perpendiculari, infra umbones planulatâ; latere postico obliquè producto, vix carinato, angulato, post angulum planulato, ad terminum subtruncato.*

THE COCHIN VELORITA. Shell subovate, broad, oblique, subcompressed, wrinkled with distant concentric ridges, for the most part discontinued posteriorly behind the middle, salmon and orange within; posterior side obliquely produced, hardly keeled, angular, flattened behind the angle, truncated behind the middle.

HANLEY, Smith, Proc. Zool. Soc. 1875.

*Hab.* Cochin, Kinderpore, Madras.

The differences between this and the former species, consisting in the greater breadth and less elevated apex of the latter, the tendency of its wrinkles to stop near the anterior half of the shell, are more comparative than positive, and, in a number of specimens, some are found in which these characters are almost interchangeable.



MONOGRAPH

OF THE GENUS

P T E R O P O D A .

We float upon a wild and violent sea, each way, and move.

*Shakspeare.*









2



1a



3.



4a



5a



5b



1b



6



7



11b

# PTEROPODA.

## PLATE I.

### Genus HYALEA. Lamarck.

*Testa* *appena, tenuissima, subglobosa, lateraliter appendiculata, symmetrica; apice nonspirali; apertura angustâ, lateraliter incisâ; labro marginato, plerumque in rostrum producto.*

Shell glassy, very thin, subglobose, with lateral appendages, symmetrical; apex non-spiral; aperture narrow, laterally incised; outer lip bordered, generally produced into a beak.

SYNONYM. *Carolina* Giovanni.

The Pteropoda are placed by authors, who have studied their peculiarities, between the Cephalopoda and the Gasteropoda. The name of the class is happily chosen to suggest the wing-like pair of flappers or fins which, placed on each side of the head, effect by their action the locomotion of the mollusc. The greater part of the species are common to all seas; a few being perhaps peculiar to the Atlantic, and a few to the Pacific. They can be seen in the evening or at night floating at the surface of the water in great numbers, but at sunrise they sink to various depths, and are seen no more till the luminary of day disappears from the horizon. It is said that each species has its own precise moment for retiring, and its own appointed depth to which to sink.

The shells of some of the genera are obliquely spiral; as *Hemifusus* and *Chelitropis*. Some are symmetrically spiral. Some have an operculum. *Cymbulia*, a boat-shaped symmetrical cartilage, but no shell. The form of the shell in *Hyalera* bears a considerable resemblance to a symmetrical bivalve shell with the valves soldered together at the dorsal hinge.

#### Species 1. (Mus. Brit.)

HYALEA UNGINATA. *Hya. testâ tenuissimâ, succineâ, tumidâ, posticè trispinosa, spinis lateralibus trigonis, acutis, spinâ terminali deflexâ, uncinatâ; apertura angustâscubâ, labro angustè marginato, medio paulo producto.*

THE HOOKED HYALEA. Shell very thin, amber,

tumid, posteriorly three-spined, lateral spines three-sided, sharp terminal spine bent downwards, curved; aperture rather narrow, outer lip narrowly bordered, a little produced in the middle.

RANG. D'Orbigny. Voy. Amér. Mérid. Pl. V. f. 11 15.  
Hab. Atlantic Ocean.

Distinguished from *Hyalera Trispinosa* by the more pent-up form, and by the hooked character of the central spine.

#### Species 2. (Mus. — ? Copied.)

HYALEA FLAVA. *Hya. testâ flavidâ, tenuissimâ, ovatâ, subcompressâ, posticè trispinosâ, spinis lateralibus subapplanatis, spinâ centrali elongatâ, apertura angustâ, labro bilobato.*

THE YELLOW HYALEA. Shell flavid, very thin, oval, subcompressed, three-spined posteriorly; lateral spines rather approximate, central spine long; aperture narrow, outer lip bilobate.

D'ORBIGNY. Voy. Amér. Mérid. Pl. V. f. 21 25.

Hab. Atlantic Ocean.

Distinguished from *Hyalera trispinosa* by its oval and more compressed form.

#### Species 3. (Mus. Brit.)

HYALEA AFFINIS. *Hya. testâ densè fuscâ, quam H. tridentata angustiorâ, magis rotundâ, rostro apertura producto, bilobato.*

THE RELATED HYALEA. Shell deep brown, narrower than *Hyalera tridentata*, the rostrum of the mouth produced, bilobate.

D'ORBIGNY. Voy. Amér. Mérid. Pl. V. f. 6-10.

Hab. Atlantic Ocean.

By the character of the shell alone the species would scarcely be distinguishable from the common species, and for this reason the writer has confined himself to the above very short comparative description.

## Species 4. (Mus. Brit. &amp;c.)

**HYALEA TRIDENTATA.** *Hya. testâ intensè fuscâ, tenui, infra pallidiori, posticè acutè trispinosâ; spinis lateralibus aloformibus, spinâ terminali rectâ, disco inferiori subtrigono, aperturam versus dicaricatum subtrilobato; disco superiori globoso, ad latera marginato; aperturâ trigonâ, lubro rostrato, margine subquadrilobato.*

**THE THREE-SPINED HYALEA.** Shell deep brown, thin, rather paler underneath, posteriorly sharply three-spined, lateral spines wing-shaped, terminal spine straight, lower disc subtrigonal to subtrilobate towards the aperture; upper disc globose, bordered at the sides; aperture trigonal, outer lip beaked, margin slightly four-lobed.

**FORSKAL** (Cavolina).

*Hyalæa papilionacea.* Bory St. Vincent.

*Hyalæa Forskalii.* D'Orbigny.

*Hyalæa Pungii.* Deshayes.

*Hab.* Mediterranean. Great Britain?

It is probable that the variety, fig. 6, with white border and appendages, may be the *H. papilionacea* of St. Vincent.

## Species 5. (Mus. Brit.)

**HYALEA CUMINGII.** *Hya. testâ trispinosâ, pallidâ, tenuissimâ, iridescenti, nebulosâ, vel pallidè succinâ, quam H. trispinosa magis oblongâ, spinis lateralibus magis approximatis, rostro subtrigono, producto.*

**CUMING'S HYALEA.** Shell three-spined, pale, very thin, iridescent, clouded, or pale amber, more oblong than *Helix trispinosa*, lateral spines more approximated, beak subtrigonal, produced.

**DESHAYES.** MS. Mus. Cuming.

*Hyalæa umbrosa.* Deshayes (var.)

*Hab.* ———?

Of a more oblong form and lighter texture than *H. trispinosa*, but the difference is not very obvious. There is something in the texture of the pale variety

giving a cloudy iridescence, which may, however, indicate a real specific distinction.

## Species 6. (Fig. a, b, Mus. Brit.)

**HYALEA GLOBULOSA.** *Hya. testâ trispinosâ, ovatâ, ventricosâ, albâ, angustiusculâ, disco ventrali obliquè conico, ad apicem rotundè elevato, spinis lateralibus obtusis, subapproximatis, spinâ apicali deflexâ, truncatâ, perforatâ; aperturâ angustè semilunari, lubro breviter marginato.*

**THE GLOBOSE HYALEA.** Shell three-spined, ovate, ventricose, white, rather narrow; ventral disc obliquely conical, roundly raised at the apex, lateral spines obtuse, somewhat approximate, apical spine bent downwards, truncated, perforated; aperture narrowly semilunar, outer lip shortly margined.

**RANG.** Proc. Zool. Soc.

*Hab.* ———?

## Species 7. (Fig. a, b, Mus. Brit.)

**HYALEA GIBBOSA.** *Hya. testâ trispinosâ, ovatâ, ventricosâ, albâ, angustiusculâ, elongatâ, disco ventrali obliquè conico, acuminatim elevato, ad angulum elevatum rugatâ; spinis lateralibus approximatis, spinâ centrali elongatâ, leviter deflexâ.*

**THE GIBBOUS HYALEA.** Shell three-spined, ovate, ventricose, white, rather narrow, elongated; ventral disc obliquely conical, acuminately elevated, wrinkled at the raised angle; lateral spines approximated, central spine elongated, slightly deflected.

**RANG.** D'Orbigny, Voy. Amér. Méric.

*Hab.* ———?

This and the preceding species are swelled and raised at the ventral disc, forming an oblique cone, leaning towards the aperture in each case. In *Hyalæa globulosa* the apex of the cone is rounded. In *H. gibbosa* it is raised into an acuminated strongly-wrinkled beak.



*Pteropoda Pl. II*

(*Hyalæa*)



## PTEROPODA.

### PLATE II.

#### HYALEA.

Species 8. (Fig. a, b, Mus. Sowerby.)

**HYALEA OBTUSA.** *Hya. testâ parvâ, tenuissimâ, pallidissimâ succinâ, hyalinâ; disco centrali brevî, rotundâ; spinis lateralibus brevibus, duplicatis; apice centrali truncato, utrinque vix dentato, apertura trigonâ, labro producta.*

**THE OBTUSE HYALEA.** Shell small, very thin, very pale amber, glassy; ventral disc short, rounded; lateral spines short, double, central apex truncated; just perceptibly dentated on each side; aperture trigonal, outer lip produced.

**SOWERBY.**

*Hab.* — ?

The side appendages are smaller, and the bifid denticles more obtuse than in *Hyalina longirostris*, and the central apex broader and more truncated.

Species 9. (Mus. Sowerby.)

**HYALEA MINUTA.** *Hya. testâ minutissimâ, globosâ, subcinereâ, posticâ angustata, processibus lateralibus minutis unidentatis, apice centrali producto, latè truncato, utrinque minutissimè unidentato; apertura angustè semilunari; margine simplici, reflecto.*

**THE MINUTE HYALEA.** Shell very minute, globose, rather ashy, posteriorly narrowed, lateral processes with a minute tooth, central apex produced, broadly truncate, with a single very minute tooth on each side; aperture narrowly semilunar, with a simple reflex margin.

**SOWERBY.**

*Hab.* — ?

Species 10. (Mus. Sowerby.)

**HYALEA INTERMEDIA.** *Hya. testâ parvâ, latè, albâ, pellucidâ, posticè subcompressâ, quadridentatâ, denticibus lateralibus trigonis, acutis, denticibus ad apicem parvis, uncinatis; apice centrali subpro-*

*ducto, truncato; apertura angustâ, margine simplici, reflecto.*

**THE INTERMEDIATE HYALEA.** Shell small, broad, white, pellucid, posteriorly rather compressed, with four teeth; lateral teeth trigonal, acute, teeth at the apex small, acuminated; central apex rather produced, truncated; aperture narrow, margin simple, reflected.

**SOWERBY.**

*Hab.* — ?

Larger, more compressed at the sides, and less globose than *H. minuta*. Smaller, and more contracted anteriorly than *H. quadridentata*.

Species 11. (Fig. a, b, Mus. Brit.)

**HYALEA LIMBATA.** *Hya. testâ pallidè lilacinâ vel fuscâ, trigonâ, disco centrali tumido, tenuiter lirate, apice angustè subtruncato, processibus lateralibus alatis, trigonis, acuminatis, acutè tridentatis; apertura subtrigonâ, labio interno angustè reflecto; labro longè producto, leviter elevato, rostrato; rostro ad terminum bilobato; margine medio subcontracto.*

**THE BORDERED HYALINA.** Shell pale lilac or brown, trigonal, ventral disc tumid, finely ridged, apex narrowly rather truncate, lateral processes winged, trigonal, acuminated, sharply tridentate; aperture subtrigonal; inner lip narrowly reflected; outer lip much produced, slightly elevated, beaked, slightly contracted in the middle.

**D'ORBIGNY.** Voy. Amér. Mérid. Pl. VI. f. 11, 15.

*Hab.* Atlantic Ocean.

Species 12. (Fig. a, b, Mus. Brit.)

**HYALEA LONGIROSTRIS.** *Hya. testâ fuscâ, vel albâ, versus aperturam fusco suffusâ, disco centrali tumido, rotundo, tenuiter lirate, apice angustè subtruncato, processibus lateralibus alatis, trigonis, bidentatis; apertura subtrigonâ, labio interno*

PTEROPODA.—PLATE II.

*angustè reflexo, labro longè producto, valvè elevato, rostrato, rostro ad terminum bilobato; margine medio coarctato.*

THE LONG-BEAKED HYALEA. Shell brown, or white, suffused with brown towards the aperture: ventral disc tumid, rounded, finely-ridged, apex narrowly subtruncated, lateral processes winged, trigonal, bidentate; aperture subtrigonal; inner lip narrowly reflected, outer lip much produced, strongly raised, beaked; beak two-lobed at the end; margin strongly contracted in the middle.

LESUEUR. D'Orbigny, Voy. Amér. Mérid. Pl. VI. f. 12.

*Hab.* Atlantic Ocean.

It is with some hesitation that the writer adopts D'Orbigny's distinction between this and the preceding species. The rostrum seems to be more distinctly contracted at the base, and more suddenly upturned in *H. longirostris* than in *H. limbata*, while the lateral alæ are more spread and acuminate produced in the latter species, giving the shell altogether a more triangular appearance.

Species 13. (Fig. a, b, Mus. — ? Copied.)

HYALEA LEVIGATA. *Hya. testâ discoidali, compressâ, minuto, albâ; processibus lateralibus cuneatis, apice*

*producto, acutè uncinato; aperturâ ad processum continuatâ, labiis subæqualibus.*

THE SMOOTH HYALEA. Shell discoidal, compressed, minute, white; lateral processes curved, apex produced, sharply hooked; aperture continued to the processes, lips nearly equal.

D'ORBIGNY. Voy. Amér. Mérid. Pl. VII. f. 15–19.

*Hab.* — ?

A flat white species of *Hyalea* (?) very simple in form.

Species 14. (Fig. a, b, Mus. Brit.)

HYALEA QUADRIDENTATA. *Hya. testâ succineâ, oblongâ, tumidâ, posticè subangustatâ, processibus lateralibus acutè unidentatis, apice producto, angustò, ad terminum rotundo, utrinque propè terminum unidentato, aperturâ angustâ, semilunari, margine simplici, reflexo.*

THE FOUR-TOOTHED HYALEA. Shell amber, oblong, tumid, posteriorly rather narrowed, lateral processes sharply unidentate, apex produced, narrow; rounded at the end, narrow, with a tooth at each side near the end; aperture narrow, semilunar, margin simple, reflected.

LESUEUR. D'Orbigny, Voy. Amér. Mérid. Pl. V. f.

11–15.

*Hab.* — ?





*Pteropoda Pl III*

(*Ducera, Atlanta*)



20 a.



15. a



17 a



a



b

17



15. b.



a



b

18.



16. a.



19 a



19 b



20 b



16. b.



21. b.

# PTEROPODA.

## PLATE III.

### HYALÆA DIACRIA ATLANTA.

Species 15. (Fig. a, b, Mus. Brit.)

HYALÆA (Diacria) TRISPINOSA. *Hyæ. testâ compressâ, tenuissimâ, albâ, fusco in partibus suffusâ, obliquè subquadratâ, trispinosâ; spinis lateralibus brevibus, acutis, utriusque ad angulum dispositis; spinâ apicali elongatâ, attenuatâ, acuminatâ; disco ventrali convexo, disco dorsali transversè lirate, trilobato; aperturâ angustâ, marginibus subreflexis.*

THE THREE-SPINED HYALÆA. Shell compressed, very thin, white, suffused with brown in parts, oblique, rather square, three spined; lateral spines short, sharp, placed at the angle on each side, apical spine elongated, attenuated, acuminated; ventral disc convex, dorsal disc transversely ridged, trilobate; aperture narrow, margins somewhat reflected.

LESUEUR, D'Orbigny, Voy. Amér. Mérid. Pl. VII. f. 1-5.

Hab. Atlantic Ocean.

Species 16. (Fig. a, b, Mus. Brit.)

HYALÆA (Diacria) MUCRONATA. *Hyæ. testâ latâ, compressâ, albâ, fusco prope aperturam pictâ, latè subquadratâ, trispinosâ; spinis lateralibus remotis, alatis, depressis, spinâ apicali latè calâ, breviusculâ; disco ventrali ferè lreigato, disco dorsali lobato, validè angulo; aperturâ angustâ, labiis reflexis, fuscis, angustis.*

THE SHARP-POINTED HYALÆA. Shell broad, compressed, white, painted with brown near the aperture, broadly subquadrate, three-spined; lateral spines remote, winged, depressed; apical spine rather wide, rather short, frequently truncated; ventral disc nearly smooth, dorsal disc lobed, strongly wrinkled; aperture narrow, lips reflected, brown, narrow.

LESUEUR, D'Orbigny, Voy. Amér. Mérid. Pl. VII. f. 6-10.

Hab. Atlantic Ocean.

With broader disc and wider alæ than in *Hyalæa trispinosa*. The apical spine is also broader and shorter.

Species 17. (Fig. a, b, Mus. Sowerby.)

HYALÆA INFLEXA (Diacria). *Hyæ. testâ parvâ, albâ, subtrigonâ, trispinosâ, spinis lateralibus elevatis, brevibus; spinâ apicali productâ, uncinatâ; aperturâ usque ad spinas laterales incisâ, latiusculâ, labio interno reflexo, labro producto, margine lobato.*

THE INFLECT HYALÆA. Shell small, white, subtrigonal, three-spined; lateral spines raised, short; apical spine produced, hooked; aperture slit as far as the lateral spines, rather broad; inner lip reflected, outer lip produced, margin lobed.

LESUEUR, D'Orbigny, Voy. Amér. Mérid. Pl. IX. f. 16-20.

Hab. Atlantic Ocean.

Species 18. (Fig. a, b, Mus. Brit.)

HYALÆA LABIATA (Diacria). *Hyæ. testâ albâ, elongatâ, subtrigonâ, trispinosâ, subcompressâ; disco dorsali anticè producto, angustè rostrato, medio angulato; disco ventrali convexo, lreigato, spinis lateralibus retrorsis, acutis, spinâ apicali breviusculâ, dèflexâ, uncinatâ; aperturâ trigonâ, labro producto, angulato, labio interno elevatim reflexo.*

THE LIPPED HYALÆA. Shell white, elongated, subtrigonal, three-spined, subcompressed; dorsal disc produced anteriorly, narrowly beaked, with a central angle; ventral disc convex, smooth, lateral spines turned backwards, sharp, apical spine rather short, bent downwards, hooked; aperture three-cornered, outer lip produced, angular, inner lip raised or reflected.

D'ORBIGNY, Voy. Amér. Mérid. Pl. VI. f. 21-25.

Hab. Atlantic Ocean.

Species 19. (Fig. a, b, Mus.—? Copied.)

HYALÆA DEPRESSA (Diacria). *Hyæ. testâ minutâ, albâ, subtrigonâ, compressâ, proceris lateralibus ad rimam aperturæ projectis; aperturâ profundè seniliunari, simplici; labro producto, labio interno leviter elevato, apice longè producto ad terminum acuminato, uncinato.*

PTEROPODA.—PLATE III.

THE DEPRESSED HYALEA. Shell minute, white, sub-trigonal; compressed; lateral processes projected to the slit of the mouth; aperture deeply semilunar, simple; outer lip produced, inner lip slightly raised; apex much produced, acuminate at the end, and hooked.

D'ORBIGNY. Voy. Amér. Mérid. Pl. VII. f. 11-14.

Hab. —?

Genus ATLANTA, Lesueur.

(*Limacina*, Cuvier.)

*Testa nautiliformis, semicartilaginosa, spirā planochalā, anfractibus partim celatis, ultimo tenuiter carinato.*  
Shell nautilus-shaped, half cartilaginous, spire flat-circular; whorls partly hidden, last with a thin keel.

Species 20. (Fig. a, b, Mus. Brit.)

ATLANTA PERONII. *Atl. testā compressā, tenuissimā, hyalinā; anfractibus apparentibus acutē angulatis; aperturā angustā; margine externo ornatissimē angulato; carinā latā, tenuissimā.*

PERON'S ATLANTA. Shell compressed, very thin, hyaline; whorls visible, sharply angular; aperture narrow, its outer edge very acutely angular; keel broad, very thin.

LESUEUR. Les. et Blain. D'Orb. Amér. Mérid.

Hab. Atlantic.

Species 21. (Fig. a, b, Mus. Brit.)

ATLANTA (Oxygyrus) KERANDRENI. *Atl. testā ovaticosā, membranaceā; anfractibus paucis, apicalibus rotatis, ultimo, celatis, versus apicem latē carinato; aperturā latā, margine externo rotundo.*

KERANDREN'S ATLANTA. Shell ventricose, membranaceous; whorls few, apical hidden, last towards the aperture outside broadly keeled; aperture broad, outer margin rounded.

RANGI. Adams, Genera, p. 192.

Hab. —?

About 15 or 16 species of Atlanta and Oxygyrus have been described, but we have not the opportunity of presenting more than two representative species.





25



# PTEROPODA.

PLATE IV.

Genus CLEODORA. *Péron and Lesour.*

*Testis hyalina, pyramidata, basi lateraliter appendiculata, tricuspidata; apertura trigona, labro producto, rostrato.*

Shell hyaline, pyramidal, without lateral appendages, three-spined; aperture trigonal, outer lip produced, beaked.

Of the few species composing this genus the most exquisitely beautiful is the *Cleodora cuspidata*.

Species 22. (Fig. a, b, Mus. Brit.)

CLEODORA AUSTRALIS. *Cle. testis anguste pyramidata, trigona, dorso lateribusque carinato-angulatis, spinis lateralibus brevibus, rotas aperturam elevatis, spina apicali acuminata, apertura trigona, disco centrali concavo.*

THE AUSTRALIAN CLEODORA. Shell narrowly pyramidal, trigonal, back and sides with carinated angles, lateral spines short, raised towards the aperture, apical spine acuminated, aperture trigonal, ventral disc concave.

D'ORBIGNY. Voy. Amer. Mérid. T. VIII. f. 12-14.

Hab. Australia.

Much narrower than *Cleodora pyramidata*, which it otherwise resembles.

Species 23. (Fig. a, b, Mus. Brit.)

CLEODORA CUSPIDATA. *Cle. testis oblonga, trigona, transversè sinuatum lirata, lateribus dorsalibus trigonis, carina dorsali acuta, in rostrum producta, carinis lateralibus brevibus, longispinosis; spina apicali acutissima, disco centrali medio convexo.*

THE POINTED CLEODORA. Shell oblong, trigonal, transversely sinuously ridged, dorsal sides trigonal, dorsal keel sharp, produced into a beak, lateral keels short, with long spines; apical spine very sharp, ventral disc convex in the middle.

QUOY. Voy. Astro. II. Pl. 27, f. 1-5.

Hab. Atlantic Ocean.

The spines are long, and bend upwards from the inverted apex, rather near which they take their rise.

Species 24. (Mus. —? Copied.)

CLEODORA LOBATA. *Cle. testis late pyramidata, trigona, transversè sinuatum lirata; spinis lateralibus supra medium elevatis sursum acclivibus; labro producto, margine lobato.*

THE LOBED CLEODORA. Shell broadly pyramidal, trigonal, transversely sinuously ridged; lateral spines raised above the centre, sloped upwards; outer lip produced, margin lobed.

SOWERBY.

Hab. Atlantic Ocean.

From the figure in D'Orbigny's work the writer concludes this to be a distinct species, although given as a variety of *Cleodora pyramidata*. It has veritable spines at the sides, which are pointed upwards, and the dorsal surfaces are longitudinally ridged, with correspondingly lobed labial margin.

Species 25. (Fig. a, b, Mus. Sowb.)

CLEODORA PYRAMIDATA. *Cle. testis latissimi pyramidata, trigona, levigata, facie centrali ad latera convexa, medio anguste tumida, carina dorsali acuta, in rostrum acuminatum producta, angulis lateralibus expansis, acule subspinosis, medianis, horizontalibus.*

THE PYRAMIDAL CLEODORA. Shell very broadly pyramidal, trigonal, smooth, ventral surface concave at the sides, narrowly tumid in the middle, dorsal keel sharp, produced into an acuminated rostrum; lateral angles expanded, sharply subspinose, central, horizontal.

QUOY. Voy. de l'Astrolabe, Vol. II. Pl. XXVII. f. 7-13.

Hab. Atlantic Ocean.

PTEROPODA.—PLATE IV.

Genus BALANTIUM. *Leach.*

*Testa triangularis, hyalina, compressa, longitudinaliter undata, apertura angusta, transversa, ad angulos non rimata.*

Shell triangular, hyaline, compressed, longitudinally waved, aperture narrow, transverse, not slit at the angles.

This genus does not appear to differ very essentially from *Cleodora*. The angles of the aperture are not slit, and the outer lip is not produced. Several species are enumerated by authors, but with the exception of the one given below they are not known to the present writer.

Species 26. (Fig. *a, b*, *Mus. Brit.*)

BALANTIUM RECURVUM. *Bal. testis oblongo-triangulari,*

*utroque transversè undulatum liratè, facie dorsal. longitudinaliter tri-liratè; facie centrali ad latera concavà, medio latè tumido; marginibus laterali-bus acutè carinatis; spinâ apicali acutâ, recurvâ; apertura semilunari, marginibus undulatis.*

THE RECURVED BALANTIUM. Shell oblong-triangular, transversely wavily ridged across; dorsal surface with three longitudinal ridges; ventral surface concave at the sides, broadly swelled in the middle; lateral margins sharply keeled; apical spine sharp, bent backwards; aperture semi-lunar, with undulating margins.

CHILDREN. *Mus. Brit.*

*Cleodora Balantium.* Rang.

*Hab.* Australia.

Vide notice and figures of several other species of Balantium at Plate VI.







28.



29.



29.



30.



31.



32.



33.



36.



34.



35.



38.



37.

# PTEROPODA.

PLATE V.

## Genus TRIPTERA. Quoy.

*Testa tubulosa, subcompressa, vesica apicea brevis  
 (breviter) truncata, ad apicem rotundâ circulari cincta;  
 apertura coniformi.*

Shell tubular, rather compressed, slightly bulbiform towards the apex, surrounded at the apex with a circular keel; aperture reniform.

Synonym. *Uvulaea*. Rang.

## Species 27. (Mus. Brit.)

TRIPTELA COLUMNELLA. *Tri. testâ albiâ, semipellucidâ, vesica aperturam subcompressâ, subangustâ, apice rotundâ.*

THE TITILE PILLAR TRIPTERA. Shell white, semipellucid, rather compressed and narrowed towards the aperture; apex rounded.

RANG. D'Orbigny, Voy. Amér. Mérid., t. 8, f. 35-39. *Creseis obtusa*, Rang.

*Hab.* — ?

The one or two other recorded species are not found in the collections.

## Genus CRESEIS. Rang.

*Testa elongata, tubularis, pyramidalis, spiniformis, sigulata.*

Shell elongated, tubular, pyramidal, spine-shaped. Synonym. *Stylolita*. Lesueur.

## Species 28. (Fig. a, b, Mus. — ?)

CRESEIS ROTUNDA. *Cre. testâ subrotundâ, latiusculâ, elongatâ, fere rectâ, transversè tenuissimè striatâ; apice attenuato, acuminato, brevis arcuato; apertura rotundâ.*

THE ROUNDED CRESEIS. Shell rather rounded, rather wide, elongated, nearly straight, transversely very finely striated; apex attenuated, acuminated, slightly arched; aperture rounded.

SOWERBY.

*Hab.* — ?

We do not find this species elsewhere described.

## Species 29. (Fig. a, b, Mus. Brit.)

CRESEIS ACICULATA. *Cre. testâ angustâ, levigatâ, oblongatâ, acuminatâ, dorso angulatâ; apertura subtriangulâ, labro producto, unispinosa.*

THE ACICULATED CRESEIS. Shell narrow, smooth, attenuated, acuminated, angular at the back; aperture rather trigonal, outer lip produced with a spine.

D'ORBIGNY. Tab. VIII., f. 29-31.

*Hab.* Atlantic Ocean.

## Species 30. (Fig. a, b, Mus. Brit.)

CRESEIS STRIATA. *Cre. testâ latiusculâ, transversè rugatâ; apertura subrotundâ; apice retrocurvè leviter arcuato, acuminato.*

THE STRIATED CRESEIS. Shell rather broad, transversely wrinkled; aperture rather round; apex slightly curved backwards, acuminated.

RANG. D'Orbigny, Voy. Amér. Mérid. Pl. VIII. f. 23-25. *Hab.* Atlantic Ocean.

## Species 31. (Fig. a, b, Mus. Sowerby.)

CRESEIS CORNIFORMIS. *Cre. testâ breviusculâ, rotundâ, levigatâ; apertura rotundâ, apice acuminato, validè recurvo, uncinato.*

THE HORN-SHAPED CRESEIS. Shell rather short, rounded, smooth; aperture rounded, apex acuminated, strongly recurved, hooked.

D'ORBIGNY. Voy. Amér. Mérid. Pl. VIII. f. 21.

*Hab.* Atlantic Ocean.

## Species 32. (Fig. a, b, Mus. — ? Copied.)

CRESEIS VIRGULA. *Cre. testâ latiusculâ, rotundâ, levigatâ; apertura rotundâ, apice attenuato, acuminato, leviter arcuato.*

THE TWIG CRESEIS. Shell rather broad, rounded, smooth; aperture rounded, apex attenuated, acuminated, slightly arched.

RANG. D'Orbigny, Voy. Amér. Mérid. Pl. VIII. f. 36.

*Hab.* Atlantic Ocean.

Species 33. (Fig. a, b. Mus. Brit.)

CRESEIS SPINIFERA. *Cre. testâ elongatâ, levigatâ, acuminatâ, dorso subspirally carinatâ; carinâ ad aperturam in spînam desinenti; apice valde attenuatâ.*

THE SPINE-BEARING CRESEIS. Shell elongated, smooth, acuminate, with a subspiral keel at the back; keel ending in a spine at the aperture: apex much attenuated.

RANG. Sowerby, Gener. of Shells. Pteropoda, f. 4.

*Chelona subula*. Quoy.

*Hab.*—?

In this species and in *Creseis aciculata* the dorsal keel crosses the tube diagonally, so as to indicate a slight tendency to the spiral form.

Genus SPIRIALIS. *Soub. yet.*

*Testa bivalvia, fusiformis, vel heliciformis, sinistralis.*

*Operculum ovatum paucispirale.*

Shell glassy, fusiform or heliciform, sinistral. Operculum ovate, few-whorled.

Syn. (Pars.) HETEROPUS. Fleming.

Species 34. (Mus. Jeffreys.)

SPIRIALIS FLEMINGI. *Spî. testâ subheliciformi, albâ, ventricosâ; spirâ conicâ, angustibus quibus, ultimo globoso; aperturâ subpyriformi, anticâ productâ, acuminatâ, columellâ rectiusculâ.*

FLEMING'S SPIRIALIS. Shell subheliciform, white, ventricose; spire conical, whorls five, last globose, aperture somewhat pyriform, anteriorly produced, acuminate; columella rather straight.

FORBES. Forbes and Hanley, British Mollusca.

*Hab.* North British seas.

Species 35. (Mus. Jeffreys.)

SPIRIALIS MACANDREW. *Spî. testâ fusiformi, albâ, levigatâ; spirâ pyramidalâ, levatâ; angustibus septenis, convergentibus; aperturâ pyriformi, an-*

*ticâ acuminatâ; columellâ elongatâ; frons tenuosâ.*

MACANDREW'S SPIRIALIS. Shell fusiform, white, smooth, spire pyramidal, raised; whorls seven, rather convex; aperture pyriform, acuminate anteriorly; columella elongated, slightly tortuous.

FORBES and HANLEY. British Mollusca.

*Hab.* Ireland.

Species 36. (Mus. — ?)

SPIRIALIS ROTUNDA. *Spî. testâ subdepressâ, heliciformi, spirâ brevi; angustibus trinis, ultimo ventricoso, magno, latè umbilicato; aperturâ obliquè ovatâ.*

THE BOUNDED SPIRIALIS. Shell subdepressed, heliciform, spire short, whorls three; last ventricose, large, broadly umbilicated; aperture obliquely oval.

D'ORBIGNY. Voy. Amér. Mérid. Moll., Pl. XIII. f. 16.

*Hab.* Atlantic Ocean.

Species 37. (Mus. — ?)

SPIRIALIS JEFFREYSII. *Spî. testâ depressâ, discoidali, spirâ brevissimâ, ultimo lato, rotundo, latè umbilicato.*

JEFFREYS'S SPIRIALIS. Shell depressed, discoidal; spire very short, last broad, rounded, broadly umbilicated.

FORBES and HANLEY. Brit. Moll.

*Hab.* British Channel.

Species 38. (Mus. — ?)

SPIRIALIS VENTRICOSA. *Spî. testâ globosâ, albâ, angustibus quatuor, ultimo maximo, latè umbilicato; aperturâ breviter subpyriformi, anticè angulata; columellâ tenuissimâ.*

THE VENTRICOSE SPIRIALIS. Shell globose, white; whorls four, last very large, not umbilicated; aperture shortly rather pyriform; anteriorly angular; columella very thin.

SOULEYET. Voy. de la Bonite. Moll. Pl. XIII. f. 15.

*Hab.* Atlantic Ocean.





40



39



41



42



43



44



45a



46



45b



47

# PTEROPODA.

PLATE VI.

Species 39. (Mus. Sowerby.)

**SPECIALIS AUSIMILIS.** *Spis. testis fusiformi, hyalina, lrespirato: spiris latas, conicis, antefractibus quinis, ultimo intrescos. apertura pyriformi: columella obconicata, producta? labro medio sinuato.*

**THE AUSIMILIAN SPECIALIS.** Shell fusiform, hyaline, smooth, spire raised, conical, whorls five, last ventricose; aperture pyriform, columella acuminate, produced; outer lip sinuated in the middle.

**SOLLEYET.** Voy. Bonite. Moll., Pl. XIII.  
*Hab.* Australian seas.

Species 40. (Mus. Brit.)

**SPIRALIS AUSTRA.** *Spis. testis subdepressa-globosa, spiris parvis, anfractibus tris, brevissimis, ultimo utique, umbilicato: apertura magna, columella recta.*

**THE AUSTRAL SPIRALIS.** Shell subdepressed-globose; spire small, whorls three, very short, last large, umbilicated; aperture large, columella straight.

**FABRILIS.** (Linnæus.)

*Linæusna helioidalis.* Linnæus.  
*Hab.* Greenland.

The writer scarcely sees any reason for separating the helioid form from the fusiform, sinistral, spiral shells of these Pteropoda.

Species 41. (Mus. — ?)

**SPIRALIS CELESTIENSIS.** *Spis. testis fusiformi, hyalina, obliquè puncturato-stratato, spiris brevissimis, anfractibus paucis, ultimo inflato. apertura oblonga: columella elongata, tenui, acuminata.*

**THE LATTICED SPIRALIS.** Shell fusiform, hyaline, obliquely puncture-stratated; spire very short, whorls few, last inflated; aperture oblong, columella elongated, thin, acuminate.

**SOLLEYET.** Ed. et Soul. Voy. Bonite. Moll. Pl. XIII. f. 17.

*Hab.* Atlantic.

Species 42. (Mus. Brit.)

(Atlanta.)

**ATLANTA INFLATA.** *Atl. testis albi, nautilus-shape, symmetrical, anfractibus apicalibus oblate, ultimo umbilicato, costis subarcuato: apertura subtrianguli, labro in processu elongato linguiformi desinente: operculo tenuissimo, hyalino.*

**THE INFLATED ATLANTA.** Shell white, nautilus-shaped, nearly symmetrical; apical whorls hidden; last umbilicated slightly, keeled on the outer side; aperture subtriangular; outer lip terminating in a long tongue-shaped process.

**RANG and SOLLEYET.** Mon. Pterop., Pl. XIV. f. 4.  
*Helioides.* D'Orbigny.

*Hab.* — ?

**SINUSIGERA.**

Genus **SINUSIGERA.** D'Orbigny

*Testis subglobosa, medio anfractibus ultimi subovata, apertura subovata, labro sinuato, reflecto, bilobato. Operculum ignotum.*

Shell subglobose, sulcated in the middle of the last whorl; aperture subovate, outer lip sinuated, reflected, bilobed. Operculum unknown.

Synonym. *Chelitropis.* Forbes.

Species 43. (Mus. Brit.)

**SINUSIGERA CANCELATA.** *Sinu. testis subglobosa, obliquè cancellata; spiris subconicis, anfractibus quinis, rotundis; apertura subovata, labro sinuato, bilobato, valdè reflecto; lobis productis, superioribus terminata expansis, divisis.*

**THE CANCELLED SINUSIGERA.** Shell subglobose, obliquely cancellated, spire rather conical; whorls five, rounded; aperture subovate, outer lip sinuated, bilobed, strongly reflected; lobes produced, upper expanded, divided at the end.

**D'ORBIGNY.** Adams. Genera, Plate CXXXVII f. 4.

*Hab.* — ?

## Species 44. (Mus. Sowerby.)

SINUSIGERA MICROSCOPICA. *Snac. testâ subglobosâ, spirâ-  
valiter striatâ; spirâ brevi, subconicâ; anfractibus  
quâsis, rotundis, ultimi magna; aperturâ subtri-  
angulâ, columellâ tenui, acutâ, rectiusculâ, labro  
bilobato, lobis moderatè productis.*

THE MICROSCOPIC SINUSIGERA. Shell subglobose, spi-  
rally striated, spire short, subconical; whorls  
five, rounded, last large; aperture rather  
rounded, columella thin, sharp, rather straight,  
outer lip two-lobed; lobes moderately produced.

GRAY. (Struthiolaria). Voyage of the Blossom.

*Chelitopsis Hanleyi*. Forbes.

*Hab.* Atlantic Ocean.

The principal difference between this and the pre-  
vious species is that the former is striated spirally  
only, and the latter is cancellated.

## Genus BALANTHIUM (continued).

## Species 45. (Fig. a, b. Mus. — ?)\*

BALANTHIUM INFLATUM. *Bal. testâ utrinquè convexâ,  
trigona, versus apicem deconvexâ, ferè uncinatâ;  
faciè dorsali radiatim leviter sulcatâ; aperturâ  
latâ, labro leviter lobato.*

THE INFLATED BALANTHIUM. Shell convex on each  
side, trigonal, vent downwards towards the apex.

almost hooked; dorsal surface radiately slightly  
grooved; aperture broad, outer lip slightly lobed.

EYDOUX et SOULEYET. Voy. de la Bonite.

*Hab.* — ?

## Species 46. (Mns. — ?)\*

BALANTHIUM AUSTRALE. *Bal. testâ angustâ, versus ter-  
minum attenuatâ, ad latera convexiusculâ; aper-  
turâ subtriangulâ, labro acuminatâ; apicè in spicu-  
lum uncinatum producta.*

THE AUSTRALIAN BALANTHIUM. Shell narrow, atten-  
uated towards the end; rather convex at the  
sides; aperture subtriangular, outer lip acuminate;  
apex produced into a uncinated spike.

D'ORBIGNY. Voy. Amér. Mériid.

*Hab.* — ?

## Species 47. (Mus. — ?)\*

BALANTHIUM CHAPTALI. *Bal. testâ trigonâ, compressâ,  
transversè sulcatâ, ad latera submarginatâ; an-  
gulis laterales acutis; apicè attenuato, acu-  
minato.*

CHAPTAL'S BALANTHIUM. Shell trigonal, compressed,  
transversely grooved, slightly bordered at the  
sides; apex attenuated, acuminated.

EYDOUX et SOULEYET. Voy. de la Bonite.

*Hab.* — ?

\* The above three specimens of Balantium are not known in the principal collections, but are copied in order to make the  
interesting little-genus as nearly complete as possible.



## PTEROPODA.

|  | Plate. | Species. |  | Plate. | Species. |
|--|--------|----------|--|--------|----------|
| aciculata, <i>D'Orbigny</i> . Cre.....                 | V.     | 29       |  | II.    | 13       |
| affinis, <i>D'Orbigny</i> . Hy. ....                   | I.     | 3        |  | II.    | 11       |
| arctica, <i>Fabricius</i> . Spi. ....                  | VI.    | 40       |  | IV.    | 24       |
| Australe, <i>D'Orbigny</i> . Bal. ....                 | VI.    | 46       |  | II.    | 12       |
| Australis, <i>D'Orbigny</i> . Cleo. ....               | IV.    | 22       |  | V.     | 35       |
| Australis, <i>Sowb'y</i> . Spi. ....                   | VI.    | 39       |  | VI.    | 44       |
| <i>Bolentina</i> , Rang. Bal. ....                     | IV.    | 26       |  | II.    | 9        |
| cancellata, <i>D'Orbigny</i> . Sin. ....               | VI.    | 43       |  | III.   | 16       |
| Chaptalii, <i>Ephour</i> . Bal. ....                   | VI.    | 47       |  | I.     | 5        |
| clathratus, <i>Sowb'y</i> . Spi. ....                  | VI.    | 41       |  | V.     | 27       |
| columnella, Rang. Trip. ....                           | V.     | 27       |  | II.    | 8        |
| corniformis, <i>D'Orbigny</i> . Cre. ....              | V.     | 31       |  | I.     | 4        |
| Cumingii, <i>Deshayes</i> . Hy. ....                   | I.     | 5        |  | III.   | 20       |
| cuspidata, <i>Quoy</i> . Cleo. ....                    | IV.    | 23       |  | IV.    | 25       |
| depressa, <i>D'Orbigny</i> . Dia. ....                 | III.   | 19       |  | II.    | 14       |
| flava, <i>D'Orbigny</i> . Hy. ....                     | I.     | 2        |  | I.     | 4        |
| Flemingii, <i>Fishes</i> . Spi. ....                   | V.     | 34       |  | IV.    | 26       |
| <i>Fossilii</i> , <i>D'Orbigny</i> . Hy. ....          | I.     | 4        |  | V.     | 36       |
| gibbosa, Rang. Hy. ....                                | I.     | 7        |  | V.     | 28       |
| globulosa, Rang. Hy. ....                              | I.     | 6        |  | V.     | 33       |
| inflata, Rang. Atl. ....                               | VI.    | 42       |  | V.     | 30       |
| inflatum, <i>Ephour</i> . Bal. ....                    | VI.    | 45       |  | V.     | 33       |
| inflexa, <i>Lesueur</i> . Dia. ....                    | III.   | 17       |  | I.     | 4        |
| intermedia, <i>Sowb'y</i> . Hy. ....                   | II.    | 10       |  | III.   | 15       |
| Jeffressii, <i>Fishes</i> and <i>Hauke</i> . Spi. .... | V.     | 37       |  | I.     | 1        |
| Keraudreni, Rang. Atl. ....                            | III.   | 21       |  | V.     | 38       |
| labiata, <i>D'Orbigny</i> . Dia. ....                  | III.   | 18       |  | V.     | 32       |
| levigata, <i>D'Orbigny</i> . Hy. ....                  | II.    | 13       |  | IV.    | 24       |
| limbata, <i>D'Orbigny</i> . Hy. ....                   | II.    | 11       |  | II.    | 12       |
| lobata, <i>Sowb'y</i> . Cleo. ....                     | IV.    | 24       |  | V.     | 35       |
| longirostris, <i>Lesueur</i> . Hy. ....                | II.    | 12       |  | VI.    | 44       |
| Mucandrei, <i>Fishes</i> . Spi. ....                   | V.     | 35       |  | II.    | 9        |
| microscopica, <i>Gray</i> . Lin. ....                  | VI.    | 44       |  | III.   | 16       |
| minuta, <i>Sowb'y</i> . Hy. ....                       | II.    | 9        |  | I.     | 5        |
| mucronata, <i>Lesueur</i> . Dia. ....                  | III.   | 16       |  | V.     | 27       |
| nebulosa, <i>Deshayes</i> . Hy. ....                   | I.     | 5        |  | II.    | 8        |
| obtus, Rang. ....                                      | V.     | 27       |  | I.     | 4        |
| obtusa, <i>Sowb'y</i> . Hy. ....                       | II.    | 8        |  | III.   | 20       |
| papilionacea, <i>Vincent</i> . Hy. ....                | I.     | 4        |  | IV.    | 25       |
| Peronii, <i>Lesueur</i> . Atl. ....                    | III.   | 20       |  | II.    | 14       |
| pyramidata, <i>Quoy</i> . Cleo. ....                   | IV.    | 25       |  | I.     | 4        |
| quadridentata, <i>Lesueur</i> . Dia. ....              | II.    | 14       |  | IV.    | 26       |
| Rangii, <i>Deshayes</i> . Hy. ....                     | I.     | 4        |  | V.     | 36       |
| recurvum, <i>Children</i> . Bal. ....                  | IV.    | 26       |  | V.     | 28       |
| rotunda, <i>D'Orbigny</i> . Spi. ....                  | V.     | 36       |  | V.     | 33       |
| rotunda, <i>Sowb'y</i> . Cre. ....                     | V.     | 28       |  | V.     | 30       |
| spinifera, Rang. Hy. ....                              | I.     | 6        |  | V.     | 33       |
| striata, Rang. Cre. ....                               | V.     | 30       |  | I.     | 4        |
| subula, <i>Quoy</i> . Cre. ....                        | V.     | 33       |  | III.   | 15       |
| tridentata, <i>D'Orbigny</i> . Hy. ....                | I.     | 4        |  | I.     | 1        |
| trispinosa, <i>Lesueur</i> . Dia. ....                 | III.   | 15       |  | V.     | 38       |
| uncinata, <i>D'Orbigny</i> . Hy. ....                  | I.     | 1        |  | V.     | 32       |
| ventricosa, <i>Sowb'y</i> . Spi. ....                  | V.     | 38       |  | V.     | 32       |
| virgula, Rang. Cre. ....                               | V.     | 32       |  |        |          |



MONOGRAPH

OF THE GENUS

ANCYLUS.

All Thy works before Thee stood  
And Thine eye beheld them good,  
While they sang with one accord,  
Holy, holy, holy Lord. — *James Montg.* 1775.







# ANCYLUS.

PLATE I.

Genus ANCYLUS. *Geography.*

**MOLLUSCUM AQUATICUM.** *Testa patelliformis, plerùmque subovata, non-symmetrica, epidermide induta, apice sublaterali, unispirali; operculum nullum.*

**MOLLUSC. FRESH-WATER.** Shell patelliform, generally sinistral, non-symmetrical, covered with an epidermis, apex sublateral, unispiral; operculum, none.

Like the Limnæadae, the Aneyli are found in ponds and rivers of fresh water, and like them are capable of living at times uncovered by water. They are found in all climates. We have two well-known British species. Others exist eastward in India and westward in the United States; southwards, we have Brazilian and Peruvian species, and the first and finest species on our list, *A. Cunninghami*, dates from Van Diemen's Land.

Species 1. (Fig. a, b, c, Mus. Sowb.)

**ANCYLUS CUMINGIANUS.** *Anc. testâ profundè calyciformi, subovata, posticè angustâ, anticè ampliâ, epidiâ crasse olivaceo indutâ; dorso elevato, rotundâ, radiatim costatâ, apicè posticè submarginali, lateraliter valdè producto, unispirali.*

**CUMING'S ANCYLUS.** Shell deeply cup-shaped, subovate, narrow behind, full in front, covered with an olive epidermis; back elevated, rounded, radiately ribbed, apex posteriorly submarginal, laterally much produced, unispiral.

**BOURIGNONAT.** Proc. Zool. Soc. 1853. Pl. XX. f. 1-9.

*Hab.* Van Diemen's Land.

Species 2. (Fig. a, b, Mus. Brit.)

**ANCYLUS TEXTILIS.** *Anc. testâ depressâ, epidermide stramineâ, ad marginem brunnescenti indutâ, radiatim costatâ, concentricè tenuissimè striatâ, intus costatâ; dorso depresso, apicè obtuso, sublaterali.*

**THE TEXTILE ANCYLUS.** Shell depressed, covered with a straw-coloured epidermis, becoming brown at the margin, radiately ribbed, concentrically very finely striated; back depressed, apex obtuse, sublateral.

**GUPPY.** Proc. Zool. Soc. 1870. Pl. XVII. f. 9-11.  
*Hab.* Trinidad.

Species 3. (Fig. a, b, c, d, Mus. Brit.)

**ANCYLUS FLUVIATILIS.** *Anc. testâ ovato-subrotundâ, tenui, pallidè stramineâ, eel carecolâ, subovata, dorso declivi; apicè posticè submarginali, subcentrali.*

**THE RIVER ANCYLUS.** Shell ovate, rather round, thin, pale straw or bluish, subovate, back sloped; apex posteriorly submarginal, subcentral.

**GMELIN.** Libr. Syst. Nat.

*Patella rostrata.* D'Argenville.

*Patella cornea.* Poirat.

*Patella meridionalis.* Beck.

*Ancylus simplex.* Bourguignat.

*Hab.* Great Britain, and Europe generally.

Species 4. (Fig. a, b, Mus. Brit.)

**ANCYLUS LACUSTRIS.** *Anc. testâ subovata, elongatâ, tenui, lateraliter subcompressâ, anticè subattenuatâ, epidermide fusco indutâ; dorso tenuissimè radiatim striatâ; apicè postero-laterali.*

**THE LAKE ANCYLUS.** Shell subovate, elongated, thin, laterally rather compressed, anteriorly subattenuated, covered with a brown epidermis; back very finely radiately striated; apex postero-lateral.

**LINNEUS (Patella).** Syst. Nat.

*Patella oblonga.* Dillwyn.

*Hab.* Great Britain, and Europe generally.

Species 5. (Mus. Brit.)

**ANCYLUS CAFFERA.** *Anc. testâ suboliveo-corneâ, regulariter ovata, profundè calyciformi, levigatâ; dorso elevato, arcuato; apicè postero-sublateralî, acuminato.*

**THE CAFFER ANCYLUS.** Shell subolive-horny, regularly oval, deeply cup-shaped, smooth; back raised, arched; apex posteriorly sublateral, acuminate.

**KEAUSS.** Südafrikanischen Mollusken. T. IV. Pl. XIII.

*Hab.* South Africa.

This has a much more pointed apex than *Ancylus Cunninghami*, which is the only other species with so rounded a back.









# ANCYLUS.

## PLATE II.

### Species 6. (Fig. a, b, Mus. Brit.)

ANCYLUS JANIL. *Anc. testâ ovati, subconicâ, albâ, subter radiatâ lineâ, posticè angustiori; apicè acuminatâ, posticè submarginatâ, lateraliter subcentrali.*

JANUS'S ANCYLUS. Shell ovate, somewhat conical, white, finely radiately ridged; anteriorly narrower, acuminate, posteriorly submarginal, laterally subcentral.

BOURGUIGNAT. Proc. Zool. Soc. 1853, p. 83.

Hab. Italy.

### Species 7. (Fig. a, b, Mus. Brit.)

ANCYLUS DIAPHANUS. *Anc. testâ subdepressâ, ovati, pallidè fulvâ, semipellucidâ, levigatâ; apicè obtusâ, lateraliter submarginatâ, posticè postmedianâ.*

THE TRANSPARENT ANCYLUS. Shell rather depressed, ovate, pale fulvous, semi-pellucid, smooth; apex obtuse, laterally submarginal, posteriorly a little post-medial.

HALDEMAN. New Freshwater Shells.

Hab. Ohio.

### Species 8. (Fig. a, b, Mus. Brit.)

ANCYLUS BACONI. *Anc. testâ parvâ, ovato-oblongâ, depressâ, translucidâ, albâ, pallidè succinâ; apicè obtusâ, lateraliter submarginatâ, posticè longè postmedianâ.*

BACON'S ANCYLUS. Shell small, ovate-oblong, depressed, translucent, shining, pale amber; apex obtuse, laterally submarginal, posteriorly far behind the centre.

BOURGUIGNAT. Proc. Zool. Soc. 1853, p. 89.

Hab. Bengal.

### Species 9. (Fig. a, b, Mus. Brit.)

ANCYLUS VILLAGI. *Anc. testâ latâ, depressâ, rotundâ, diaphanâ, pallidè fulvâ, prap marginâ coracâ, fuscâs radiâs, apicè angustâ; apicè obtusâ, versus marginem lateralium declivi.*

THE GLASSY ANCYLUS. Shell broad, depressed, rounded, transparent, pale fulvous, horny near the margin, variegated with blackish bands; apex obtuse, sloped towards the postero-lateral margin.

MOBELET. Proc. Zool. Soc. 1853, p. 88.

Hab. Portugal.

### Species 10. (Fig. a, b, Mus. Brit.)

ANCYLUS SPINA-ROSE. *Anc. testâ dextrali, pallidè fulvâ, levigatâ, profundè emarginatâ, ovatâ, dorso arcuata, elevatâ, apicè acuminatâ, posticè et lateraliter submarginatâ.*

THE ROSE-THORN ANCYLUS. Shell dextral, pale fulvous, smooth, deeply cup-shaped, ovate, back arched, raised; apex hooked, posteriorly and laterally submarginal.

DEAPARNAUD. Hist. Moll. Pl. XIII. f. 10-12.

*Ancylus deparditus.* Zeigler.

*Ancylus gibbosus.* Bourguignat.

Hab. Germany.

### Species 11. (Mus. Brit.)

ANCYLUS DROUETIANUS. *Anc. testâ conicâ, subcristâ, levigatâ, costâtim leviter sulcatâ, ovatâ, posticè angustiori, anticè ampli, margine leviter undulatâ, apicè acuminatâ, posticè submarginatâ, lateraliter subcentrali.*

DROUET'S ANCYLUS. Shell conical, greenish, smooth, radiately slightly grooved, ovate, narrow posteriorly, full anteriorly, margin slightly undulating; apex acuminate, posteriorly submarginal, laterally subcentral.

BOURGUIGNAT. Proc. Zool. Soc. 1853, Pl. XX. f. 18-25.

Hab. Teneriffe.

### Species 12. (Fig. a, b, Mus. Brit.)

ANCYLUS DENHAYESIANUS. *Anc. testâ conicâ, breviter ovatâ, tenui, pallidè coracâ, opacâ, levigatâ, intus*

ANCYLUS.—PLATE II.

*albi, anticâ expansâ et apice valdè retrorso, acuminato, levato, lateraliter subcentrali; dorso declivi.*

**DESHAYES'S ANCYLUS.** Shell conical, shortly ovate, thin pale horn, opaque, smooth, white within, anteriorly expanded; apex much thrown backwards, acuminated, elevated, laterally subcentral; back sloped.

**BOURGIGNAT.** Cat. esp. Journ. Conch.

*Hab.* Europe.

Species 13. (Fig. a, b, Mus. Brit.)

**ANCYLUS RUPICOLA.** *Anc. testâ ovatâ, dextrali, profundè calyciformi, corvâ, brevitatâ, pellucidâ, dorso arcuato, apice subacuminato, ultra marginem postico-lateralem producto.*

**THE ROCK-INHABITING ANCYLUS.** Shell ovate, dextral, deeply cup-shaped, horny, smooth, pellucid, back arched; apex slightly acuminated, produced beyond the postero-lateral margin.

SHUTTLEWORTH. — ?

*Hab.* Teneriffe (on moist rocks).

Species 14. (Fig. a, b, Mus. Brit.)

**ANCYLUS SOULCYANUS.** *Anc. testâ depressâ, patulâ, cœffâ, costellis crebris radiatis et striis minutissimis concentricis sculptâ, posticâ angustâ, anticâ expansâ, margine dextrali rectiusculo; dorso obliquè declivi, apice depresso, posticè extra-marginali.*

**SOULCY'S ANCYLUS.** Shell depressed, patulous, coffee-coloured; sculptured with radiating very minute concentric striae, posteriorly narrow, anteriorly expanded, dextral margin rather straight; back obliquely sloped; apex depressed, posteriorly extra-marginal.

**BOURGIGNAT.** Proc. Zool. Soc. 1853, Pl. XX, f. 26-33.

*Hab.* Venezuela.

A very oblique, sculptured species, with the small apex close to the margin and appearing beyond it.





# ANCYLUS.

PLATE III.

## Species 15. (Fig. a, b, Mus. Brit.)

*ANCYLUS STRICTUS.* *Anc. testâ obscure fuscâ, conicâ, angustâ, elongatâ, levigatâ, lateribus compressis, sulcis corneis-rufis, dorso elevato, apice arcuato, basi post-mediana.*

THE NARROWED ANCYLUS. Shell dull brown, conical, narrow, elongated, smooth, with compressed sides, inside bluish pink, back elevated, apex arched, placed far backwards.

MOORE — ? MS. Mus. Brit.

*Hab.* — ?

## Species 16. (Fig. a, b, Mus. Brit.)

*ANCYLUS BAHLENSIS.* *Anc. testâ depressâ, oblongâ, angustâ, castaneâ, levigatâ, intus cinisâ; dorso declivi; apice acuminatâ, posticâ et lateraliter submarginatâ.*

BARKUS ANCYLUS. Shell depressed, oblong, narrow, chestnut, smooth, vinous within; back sloped; apex acuminated, posteriorly and laterally submarginal.

MOORE AND COY. Ter. et Fluv. Bahia.

*Hab.* Brazil.

## Species 17. (Mus. Brit.)

*ANCYLUS KOOTANENSIS.* *Anc. testâ brevi, latâ, subrotundâ, depressâ, cornea-rubrescenti; apice obtuso, subcentrali, frequenter nigrescenti.*

THE KOOTAN ANCYLUS. Shell short, broad, rather round, depressed, reddish horn; apex obtuse, subcentral, often black.

BAIRD. Proc. Zool. Soc. 1863, p. 69.

*Hab.* River Oregon.

## Species 18. (Mus. Brit.)

*ANCYLUS PARALLELUS.* *Anc. testâ compressâ, oblongâ, subrectilaberali, translucidâ, pallidissimâ corneâ; dorso declivi, apice posticâ et lateraliter subcentrali.*

THE PARALLEL ANCYLUS. Shell compressed, oblong, rather straight-sided, transparent, very pale horn; back sloped, apex posteriorly and laterally subcentral.

HALDEMAN. *MOB.* Freshwater. Sh. Proc. Zool. Soc. 1853, 84.

*Hab.* New Orleans.

## Species 19. (Mus. Brit.)

*ANCYLUS CONCENTRICUS.* *Anc. testâ olivaceo-corneâ, subconicâ, sulcis inconspicuis nublatis radiatâ, concentricâ lineatâ, oblongâ, posticâ angustâ, sulcis subexpansis; dorso versus apicem elevato; apice acuminatâ, uncinatâ, ad marginem postico-lateralem approximata.*

THE CONCENTRIC ANCYLUS. Shell olive-horn, rather conical, rayed with indistinct undulating grooves, with concentric lines, oblong, posteriorly narrowed, anteriorly subexpanded; back raised towards apex; apex acuminated, hooked, approaching the postero-lateral margin.

D'ORBIGNY. Voy. Amér. Mérid. t. v. p. 354.

*Hab.* Montevideo.

## Species 20. (Mus. Brit.)

*ANCYLUS IBERICUS.* *Anc. testâ elongatâ, angustâ, compressâ, punctulis nigrescentibus aspersâ, latera dextrali rectiusculo; apice sublateralî, a margine postico subremoto.*

THE SPINKLED ANCYLUS. Shell elongated, narrow, compressed, sprinkled with little blackish spots, left side rather straight; apex rather lateral, rather remote from the posterior margin.

GUILDING. Proc. Zool. Soc. 1853.

*Hab.* Antilles.

## Species 21. (Mus. Brit.)

*ANCYLUS CHITTYI.* *Anc. testâ griseo-fuscâ, obliquâ, posticâ levigatâ, subrotatâ, anticâ subacuminatâ; dorso obliquè arcuato; apice gibboso, extra marginem postico-lateralem productâ.*

CHITTY'S ANCYLUS. Shell grey-brown, oblique, deeply cap-shaped, subovate, anteriorly subacuminated; back obliquely arched, apex gibbous, produced beyond the postero-lateral margin.

ADAMS. (C. B.) — ?

*Hab.* Jamaica.

## Species 22. (Mus. Brit.)

*ANCYLUS SIBIRICUS.* *Anc. testâ dextrali, obliquè conicâ, fuscâ, ovati, intus albâ; dorso alto, obliquo, apice extra-marginatâ, obtusiusculo.*

THE SIBIR ANCYLUS. Shell dextral, obliquely conical, fulvous, ovate, white within; back high, oblique, apex extra-marginal, rather obtuse.

GEESFELD. Moll. Sibir. et Amur.

*Hab.* Sibir.

ANCYLUS.—PLATE III.

Species 23. (Mus. Brit.)

ANCYLUS MOEL-ANDI. *Anc. testâ angustâ, compressâ, elongatâ, ferruginâ, opacâ, intus suberosâ; dorso declivi, apice posticâ subcentrali, lateraliter submarginati.*

MORICAND'S ANCYLUS. Shell narrow, compressed, elongated, ferruginous, opaque, pinkish inside; back sloped, apex posteriorly subcentral, laterally submarginal.

D'ORBIGNY. Voy. Amér. Mèrid. T. V. p. 355.

*Ancylus Bahicasis*. Moricand.

*Ancylus Nacina*. Spix.

*Hab.* Lake Baril, Bahia.

Species 24. (Mus. Brit.)

ANCYLUS ULTRADIBES. *Anc. testâ depressâ, fulvâ, radiatâ tenuiter striatâ, elongatâ, posticâ subconcentrâ, dorso levitè declivi, apice subconcentrâ, subcentrali.*

THE HOOP-SHAPED ANCYLUS. Shell depressed, fulvous, radiately finely striated, elongated, posteriorly rather narrowed, back gently sloped, apex acuminated, subcentral.

D'ORBIGNY. Amér. Mèrid. III. p. 335.

*Hab.* South America.

Species 25. (Mus. Brit.)

ANCYLUS ILLIUSUS. *Anc. testâ ovatâ, conicâ, tenuissimè striatâ, semi-pellucidâ, roseo-fulvâ, apice posticâ et laterali ter subcentrali.*

THE THREAD-ANCYLUS. Shell ovate, conical, very finely striated, semi-pellucid, rose-fulvous, apex posteriorly and laterally subcentral.

CONRAD. New Freshwater Shells. Halleman's monograph.

*Hab.* Alabama.

Species 26. (Mus. Brit.)

ANCYLUS EMBATUS. *Anc. testâ parvâ, albâ, transverseâ, subconicâ, striâ tenuissimâ radiatâ, ovatâ, antè subangustatâ, apice versus marginem post-lateralem productâ.*

THE EAYED ANCYLUS. Shell small, white, translucent, subconical, rayed with very fine stria, ovate, anteriorly rather narrowed, produced towards the post-lateral margin.

GUILDING. Zool. Journ. Vol. III. p. 536.

*Hab.* St. Vincent.

Species 27. (Mus. Brit.)

ANCYLUS HAVANENSIS. *Anc. testâ depressâ, longiusculâ, posticâ subangustatâ, conicâ, intus suberosâ; apice obtusâ, apice subcentrali, lateraliter submarginati.*

THE HAVANA ANCYLUS. Shell depressed, rather long, posteriorly rather narrow, horny, pinkish within; apex obtuse, posteriorly subcentral, laterally submarginal.

PEIFFER. Bohig. Proc. Zool. Soc. 1853.

*Hab.* Cuba.

Species 28. (Mus. Brit.)

ANCYLUS BEANI. *Anc. testâ parvâ, conicâ, levigatâ, albâ, depressâ, ovatâ, laterè dextrali rectiusculâ; dorso declivi, apice obtuso versus marginem postico-lateralem elevato.*

BEAN'S ANCYLUS. Shell small, horny, smooth, shining, depressed, ovate, right side rather straight; back sloped, apex obtuse, raised towards postero-lateral margin.

BOURBIGNAT. Proc. Zool. Soc. 1853, p. 81.

*Hab.* Guadaloupe.

Species 29. (Mus. Brit.)

ANCYLUS OBLIQUUS. *Anc. testâ parvâ fusco-cornuâ, obliquâ, profundâ, subovatâ, levigatâ, posticè paulè attenuatâ; apice productâ, ad marginem postico-lateralem elevato.*

THE OBLIQUE ANCYLUS. Shell small, brownish horn, oblique, deep, subovate, smooth, posteriorly a little attenuated; apex produced, extended to the posterior-lateral margin.

BRODERIP. Proc. Zool. Soc. 1832, p. 202.

*Hab.* Chili.

Species 30. (Mus. Brit.)

ANCYLUS FUSCUS. *Anc. testâ auro-fuscâ, levigatâ, oblongâ, intus ferrè albâ, lateribus subcompressis, rectiusculis; dorso subelevato, apice obtuso, lateraliter et posticè subcentrali.*

THE BROWN ANCYLUS. Shell golden brown, smooth, oblong, almost white within; sides rather compressed, rather straight; back rather raised, apex obtuse, laterally and posteriorly subcentral.

ADAMS (C. B.). Boston Journ. Nat. Hist. Vol. III., p. 329.

*Hab.* United States.



MONOGRAPH

OF THE GENUS

ALYCÆUS.

Thou art in all things one, in each thing many .  
For Thou art infinite in one and all.—*Trench.*







2.



1 a.



3.



1 b.



4.



5.



6.



7.



9.



8.

# ALYCEUS.

## PLATE I.

### Genus ALYCEUS. Gray.

*Testa terrestris, heliciformis; spira conica, sutura profunda; ultimis anfractibus distortis, medio dorsi tumulus, collo retroverso suturam tegens, post marginem aperturae contractus. Operculum rotundum concava inconspicue multispirale.*

Shell terrestrial, heliciform; spire conical, suture deep; last whorl distorted, tumid at the middle of the back, covering the suture with a retroversal callus, contracted behind the margin of the aperture. Operculum rounded, horny, inconspicuously multispiral.

All the Alycei browse in eastern pastures. A large numerical proportion of the species find their homes in India proper; but Borneo, Japan, and other eastern lands and islands produce their contingents. The typical species, *Alyceus gibbus*, the first type, belongs to Cochin-China.

The peculiarities which distinguish the Alycei from other Cyclostomidae are very interesting. At first you have a more or less regular spire of several volutions; then, at the side of the last whorl, furthest removed from the aperture, the spiral tube begins to swell, increasing in volume to about the middle of the back, when it suddenly contracts, throwing back a narrow callus at the suture. Between this contraction and the back edge of the aperture, the tube is always narrow, but with various callosities, month rings, or other inequalities till the aperture itself is reached.

### Species 1. (Fig. a, b, Mus. Brit.)

**ALYCEUS CRENATUS.** *Aly. testâ conicâ, subcicridi, omnino minuti striatâ, ultimo anfractu ad dorsum moderate tumulo, tum collâ, brevier, contracto, deinde collo magno, obliquo cincto, ante callum subexpanso; collo retroverso rugoso, albo, inequali, elongato; aperturae margine albo, latè laqueato; operculo lato.*

**THE CRENATED ALYCEUS.** Shell conical, greenish, all over minutely striated, last whorl moderately tumid at the back, then strongly, briefly, contracted, afterwards girt with a large, oblique callus, rather expanded in front of the callus; retroversal callus rough, white, unequal, long; aperture white at the margin, broadly fluted; operculum broad.

GODWIN-AUSTIN. Journ. Asi. Soc. Beng. 1871.

*Hab.* Burrail Range, N. Cachar.

The white, oblique 'collar ruff' and the broadly fluted margin of the mouth distinguish this species, which is of small size.

### Species 2. (Mus. Brit.)

**ALYCEUS DIAGONUS.** *Aly. testâ minutâ, pallidè castaneâ, leri, obliquè spirali; apertura crassâ, margine duplicato, subcrenulato, umbilico mediocri, tumulo dorsali haud magno.*

**THE DIAGONAL ALYCEUS.** Shell minute, pale chestnut, smooth, obliquely spiral; aperture thick, with a double rather crenulated margin; umbilicus middle-sized; dorsal swelling not large.

GODWIN-AUSTIN. Journ. Asi. Soc. Bengal. 1871.

*Hab.* Diyung Valley, N. Cachar.

### Species 3. (Mus. Brit.)

**ALYCEUS VESTITUS.** *Aly. testâ conicâ, pallidè castaneâ, anfractibus ad suturam crenulatis; ultimo ad dorsum moderate tumescenti; apertura ad anfractum penultimum emarginatâ; margine albo, crasso, simplici.*

**THE INVESTED ALYCEUS.** Shell conical, pale chestnut; whorls crenulated at the suture, last moderately swelling at the back; aperture emarginated at the penultimate whorl; margin white, thick, extis declivi.

BLANFORD. Journ. Asi. Soc. Bengal, 1871.

*Hab.* Aisan Hills.

### Species 4. (Mus. Brit.)

**ALYCEUS GIBBUS.** *Aly. testâ conicâ, fulvâ; spirâ breviusculâ, apici rubro; ultimo anfractu lateraliter expanso, ad dorsum depresso-gibboso, prope aperturae angustissimo; collo suturali inconspicuo; apertura rotundâ, margine tenuiter duplicato; umbilico brevi.*

**THE HUNCHBACK ALYCEUS.** Shell conical, fulvous; spire rather short, with red apex; last whorl laterally expanded, depressed-gibbous at the back, very narrow near the aperture; sutural callus inconspicuous; aperture rounded, margin thinly doubled; umbilicus short.

FERRUSSA.

*Hab.* Cochin-China.

## Species 5. (Mus. — ? Copied.)

ALYCÆUS MARGARITUS. *Aly. testâ subglobosâ, albâ; anfractibus tribus, rotundis, ultimo post aperturam moderatè (?) contracto, apertura margine duplicato; margine interno tenui, producto; margine externo planato, expanso; umbilico parvo.*

THE PEARL ALYCÆUS. Shell subglobose, whitish; whorls three, rounded, last moderately (?) contracted behind the aperture; margin of the aperture double; inner margin thin, produced; outer margin flattened, expanded; umbilicus small.

THEOBALD MSS. Hanley, Conch. Ind. Pl. 95, f. 10.  
*Hab.* Shan provinces.

The second figure in the Indian Conchology (Pl. XCVII, f. 7), given as representing a variety of this species, has every appearance of belonging to another. I have therefore named it *Al. microstoma* in Plate IV.

## Species 6. (Mus. — ?)

ALYCÆUS PYRAMIDALIS. *Aly. testâ majusculâ, pyramidalâ, rubro-fuscâ, lœvi; ultimo anfractu lateraliter expanso, ad dorsum gibboso, subitè contracto, tum breviter continuo, callo suturali inconspicuo elongato; margine apertura lato, planato; umbilico angustissimo.*

THE PYRAMIDAL ALYCÆUS. Shell rather large, pyramidal, red-brown, smooth; last whorl laterally expanded, gibbous at the back, suddenly contracted, then shortly continued, sutural callus inconspicuous, long; margin of the aperture broad, flattened, rather narrow.

BENSON. Ann. Nat. Hist. 1856, Ser. 2, Vol. XVII. 225

*Hab.* Therabuin Hill, Tennasserim, Burmah.

Much resembling *Alycæus gibbus*, but more pyramidal.

## Species 7. (Mus. Brit.)

ALYCÆUS PUSILLUS. *Aly. testâ parvâ, albâ, depressâ, liratâ; ultimo anfractu ad latus lato producto, ad dorsum inflato et profundè rugato; ad tumoris terminum leviter contracto, tum post aperturam subexpanso; callo suturali parvo, brevi, distincto; umbilico lato, margine apertura crasso, subrotundo.*

THE DWARF ALYCÆUS. Shell small, white, depressed, ridged; last whorl broadly produced at the side,

inflated and deeply-wrinkled at the back, slightly contracted at the end of the tumour, then a little expanded behind the aperture; sutural callus small, short, distinct; umbilicus broad, margin of the aperture thick, rather round.

GODWIN-AUSTIN. Journ. Asi. Soc. Beng.

*Hab.* Javai to Asalu.

## Species 8. (Mus. Godwin-Anstin.)

ALYCÆUS KHASIACUS. *Aly. testâ depressâ, fusco-rubescenti, profundè sulcatâ, anfractibus quaternis, depressis, apicali rubro, ultimo ad dorsum valdè inflato, profundè sulcato, ad terminum tumoris subitè profundè contracto, tum usque ad anteginem apertura expanso; callo suturali brevi, tenui, conspicuo, umbilico lato, margine apertura crasso, subrotundo.*

THE KHASIAN ALYCÆUS. Shell depressed, reddish brown, deeply grooved, whorls four, depressed, apical red, last much inflated at the back, suddenly and deeply contracted at the end of the tumour, then expanded to the margin of the aperture; sutural callus short, thin, conspicuous; umbilicus broad, margin of the aperture thick, rounded.

GODWIN-AUSTIN. Journ. Asi. Soc. Beng. 1871, Vol. XL.

*Hab.* Khasia and Jaintia Hills.

## Species 9. (Mus. Godwin-Austin.)

ALYCÆUS CONICUS. *Aly. testâ solidâ, subviridi, obtusè conicâ, ad suturam crenulatâ; anfractibus quinâ, apicalibus rubescentibus, ultimo lato, tumore dorsali densè lirato-rugato, ad terminum tumoris breviter angusto, lœvi; margine apertura crassissimo, retrorsim declivi, callo suturali elongato, angusto, rugoso; umbilico maximo.*

THE CONICAL ALYCÆUS. Shell solid, greenish, obtusely conical, crenulated at the suture; whorls five, apical, reddish, last broad, dorsal tumor closely wrinkled in ridges, shortly narrow, smooth at the end of the tumor; margin of the aperture very thick, shelving backwards, sutural callus lengthened, narrow, rough; umbilicus very large.

GODWIN-AUSTIN. Journ. Asi. Soc. Bengal, 1871, Vol. XL.

*Hab.* East of Kopili River, North Cachar.







# ALYCÆUS.

## PLATE II.

### Species 10.

**ALYCÆUS ANDAMANÆ.** *Aly. testâ subdepressâ, latâ concentricè distantè loricâ, tuberculis spirâliter striatâ, anfractibus tenuis, ultimo ad dorsum moderate inflato, post marginem aperture moderate contracto, umbilico latissimo; apertura ad antroctum subemarginatâ, margine albo, tenuiter duplicato.*

**THE ANDAMAN ALYCÆUS.** Shell subdepressed, broad, concentrically distantly ridged, spirally striated between the ridges; whorls three, last very broad, moderately inflated at the back, moderately contracted behind the margin of the aperture; umbilicus very broad, aperture rather emarginated at the last whorl; margin white, thinly duplicate.

BENSON. ANN. NAT. HIST. 1861, SER. 3, VOL. VII.

*Hab.* Port Blair, Andaman Islands.

### Species 11. (Mus. Brit.)

**ALYCÆUS POLYGONUS.** *Aly. testâ conicâ, fuscâ, loricâ; anfractibus quaternis, ultimo ad medium dorsî breviter inflato, tum breviter contracto, et margine albo, lato reflexato, deinde autè apertura marginem breviter angustâ; callo suturali elevato, longissimo; umbilico parvo, margine aperture albo, polygono.*

**THE POLYGONAL ALYCÆUS.** Shell conical, brown, smooth; whorls four, last shortly inflated at the middle of the back, then briefly contracted, sutural callus raised, rather long; umbilicus small, margin of the aperture white, polygonal.

BLANFORD. JOURN. ASI. SOC. BENG. 1862.

*Hab.* —?

### Species 12. (Mus. Hanley.)

**ALYCÆUS CUCULLATUS.** *Aly. testâ depressâ, albâ, concentricè equaliter loricatâ; anfractibus tenuis, ultimo latissimo, ad dorsum breviter tumido, tenuiter loricato, ante tumorem brevissimè contracto; margine aperture exteriorè latè expanso, albo interno.*

*longè producto, plicato et laqueato; umbilico latissimo, callo suturali concinno, brevissimo.*

**THE HOODED ALYCÆUS.** Shell depressed, white, concentrically regularly grooved; whorls three, last very broad, shortly tumid at the back, half-truncated, very shortly contracted in front of the tumor; external margin of the aperture broadly expanded, white, internal lengthly plaited and fluted; umbilicus very broad; sutural callus neat, rather short.

THEOBALD. JOURN. ASI. SOC. VOL. III, P. 51.

*Hab.* Shan States.

### Species 13. (Mus. Brit.)

**ALYCÆUS UREULA.** *Aly. testâ albâ, altâ, loricâ; anfractibus quaternis prominentibus, supra medium subangulatis, ultimo alto, post aperturam breviter angustissimo; tumori dorsali angulo, in marginem contractum concinno desinenti; callo suturali distincto, brevissimo; umbilico parvo, margine aperture angusto, rotundo.*

**THE URN ALYCÆUS.** Shell white, high, smooth; whorls four, prominent, rather angular above the middle, last high, shortly very narrow behind the aperture; dorsal tumor large, ending in a contracted neat margin; sutural callus distinct, rather short, umbilicus small, margin of the aperture narrow, round.

BENSON. ANN. NAT. HIST. SER. 2, VOL. II.

*Hab.* Darjeeling, Himalaya.

### Species 14. (Fig. a, b, Mus. Brit.)

**ALYCÆUS PLECTOCHELUS.** *Aly. testâ minutâ, albâ, subcompressâ, tenuissimè striatâ; anfractibus quaternis angustis, ultimo ad dorsum breviter tumido, tum coarctato, deinde callo flexuoso cincto; margine aperture producto, quinqueplicato; callo suturali sublongato; umbilico molliceri.*

**THE PLAITED ALYCÆUS.** Shell minute, white, rather compressed, very finely striated; whorls four, narrow, last with short tumulus at the back, then narrowed, afterwards girt with a flexuous

callus; margin of the aperture produced, five-plaited; sutural callus rather lengthened; umbilicus middle-sized.

BENSON. Ann. Nat. Hist. Ser. 3, Vol. III, p. 180.  
Hab. Rungun Valley.

The margin of the aperture in this interesting little shell is curiously produced and plaited like a frill.

Species 15. (Mus. Brit.)

ALYCEUS AMPHORA. *Aly. testâ altâ, albâ, levî, lateraliter subcompressâ; anfractibus quinîs, superioribus rubescentibus, brevibus; ultimo alto, ventricoso, superius subangulato, infra lateraliter angustato et angulato; ad dorsum valdè inflato, tum subito contracto, breviter angustissimo, post aperturam expanso; callo suturali angusto, elongato; umbilico parvo; aperturâ latâ, reflexâ, margine ad anfractibus juncturam semi-interrupto.*

THE VASE ALYCEUS. Shell high, whitish, smooth, laterally subcompressed; whorls five, upper rather red; last high, ventricose, somewhat angular above, narrow and angular below, much inflated at the back, then suddenly contracted, very narrow for a short distance, expanded behind the aperture; sutural callus narrow, elongated; umbilicus small; aperture broad, reflected; margin half interrupted at the juncture of the whorl.

BENSON. Ann. Nat. Hist. 1856, Ser. 2, Vol. XVII.  
Hab. Moulmein and Tennasserim.

Species 16. (Mus. —?)

ALYCEUS SUCCINEUS. *Aly. testâ subdepressâ, succineo-fuscâ; anfractibus quaternis regulariter rugatis, ultimo ad dorsum breviter gibboso, tum angustissimo, levî, medio partis anguste margine albo extantî interrupto; aperturâ margine albo, polygono; callo suturali obliquo, albo, conspicuo, brevîsculo; umbilico medioori.*

THE AMBER ALYCEUS. Shell subdepressed, amber-brown; whorls four, regularly wrinkled, last shortly gibbous at the back, then very narrow, smooth, interrupted in the middle of the narrow

part by a thick, outstanding white margin; margin of aperture white, polygonal; sutural callus oblique, white, conspicuous, rather short; umbilicus medium-sized.

BLANFORD. Journ. Asi. Soc. Bengal, 1862, Vol. XXXI.

Hab. Aracan Hills.

Species 17. (Mus. Brit.)

ALYCEUS VULCANI. *Aly. testâ fuscâ, subdepressâ; anfractibus quaternis, regulariter rugatis; ultimo ad dorsum lateraliterque latè tumido, post medium dorsi subito contracto, tum angusto levî; medio partis anguste callis duobus annularibus interrupto; callo suturali brevîsculo, margine aperturâ subhexagono.*

VULCAN'S ALYCEUS. Shell brown, subdepressed; whorls four, regularly wrinkled; last broadly tumid at the back and laterally, suddenly contracted past the middle of the back, then narrow, smooth; interrupted in the middle of the narrow part with two annular calli; sutural callus rather short; margin of the aperture nearly hexagonal. BLANFORD. Journ. Asi. Soc. Bengal, 1863, Vol. XXXII, p. 323.

Hab. Peak of Poppa in Ava.

Species 18. (Mus. —?)

ALYCEUS FEDDENIANUS. *Aly. testâ altâ, levî, fuscâ; anfractibus quaternis, tertio inflato, subangulato, ultimo lateraliter subcompresso, alto, triangulato; versus aperturam gradatim angustato; callo suturali elongato, levî; umbilico latîsculo, margine aperturâ albo, postea planulato.*

THE FEDDEN ALYCEUS. Shell high, smooth, brown; whorls four, third inflated, slightly angular; last laterally subcompressed, high, biangular; gradually narrowed towards the aperture; sutural callus elongated, smooth; umbilicus rather broad; margin of aperture white, flattened behind.

THEOBALD. Journ. Asi. Soc. Bengal, 1870.  
Hab. Shan States, Upper Salween.





20.



19.



21.



23 a.



22.



23 b.



24.



25.



27.



26.

# ALYCEUS.

## PLATE III.

### Species 19. (Mus. Brit.)

**ALYCEUS MOUHOLI.** *Aly. testā flavidā, ventricosā, laevi; anfractibus quinīs, superiōribus parvis, ultimis ventricosis, lateraliter et infcā ad dorsum ciliatō; post aperturam breviter angustā, aperturæ margine expanso, planato; umbilico brevissimo.*

**MOUHOLI'S ALYCEUS.** Shell yellow, ventricose, smooth; whorls five, upper small; last inflated laterally and below at the back, shortly narrowed behind the aperture; margin of the aperture expanded, flattened; umbilicus very short.

ADAMS. Proc. Zool. Soc. 1862, p. 275.

*Hab.* Isl. Formosa.

### Species 20. (Mus. Brit.)

**ALYCEUS AVE.** *Aly. testā parvā, depressā, albā, regulariter rugatā; anfractibus angustis, ultimo tumori dorsali magno, subito ad brevissimam contracto; anfractibus parvis inter tumorem et aperturam marginem brevissimū, medio inflatō; callo suturali brevi, distincto; umbilico lato.*

**THE AVE ALYCEUS.** Shell small, depressed, white, regularly wrinkled; whorls narrow, last with large dorsal tumour, suddenly contracted at the end; part of the whorl between the tumour and the margin of the aperture rather short, inflated in the middle; sutural callus short, distinct; umbilicus broad.

BLANFORD. Journ. Asi. Soc. 1863.

*Hab.* Hills of Mandelay and Ava.

### Species 21. (Mus. Brit.)

**ALYCEUS SWINHOE.** *Aly. testā elevatā, conicā, albidoflavidā, laevi, anfractibus quinīs, suturā profundā separatis; ultimo ventricoso, lato, tumori laterali subinflato, tum brevissimo angustato; callo dorsali minuto, distincto, aperturæ margine tenui, planato.*

**SWINHOE'S ALYCEUS.** Shell raised, conical, whitish-yellow, smooth, whorls five, separated by a deep suture; last ventricose, broad, distinct, swelled

by a lateral tumour, then very shortly narrowed; dorsal callus minute, distinct, margin of aperture thin, flattened.

H. ADAMS. Proc. Zool. Soc. 1866, p. 319.

*Hab.* Isl. Formosa.

### Species 22. (Mus. Theobald.)

**ALYCEUS KERZIANUS.** *Aly. testā depressā, fulvā, tenuiter sulcatā, anfractibus quinīs, depressis, ultimo ad dorsum medio inflato, validē rugato, tum breviter contracto et callo annulari cincto, post aperturam marginem crassitudine crescenti; aperturā majusculā, albā, infcā cuneatā, canaliferā; marginem columellari rectiusculo, margine externo crenulato; callo suturali minuto; umbilico latissimo.*

**KERZ'S ALYCEUS.** Shell depressed, fulvous, finely grooved, whorls five, depressed, last dorsally inflated in the middle, strongly wrinkled, then shortly contracted and girt with an annular callus, increasing in thickness behind the margin; aperture rather large, white, cuneate below, with a canal; columellar margin rather straight, outer margin crenulated; sutural callus minute; umbilicus very broad.

THEOBALD. Journ. Asi. Soc. Bengal.

*Hab.* Nattarina, Brome.

### Species 23. (Mus. Hanley.)

**ALYCEUS RICHTOFENI.** *Aly. testā subdepressā, albidā, regulariter sulcatā; spirā acuminatā, anfractibus angustibus, ultimo medio dorsi inflato tum contracto, parte inter tumorem et aperturæ marginem angustā, brevitatē, per callum ascendere in medio divisā; margine aperturæ duplicato, parte externo latē planato, parte interno producto, angustato, subcrenato; callo suturali tenui, angustato; umbilico magno.*

**RICHTOFEN'S ALYCEUS.** Shell subdepressed, whitish, regularly grooved; spire acuminated, whorls narrow, last inflated in the middle of the back, then contracted, the part between tumour and edge of aperture narrow, smooth, divided in the middle by an annular callus; margin of aper-

ture double, outer part broadly flattened, inner part produced, narrow, slightly crenated; sutural callus thin, narrow; umbilicus large.

BLANFORD. Journ. Asi. Soc. Bengal, 1863, Vol. XXXII. p. 324.

*Hab.* Moulmein.

Species 24. (Mus. Brit.)

ALYCEUS DISTORTUS. *Aly. testâ breviter conicâ, griseo-fulvâ, lœvi; anfractibus quaternis, rotundis; ultimo alto, post aperturam brevissimè angustâ, ad dorsam et lateraliter latè inflatâ, tumore dorsali prope aperturam in marginem concinnum desinenti; umbilico parvo, margine aperturæ rotundo; callo suturali angustâ, elongatâ.*

THE DISTORTED ALYCEUS. Shell shortly conical, grey-fulvous, smooth; whorls four, rounded; last high, behind the aperture very shortly narrow; dorsal tumour ending near the aperture in a neat margin; umbilicus small, margin of aperture round; sutural callus narrow, long.

HAINES. MS. Brit. Mus.

*Hab.* —?

Species 25. (Mus. Brit.)

ALYCEUS NIDUS. *Aly. testâ fuscâ, breviter conicâ, lœvi, regulariter sulcatâ; anfractibus quaternis, ultimo inter marginem aperturæ et tumorem dorsalem mediè inflatâ, tumore dorsali mediovi, profundè rugatâ, callo dorsali elongatâ, distinctâ; aperturæ margine duplicatâ, parte internâ subrotundâ, productâ, parte externâ complanatâ, infrà angulatâ; umbilico parvo.*

THE NEAT ALYCEUS. Shell brown, shortly conical, smooth, regularly grooved; whorls four, last between the margin of the aperture and the dorsal tumour inflated in the middle, dorsal

tumour medium sized, deeply wrinkled, dorsal callus elongated, distinct; margin of aperture double, inner part rather round, produced; outer part flattened, angular below; umbilicus small.

BLANFORD. Journ. Asi. Soc. Bengal, 1863.

*Hab.* Aracan.

Species 26. (Mus. Brit.)

ALYCEUS BACCI. *Aly. testâ conicâ, altiusculâ, lœvi, tenui, pallidè subviridi, apice succineo; anfractu ultimo breviter ante aperturam breviter angustâ, tumore dorsali magno, rotundo; callo suturali inconspicuo; margine aperturæ angustâ, simplici, albo.*

THE BACCUS ALYCEUS. Shell conical, rather high, smooth, thin, pale greenish, apex amber; last whorl shortly narrow, dorsal tumour large, round; sutural callus inconspicuous; aperture of the margin narrow, simple, white.

PFEIFFER. Mon. Pneum. —?

*Hab.* —?

Species 27. (Mus. Brit.)

ALYCEUS BERTH. *Aly. testâ pallidè fulvâ, depressâ, lœvi, spirâ acuminatâ; ultimo anfractu post aperturam marginem brevissimè angustâ, tumore dorsali mediovi, sulcatâ; callo suturali conspicuo, calido, elongatâ; aperturæ margine angustâ, laqueatâ; umbilico lato.*

BERT'S ALYCEUS. Shell pale fulvous, depressed, smooth, spire acuminate; last whorl very shortly narrow behind the aperture; dorsal tumour middle-sized, grooved; sutural callus conspicuous, strong, elongated; margin of aperture narrow, fluted; umbilicus broad.

GODWIN AUSTIN —?

*Hab.* —?







# ALYCEUS.

PLATE IV.

Species 28. (Mus. Throbal.)

**ALYCEUS MUCROSTOMA.** *Aly. testâ fulvâ, subdepressâ, regulariter crenatâ; altimo anfractu gradatim inflato, tumore aperturæ marginis brevissimè angustato, tumore; margine aperturæ contracto, crenato, parte interiori sinuato; umbilico lato.*

**THE SMALL-MOUTHED ALYCEUS.** Shell brown, subdepressed, regularly wrinkled; last whorl gradually inflated, then very shortly narrowed and smooth near the margin of the aperture; margin of aperture contracted, crenated, sinuated near the suture; umbilicus broad.

SOFFERBY.

*Alyceus mucrostroma*, Throbal (MS.).

*Hab.* Shan Provinces.

This shell is so different from *Alyceus mucrostroma*, as originally described, that the writer has found it necessary to give it a name.

Species 29. (Mus. Brit.)

**ALYCEUS NICOBARICUS.** *Aly. testâ conicâ, subdepressâ, subcirculari crenatâ; anfractibus quaternis, rotundis, altimo medio dorsi moderate inflato, ad terminum tumore dorsali conicâ marginato, deinde brevi, angusto; umbilico medio; margine aperturæ duplicato, parte interno crassâ subproductâ; callo suturali brevissimo, conspicuo.*

**THE NICOBAR ALYCEUS.** Shell conical, subdepressed, greenish horny; whorls four, round, last moderately inflated in the middle of the whorl, neatly edged at the end of the dorsal tumour, then smooth, narrow; umbilicus medium-sized; margin of aperture double, inner part thick, slightly produced; sutural callus very short, conspicuous.

MORCH — ? MS. Brit. Mus.

*Hab.* Nicobar Islands.

Species 30. (Mus. Brit.)

**ALYCEUS OLIPHANTIS.** *Aly. testâ conicâ, altiusculâ, brevi, griseo-albidâ; anfractibus quinis, prominentibus; altimo testâ aperturam contractâ, tum conspicuo*

*inflato et ad marginem tumore contracto, tumore dorsali brevi; callo suturali brevissimo; umbilico parvo; margine aperturæ supra infroque subangulato.*

**THE EAR-HOLE ALYCEUS.** Shell conical, rather high, smooth, whitish-grey; whorls five, prominent; last constricted behind the aperture, then conspicuously inflated and contracted at the edge of the tumour; dorsal tumour short; sutural callus very short; umbilicus small; margin of aperture slightly angular above and below.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. VIII. p. 188 (Cyclostoma).

*Hab.* Himalaya.

Species 31. (Mus. Hanley.)

**ALYCEUS GLABER.** *Aly. testâ fulvâ, depresso-conicâ; breviter sulcatâ; anfractibus quaternis, angustatis, apicalibus rubris, ultimo inter marginem aperturæ et tumorem dorsalem bi-callosa; tumore dorsali moderate inflato, rugato; callo suturali subelongato; umbilico latissimo; margine aperturæ duplicato.*

**THE SMOOTH ALYCEUS.** Shell fulvous, depressed-conical; slightly grooved; whorls four, narrow, apical red, last with two calli between the margin of aperture and dorsal tumour; dorsal tumour moderately inflated, wrinkled; sutural callus rather lengthened; umbilicus very broad; margin of aperture double.

BLANFORD. Journ. Asi. Soc. Beng. 1865, Vol. XXXIV. p. 84.

*Hab.* Aracan Hills.

Species 32. (Fig. a, b, Mus. Hanley.)

**ALYCEUS SCULPTILIS.** *Aly. testâ subcirculari-fulvâ, depresso-conicâ, sulcatâ; anfractibus quaternis, rotundis, apicalibus rubris, acuminatis; altimo, inter marginem aperturæ et tumorem dorsalem angusto, equali sulcato, subelongato; tumore dorsali elongato, conicâ marginato; callo suturali inconspicuo; umbilico latissimo; margine aperturæ duplicato, parte interno validè crenato.*

THE SCULPTURED ALYCEUS. Shell greenish-buff, depressed-conical, grooved; whorls four, rounded, apical red, acuminate; last narrowed between margin of aperture and dorsal tumour, narrow, equal, sulcated, rather lengthened; dorsal tumour elongated, neatly edged; sutural callus inconspicuous; umbilicus very broad; margin of aperture double, inner part strongly crenated.

BENSON. Ann. Nat. Hist. 1856, Ser. 2, Vol. XVII. p. 226.

Hab. Thyet Myo, near British Barmah.

Species 33. (Mus. Brit.)

ALYCEUS SPIRAECELLUM. *Aly. testâ obscure fuscâ, depressâ, sulcatâ; anfractibus quaternis, angustis, apicalibus succineis; ultimo post aperturam breviter angustâ, laevi; tumore dorsali mediocri, margine crasso; umbilico longiusculo, callo suturali brevissimo, margine aperturæ complanato; umbilico lato.*

THE SPIRACLE ALYCEUS. Shell dull brown, depressed, grooved; whorls four, narrow, apical amber; last shortly narrowed behind the aperture, smooth; dorsal tumour medium-sized; margin thick; umbilicus rather narrow, sutural callus very short, margin of aperture flattened; umbilicus broad.

ADAMS AND REEVE. Voyage of the 'Sulphur.'

Hab. —?

Species 34. (Mus. Brit.)

ALYCEUS GRAPHICUS. *Aly. testâ pallidâ fulvâ, conicâ, altâ; anfractibus quinis, apicalibus lœvibus, penultimo lirato; ultimo et penultimo acutè lœvibus, ultimo post aperturam marginem laevi, gradatim angustato; tumore dorsali inconspicuo; callo suturali laevi, conspicuo; umbilico minuto; aperturæ margine duplicato, parte externo ad juncturam anfractibus interrupto, subaristo, parte interno laevi, paulo producto.*

THE GRAPHIC ALYCEUS. Shell pale fulvous, conical, high; whorls five, apical smooth, last and last

before sharply ridged, last smooth, gradually narrowed behind the margin of the aperture; dorsal tumour inconspicuous; sutural callus short, conspicuous; umbilicus minute; margin of aperture double, outer part interrupted at the juncture of the whorl, slightly arched; inner part thin, a little produced.

BLANFORD. Journ. Asi. Soc. Bengal, 1862.

Hab. Aracan Hills.

Species 35. (Mus. Brit.)

ALYCEUS FOOTEI. *Aly. testâ depressâ, albidd, laevi; anfractibus quaternis; ultimo post marginem aperturæ breviter angustato; tumore dorsali moderate inflato, concinno marginato, rugato; aperturæ margine cœcis annulis tribus plicato, infra columellam curvato.*

FOOTE'S ALYCEUS. Shell depressed, whitish, smooth; whorls four; last shortly narrowed behind the margin of the aperture; dorsal tumour moderately inflated, neatly bordered, wrinkled; margin of aperture plaited in three rings outside, cornered under the columella.

BLANFORD. —?

Hab. S. India.

Species 36. (Mus. Hanley.)

ALYCEUS UMBONALIS. *Aly. testâ majusculâ, depressâ, fulvâ, laevi; anfractibus quinis, apicalibus rubris; ultimo extenso, post aperturam marginem angustato; tumore; margine expanso, ad suturam elevato, callo suturali elongato; margine aperturæ transversè ovato, latè planato, reflexo; umbilico maximo.*

THE UMBONAL ALYCEUS. Shell rather large, depressed, fawn, smooth; whorls five, apical red; last extended, elongated behind the aperture; margin of tumour expanded, raised at the suture; sutural callus elongated; margin of aperture transversely ovate, broadly flattened, reflected.

BENSON. Ann. Nat. Hist. 1856, Ser. 2, Vol. XVII.

p. 225.

Hab. Akauktoung, near Inawaddy, Barmah.





38.



37.



39.



40. a



41.



40. b



42.



43.



45.



44.

# ALYCEUS.

PLATE V.

## Species 37. (Mus. Brit.)

*ALYCEUS HUMULA.* *Aly. testâ minuta, albâ, depressâ, tenuiter striatâ; ultimo anfractu post aperturam marginem angustâ, umbilico crassiusculo, tumore dorsali conicum marginato, moderate inflato, rugata; callo suturali brevi, conspicuo; apertura margine duplicato, parte externa pluriâ, parte interna productâ.*

THE LITTLE GEM ALYCEUS. Shell minute, whitish, depressed, finely striated; last whorl behind margin of aperture narrow, thickish in the middle, dorsal tumour neatly bordered, moderately inflated, wrinkled; sutural callus short, conspicuous; margin of aperture double, outer part flattened, inner part produced.

BENSON. Ann. Nat. Hist. Ser. 3, Vol. III. 1859.

*Hab.* Rungan Valley.

## Species 38. (Mus. Brit.)

*ALYCEUS AEMILLATUS.* *Aly. testâ brevi, depresso-conico, albâ; ultimo anfractu, post aperturam breviter angustissimâ, tum latè callosa, inflato; tumore dorsali subcitrato, margine crassa, callosa; callo suturali conspicuo, brevissimo, apertura margine angustâ; umbilico latissimâ.*

THE COLLARED ALYCEUS. Shell smooth, depressed conical, whitish; last whorl shortly very narrow, callous behind the aperture, then broadly callous, inflated; dorsal tumour backward, margin thick, callous; sutural callus conspicuous, rather short, margin of the aperture narrow; umbilicus very broad.

BENSON. Ann. Nat. Hist. 1856, Ser. 2, Vol. XVII. p. 227.

*Hab.* Thyet Myo near river Irwaddy, Burmah.

## Species 39. (Mus. Brit.)

*ALYCEUS POLITUS.* *Aly. testâ depressâ, politâ, castaneâ, subitè albâ; ultimo anfractu post aperturam contractâ, tum longè inflato, et marginem tumoris depresso et callosa, tumore dorsali inconspicuo, callo suturali albo, brevissimo; umbilico lato; apertura margine infra columellam emeata.*

THE POLISHED ALYCEUS. Shell depressed, polished, chestnut, whitish underneath; last whorl constricted behind the aperture, then with a long swelling, depressed and callous at the margin of the dorsal tumour; dorsal tumour inconspicuous; sutural callus white, very short, umbilicus broad; margin of aperture cornered below columella.

BLANFORD. Journ. Asi. Soc. Bengal, 1865.

*Hab.* Aracan.

## Species 40. Fig. a, b. (Mus. Brit.)

*ALYCEUS HUMILIS.* *Aly. testâ parvâ, griseo-albâ, sub-calo-striatâ, depressâ; ultimo anfractu inter aperturam et tumorem dorsalem inflato; tumore dorsali breviter conspicuo inflato, callo suturali brevissimo; umbilicus lato; margine apertura infra emeata.*

THE HUMBLE ALYCEUS. Shell small, grey-white, groove-striated, depressed; last whorl inflated between aperture and dorsal tumour; dorsal tumour shortly conspicuously inflated, sutural callus rather short, umbilicus broad; margin of aperture cornered below.

BLANFORD. Journ. Asi. Soc. Bengal, 1862.

*Hab.* Akaouktonng, banks of Irwaddy.

## Species 41. (Mus. Hanley.)

*ALYCEUS CONSTRICTUS.* *Aly. testâ conicâ, albâ, fulvâ, brevissimâ; anfractibus quatuor, elevatis, tertio distincte leviter lirato; ultimo post aperturam breviter angustissimo; tumore dorsali brevi, conicum marginato, callo suturali brevi; umbilico parvo; margine apertura latè reflexo.*

THE CONSTRICTED ALYCEUS. Shell conical, high, fulvous, rather smooth; whorls four, elevated, third distantly, slightly ridged; last shortly very narrow behind the aperture; dorsal tumour short, neatly bordered; sutural callus short; umbilicus small; margin of aperture broadly reflected.

BENSON. Ann. Nat. Hist., Ser. 2, Vol. VIII. p. 272.

*Hab.* Sikkim, Himalaya.

## Species 42. (Mus. Brit.)

ALYCEUS BEMBEX. *Aly. testâ albâ, conicâ, altâ, lavi; anfractibus quinis, ultimo post aperturam constricto tunc inflato et constricto; tumore dorsali calli inflato; callo suturali conspicuo, elongato; aperture margine duplicato; umbilico parvo.*

THE BEMBEX ALYCEUS. Shell white, conical, high, smooth; whorls five, last constricted, then inflated and constricted behind the aperture; dorsal tumour much inflated; sutural callus conspicuous, elongated; margin of aperture doubled; umbilicus small.

BENSON. Ann. Nat. Hist., Ser. 3, Vol. III. 1859.

*Hab.* Darjeeling, Himalayas.

## Species 43. (Mus. Hailey.)

ALYCEUS CRENULATUS. *Aly. testâ subdepressâ, griseo-albâ; anfractibus quaternis, ultimo post marginem aperture breviter, profundè constricto, tum callidè inflato, rugato; margine aperture crenulato; umbilico majusculo.*

THE CRENULATED ALYCEUS. Shell subdepressed, grey-white; whorls four, last shortly, deeply, constricted, then much inflated, wrinkled; margin of aperture crenulated; umbilicus rather large.

BENSON. Ann. Nat. Hist., Ser. 3, Vol. III. 1859.

*Hab.* Rungun Valley.

## Species 44. (Mus. Brit.)

ALYCEUS THEOBALDI. *Aly. testâ conicâ, subdepressâ, distanter liratâ, griseo-albâ; ultimo anfractu*

*crassiusculâ, post aperturam breviter angusto, calli crasso annulato; tumore dorsali moderatè inflato, rugato; callo suturali elongato, angusto; umbilico latiusculo; margine aperture polygono.*

THEOBALD'S ALYCEUS. Shell conical, subdepressed, distantly ridged, grey-white; last whorl rather thick, shortly narrow behind the aperture, ringed with a thick callus; sutural callus long, narrow; umbilicus rather broad; margin of aperture polygonal.

BLANFORD. Journ. Asi. Soc. Bengal. 1862.

*Hab.* Khasi Hills.

## Species 45. (Mus. Brit.)

ALYCEUS EXPATRIATUS. *Aly. testâ depressissimâ, fulcâ, tenuiter sulcatâ; anfractibus apicalibus rubris, ultimo longè cæcæo, post aperturam marginem callo approximato et altero albo mediano extantè cincto; tumore dorsali albomarginato, callidè inflato; callo suturali brevisculo, conspicuo; umbilico lato; aperture margine tenuiter duplicato.*

THE EXPATRIATED ALYCEUS. Shell very depressed, fulvous, finely grooved; apical whorls red, last considerably extended, girt behind the margin of the aperture with an approximate callus and another white medial, outstanding; dorsal tumour white-edged, strongly inflated; sutural callus rather short, conspicuous, umbilicus broad; margin of aperture thinly doubled.

BLANFORD. Journ. Asi. Soc. Bengal. 1860, Vol. XXIX. p. 123.

*Hab.* Nilgherries.





47.



46.



48.



49.



50, a.



50, b.



51.



52.



54.



53.



# ALYCEUS.

PLATE VI.

## Species 46. (Mus. Brit.)

ALYCEUS QUYLEER. *Aly. testâ compressâ, pallide fulvâ, limbo-limbis distinctâ; apice acuminatâ; ultimo anfractu laterâter bimarginato, tumore dorsali latè oblongo, rugato; callo suturali brevissimo; umbilico latissimo.*

THE TWOLINE ALYCEUS. Shell compressed, pale fulvous, laterally distorted; apex acuminate; last whorl with two distinct margins; dorsal tumour broadly inflated, wrinkled; sutural callus rather short; umbilicus very broad.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. XIX. 1857.  
*Hab.* Sikkim, Himalaya.

## Species 47. (Mus. Brit.)

ALYCEUS SPANGULAER. *Aly. testâ depressâ, fulvâ, limbo-limbis striatâ; ultimo anfractu post marginem aperturæ profundè contracto, tum. callo crasso prominenti irregulari armato; tumore dorsali beccî; callo suturali brevissimo; umbilico latissimo; marginè aperturæ duplicato.*

THE SPANGLED ALYCEUS. Shell depressed, fulvous, finely striated; last whorl deeply contracted behind margin of aperture, then armed with a prominent irregular callus; dorsal tumour short; sutural callus rather short; umbilicus rather broad; margin of aperture double.

HITTON. MSS. Pflr. Zeitschrift Malak. 1846.  
*Hab.* Landour.

## Species 48. (Mus. Theobald.)

ALYCEUS BERONS. *Aly. testâ pallide fulvâ, depressâ, limbo-limbis apicalibus rubris; ultimo anfractu post aperturam longè angustato, callo anulari, et callo albo irregulari prominenti inter-cepto; tumore dorsali beccî; callo suturali brevissimo; umbilico lato; marginè aperturæ tenuissimo.*

THE TWO-LEAVED ALYCEUS. Shell pale, fulvous, depressed, smooth; apical whorls red; last whorl with a narrow length behind the aperture, inter-

rupted by an annular and irregular, prominent callus; dorsal tumour short; sutural callus rather short; umbilicus broad; margin of aperture rather thin.

THEOBALD. Journ. Asi. Soc. Bengal, 1870, Vol. XXXIX. Pl. 2, p. 396.

*Hab.* Shan States.

## Species 49. (Mus. Brit.)

ALYCEUS PROSECTUS. *Aly. testâ depresso-conicâ, pallide fulvâ, irregulariter sulcatâ et limbo-limbis anfracta distorto subgloboso, post aperturam breviter angustato, declivi, curvato; tumore dorsali longè inflato; aperturæ margine albo, latè elevato supra infriqûe subarrito; umbilico lato; callo suturali longissimo.*

THE SLASHED ALYCEUS. Shell depressed, conical, pale fulvous, irregularly grooved and ridged; last whorl distorted, subglobose, shortly narrowed behind margin of aperture, sloped, keeled; dorsal tumour lengthily swelled; margin of aperture white, broadly reflected, subarrited above and below; umbilicus broad; sutural callus rather long.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. XIX. 1857.  
*Hab.* Khasi Hills.

## Species 50. (Fig. a, b, Mus. Brit.)

ALYCEUS FUGORI. *Aly. testâ conicâ, acuminatâ, sulphureâ, ultimo anfractu ventricoso, lateraliter et dorso valdè inflato; post aperturam breviter angustato, tumori dorsali subito et conspicuo; callo suturali brevissimo; aperturâ angustè reflexâ.*

THE FUGOR ALYCEUS. Shell conical, acuminate; sulphur, last whorl ventricose laterally at the back, much inflated, shortly narrowed behind the aperture; dorsal tumour sudden and conspicuous; sutural callus very short; aperture narrow, reflected.

MARTENS. —? MS. Mus. Brit.

*Hab.* —? —?

## Species 51. (Mus. Brit.)

ALYCEUS PHSIS. *Aly. testâ majusculâ, depresso-conicâ, griseo-albidâ, levi, ultimo anfractu lateraliter extenso; post aperturam distorto, breviter angustato; tumore dorsali concinè marginato, latè inflato; callo suturali elongato; umbilico nuncino; margine aperturæ angustè reflexo.*

THE PHSIS ALYCEUS. Shell rather large, depressed-conical, greyish white, smooth, last whorl laterally distorted, shortly narrowed behind the aperture; dorsal tumour neatly bordered, broadly inflated; sutural callus elongated; umbilicus very large; margin of aperture narrowly reflexed.

BENSON. Ann. Nat. Hist. Ser. 3, Vol. III. p. 179.

*Hab.* Rangun Valley, near Darjeeling.

## Species 52. (Mus. Hanley.)

ALYCEUS HERES. *Aly. testâ, depresso-conicâ, levi, pulchrè castaneâ; ultimo anfractu post marginem aperturæ constricto, callo irregulari retrorsim tortuo munito; tumore dorsali brevissimo, margine albo; callo suturali longissimo; umbilico majusculo; aperturæ margine angusto.*

THE DULL ALYCEUS. Shell depressed-conical, smooth, pale chestnut; last whorl constricted behind margin of aperture, strengthened with an irregular backward twisted callus; dorsal tumour rather short, with white margin; sutural callus rather long; umbilicus rather large; margin of aperture narrow.

BENSON. Ann. Nat. Hist. Ser. 2, Vol. XIX. 1857.

*Hab.* Khasia Hills.

## Species 53. (Mus. Brit.)

ALYCEUS STOLITZII. *Aly. testâ albidâ, tenuissimè striatâ, subdepressâ; ultimo anfractu post marginem bilirato, limâ longè angustissimo; tumore dorsali concinè marginato; callo suturali conspicuo, elongato; umbilico magno.*

STOLITZKI'S ALYCEUS. Shell whitish, very finely striated, subdepressed; last whorl with double-ridge behind aperture, then with a lengthened very narrow space; dorsal tumour neatly bordered; sutural callus conspicuous, elongated; umbilicus large.

GODWIN AUSTIN. —? MS. Brit. Mus.

*Hab.* Nagor Hills.

## Species 54. (Mus. Brit.)

ALYCEUS INGRAMI. *Aly. testâ depressâ, albidâ; ultimo anfractu lateraliter extenso, post aperturam brevissimè contracto; tumore dorsali ad aperturam subapproxinato; callo suturali elongato, conspicuo; umbilico latissimo.*

INGRAM'S ALYCEUS. Shell depressed, whitish; last whorl laterally extended, very shortly contracted behind the aperture; dorsal tumour rather near the aperture; sutural callus lengthened, conspicuous; umbilicus very wide.

BLANFORD. Journ. Asi. Soc. Bengal, 1862.

*Hab.* Aracan.

## ALYCEUS.

|                                       | Fig. | Species | Fig.                                      | Species |
|---------------------------------------|------|---------|---|---------|
| amphora, <i>Benson</i> .....          | II.  | 15      | <i>margaritus</i> , <i>Theobald</i> ..... | IV. 28  |
| Andamania, <i>Benson</i> .....        | II.  | 10      | <i>margaritus</i> , <i>Theobald</i> ..... | I. 5    |
| armillatus, <i>Benson</i> .....       | V.   | 38      | <i>microstoma</i> , <i>Sawceby</i> .....  | IV. 28  |
| Ava, <i>Blanford</i> .....            | III. | 20      | Monhoti, <i>Adams</i> .....               | III. 19 |
| Bacci, <i>Pfeiffer</i> .....          | III. | 26      | Nicobaricus, <i>Morch-!</i> .....         | IV. 29  |
| bembex, <i>Benson</i> .....           | V.   | 42      | nitidus, <i>Blanford</i> .....            | III. 25 |
| bifrons, <i>Theobald</i> .....        | VI.  | 48      | otiphorus, <i>Benson</i> .....            | IV. 30  |
| Burtii, <i>Godwin Austin</i> .....    | III. | 27      | physis, <i>Benson</i> .....               | VI. 51  |
| conicus, <i>Godwin Austin</i> .....   | I.   | 9       | plectocheilus, <i>Benson</i> .....        | II. 14  |
| constrictus, <i>Benson</i> .....      | V.   | 41      | politus, <i>Blanford</i> .....            | V. 39   |
| erenatus, <i>Godwin Austin</i> .....  | I.   | 1       | polygonus, <i>Blanford</i> .....          | II. 11  |
| erenulatus, <i>Benson</i> .....       | V.   | 43      | prosectus, <i>Benson</i> .....            | VI. 49  |
| encellatus, <i>Theobald</i> .....     | II.  | 12      | pusillus, <i>Godwin Austin</i> .....      | I. 7    |
| diagonus, <i>Godwin Austin</i> .....  | I.   | 2       | pyramidalis, <i>Benson</i> .....          | I. 6    |
| distortus, <i>Holmes</i> .....        | III. | 24      | Richtofeni, <i>Blanford</i> .....         | III. 23 |
| expatriatus, <i>Blanford</i> .....    | V.   | 45      | sculptilis, <i>Benson</i> .....           | IV. 32  |
| Feddenianus, <i>Theobald</i> .....    | II.  | 18      | spiracellum, <i>Adams and Reece</i> ..... | IV. 33  |
| Footei, <i>Blanford</i> .....         | IV.  | 35      | Stolitzkii, <i>Godwin Austin</i> .....    | VI. 53  |
| Fugori, <i>Martens</i> .....          | VI.  | 50      | strangulatus, <i>Hutton</i> .....         | VI. 47  |
| gemmula, <i>Benson</i> .....          | V.   | 37      | stylifer, <i>Benson</i> .....             | VI. 46  |
| gibbus, <i>Ferussac</i> .....         | I.   | 4       | succineus, <i>Blanford</i> .....          | II. 16  |
| glaber, <i>Blanford</i> .....         | IV.  | 31      | Swinhoei, <i>H. Adams</i> .....           | III. 21 |
| graphicus, <i>Blanford</i> .....      | IV.  | 34      | Theobaldi, <i>Blanford</i> .....          | V. 44   |
| hebes, <i>Benson</i> .....            | VI.  | 52      | umbonalis, <i>Benson</i> .....            | IV. 36  |
| humilis, <i>Blanford</i> .....        | V.   | 40      | urnula, <i>Benson</i> .....               | II. 13  |
| Ingrami, <i>Blanford</i> .....        | VI.  | 54      | vestitus, <i>Blanford</i> .....           | I. 3    |
| Khasiacus, <i>Godwin Austin</i> ..... | I.   | 8       | Valcani, <i>Blanford</i> .....            | II. 17  |
| Kuzvianus, <i>Theobald</i> .....      | III. | 22      |   |         |



MONOGRAPH

OF THE GENUS

M A R G A R I T A .

Of Nature's gifts thou may'st with lilies boast,  
And with the half-blown rose. *Shakspeare.*







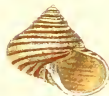
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# MARGARITA.

## PLATE I.

### Genus MARGARITA. Leach.

*Trochus sulcatorformis, ed heliceformis, intus et sub umbilicatus externum margaritacea, interdum unilobata, interdum clausa. Apertura magna, obliqua. Operculum coracina, subovatum, paucispinis.*

Shell trochus- or helix-shaped, pearly inside and beneath the external tegument, sometimes umbilicated, sometimes closed. Aperture large, simple. Operculum horny, subovate, few-whorled.

This genus consists of a few shells that have been grouped together, as having some affinities, but no very definite uniting characters. In the work by Messrs. Adams they are separated into two genera, and other species have been added to each. In the original genus there are nmbilicated and non-umbilicated examples: the former are allowed in that work to retain the name now used, while the latter are named 'Photinula.' This plate having been published in a former number, the writer now completes the monograph, including both sections, as left by his late father, in the Conchological Illustrations, with a few additions from specimens in the collection of the British Museum.

#### Species 1. (Fig. a, b, Mus. Brit.)

MARGARITA UMBILICALIS. *Mar. testâ magna, tenui laevigatâ, fulvâ, obliquâ; umbilico latissimo, apertura maxime obliquâ, intus splendide iridescenti; ultimo anfractu lato, obscurissime angulato.*

THE UMBILICAL MARGARITA. Shell large, thin, smooth, fulvous, oblique, umbilicus very broad, aperture very large, oblique, splendidly iridescent within; last whorl broad, very obscurely angular.

BRODERIP. Sowerby Con. Ill., p. 13.

Hab. — ?

#### Species 2. (Mus. Brit.)

MARGARITA UNDLATA. *Mar. testâ fulvâ, parvâ, depressâ, spirâliter striatâ, ad suturam undulatâ; ultimo anfractu lato; apertura magnâ, obliquâ; umbilico angusto, albo.*

THE WAVY MARGARITA. Shell fulvous, small, depressed, spirally striated, waved at the suture; last whorl broad; aperture large, oblique; umbilicus narrow, white.

SOWERBY. Mal. and Conch. Mag. Conch. Ill. Species 12, f. 4.

Hab. Massachusetts Bay.

#### Species 3. (Mus. Brit.)

MARGARITA SULCATA. *Mar. testâ albâ, depressâ subtus levi, suprâ spirâliter liratâ; apertura latâ; umbilico lato, subcarinato.*

THE GROOVED MARGARITA. Shell white, depressed, smooth beneath, spirally ridged above; aperture broad; nmbilicus broad, subcarinated.

SOWERBY. Mal. and Conch. Mag. p. 26.

Hab. — ?

#### Species 4. (Fig. a, b, Mus. Brit.)

MARGARITA TENIATA. *Mar. testa trocheiformi, fulvâ, fasciis rubris tenuiatâ, levigatâ; spirâ conicâ, anfractibus quinis, rapidè crescentibus, ultimo magno; apertura magnâ, columellâ albâ, crassè obliquâ, infrâ subcucutâ.*

THE RIBBANDED MARGARITA. Shell trochus-shaped, fulvous, banded with red stripes, smooth, spire conical, whorls five, rapidly increased, last large; aperture large, columella white, thick, oblique, slightly embeate below.

SOWERBY. Conch. Illus. Species I, fig. 2.

Hab. Falkland Islands.

#### Species 5. (Fig. a, b, Mus. Brit.)

MARGARITA VIOLACEA. *Mar. testâ crassiusculâ, rubriâ, obliquâ, levi, non umbilicatâ; anfractibus trinis, rapidè crescentibus; ultimo magno, subdepresso, infrâ planiuscula; apertura magnâ, obliquâ.*

THE VIOLET MARGARITA. Shell rather thick, red, oblique, smooth, not umbilicated; whorls three, rapidly enlarged; last large, somewhat depressed, rather flattened below; aperture large, oblique.

KING. Zool. Jouru. Vol. V. p. 346.

Hab. — ?

MARGARITA.—PLATE I.

Species 6. (Mus. Brit.)

MARGARITA GREENLANDICA. *Mar. testâ subdepressâ, albâ, levigatâ; anfractibus triâs, depressis; ultimo expanso; aperturâ magnâ, columellâ tenui, umbilico lato.*

THE GREENLAND MARGARITA. Shell rather depressed, whitish, smooth; whorls three, depressed; last expanded; aperture large, columella thin, umbilicus broad.

BECK. Sowerby, Conch. III. f. 10.

*Hab.* Greenland.

Species 7. (Mus. Brit.)

MARGARITA STRIATA. *Mar. testâ trochiformi, fulvâ, spirâliter striatâ, suprâ linatâ; spirâ conicâ, anfractibus quinâs, ultimo magnâ; aperturâ rotundâ; umbilico parvo.*

THE STRIATED MARGARITA. Shell trochus-shaped, fulvous, spirally striated; ridged above; spire conical, whorls five, last large; aperture rounded; umbilicus small.

BRODERIP. Zool. Journal IV. Cou. III. f. 3.

*Hab.* Northern Ocean?

The larger figure in the Conchological Illustrations, fig. 18, represents a different species, which will be found under the name, *Margarita maxima* in Plate III.





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# MARGARITA.

PLATE II.

## Species 8. (Mus. Brit.)

MARGARITA SANDWICHIANA. *Mar. testâ subglobosâ, spirally striatâ, maculis fuscis nigrescentibus tessellatis variegatâ; anfractibus trinis, ultimâ capillâ crassiusculâ, obliquâ; umbilico lato.*

THE SANDWICH ISLANDS MARGARITA. Shell subglobose, greyish fulvous, spirally striated, variegated with blackish-brown tessellated spots; whorls three, last large, subglobose; aperture rather round; columella rather thick, oblique; umbilicus broad.

A. ADAMS. — ? MS. Mus. Brit.  
*Hab.* Sandwich Islands.

## Species 9. (Mus. Brit.)

MARGARITA VULGARES. *Mar. testâ parvâ, obliquâ, depressâ, albâ, lævi, anfractibus trinis, ultimâ capillâ crassâ; apertura magna, declivi; columellâ tenui; umbilico parvo.*

THE COMMON MARGARITA. Shell small, oblique, depressed, whitish, smooth; whorls three, last quickly increased; aperture large, sloped; columella thin; umbilicus small.

LEACH, SOWERBY. *Conch. Ill. Sp.* 5. f. 13.  
*Hab.* Northern Seas.

## Species 10. (Mus. Brit.)

MARGARITA SIGARETTINA. *Mar. testâ obliquâ depressâ, crassiusculâ, subheliobolâ, rubrâ, lævigatâ, intus splendidè iridescenti; apertura obliquâ ovatâ, maximo; columellâ albâ, latâ, planulatâ, perpendiculari.*

THE SIGARETTA-LIKE MARGARITA. Shell obliquely depressed, rather thick, rather helioid-shaped, red, smooth, splendidly iridescent within; aperture obliquely ovate, very large; columella white, broad, flattened, very oblique.

SOWERBY. *Mal. and Conch. Mag.* p. 24; *Con. Ill. f.* 14.  
*Hab.* — ?

Possibly a further knowledge of this species may lead to its placement in the *GENA* group.

## Species 11. (Mus. Brit.)

MARGARITA PULCHERRIMA. *Mar. testâ altâ, trochiformi, subdistanter spirally striatâ, inter liris regulariter striatis; liris minutè mundificis, rubro maculatis; umbilico magno, coriuto; columellâ obliquâ.*

THE VERY BEAUTY MARGARITA. Shell raised, trochus-shaped, rather distantly spirally ridged, between the ridges regularly striated; ridges minutely beaded, spotted with red; umbilicus large, keeled; columella oblique.

A. ADAMS. — ?  
*Hab.* Japan.

## Species 12. (Mus. Brit.)

MARGARITA CERULESCENS. *Mar. testâ cinereo, depressâ, non umbilicatâ, lævigatâ, angustè trinitâ; spirâ depresso-conicâ; apertura obliquâ subplanulatâ, columellâ crassâ, latâ, superâe calidè arcuatâ.*

THE BLUEISH MARGARITA. Shell ash-coloured, depressed, not umbilicated, smooth, narrowly banded; spire depressed-conical, aperture obliquely squarish; columella thick, broad, strongly arched above.

KING. — ? MS. Brit. Mus.  
*Hab.* — ?

This species belongs to the *Photinula* group.

## Species 13. (Mus. Brit.)

MARGARITA ACUMINATA. *Mar. testâ cinereo-albâ, altâ, conicâ, acuminatâ; anfractibus quinis; ultimo maximo, subangulato; apertura magna, columellâ tenui, umbilico angustissimo.*

THE ACUMINATED MARGARETTINA. Shell ashy white, high, conical, acuminate; whorls five; last very large, slightly angular; aperture large; columella thin; umbilicus very narrow.

SOWERBY. *Mal. and Conch. Mag.* p. 26. *Con. Ill. f.* 7.  
*Hab.* — ?

## Species 14. (Mus. Brit.)

MARGARITA PUNCTATA. *Mar. testâ elevatâ, conicâ, fulcâ; anfractibus sexis turritis, suturâ profundâ.*

MARGARITA.—PLATE II.

*separatis, ultimo superne bicostato, costis rubro maculatis, infra striato; umbilico maximo; costato, apertura parva.*

THE SPOTTED MARGARITA. Shell raised, conical fulvous; whorls six, turreted, separated by a deep suture, last with two ribs above, ribs spotted with red; striated below; umbilicus very large, ribbed; aperture small.

A. ADAMS. — ? MS. Brit. Mus.

*Hab.* Japan.

Species 15. (Mus. Brit.)

MARGARITA HELICINA. *Mar. testis parva, tenui, roseo-fulva, subdepressa, apertura magna, umbilico angustissimo, columella arcuata.*

THE HELICINA MARGARITA. Shell small, thin, pinky-fulvous, rather depressed, aperture large; umbilicus rather narrow, columella arched.

FABRICIUS. Vide Proc. Zool. Soc. 1851.

*Hab.* — ?

Species 16. (Mus. Brit.)

MARGARITA ARGENTATA. *Mar. testis depresso-globosa, albida, lavi; anfractibus trinis, ultimo maximo, superne subcarinato; apertura magna, umbilico majusculo, columella arcuata.*

THE SILVERY MARGARITA. Shell depressed-globose, whitish, smooth; whorls three, last large, with a slight keel above; aperture large, umbilicus rather large, columella arched.

GOULD. Invert. Mass. p. 256, f. 164.

*Hab.* Cape Ann.

Species 17. (Mus. Brit.)

MARGARITA ZEALANDICA. *Mar. testis depresso-conica, spiralter sulcata, rubro punctata; ultimo anfractu sublas complanato; umbilico lato, carinato; apertura parva, columella valida, infra subcuneata.*

THE ZEALAND MARGARITA. Shell depressed-conical, spirally grooved, spotted with red; last whorl flattened beneath; umbilicus broad, keeled; aperture small, columella strong, slightly cuneate below.

HUTTON. — ? MS. Mus. Brit.

*Hab.* New Zealand.





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# MARGARITA.

PLATE III.

## Species 18. (Mus. Brit.)

MARGARITA INCARNATA. *Mar. testâ depresso-conica, emarginatâ, liris uniliferis sculptâ; ultimo anfractu magno, propè suturam concentricè rugato; apertura magna; umbilico magno; umbilico mediocri.*

THE FLESH-COLOURED MARGARITA. Shell depressed-conical, reddish, sculptured with beaded ridges; last whorl large, concentrically wrinkled near the suture; aperture large; umbilicus middle-sized.

COLEBY. — ? (Ms. Brit. Mus.)

Hab. N. America.

## Species 19. (Mus. Brit.)

MARGARITA ARCTICA. *Mar. testâ parvâ, lavi, depressâ, fulvo-griseocentâ; ultimo anfractu obliquo, expanso, apertura triangulari, obliquè ovata; umbilico magno.*

THE ARCTIC MARGARITA. Shell small, smooth, depressed, greyish-fulvous; last whorl oblique, expanded; aperture very large, obliquely ovate; umbilicus large.

LEACH. Sowerby. *Conch. Ill.* fig. 6.

Hab. Plymouth, Massachusetts.

## Species 20. (Mus. Brit.)

MARGARITA CONSTELLATA. *Mar. testâ depressâ, subanici; anfractibus subtruncatis, ultimo biangulato, inter angulos spirâliter striato, infâ subplanulato; apertura subquadrata; umbilico parvo, angulato, obliquè carinato.*

THE RIBBED MARGARITA. Shell depressed, slightly gold-tinted; whorls subtruncated, last biangular, spirally striated between the angles, rather flattened below; aperture rather square; umbilicus small, angular, obliquely keeled.

SOEWERY. *Mal. & Conch. Mag.* p. 26.

Hab. — ?

## Species 21. (Mus. Brit.)

MARGARITA COENESE. *Mar. testâ trochoformi, acuminatâ, fulvo-albidâ, spirâliter liriâ; anfractibus sensis, altis, angulatis, ultimo obscure biangulato, umbilico spirâliter costato, lato; apertura subtruncatâ, margine emantâ; columella arcuatâ.*

THE HORNED MARGARITA. Shell trochus-shaped, acuminate, whitish-buff, spirally ridged; whorls six, raised, angular, last obscurely biangular; umbilicus spirally ribbed, broad; aperture rather rounded, margin crenulated; columella arched.

KIENER *Icon.* pl. 136, fig. 2.

Hab. — ?

## Species 22. (Mus. Brit.)

MARGARITA CARINATA. *Mar. testâ ovato-fulvâ, elevatâ, conicâ, acuminatâ; anfractibus sensis, elevatis, angulatis; ultimo propè suturam concentricè liriato. Viti tricarinato, inter carinas liriato; infâ subplanulato; umbilico magno, margine carinato; apertura subtriangulo; columella obliquâ.*

THE KEELED MARGARITA. Shell pinkish-fulvous, raised, conical, acuminate; whorls six, raised, angular; last concentrically ridged near the suture, then with three keels, rather flattened below; umbilicus large, margin keeled; aperture rather trigonal; columella oblique.

A. ADAMS. *Proc. Zool. Soc.* 1851, 130.

Hab. Calabanga, Philippines.

## Species 23. (Mus. Brit.)

MARGARITA MODESTA. *Mar. testâ trochoformi, pallidè carnatâ, carinatâ, subtis striatâ; anfractibus quaternis, ultimo magno, angulato; umbilico parvo; apertura mediocri, columelli subobliquâ, tenuisculâ.*

THE MODEST MARGARITA. Shell trochus-shaped, pale flesh-coloured, keeled, striated below. Whorls four, last large, angular; umbilicus small; aperture middle-sized, columella rather oblique, rather thin.

MIDDENDORF. — ? Ms. (Brit. Mus.)

Hab. — ?

## Species 24. (Ms. — ? copied.)

MARGARITA MAXIMA. *Mar. testâ magna, trochoformi, fulvâ; spirâ conici; anfractibus sensis, ultimo maximo, superè quinque-carinato, infâ striato, umbilico lato, margine carinato; apertura obliquè quadrilaterali, columelli arcuatâ, infâ emantâ, crenulatâ.*

MARGARITA.—PLATE III.

THE VERY LARGE MARGARITA. Shell large, trochus-shaped, fulvous; spire conical, whorls six; last very large, five-keeled above, striated below; umbilicus broad, margin keeled; aperture obliquely four sided, columella arched, cuneate below, crenulated.

SOWERBY.

*Hab.* — ?

The writer has not seen the specimen since first figuring it in the Conchological Illustrations, but is of opinion that it must be distinct from *M. striata*.

Species 25. (Mus. Brit.)

MARGARITA ASPECTA. *Mar. testâ conicâ, acuminatâ, fulvo-rufoescenti, spiritaliter multi-carinatâ, inter carinas concentricè minutè liratâ, carinis moniliferis; anfractibus angulatis; umbilico lato.*

THE PRESENTABLE MARGARITA. Shell conical, acuminated, reddish fulvous, spirally many-keeled, concentrically minutely ridged between the keels; keels beaded; whorls angular; umbilicus broad.

A. ADAMS. Proc. Zool. Soc. 1854, p. 40.

*Hab.* Australia.

A very beautifully sculptured, trochus-shaped shell.

Species 26. (Mus. Brit.)

MARGARITA TRIANGULOSA. *Mar. testâ crassâ, subroseo-albidâ, fusco variegatâ; anfractibus subdepressis, angulatis, ultimo propè suturam et mediò angulato; umbilico lato, margine carinato; aperturâ supernè et mediò angulata.*

THE TRIANGULAR MARGARITA. Shell thick, pinkish-white, variegated with brown; whorls somewhat depressed, angular, last angular near the suture, and in the middle; umbilicus broad, margin keeled; aperture angular above and in the middle.

A. ADAMS. Proc. Zool. Soc. 1854, p. 40.

*Hab.* Siam.

Species 27. (Fig. a, b, Mus. — ? copied.)

MARGARITA SOLARIIFORMIS. *Mar. testâ parvâ, depressâ, fulvâ, angulatâ; anfractibus trinis, ultimo depresso, mediò angulato; umbilico angulato, margine carinato; aperturâ latâ, columellâ albâ, rectiusculâ.*

THE SOLARIUM-SHAPED MARGARITA. Shell small, depressed, angular; whorls three, last depressed, angular in the middle; umbilicus angular, margin keeled; columella white, rather straight.

SOWERBY. Mal. and Conch. Mag. p. 26. Con. Ill. f. 8.

*Hab.* — ?

It has very much the appearance of a miniature solarium.

MONOGRAPH

OF THE GENUS

R O T E L L A .

To God, who all creation made,  
The frequent hymn be duly paid.

*Alleluia, Alleluia! — North.*







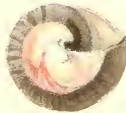
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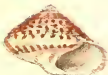
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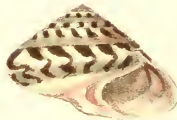
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4<sup>a</sup>



4<sup>b</sup>



3<sup>b</sup>



5<sup>a</sup>



5<sup>b</sup>



3<sup>c</sup>

# ROTELLA.

PLATE I.

## Genus ROTELLA. *Lamarck.*

*Testâ fluidâraâs, depressa, orbicularis, solida, superâ concava, infâ lenticularis, intâs nâraâ: umbilicâ pûcillâs oblecta; aperturâ subtriangulâ, transverse, operculum cornuâ, multispîrale planâ orbiculari.*

Shell trochiform, depressed, orbicular, solid, conical above, lenticular beneath, pearly within; umbilicus covered in by a callus; aperture rather trigonal, transverse, operculum horny, planorbicular.

SYN. Umbonium, Liuk.

The few species to be found towards the end of this monograph which are placed in the British Museum collection under the generic heading of *Ethalia*, do not so well agree with the above description as the more typical *R. costaria*. Yet the passage is not very abrupt, and it seems hardly necessary to keep up a distinction upon characters of so little generic importance. The species alluded to are *R. japonensis*, and several others allied to it. The East Indies appear to be the home of the *R. costaria*, although varieties of that species are quoted from the Mediterranean. *R. elegans* is from the Philippines, and a variety from the Martinique. *R. gigantea* and other fine species are from Japan.

### Species 1. (Mus. Brit.)

*ROTELLA CONICA. Rot. testâ fusco-purpurâscenti, crassâ, conicâ, callâ centrali pûcra, fusco-fumosa, spirâliter dispositâ, medio depressâ, ultimâ anfractu circa callum centralium depressâ.*

THE CONICAL ROTELLA. Shell purplish-brown, thick, conical; ventral callus small, smoky-brown, spirally deposited, depressed in the middle; last whorl depressed round the ventral callus.

ADAMS & REEVE. Voy. Samarang. Proc. Zool. Soc. 1854.

*Hab.* — ?

In this dark but richly-coloured shell the form of the callus is peculiar, being formed of semicircular layers placed spirally. It is small, defined, and does not quite occupy the central hollow of the shell.

### Species 2. (Fig. c, b, c, in Plate II.) Mus. Brit.)

*ROTELLA DEPRESSA. Rot. utrinque lenticulari, depressâ; anfractibus cupidi crasse albis, ultimo ad marginem rotundo, superâ medio latè fuscato, fuscâ marginâ regulariter punctata, vel foveis radiatâs curiegata; callâ expansâ, griseâ, lenticulari.*

THE DEPRESSED ROTELLA. Shell lenticular on both sides, depressed; whorls rapidly increased, last rounded at the margin, with a broad band in the middle above, margin of band regularly spotted, or variegated with rayed bands; callus expanded, grey, lenticular.

A. ADAMS — ? MS. Cum. Coll.

*Hab.* — ?

Like *Rotella costaria*, but with the last whorl more spread.

### Species 3. (Fig. a, b, c, Mus. Brit. and Sowerby.)

*ROTELLA GIGANTEA. Rot. testâ altissimâ, superâ conicâ, infâ subcomplanatâ; superâ medium tenuiter spirâliter striatâ, griseâ, miculis niguis obliquâ nigrescentibus ad suturam et ad angulum ornâtâ, aut griseâ immaculatâ; anfractibus propiâ suturam depressis, suturâ profundâ; callâ irregulari, roseo, post educturâ angulatum tumido; columellâ crassissimâ, latâ; labio externo superâ protracto et depressâ.*

THE GIANTIC ROTELLA. Shell rather high, conical above, rather flattened below; above the middle, thinly spirally striated, grey, ornamented with large oblique black spots at the suture and at the angle, or grey without spots; whorls near the suture depressed, suture deep; callus irregular, pink, angularly tumid behind the columella; columella very thick, broad; outer lip produced and depressed above.

LESSON. Illust. Zool. Pl. 17.

*Hab.* Japan.

### Species 4. (Fig. a, b, Mus. Brit.)

*ROTELLA COSTATA. Rot. testâ superâ conicâ, altissimâ, infâ planissimâ, anfractibus ad suturam leviter decatis tum subdepressis, sulcis spirâliter*

ROTELLA.—PLATE I.

*incisus sculptis fusco-grisescenti fasciatim variegatis; infra angulum levigatis; callo rubescenti, columellâ crassi.*

THE RIBBED ROTELLA. Shell conical, rather high above, rather flat below; whorls slightly elevated at the suture, then rather depressed; sculptured with spiral incised grooves, variegated with greyish brown in bands; smooth beneath the angle, callus pink; columella thick.

VALENCIENNES. Kicher, Icon. Coq. Viv. Pl. II. f. 5.  
Hab. Japan.

Species 5. (Fig. a, b. Mus. Brit.)

ROTELLA MONILIFERA. *Rot. testâ superâ conicâ altâ, anfractibus spirâliter costatis, ad suturam in costam moniliferam elevatis, griseis fusco variegatis; callo pleno, grisescenti, columellâ obliquâ.*

THE BEADED ROTELLA. Shell conical above, high, whorls spirally ribbed, raised at the suture into a beaded rib, grey, varied with brown; callus full, greyish, columella oblique.

LAMARCK. Sowerby's Genera, No. 14.  
Hab. ———?







6a



3c



6b



7



6c



6d



8



6e



9.



6f

# ROTELLA.

## PLATE II.

(Fig. 3, c, Mus. Brit.)

ROTELLA DEPRESSA. Var. See Plate I.

Species 6. (Fig. a, b, c, d, Mus. Brit. & Sowerby.)

ROTELLA ELEGANS. *Rot. testâ superi, altâ, conicâ; anfractibus obliquè planatis, variè fasciis maculisque pictis, subtis planiusculis; callo crasso, subequaliter convexo.*

THE ELEGANT ROTELLA. Shell high, conical above; whorls obliquely flattened, variously painted with bands and spots, rather flat beneath; callus thick, rather equally convex.

BECK. Kiener Icon. Coq. Viv. Pl. II. f. 5.

*Hab.* Philippines.

Most varieties of this species show a black spiral line on the edges of the whorls, and the whorls are slightly flattened. In *Rotella vestaria* the black line does not occur, and the whorls are fewer and a little convex.

Species 7. (Mus. Brit.)

ROTELLA SUTURALIS. *Rot. testâ depresso-conicâ, lineis strigisque fasciis variegatâ, spirâlibus sulcis numerosis sculptâ; anfractibus superiè planatis, ad suturam in costam elevatis; suturâ profundâ; callo lato, rubro.*

THE SUTURED ROTELLA. Shell depressed conical, variegated with brown lines and stripes, spirally sculptured with numerous grooves; whorls flattened above, raised in a rib at the suture; suture deep; callus broad, red.

LAMARCK. Chem. Conch. Cab. Pl. 19, f. 186 f.

*Hab.* Indian Seas.

More closely sculptured than *Rotella costata*, and with the whorls more raised at the suture.

Species 8. (Mus. Brit.)

ROTELLA JAVANICA. *Rot. testâ albi, conicâ, ad suturam immixtâ; anfractibus superiè subcomplanatis, suprâ angulum lineis spiculis ornatis, subtis angulum interruptim fasciatâ; callo ventrali crasso, griseo-fusco.*

THE JAVA ROTELLA. Shell high, conical, beaded at the suture; whorls rather flattened above, ornamented with spiral lines above the angle, and an interrupted band below the angle; ventral callus thick, greyish-brown.

LAMARCK. Anim. S. Vert.

*Hab.* Java.

Species 9. (Mus. Brit.)

ROTELLA SAGITTATA. *Rot. testâ subdepressâ, superiè conicâ, maculis sagittatis nigris in series spirales dispositis ornata, subtis vix convexâ; callo parvo, albo, circumscripto.*

THE ARROW-HEADED ROTELLA. Shell sub-depressed, conical above, ornamented with arrow-headed black spots placed in spiral rows, hardly convex below; callus small, white, circumscribed.

*HINDS.* Voy. Sulphur.

*Hab.* — ?

This pretty little shell differs from *R. elegans* chiefly in the arrow-headed markings and the circumscribed callus.







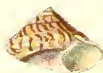
10 b



10 a



10 c



11



12 a



12 b



12 c



12 d



12 e



12 f

# ROTELLA.

PLATE III.

Species 10. (Fig. a, b, c. Mus. Sowerby.)

ROTELLA INFRAPLANATA. *Rot. testâ supernè conicâ, altâ, infra subconicâ; anfractibus superâ planatis, corâ pictis, infra angulum circâ callum ventralcm griseo variegatâ; callo parvo, subconico; columellâ obliquâ, ad terminum angulatum.*

THE FLAT-BOTTOMED ROTELLA. Shell conical above, high, almost concave; whorls flattened above, variously painted, variegated with gray; callus small, rather concave; columella oblique, angular at the end.

SOWERBY.

*Hab.* —?

We have several varieties of this conical shell. The upper part is like *R. elegans*, with greater elevation, but the lower is much more flattened than that or any other species.

Species 11. (Mus. Brit.)

ROTELLA ZELANDICA. *Rot. testâ altâ, conicâ, rubescenti, fusco-rubescenti radiatim strigatâ, ad angulum spiritaliter tri-lobatâ; anfractibus infra suturam subconicis, subtis concavisculis; callo ventrali griseo-rubescenti, purpureo circumscripto.*

THE NEW ZEALAND. Shell high, conical, reddish, radiately striped with reddish-brown, spirally three-ridged at the angle; whorls rather concave below the suture, rather convex underneath; ventral callus reddish-grey, circumscribed with purple.

A. ADAMS.

*Hab.* New Zealand.

Species 12. (Mus. Brit.)

ROTELLA VESTIARIA. *Rot. testâ depressâ, fuscis, strigis, maculisque corâ pictâ; anfractibus supernè subconicis; callo centrali crasso, lenticulari.*

THE WARDROBE ROTELLA. Shell depressed, variously painted with bands, stripes, and spots; whorls rather concave above; ventral callus thick, lenticular.

SOWERBY. Genera of Shells.

*Rotella lineolata* (var.) Lamarck.

*Rotella rosea*, Chemnitz?

*Hab.* East Indies.

The upper part of the whorls are a little convex, while those of *R. elegans* are quite flattened.









14



13



15



18a



16



17



18b



19a



20



19b

# ROTELLA.

PLATE IV.

## Species 13. (Mus. Brit.)

ROTELLA ~~STRIGATA~~. *Rot. testâ cinnamomeâ, fusco variegatâ, spiralliter striatâ, supra infrâque sub-angulatis convexâ; callo centrali angusto, trilobato.*

THE STRIATED ROTELLA. Shell cinnamon variegated with brown, spirally striated, nearly equally convex above and below; ventral callus narrow, trilobate.

A. ADAMS. (*Ethalia*), Proc. Zool. Soc. 1853.

*Hab.* — ?

The callus is in three parts, one rounded above, one spread circularly over the umbilicus, and the third forming a thickened margin to the columella.

## Species 14. (Mus. Brit.)

ROTELLA CANADA. *Rot. testâ parvâ, subglobosâ, lævi, albâ, opacâ; collo centrali parvâ, rotundâ; columellâ latissimâ; aperturâ magnâ.*

THE WHITE ROTELLA. Shell small, rather globose, smooth, white, opaque; ventral callus small, round; columella rather broad; aperture large.

A. ADAMS. (*Ethalia*), Proc. Zool. Soc. 1862, p. 296.

*Hab.* Gotto Islands, Japan.

This minute species is less like a *Rotella* than other species of *Ethalia*.

## Species 15. (Mus. Brit.)

ROTELLA PERSIPICUA. *Rot. testâ minutâ, albâ, compressâ, lenticulari; aperturâ transversè ovatâ; callo centrali semilunari.*

THE PERSIQUOUS ROTELLA. Shell minute, white, compressed, lenticular; aperture transversely ovate; ventral callus semilunar.

A. ADAMS. (*Ethalia*), Annals of Natural History, 1861.

*Hab.* China.

Very simple in form and character.

## Species 16. (Mus. Brit.)

ROTELLA BRAZIERI. *Rot. testâ transversè ovatâ, depressâ, minutâ, albâ, semipellucidâ; callo centrali parvo, rotundo, ad columellam continuo; aperturâ magnâ.*

BRAZIERI'S ROTELLA. Shell transversely ovate, depressed, minute, white, semipellucid; ventral callus small, rounded, continued at the columella; aperture large.

ANGUS. (*Ethalia*), Proc. Zool. Soc. 1877, p. 39, Pl. 5, f. 17.

*Hab.* Sow and Pigs Reef, Port Jackson, Australia.

## Species 17. (Mus. Brit.)

ROTELLA POLITA. *Rot. testâ subglobosâ, albâ, politâ, spirâ conicâ, anfractibus paucis; callo centrali ferè obsolete.*

THE POLISHED ROTELLA. Shell subglobose, white, polished; spire conical, whorls few; ventral callus almost obsolete.

A. ADAMS. (*Ethalia*), Annals of Nat. Hist. 1862, p. 296.

*Hab.* Gotto, Japan.

## Species 18. (Fig. a, b, Mus. Brit.)

ROTELLA GUAMENSIS. *Rot. testâ altissimâ, subglobosâ; variè pictâ, brevitatâ; anfractibus superius creassis suturam tumidis; angulo centrali rotundo, infra convexis; callo reniformi, roseo; columellâ latè callosâ.*

THE GUAM ROTELLA. Shell rather high, subglobose; variously painted, smooth; whorls above towards the suture tumid; central angle rounded, convex below, callus kidney-shaped, pinky; columella broadly callous.

QUOY. Voy. Astralobe, Pl. 61, f. 32-33.

*Hab.* Isl. Guam. — Luxon; Philippines.

This is the type of the genus *Ethalia*, which, however little like *Rotella* in general form, has the same essential characters.

ROTELLA.—PLATE IV.

Species 19. (Fig. 66 b, Mus. Brit.)

ROTELLA SOBRIANA. *Rot. testā minutā, planorbulari, compressā, albā, opacā; infra umbilicatā, anfractibus rotundis.*

THE RELATED ROTELLA. Shell minute, planorbular, compressed, white, opaque; umbilicated below, whorls rounded.

A. ADAMS. (*Ethalia*), Ann. of Nat. Hist. 1861, Vol. VIII. 306.

Species 20. (Mus. Brit.)

ROTELLA TRILOBATA. *Rot. testā pallidē griseo-olivaceā, subdepressā, maculis strigiosis variē pictā; anfractibus superne convexiusculis; umbilico infundi-*

*buliformi; callo parvo in partes tres semicirculares diviso.*

THE TRILOBATE ROTELLA. Shell pale grey-olive, subdepressed, variously painted with spots and stripes; whorls rather convex above; umbilicus funnel-shaped; callus small, divided into three semicircular parts.

SOWERBY.

*Hab.* —?

In this species, the form of the callus is very peculiar, resembling that of *R. striolata*, but more pronounced in character. In rotundity of whorls the species is midway between the latter and *R. Guamensis*.

MONOGRAPH  
OF THE GENUS  
STYLIFER.

Frank Nature, rather curious than in haste,  
Hath well compos'd thee.—*Shakspeare.*







2



1a



3



4



5



6



7



8



9



1b



# STYLIFER.

PLATE I.

Genus *STYLIFER*. Broderip.

*Troch. tenuissimâ, plerumque pellucida aut semi-pellucida, teris, polita, multispinalis, subulata vel sub-globosa: apice obliquo, styliformi; labio externo sinuato producto.*

Shell very thin, generally pellucid or semi-pellucid, smooth, polished, multispinal, subulate or sub-globose; apex oblique, styliform; outer lip sinusously produced.

The mollusca secreting these glassy little shells are parasitic on star-fishes and Echini, burrowing under the skin, and forming tumours which appear externally. One species is found among the spines of our common Echinus, and the first species described by Mr. Broderip infects a starfish of the shores of Galapagos islands.

Species 1. (Fig. a, b. Mus. Brit.)

*STYLIFER TUDORII*. *Sty. testâ subglobosâ, parvâ, apice acuminatâ, productâ, anfractibus superne angulatis, apicalibus minutis papillois, ultimo magno, subcylindricâ.*

*TUDORII'S STYLIFER*. Shell subglobose, small, spire acuminated, produced, whorls angular above, apical minute papillose, last large, subrecti-lateral.

*BRODERIP*. Proc. Zool. Soc. 1832, p. 61.

*Hab.* On British Echini.

Species 2. (Mus. Brit.)

*STYLIFER OVOIDEA*. *Sty. testâ subglobosâ, spirâ moderatè productâ, anfractibus subrotundis, apicalibus minutissimis; apertura pyriformi, labio externo superne subcompresso, sinuatim producto.*

*THE EGG-SHAPED STYLIFER*. Shell subglobose, spire moderately produced, whorls rather round, apical very minute; aperture pyriform, outer lip slightly compressed above, sinusously produced.

*A. ADAMS*. Proc. Zool. Soc.

*Hab.* —

Species 3. (Mus. Brit.)

*STYLIFER ASTERICOLA*. *Sty. testâ ovato-globosâ, spirâ brevè acuminatâ; anfractibus parvis, apicalibus minutis, apertura angustiusculâ, infri subannuata; labio externo superne sinuatim producto.*

*THE STARFISH STYLIFER*. Shell ovate-globose; spire short, acuminated, whorls few, apical minute; aperture rather narrow, slightly pointed below, outer lip sinusously produced above.

*BRODERIP*. Sowerby's Conchological Manual, f. 12-13; *Stylifer Broderipii*. Adams.

*Hab.* Galapagos.

Species 4. (Mus. — ?)

*STYLIFER GUENTHERI*. *Sty. testâ majusculâ, turritâ, pyramidatâ; apice producto, acuminato, anfractibus gradatis, superne angulatis, ultimo magno, globoso, inflato; sinu columellari retrosum extenso.*

*GÜNTHER'S STYLIFER*. Shell rather large, turreted pyramidal; apex produced, acuminated, whorls step-like, angular above; last large, globose, inflated; columellar sinus extended backwards.

*ANGAS* (Apicalia). Proc. Zool. Soc. 1877, Pl. V. f. 6; *Hab.* New South Wales.

A singularly formed shell, partaking the characters of the globose and subulate sections

Species 5. (Mus. Brit.)

*STYLIFER CUMINGIANA*. *Sty. testâ pyramidatâ, spirâ altâ, acuminatâ; anfractibus numerosis, depressis, apicalibus trinis aut quaternis attenuatis, styliformibus, ultimo inflato, rotundo, apertura brevè, columellâ rectiusculâ.*

*CUMING'S STYLIFER*. Shell pyramidal, spire raised, acuminated; whorls numerous, depressed, three or four apical attenuated, styliform, last inflated, round, aperture short, columella rather straight.

*ADAMS* — ? MS. Cum. Coll.

*Hab.* — ?

STYLIFER.—PLATE I.

Species 6. (Mus. Brit.)

STYLIFER SOLIDA. *Sty. testâ subulatâ, solidiâsculâ, opacâ; spirâ altissimâ, anfractibus numerosis, apicalibus parvis; apice tortuâ; aperturâ breviâsculâ, infrâ acuminatâ.*

THE SOLID STYLIFER. Shell subulate, rather solid, opaque; spire very high, whorls numerous, apical small; apex tortuous; aperture rather short, acuminate below.

A. ADAMS. MS. Chm. Coll.

Hab. — ?

Species 7. (Mus. Brit.)

STYLIFER BARRONII. *Sty. testâ brevisculâ, spirâ acuminatâ, anfractibus ultimo et penultimo cylindricis, superne angulatis; aperturâ oblongâ, infrâ subexpansâ, columellâ crassiusculâ.*

BARRON'S STYLIFER. Shell rather short, spire acuminate, last whorl and last but one cylindrical, angular above; aperture oblong, slightly expanded below; columella rather thick.

A. ADAMS. Proc. Zool. Soc. 1854, p. 137.

Hab. — ?

Species 8. (Mus. Brit.)

STYLIFER DUBIA. *Sty. testâ globosâ, spirâ productâ, pyramidatâ, acuminatâ, anfractibus apicalibus attenuatis, penultimo subinflato, ultimo valdè inflato, rotundo; aperturâ pyriformi, labio externo flexuoso.*

THE DOUBTFUL STYLIFER. Shell globose, spire produced, pyramidal, acuminate, apical whorls attenuated, last but one slightly inflated, last much inflated, rounded; aperture pyriform, outer lip flexuous.

BAIRD. MS. Brit. Mus.

Hab. New Caledonia.

Species 9. (Mus. Brit.)

STYLIFER JAPONICA. *Sty. testâ solidiâsculâ, globosâ, brevi; spirâ productâ, attenuatâ, acuminatâ; ultimo anfractu globoso, aperturâ brevisculâ, infrâ acuminatâ, columellâ tortuâ, solidiâsculâ.*

THE JAPAN STYLIFER. Shell rather solid, globose, short; spire produced, attenuated, acuminate, last whorl globose, aperture rather short, acuminate below; columella tortuous, rather solid.

A. ADAMS (Amanrella), MS. Brit. Mus.

Hab. — ?





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# STYLIFER.

PLATE II.

Species 10. (Mus. — ?)

STYLIFER ELEGIOSA. *Sty. testâ subulatâ hyalina, spirâ elevatâ, supernè styliformi attenuatâ tortuâ; anfractibus inferioribus inflatis, subrectilateralibus; aperturâ brevi, columellâ rectiusculâ.*

THE SPECIOUS STYLIFER. Shell subulate, hyaline; spire elevated, styliform attenuated, tortuous above; lower whorls inflated, rather straight-sided; aperture short, columella rather straight.

A. ADAMS. Proc. Zool. Soc. 1868.

*Hab.* Mauritius.

Species 11. (Mus. Brit.)

STYLIFER ATTENUATA. *Sty. testâ angustè pyramidatâ, spirâ altissimâ, apicè obliquè distorto, acutissimo; anfractibus numerosis, rectilateralibus, ultimo infrâ medium subangulato; aperturâ angustâ, infrâ acuminatâ.*

THE ATTENUATED STYLIFER. Shell narrowly pyramidal, spire very high, apex obliquely distorted, very sharp; whorls numerous, straight-sided, last rather angular below the middle; aperture narrow, acuminated below.

SOWERBY.

*Hab.* St. Thomas.

Species 12. (Mus. Brit.)

STYLIFER CORALLINA. *Sty. testâ pyramidatâ, angustiusculâ; apicè acuminatâ, obliquè subinclinatâ; anfractibus quaterdecenis vel sextarum subangulatis, aperturâ parvâ, infrâ subangulatâ.*

THE CORALLINE STYLIFER. Shell pyramidal, rather narrow; apex acuminated, slightly inclined obliquely; whorls fourteen, slightly angular at the suture; aperture small, slightly angular below.

CHEMNIETZ — ?

*Hab.* — ?

Species 13. (Mus. Brit.)

STYLIFER SUBANGULATA. *Sty. testâ pyramidatâ, altissimâ; apicè acuminatâ, lateraliter obliquè incli-*

*natâ; anfractibus quaterdecenis, apicalibus angustissimis, ultimo infrâ medium subangulato; aperturâ ovatâ, labio externo supernè sinuatum protracto.*

THE SUBANGULAR STYLIFER. Shell pyramidal, very high, apex acuminated; laterally obliquely inclined; whorls fourteen, apical very narrow, last rather angular below the middle; aperture ovate, outer lip sinuously produced above.

A. ADAMS. Proc. Zool. Soc. 1855, p. 122.

*Hab.* — ?

Species 14. (Mus. Brit.)

STYLIFER EXARATA. *Sty. testâ solidiusculâ, altâ, attenuatâ, anfractibus altiusculis, convexis, obscurè rugatis ultimo elevato; aperturâ subquadratâ, parvâ columellâ rectiusculâ.*

THE PLOUGHED STYLIFER. Shell rather solid, high, attenuated, whorls rather high, convex, obscurely wrinkled, last raised; aperture rather square, small; columella rather straight.

A. ADAMS — ?

*Hab.* — ?

Species 15. (Mus. Brit.)

STYLIFER THOMASLE. *Sty. testâ altissimâ, pyramidatâ, ceras apicem subito contracto, attenuatâ; apicè acuminatâ, rectiusculâ, anfractibus mediis altis, subcylindricis, ultimo obtusè angulato; aperturâ obliquè subquadratâ, columellâ rectiusculâ, infrâ acuminatâ.*

THE ST. THOMAS STYLIFER. Shell very high, pyramidal, contracted suddenly towards the apex, attenuated; apex acuminated, rather straight, middle whorls high, rather cylindrical, last obtusely angular; aperture obliquely subquadrate, columella rather straight, acuminated below.

SOWERBY.

*Hab.* Isl. St. Thomas.

Species 16. (Mus. Brit.)

STYLIFER FASCIIGATA. *Sty. testâ pyramidalâ, ventricosâ, subperforatâ, altâ; spirâ acuminatâ, apice attenuatâ, obliquè inclinatâ; anfractibus numerosis, convexisculis, ultimo magno, rotundo; apertura angustâ, columellâ tenui, infrâ acuminatâ.*

THE SHARP-POINTED STYLIFER. Shell pyramidal, ventricose, slightly perforated, high: spire acuminated, apex attenuated, obliquely bent; whorls numerous, rather convex, last large, round; aperture narrow, columella thin, acuminated below.

A. ADAMS — ? MS. Cam. Coll.

*Hab.* — ?

Species 17. (Mus. Brit.)

STYLIFER SUBULATA. *Sty. testâ tenuissimâ, pellucidâ, pyramidalâ, versus apicem subito in stylum contractâ et obliquè inclinatâ; anfractibus convexisculis, ultimo magno, rotundo; apertura brevissimâ, labio externo suprâ medium flexuosum producto.*

THE SUBULATE STYLIFER. Shell very thin, pellucid, pyramidal, suddenly contracted to a style towards the apex, and obliquely bent; whorls rather convex, last large, rounded; aperture rather short, outer lip flexuously produced above the middle.

BRODERIP. *Pro. Zool. Soc.* 1832, p. 61.

*Hab.* W. Indies.

Species 18. (Mus. Brit.)

STYLIFER BULBIFORMIS. *Sty. testâ subopacâ, brevissimâ, spirâ pyramidalâ, apice attenuatâ, acuminatâ, obliquè distortâ; ultimo anfractu magno, rotundo, inflato; apertura brevi, pyriformi; columellâ crassisculâ, labio externo flexuoso.*

THE BULB-SHAPED STYLIFER. Shell rather short, subopaque, spire pyramidal, apex attenuated, acuminated, obliquely distorted; last whorl large, round, inflated; aperture short, pyriform; columella rather thick, outer lip flexuous.

SOWERBY.

*Hab.* — Isl. St. Thomas.

Species 19. (Mus. Brit.)

STYLIFER GLABRATA. *Sty. testâ parvâ, albâ, politâ, ovato-oblongâ; apertura oblongâ longitudine spiram æquantî; spirâ paucispiralî; ultimo anfractu subovato, elongato; columellâ rectiusculâ.*

THE POLISHED STYLIFER. Shell small, white, polished, ovate-oblong; aperture oblong, equalling spire in length; spire with few whorls, last whorl subovate, elongated; columella rather straight.

A. ADAMS. (Amaurella) *MS. Brit. Mus.*

*Hab.* Japan.

Species 20. (Mus. Brit.)

STYLIFER SEMISTRIATA. *Sty. testâ parvâ, ovatâ, albâ, partim tenuissimè striatâ; spirâ quam apertura longiusculâ, anfractibus quaternis, ultimo ovato, oblongo; apertura ovatâ, breviusculâ.*

THE HALF-STRIATED STYLIFER. Shell small, ovate, white, partly very finely striated; spire rather longer than aperture; whorls four, last ovate-oblong; aperture ovate, rather short.

A. ADAMS. (Amaurella) *MS. Brit. Mus.*

*Hab.* Japan.

This and the previous species are of very doubtful generic attributes. Quite possibly they may be Stylifers, but on the other hand, they may belong to a different part of the system.

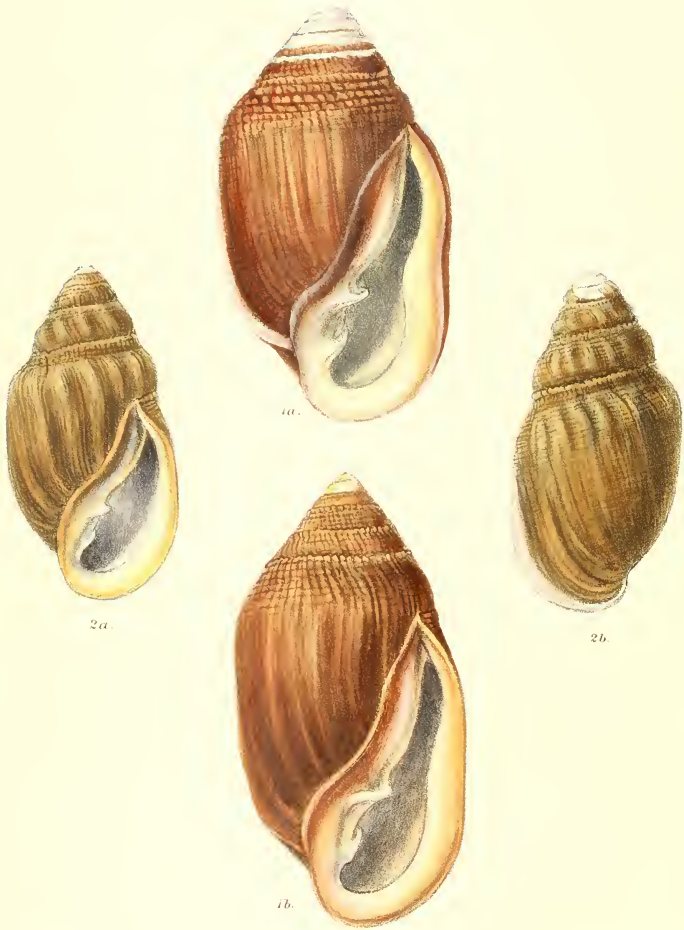
MONOGRAPH  
OF THE GENUS  
AURICULA.

Nothing we see, but means our good.  
As our delight, or as our treasure;  
The whole is either our cupboard of food,  
Or cabinet of pleasure.—*George Herbert.*









# AURICULA.

PLATE I.

Genus AURICULA. *Lamarck.*

*Testa oblonga, breviter spiralis, epidermide fusca indurata, aperturâ elongatâ, margine infôrâ integro, labiis internis plicatis et callosis; labio externo interdentibus internis, interdentibus ad marginem plicatis; operculum nullum.*

Shell oblong, briefly spiral, covered with a brown epidermis: aperture elongated, margin entire below, inner lip plaited and callous: outer lip sometimes plaited internally, sometimes at the margin: operculum none.

Including *Ellobium*, *Bolton*; *Cassidula*, *Fer.*; *Pleotrema*, *Adams*; *Alexia*, *Louch*; *Tralica*, *Gray*; *Melampus*, *Mouf.*; *Mariunla*, *King*.

The Auricule are found in salt-marshes, on mud-banks, among the roots of mangrove-trees, and at the mouths of rivers, principally in tropical countries, particularly those of the eastern hemisphere. China, Borneo, Malacca, the Philippines, and the more southern parts of Australia produce many of the species. A few are found in W. Columbia and the South Sea Islands. The West India Islands produce several well-known species. With regard to the various genera into which the different forms have been divided, it is probable that some of them may be usefully retained, but they are difficult to define, and require entire revision.

Species 1. (Fig. *a, b*, Mus. Sowerby.)

AURICULA MIDE. *Aur. testâ magnâ, cylindricâ, crassâ, epidermide fusca indurata; spirâ conicâ, brevi; anfractibus granosè sculptis; ultimo cylindrico, brevi, latraliter auriculari, rudè suprâ infriqûe*

*granoso; aperturâ elongatâ, auriformi, medi contracto, labio interno longitudinaliter calloso. infôrâ biplicatâ, labio externo crasso, latè planato, cum columellâ confluenti.*

MIDE'S AURICULA. Shell large, cylindrical, thick, covered with a brown epidermis: spire conical, short: whorls sculptured in grains; last cylindrical, smooth, with a lateral varix, coarsely granular above and below. Aperture elongated, ear-shaped, contracted in the middle, inner lip longitudinally callous, with two plaits, outer lip thick, broadly flattened, confluent with columella.

LAMARCK. Nat. Hist. An. s. Vert.

*Voluta auris Mide.* Linnæus.

*Hab.* Indian Seas.

Figures *a* and *b* represent two prevailing forms of this familiar shell.

Species 2. (Fig. *a, b*, Mus. Brit.)

AURICULA MALCHI. *Aur. testâ oblongo-subovatâ, epidermide fusca indurâ, longitudinaliter rugatâ; spirâ productâ, anfractibus superne subangulatis, distanter nodosis, ad subram marginatis et crenulatis; aperturâ breviusculâ, infôrâ latiusculâ, columellâ biplicatâ; labio crasso, indis declivi.*

MALCHUS'S AURICULA. Shell oblong-subovate, covered with a brown epidermis, longitudinally wrinkled: spire produced, whorls somewhat angular above, distantly nodose, bordered and crenulated; aperture rather short, rather broad below; lip thick, sloped within.

MULLER. Chemn. Conch. Vol. IX. Pl. CXXI. f. 1637.

*Hab.* —?







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12.

# AURICULA.

PLATE H.

## Species 3. (Mus. Sowerby.)

**AURICULA STAGNALIS.** *Aur. testâ angustâ, elongatâ, tenui, epidermide pallidâ tenui indutâ; spirâ productâ, anfractibus quaternis, penultimo albo, convexo, superne graeco, ultimo infre latiusculâ, columellâ triplicatâ, labio externo angusto, depresso.*

**THE STILL-WATER AURICULA.** Shell narrow, elongated, thin, covered with a pale, thin epidermis; spire produced, whorls four, last high, convex, granular above, last rather broad below, columella three-plaited, outer lip narrow, depressed.

D'ORBIGNY. Voy. Amér. Mérid. p. 325, Pl. XLII. f. 7, 8.

*Hab.* S. America.

## Species 4. (Mus. Brit.)

**AURICULA GANGETICA.** *Aur. testâ subcylindricâ, tenuiusculâ, epidermide stramineâ tenui indutâ; spirâ brevisculâ, anfractibus tenuis, subdepressis, ultimo supra aperturam elevato; aperturâ infre subexpansâ; columellâ biplicatâ.*

**THE GANGES AURICULA.** Shell rather cylindrical, rather thin, covered with a thin straw-coloured epidermis; spire rather short, whorls tumid, slightly depressed, last raised above the aperture; aperture slightly expanded below; columella with two plaits.

BENSON. Ann. Mag. Nat. Hist.

*Hab.* Bombay.

## Species 5. (Mus. Brit.)

**AURICULA CEYLONICA.** *Aur. testâ subcylindricâ, spirâ brevisculâ, infre subangulatâ, subpyramidatâ; ultimo anfractu superne latiusculâ, angulatâ; aperturâ elongatâ, angustiusculâ; columellâ biplicatâ, labio externo superne angulato.*

**THE CEYLON AURICULA.** Shell subcylindrical, spire rather short, rather angular below, subpyramidal; last whorl rather broad above, angular; aperture elongated, rather narrow; columella with two plaits; outer lip angular above.

A. ADAMS. Proc. Zool. Soc. 1854, p. 10.

*Hab.* Ceylon.

## Species 6. (Mus. Brit.)

**AURICULA TORNATELLINIFORMIS.** *Aur. testâ subcylindricâ, tenuiusculâ, epidermide tenui pallidâ indutâ; spirâ pyramidalâ, ultimo superne tumido, infre subglobosâ; aperturâ brevisculâ, infre rotundâ, superne angulatâ; margine crassa, planulatâ; columellâ biplicatâ.*

**THE TORNATELLA-LIKE AURICULA.** Shell subcylindrical, rather thin, covered with a thin, pale epidermis; spire pyramidal, last tumid above, rather gibbous below; aperture rather short, rounded below, slightly angular above; margin thick, flattened; columella two-plaited.

PETT. Proc. Zool. Soc. 1854, p. 7.

*Hab.* — ?

A peculiar roundness at the confluence of the two sides of the aperture suggests the form of tornatella.

## Species 7. (Mus. Brit.)

**AURICULA HELVÆA.** *Aur. testâ tenui, pallidâ rubri; spirâ brevi, obtusâ, ultimo anfractu cylindricâ, superne tenuiter liratâ; aperturâ infre latiusculâ, columellâ triplicatâ, labio externo angusto, planulato.*

**THE PALE RED AURICULA.** Shell thin, pale red; spire short, obtuse, last whorl cylindrical, finely ridged above; aperture rather broad below, columella three-plaited, outer lip narrow, flattened.

PHILIPP. Proc. Zool. Soc. 1854, p. 8.

*Hab.* Malacca.

Shaped something like *Auricula Juber*, but without the same solidity of substance and epidermis, and broadness of outer lip.

## Species 8. (Mus. Brit.)

**AURICULA SEMISULCATA.** *Aur. testâ oblongâ, angustâ, pallidâ, cylindricâ; spirâ brevi, anfractibus superne dense sigrinatis; aperturâ superne angustâ, infre latiusculâ, labio externo angusto, supra medium sinuatim contracto; plicis columellaribus duabus, prominentibus.*

**THE HALF-SCULPTURED AURICULA.** Shell oblong, narrow, pale, cylindrical; spire short, whorls closely

AURICULA.—PLATE II.

shagreened above; aperture narrow above, rather broad below, outer lip narrow, sinuously contracted above the middle; columellar plaits two, prominent.

A. ADAMS. — ?

*Hab.* Gambier's Island.

The sculpture on the upper part of the whorls is very beautiful, observed through a lens.

Species 9. (Mus. Brit.)

AURICULA DUNKER. *Aur. testā cylindricā, subpyramidalā, pallidē rubescenti; spirā productā, anfractibus subarritis, concentricis; aperturā breviusculā, subpyriformi, margine latissimē planatā, castaneā, columellā triplicitā.*

DUNKER'S AURICULA. Shell cylindrical, rather pyramidal, pale reddish; spire produced, whorls rather tarreted, rather convex, aperture rather short, rather pyriform, margin very broadly flattened, chestnut, columella with three plaits.

PFEIFFER. — ?

*Hab.* — ?

Species 10. (Mus. Brit.)

AURICULA PALESCENS. *Aur. testā cylindricā, tenui, pallidā; spirā acuminatā, productā; ultimo anfractu superius angulatā; aperturā breviusculā; columellā infra biplicitā; labio externo superius angulato, medio et infra incrassato.*

THE PALE AURICULA. Shell cylindrical, thin, pale; spire acuminate, produced; last whorl angular above; aperture rather short; columella with

two plaits below, outside lip rather angular above, thickened at the middle and under.

PETIT. — ? Proc. Zool. Soc. 1854, p. 10.

*Hab.* — ?

Species 11. (Mus. Sowerby.)

AURICULA CHINENSIS. *Aur. testā elongatā, crassā; epidermide levi, crassā pallidē castaneā indutā; spirā productā, convexā, obtusā; aperturā breviusculā, columellā crassā, infra callosā, plicis duabus validis minutā; labio externo crasso, lato, supra medium tumido, suturam versus angulato et sinuato.*

THE CHINESE AURICULA. Shell elongated, thick; covered with a smooth, thick pale chestnut epidermis; spire produced, convex, obtuse; aperture rather short, columella thick, callous below, guarded with two strong plaits; outer lip thick, broad, tumid above the middle, angular and sinuated towards the suture.

PFEIFFER. Proc. Zool. 1854, p. 152.

*Hab.* Chinese Seas.

Species 12. (Mus. Sowerby.)

AURICULA SUBULA. *Aur. testā elongatā, angulatā, olivaceā, tenui; spirā elongatā, attenuatā; aperturā brevī, labio externo tenui, columellā infra subarcuatā, truncatā.*

THE AWL AURICULA. Shell elongated, narrow, olive, thin; spire elongated, attenuated; aperture short, outer lip thin, columella rather arched below, truncated.

GUOY. Voy. Astro. Pl. XIII. f. 39, 40.

*Hab.* Cuba.







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16a



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16b



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21.

# AURICULA.

PLATE III.

## Species 13. (Mus. Brit.)

**AURICULA SACCVATA.** *Aur. testâ cylindricâ, angustâ, epidermide fuscâ, crassâ, leviter sulcatâ indatâ; spirâ productâ, anfractibus rectiliteralibus, ultimo oblongo; infâra tunido, subtruncato; apertura brevissimâ, angustâ; margine carneo, labio externo supra medium inflexo; columellâ infâra crassâ, leviter bilobatâ, prope medium acutè indentatâ.*

**THE BANGED AURICULA.** Shell cylindrical, narrow, covered with a brown, thick, slightly grooved epidermis; spire produced, whorls straight-sided, last oblong, swelled, rather truncated below; aperture rather short, narrow; margin flesh-coloured, outer lip bent inwards above the middle; columella thick below, with two slight teeth and one sharp near the middle.

**PUBLITER.** Proc. Zool Soc. 1854, p. 121.

*Hab.* Bay of Manilla.

## Species 14. (Mus. Brit.)

**AURICULA SIMPLICATA.** *Aur. testâ tenui, angustâ, clavata; spirâ attenuatâ, elongatâ; anfractibus supra suturam arcuatim latis, ultimo medio et infâre brevigo; apertura brevissimâ, pyriformi, columellâ infâra medium plicâ prominenti armatâ.*

**THE HALF-FLATED AURICULA.** Shell thin, narrow, olive; spire attenuated, elongated; whorls arched above the suture, last smooth at the middle and below; aperture rather short, pyriform, columella armed with a prominent plait below the middle.

**H. and A. ADAMS.** MS. Brit. Mus.

*Auricula sculpta.* — ?

*Hab.* Sandwich Islands, &c.

Distinguished by curved plaits or ridges on the upper part of the whorls.

## Species 15. (Mus. Brit.)

**AURICULA ELONGATA.** *Aur. testâ subpyriformi, angustâ, nitenti; spirâ conico, subproductâ; apertura*

*angustâ, labio externo tenui, labio interno arcuato, infâra medium unidentato, ad terminum truncato.*

**THE ELONGATED AURICULA.** Shell rather fusiform, narrow, smooth; spire conical, rather produced; aperture narrow, outer lip thin, inner lip arched, with a single tooth below the middle, truncated at the end.

**PARREYS.** — ? MS. Mus. Brit.

*Hab.* Mediterranean.

## Species 16. (Fig. a, b, Mus. Sowerby.)

**AURICULA JUDEÆ.** *Aur. testâ solidâ, oblongo-cylindricâ, epidermide fuscâ, densè liratâ imbricâ; spirâ productâ, obtusâ; apertura elongatâ, supra medium subcontractâ; labio interno valido, medio et infâra plicis duabus minuto; labio externo lato, plicato, supra medium tunido, versus suturam angulato et sinuato.*

**THE JEWESS'S AURICULA.** Shell solid, oblong-cylindrical, covered with a brown, closely-ridged epidermis; spire produced, obtuse; aperture elongated, rather contracted above the middle; inner lip strong, guarded with two teeth above the middle and below; outer lip broad, flattened, swelled above the middle, sinuous and angular towards the suture.

**LINNEUS.** (*Voluta aris Judeæ*.)

*Hab.* India.

## Species 17. (Mus. Brit.)

**AURICULA INCRASSATA.** *Aur. testâ crassâ, angustâ, spirâ attenuatâ, productâ, anfractibus subnagatis, ultimo cylindrico; apertura auriformi, medio sinuatum contracto, margine crassissimo, columellâ bicipitâ.*

**THE THICKENED AURICULA.** Shell thick, narrow, spire attenuated, produced; whorls slightly angular, last cylindrical; aperture auriform, sinuously contracted in the middle, margin very thick, columella with two plaits.

**A. and H. ADAMS.** MS. Brit. Mus.

*Hab.* — ?

AURICULA.—PLATE III.

Species 18. (Mus. Brit.)

AURICULA HOOGLYENSIS. *Aur. testâ tenuiusculâ, stramineâ, supernè conicâ, infrâ subrotundâ; spirâ subpyramidatâ, anfractibus quaternis, rectilaterali-bus, ultimo cylindrico, supernè angulato; columellâ arcuatâ, infrâ medium buplicatâ.*

THE HOOGLY AURICULA. Shell rather thin, straw-coloured, conical above, rather rounded; spire rather pyramidal, whorls four, straight-sided, last cylindrical, angular above; columella arched, with two plaits below the middle.

BLANFORD. —? MS. Brit. Mus.

*Hab.* Hoogly, India.

Species 19. (Mus. Brit.)

AURICULA LUTEA. *Aur. testâ ovatâ, pallidè fuscâ fusco-fasciatâ; spirâ brevi, conicâ, ultimo anfractu subcylindrico; aperturâ angustâ, labio externo intâs platis numerosis minuto; columellâ arcuatâ, triplicatâ.*

THE YELLOW AURICULA. Shell ovate, pale fawn banded with brown; spire short, conical, last whorl rather cylindrical; aperture narrow, outer lip provided with numerous plaits within; columella arched, with three plaits.

QUOY. Voy. Astro. Zoologie, Vol. II. p. 163.

*Melampus pallescens.* Sowbry.

*Hab.* —? ?

Species 20. (Mus. Brit.)

AURICULA OPARICA. *Aur. testâ tenui, angustâ, fusiformi, pallidè stramineâ; spirâ productâ, subacuminatâ, anfractibus elevatis, ultimo infrâ subtruncato; aperturâ brevi, columellâ arcuatâ, infrâ medium uniplicatâ, ad terminum truncatâ.*

THE OPARA AURICULA. Shell thin, narrow, fusiform, pale straw; spire produced, rather acuminated; whorls raised, last slightly truncated below; aperture short, columella arched, with a plait below the middle, truncated at the end.

H. and A. ADAMS. —? MS.

*Hab.* Opara Isl., S. Seas.

Species 21. (Mus. Brit.)

AURICULA PUSILLA. *Aur. testâ parvâ, angustâ, albâ, spirâ acuminatâ, ultimo anfractu supra aperturam elevatâ, versus terminum subattenuatâ; aperturâ parvâ, columellâ buplicatâ.*

THE DWARF AURICULA. Shell small, narrow, white; spire acuminated, last whorl elevated above the aperture, slightly attenuated towards the end; aperture small, columella with two plaits.

H. and A. ADAMS. —? MS. Brit. Mus.

*Hab.* Philippines.





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# AURICULA.

PLATE IV.

Species 22. (Mus. Sowerby.)

AURICULA DOLICULUM. *Aur. testâ parvâ, ovatâ, griseâ, fusco-fusciatâ; spiralliter tenuiter sulcatâ; spirâ fuscâ, brevî, mucronatâ; aperturâ elongatâ, intus cistaceâ, columellâ infra medium prominenti, biplicatâ; labio externo lato, albo, planulato, ad medium undulato.*

THE LITTLE TON AURICULA. Shell small, ovate, grey, banded with brown; spirally finely grooved; spire brown, short, mucronate; aperture lengthened, chestnut within; columella with two prominent plaits below the middle; outer lip broad, white, flattened, with a tooth at the middle.

PETTIT. —? Proc. Zool. Soc. 1854, p. 31.

Hab. —? —————

Species 23. (Mns. Brit.)

AURICULA FRUMENTUM. *Aur. testâ fulvâ, subcylindricâ, solidââsculâ; spirâ brevî, ultimo anfractu oblongâ; labio interno latè expanso, tridentato, columellâ brevî, uniplicatâ, labio externo parvâ incrassato.*

THE CORN AURICULA. Shell fawn, rather cylindrical, rather solid; spire short, last whorl oblong; inner lip broadly spread, three-toothed, columella short, with one plait, outer lip a little thickened.

PETTIT. —? Proc. Zool. Soc. 1854, p. 11.

Hab. Lima. —————

Species 24. (Mus. Brit.)

AURICULA AVENA. *Aur. testâ parvâ, angustâ, pallidè fulvâ, leviter fusciatâ; spirâ productâ, acuminatâ; aperturâ superne angustâ, labio interno infra medium triplicato, columellâ uniplicatâ, labio externo ad medium subsinuato.*

THE WHEAT AURICULA. Shell small, narrow, pale fulvous, slightly banded; spire produced, acuminated; aperture narrow above, inner lip three-plaited below the middle, columella single-plaited, outer lip rather sinuous at the middle.

PETTIT. —? Proc. Zool. Soc. 1854, p. 34.

Hab. —? —————

Species 25. (Mus. Brit.)

AURICULA FELLS. *Aur. testâ fuscâ, levî, tenuissimè spiralliter striatâ; spirâ brevî, conicâ, ultimo*

*anfractu ovatâ obliquè attenuato, prope terminum spiralliter serrimato; aperturâ subovatâ, margine inflexo; latè planulato; labio externo supra medium profundè sinuato, medio expanso, denticulato, labio interno biplicato; columellâ plicâ bifidâ armatâ.*

THE CAT'S AURICULA. Shell brown, smooth, very finely spirally striated; spire short, conical, last whorl obliquely attenuated below, spirally keeled near the end; aperture subovate, margin bent inwards, broadly flattened, outer lip with a deep sinus above the middle, expanded and crenulated at the middle; inner lip with two plaits; columella armed with a bifid plait.

LAMARCK. Anim. s. Vert.

*Bullinus auris-felis.* Brugnière.

Hab. W. Indies. —————

Species 26. (Mus. Brit.)

AURICULA NUCLEUS. *Aur. testâ ovatâ, intense fuscâ, tenuiter spiralliter sulcatâ; spirâ brevî, anfractibus concavis, ultimo brevissimo, infra spiralliter carinatâ, angustâ, infra carinam concavâ, labio interno biplicato, columellâ prominenti, uniplicato, labio externo coffeo, lato, planato, supra medium prominenter expanso.*

THE NUT AURICULA. Shell ovate, deep brown, finely spirally grooved; spire short, whorls convex; last rather short, spirally keeled below, narrow; concave below the keel; inner lip with two plaits; columella with a prominent plait, outer lip coffee-coloured, broad, flattened, prominently expanded above the middle.

GMELIN. Linn. Syst. Nat.

*Cuspidata Cunninghamiana.* Adams.

Hab. Manilla. —————

Species 27. (Mus. Sowerby.)

AURICULA COFFEA. *Aur. testâ ovatâ, fusco latè fusciatâ, tenuiter spiralliter striatâ; spirâ conicâ, brevî, ultimo anfractu angulato, infra angustâ, carinatâ; labio externo pallidè purpureo, supra medium prominenter lobato, columellâ biplicatâ.*

THE COFFEE AURICULA. Shell ovate, broadly banded with brown, finely spirally striated; spire conical, short, last whorl angular, narrowed below.

keeled; outer lip pale purple, prominently lobed above the middle, columella with two plaits.

CHEMNITZ. *Conch.* IX. t. 121, f. 5.

*Hab.* Mexico.

A shorter and more angular shell than *Auricula felis*.

Species 28. (Mus. Sowerby.)

AURICULA ANGULATA. *Aur. testâ conico-cylindricâ, griseo-fuscâ, ad angulum albo-fasciatâ; spirâ breviter conicâ, anfractibus acutè angulatis; labio externo pallidè carneo, plumato; margine interno supra medium prominenter expanso; labio interno supra columellam buplicato, infra expanso, concavo, plicâ duplicatâ armato.*

THE ANGULAR AURICULA. Shell conico-cylindrical, grey-brown, with a white band on the angle; spire shortly conical, whorls sharply angular; outer lip pale flesh, flattened; inner margin prominently expanded above the middle; inner lip with two folds above the columella, expanded below, concave, armed with a double plait.

PETIT. *Proc. Zool. Soc.* 1854, p. 31.

REEVE. *Conch. Syst. Auricula*, Pl. LXXXVII. f. 5.

*Hab.* —? —?

Species 29. (Mus. Sowerby.)

AURICULA DECCSSATA. *Aur. testâ griseo-fuscâ, spirâ litér sulcatâ, sulcis deccssatâ; spirâ productâ, sub-acuminatâ, ultimo anfractu superne rotundâ, infra carinatâ; aperturâ biangulatâ; labio interno buplicato; columellâ expansâ, uniplicatâ, labio externo superne angulatim sinuatâ, supra medium plicâ acutè angulatâ prominenti armato.*

THE DECCSATED AURICULA. Shell grey-brown, spirally grooved, grooves deccssated; spire produced,

slightly acuminated, last whorl rounded above, keeled below; aperture biangular; inner lip with two plaits; columella expanded, with a single plait, outer lip with an angular sinus above, armed above the middle with a sharply angular, prominent plait.

H. and A. ADAMS. —? MS. Brit. Mus.

*Hab.* —? —?

Species 30. (Mus. Brit.)

AURICULA GRANIFERA. *Aur. testâ griseâ, conicâ, liris tenuissimis, striis deccssatis, graniferâ; aperturâ angustâ, utrinque dentatâ.*

THE GRANULAR AURICULA. Shell grey, conical, grained by very fine ridges crossed by striae; aperture narrow, toothed on each side.

MOUSSON. —? MS. Brit. Mus.

*Hab.* Near Cape Bedford.

Species 31. (Mus. Brit.)

AURICULA TURRITA. *Aur. testâ elongatâ, turrîtâ, longitudinaliter tenuissimè plicatâ, epidermide stramineâ indurâ; spirâ elongatâ, anfractibus elevatis, superne subangulatis, ad suturam crenulatis; aperturâ pyriformi; labio interno prominenter triplicato, labio externo latè incrassato.*

THE TURRETED AURICULA. Shell elongated, turreted, longitudinally very finely plaited, covered with a straw-coloured epidermis; spire elongated, whorls raised, rather angular above, crenulated at the suture; aperture pyriform, inner lip with three prominent plaits, outer lip broadly thickened.

PEIFFER. *Proc. Zool. Soc.* 1854. p. 121.

*Hab.* Philippines.







32.



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# AURICULA.

PLATE V.

## Species 32. (Mus. Sowerby.)

**AURICULA KRAUSSII.** *Aur. testâ fusco-fumosa, brevi, superius tenuiter sulcatâ, ovatâ, spirâ pyramidalâ; ultimo anfractu infri carinato; aperturâ angustâ, superius sublepressâ, labio interno triplicato, labio externo lato, medio prominenter unidentato, supra medium angulatim sinuato.*

**KRAUSS'S AURICULA.** Shell smoky brown, smooth, finely grooved above, ovate, spire pyramidal; last whorl keeled below; aperture narrow, somewhat depressed above, inner lip with three plaits, columella with three plaits, outer lip broad, middle with a prominent tooth, angularly sinuous above the middle.

KÜSTER. Proc. Zool. Soc. 1854. p. 11.

*Hab.* — ?

## Species 33. (Mus. Sowerby.)

**AURICULA PEPITA.** *Aur. testâ obliquè ovatâ, fuscâ; spirâ breviusculâ, anfractibus tribus, rapide crescentibus, ultimo magno; aperturâ patulâ, latâ, antice obliquè productâ, columellâ reclinatâ, dentibus duobus prominentibus albis armatâ.*

**THE PIP AURICULA.** Shell obliquely ovate, brown; spire rather short, whorls three, quickly increased, last large; aperture patulous, broad, anteriorly obliquely produced, columella rather straight, armed with two prominent white teeth.

KING. (*Marrina*). Zool. Journ. Vol. V. p. 344.

*Auricula nigra*, Philippi.

*Hab.* — ?

## Species 34. (Mus. — ? Copied.)

**AURICULA AUSTRALIS.** *Aur. testâ ovatâ, pallidè olivaceâ, fusco longitudinaliter strigatâ, medio albimanifuscâ, infri spirâ carinatâ; spirâ productâ, obtusâ; aperturâ brevi ovatâ, columellâ biplicatâ, labio externo tenuiusculâ.*

**THE AUSTRALIAN.** Shell ovate, pale olive, longitudinally striped with brown, with a single white band in the middle, spirally keeled below; spire produced, obtuse; aperture short, oval, columella with two plaits, outer lip rather thin.

QUOY. Voy. Astr. Vol. II. p. 169. Pl. XIII. f. 34-38.

*Hab.* Australia.

## Species 35. (Mus. Sowerby.)

**AURICULA SULCULOSA.** *Aur. testâ coffeâ, tenuissimè striatâ; spirâ breviusculâ, obtusâ, anfractibus rotundis; labio externo planulato, medio angulatim unidentato, supra medium sinuato, labio interno tenui, biplicato, columellâ latâ, concavâ, rudè unidentatâ.*

**THE SULCATED AURICULA.** Shell coffee-coloured, very finely striated; spire rather short, obtuse, whorls rounded; outer lip flattened, with angular tooth at the middle, sinuous above the middle, inner lip thin, two-plaited, columella broad, concave, with one strong tooth.

MOUSSON. Journ. Conch. Paris.

*Hab.* Port Natal.

Resembles *Auricula decussata*, less angular and with the folds of the outer lip much less produced.

## Species 36. (Mus. Sowerby.)

**AURICULA SANDWICHENSIS.** *Aur. testâ intensè fuscâ, medio albo ringulatâ, brevi, subcylindricâ, infri leviter carinatâ, spirâ pyramidalâ, aperturâ brevi, labio interno biplicato; columellâ inconspicuè multiplicatâ.*

**THE SANDWICH ISLAND AURICULA.** Shell deep brown, with a white band in the middle, smooth, subcylindrical, slightly keeled below, spire pyramidal, aperture short, inner lip with two plaits; columella with an inconspicuous plait.

EDEYTOUX. — ? Proc. Zool. Soc. 1854. p. 34.

*Auricula Browni*, Philippi.

*Hab.* Sandwich Islands.

## Species 37. (Mus. Brit.)

**AURICULA BROTIANA.** *Aur. testâ buliâ, griseo pallidè fuscâ, ocatosubglobosâ, utrinque acuminatâ; aperturâ angustâ, dentibus prominentibus acutis utrinque armatâ, columellâ infri multiplicatâ.*

**BROT'S AURICULA.** Shell bay, banded with pale grey, oval-subglobose, acuminate at each end; aperture narrow, armed on both sides with sharp, prominent teeth, columella with one plait below.

PIEIFFER. — ? MS. Brit. Mus.

cylon.

AURICULA.—PLATE V.

Species 38. (Mus. Brit.)

AURICULA ZONATA. *Aur. testâ oblongâ, conicâ, luteâ, levî, fusco-fasciatâ; spirâ pyramidalî, breviusculâ, ultimo anfractu obtusè angulato; aperturâ elongatâ, columellâ buplicatâ, labio externo tenuiusculo, intis maculato, transversè plicato.*

THE BANDED AURICULA. Shell oblong, conical, yellowish, smooth, banded with brown; spire pyramidal; rather short, last whorl obtusely angular; aperture elongated, columella with two plaits, outer lip rather thin, spotted inside, with transverse plaits.

MÜHLFELDT.—? MS. Brit. Mus.

*Auricula monite.* Lamarck.

*Auricula fasciata.* Deshayes.

*Fohuta flava.* Gmel.

*Auricula mustellina.* Deshayes.

*Hab.* West Indies.

Species 39. (Mus. Sowerby.)

AURICULA QUOYL. *Aur. testâ parvâ, fusco fasciatâ, ovatâ, superne acuminatâ; spirâ productâ, pyramidalî; aperturâ breviusculâ; columellâ buplicatâ, labio externo tenui.*

QUOY'S AURICULA. Shell small, banded with brown, ovate, acuminate above; spire produced, pyramidal; aperture rather short; columella with two plaits, outer lip thin.

A. ADAMS. (Laminodonta).

*Hab.* New Zealand.

Species 40. (Mus. Brit.)

AURICULA ORYZA. *Aur. testâ angustâ, fusiformi, levî, albâ; spirâ clatâ, pyramidalî; aperturâ parvâ, columellâ buplicatâ.*

THE RICE AURICULA. Shell narrow, fusiform, smooth, white; spire raised, pyramidal; aperture small, columella with two plaits.

H. & A. ADAMS.—? MS. Brit. Mus.

*Hab.* —? ?

Species 41. (Mus. Brit.)

AURICULA NITIDULA. *Aur. testâ parvâ, nitentî, castaneâ, fasciatâ, fusiformi, angustâ, spirâ clatâ, sub-acuminatâ, ultimo anfractu infrâ tumidiusculâ; aperturâ angustâ, labio externo tenui, labio interno buplicato, columellâ arcuatâ, infrâ truncatâ.*

THE NEAT LITTLE AURICULA. Shell small, shining, chestnut, banded, fusiform, narrow, spire raised, slightly acuminate, last whorl rather tumid below; aperture narrow, outer lip thin, inner lip with two plaits; columella arched, truncated below.

H. & A. ADAMS.—? MS. Brit. Mus.

*Hab.* —? ?





# AURICULA.

PLATE VI.

## Species 42. (Mus. Brit.)

*AURICULA COSTELLARIS.* *Aur. testâ alivacâ-fusâ, obliquè longitudinaliter costatâ, latâ, brevî; spirâ conicâ, ultimo anfractu breviter cylindrico, infâ recessatâ, infâ carinâ umbilicatâ; aperturâ angustâ, labio interno arcuato, triplicatâ.*

THE SMALL RIBBED AURICULA. Shell olive-brown, obliquely longitudinally ribbed, broad, short; spire conical; last whorl shortly cylindrical, keeled below, umbilicated below the keel; aperture narrow, inner lip arched, with three plaits.

H. & A. ADAMS. MS. Brit. Mus.

*Hab.* New Zealand

## Species 43. (Mus. Brit.)

*AURICULA GLOBULUS.* *Aur. testâ brevi, ovato-globosâ, utrinque acuminatâ, olivacâ, fasciatâ; aperturâ angustissimâ, semilunari; columellâ biplicatâ, labio externo tenuissimâ.*

THE GLOBE AURICULA. Shell short, ovate-globose, acuminate at each end, olive, banded; aperture very narrow, semilunar; columella with two plaits, outer lip rather thin.

D'ORIGNY—? MS. Brit. Mus.

*Hab.* S. America.

## Species 44. (Mus. Brit.)

*AURICULA STRIATA.* *Aur. testâ parvâ, conicâ, coffâ, spirâliter sulcatâ, superâ tenuiter longitudinaliter plicatâ; spirâ brevissimâ; anfractibus ad suturem crenulato-crestatâ; ultimo infâ angustâ, truncatâ; aperturâ angustâ, labio interno tenui, inconspicuè plicatâ, columellâ validè multiplicatâ, labio externo incrassatâ, superâ angulatâ.*

THE STRIATED AURICULA. Shell small, conical, coffee-coloured, spirally grooved, finely longitudinally plaited above; spire very short; whorls with a crenulated crest at the suture; last narrow below, truncated; aperture narrow, inner lip thin, inconspicuè plaited, columella with a strong plait, outer lip thickened, angular above.

PEASE—? MS. Brit. Mus.

*Hab.* South Sea Islands.

## Species 45. (Mus. Sowerby.)

*AURICULA SUGATA.* *Aur. testâ subcylindricâ, castaneo-fusâ, albo angustè trifasciatâ, superâ spirâliter liatâ, infâ crebè sulcatâ; spirâ pyramidatâ, ultimo anfractu infâ obtusè curvato; aperturâ semiovali, labio interno biplicatâ, labio externo clypeo, albo, subincrassatâ.*

THE GROOVED AURICULA. Shell rather cylindrical, deep brown, with three narrow white bands, spirally ridged above, closely grooved below; spire pyramidal, last whorl obtusely keeled below; aperture half-oval, inner lip with two plaits, outer lip reflected, white, rather thickened.

H. & A. ADAMS. MS. Brit. Mus.

*Auricula Stutchboryi.* Pfeiffer.

*Hab.* New Zealand.

## Species 46. (Mus. Brit.)

*AURICULA CINGULATA.* *Aur. testâ subcylindricâ, utrinque acuminatâ, angustâ, castaneo-fuscâ, spirâ fusco-nigrescenti, elevatâ, lateraliter convexiusculâ; ultimo anfractu cylindrico; aperturâ, intus dentatâ; labio columellari infâ sinuato, conspicuè multiplicatâ.*

THE BANDED AURICULA. Shell subcylindrical, acuminate at each end, narrow, banded with chestnut, spire blackish brown, raised, rather convex laterally; last whorl cylindrical; aperture toothed within; columellar lip sinuous below, with a conspicuous plait.

PFEIFFER. MS. Brit. Mus.

*Melampus variabilis.* Gassies.

*Hab.* Cuba, New Caledonia.

## Species 47. (Mus. Brit.)

*AURICULA TABOGENSIS.* *Aur. testâ conicâ, fusâ, solidâ, ventricosâ, brevi; spirâ breviter conicâ; ultimo anfractu infâ angustato, acuminato, columellâ validè biplicatâ, aperturâ angustâ, intus transversè crebriplicatâ.*

THE TABOGIS AURICULA. Shell conical, brown, solid, ventricose, smooth; spire shortly conical; last whorl narrow below, acuminate, columella

with two strong plaits, aperture narrow, closely transversely plaited within.

C. B. ADAMS. Zool. Proc. 1854. p. 9.

*Hab.* Jamaica.

Species 48. (Mus. Brit.)

AURICULA UMLASSIANA. *Aur. testâ conicâ, latissimâ, olivaceâ, pallidâ fusco-fasciatâ; spirâ brevissimâ, subplanulatâ, ultimo anfractu infâ angustissimâ; labio interno infâ uniplicato; columellâ uniplicatâ; labio externo intus multiplicato.*

THE UMLASSIAN AURICULA. Shell conical, very broad, olive, banded with pale brown; spire very short, rather flat, last whorl very narrow below: inner lip with one plait below, columella with one plait; outer lip numerous plaited within.

KRAUSS—? MS. Mus. Brit.

*Hab.* S. Africa.

Species 49. (Mus. Brit.)

AURICULA COSTATA. *Aur. testâ castaneâ, brevî, ovali, longitudinaliter costatâ, costis obliquis, undulatis, spirâ conicâ, anfractibus ad suturam cristatis; aperturâ semiovatâ, margine crassissimo, labio interno rectiusculo, margine quinque-plicato; labio externo supernè angulatim subsinuato.*

THE RIBBED AURICULA. Shell chestnut, short, ovate, longitudinally ribbed, ribs oblique, undulated, spire conical, whorls crested at the suture: aperture half-oval, margin very thick, inner lip rather straight; margin with five plaits; outer lip rather angularly sinuous above.

QUoy. Voy. Astrolabe. Proc. Zool. Soc. 1854

*Hab.* Isl. Masbate, Philippines.

Species 50. (Mus. Brit.)

AURICULA GUNDLACH. *Aur. testâ subconicâ, obtusè angulatâ, pallidâ, fasciis castaneis interruptis pictâ; spirâ brevissimâ, ultimo anfractu infâ subtruncato; aperturâ angustâ, intus multiplicatâ; labio interno biplicato.*

GUNDLACH'S AURICULA. Shell rather conical, obtusely angular, pale, painted with interrupted chestnut bands; spire very short, last whorl slightly truncated below; aperture narrow, numerous plaited within; inner lip with two plaits.

PEIFFER. MS. Brit. Mus.

*Hab.* Cuba.

Species 51. (Mus. Brit.)

AURICULA OLIVACEA. *Aur. testâ convexo-conicâ, olivaceâ, griseo-fasciatâ, fasciis strigatis; spirâ brevissimâ, ultimo anfractu ventricosò, supernè angulatè, infâ angustato; labio interno biplicato; labio externo intus multiplicato, ad marginem densè castaneo.*

THE OLIVE AURICULA. Shell convexly conical, olive, banded with grey, bands striped; spire very short, last whorl ventricose, angular above, narrow below; inner lip with two plaits; outer lip many-plaited within, deep chestnut at the margin.

CARPENTER. MS. Brit. Mus.

*Hab.* California.







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63

# AURICULA.

PLATE VII.

Species 52. (Mus. Brit.)

**AURICULA REDFIELDI.** *Aur. testâ parvâ, conicâ, obtusè angulatâ, infrà obliquè subtruncatâ, albâ, castaneo interruptim fasciatâ; aperturâ angustissimâ, intus seriâtim plicatâ; labio interno uniplicato; columellâ uniplicatâ.*

**REDFIELD'S AURICULA.** Shell small, conical, obtusely angular, obliquely subtruncated in front, whitish, with interrupted chestnut bands; aperture very narrow, plaited in rows within, inner lip single-plaited, columella single-plaited.

**PFEIFFER.** MS. Brit. Mus.

*Hab.* Bermuda.

Species 53. (Mus. Brit.)

**AURICULA CAFFERA.** *Aur. testâ ovato-conicâ, olivaceo-fuscâ, concolori vel fasciatâ; spirâ brevissimâ; ultimo anfractu ad suturam suberistatâ, infrà post columellam concava; columellâ uniplicatâ; aperturâ intus validè plicatâ.*

**THE CAFFER AURICULA.** Shell ovately-conical, olive-brown, uniform or banded; spire very short; last whorl somewhat crested at the suture, concave below, behind the columella; columella with one plait, aperture with strong plaits within.

**KUSTER.** *Conch.* p. 36, Pl. V. f. 6.

*Auricula ater.* Mühlfeldt.

*Hab.* S. Africa.

Species 54. (Mus. Brit.)

**AURICULA BIDENTA.** *Aur. testâ ovato-conicâ, obtusâ, olivaceâ, interruptim pallidè trifasciatâ; spirâ brevî, conicâ, ultimo anfractu superne obtusè angulatâ, infrà acuminatâ; aperturâ angustâ, intus edentulâ, labio interno bidentatâ.*

**THE DOUBLE-TOOTHED AURICULA.** Shell ovate-conical, obtuse, olive, with three pale interrupted bands; spire short, conical; last whorl obtusely angular above; acuminate below; aperture narrow, without teeth inside, inner lip with two teeth.

**SAY.** Invertebrata of Massachusetts.

*Auricula cornua.* Deshayes.

*Hab.* N. America.

Species 55. (Mus. Brit.)

**AURICULA CRISTATA.** *Aur. testâ subcylindricâ, pallidè castaneâ; spirâ brevissimâ, ultimo anfractu ad suturam elevatâ, tumidâ, infrà spirâtim tumidâ; aperturâ angustâ, labio interno triplicato, infrà concava, ad terminum subtruncato.*

**THE CRESTED AURICULA.** Shell rather cylindrical, pale chestnut; spire very short, last whorl raised at the suture, tumid, spirally tumid below; aperture narrow, inner lip with three plaits, concave below, rather truncated at the end.

**PFEIFFER.** MS. Brit. Mus.

*Hab.* Philippines.

Species 56. (Mus. Brit.)

**AURICULA BOREALIS.** *Aur. testâ conicâ, levî, pallidè fulco fasciatâ; spirâ elevatâ, conicâ, ultimo anfractu obtusissimè angulatâ, prope terminum angustè carinatâ, labio interno prope medium uniplicato, columellâ infrà uniplicatâ; labio externo incrassato.*

**THE BOREAL AURICULA.** Shell conical, smooth, banded with pale brown; spire elevated, conical, last whorl very obtusely angular, narrowly keeled near the end, inner lip with a single plait near the middle, columella with a single plait below; outer lip thickened.

**CONRAD.** (Melampus.)

*Hab.* North America.

Species 57. (Mus. Sowerby.)

**AURICULA CONIFORMIS.** *Aur. testâ conicâ, luteâ, griseo-olivaceo latè fasciatâ; spirâ brevî, ultimo anfractu obtusè angulatâ, infrà acuminatâ, columellâ uniplicatâ; aperturâ intus seriâtim plicatâ, labio externo tenuî, intus fasciatâ.*

THE CONE-SHAPED AURICULA. Shell conical, yellow, broadly banded with olive-grey; spire short, last whorl obtusely angular, acuminate below, columella with one fold; aperture with a row of teeth inside, outer lip thin, banded within.

LAMARCK. Anim. s. Vert.

*Volva minuta*. Gmel.

*Hab.* Barbadoes.

Species 58. (Mus. Brit.)

AURICULA LIVIDA. *Aur. testâ obsâ, subconicâ, griseo-olivaceâ; spirâ brevissimâ, aufractibus maculatis, ultimo infrâ subtruncatâ, post columellam convexâ; aperturâ utrinque denticulatâ.*

THE LIVID AURICULA. Shell stout, rather conical, olive-grey, spire very short, whorls spotted, last subtruncated below, concave below the columella; aperture toothed on both sides.

LINNEUS. Syst. Nat.

*Auricula Liberiana?* Adams.

*Hab.* —?

Species 59. (Mus. Brit.)

AURICULA PANAMAENSIS. *Aur. testâ elongatâ, fusiformi, intusâ fuscâ, levî, infrâ tumidissimâ; spirâ productâ, aufractibus quaternis, ultimo oblongo; aperturâ auriformi, infrâ subexpansâ, medio contractâ; labio externo ad medianâ sinuato; labio interno quadruplicato, columellâ infrâ cectissimâ.*

THE PANAMA AURICULA. Shell elongated, fusiform, deep brown, smooth, rather tumid below; spire produced, whorls four, last oblong; aperture auriform, rather expanded below, contracted in the middle; outer lip sinuous in the middle, inner lip with four plaits; columella rather straight.

C. B. ADAMS. Shells of Jamaica.

*Hab.* Jamaica.

Species 60. (Mus. Brit.)

AURICULA PRIFORMIS. *Aur. testâ conicâ, subbâtonatâ, spirâ brevi, subrotundâ, ultimo aufractu olivaceo pallidè maculato, infrâ attenuato, acuminato, columellâ conspicuè bicipitatâ.*

THE PRIFORM AURICULA. Shell conical, rather attenuated, spire short, rather rounded, last whorl

olive with pale spots, attenuated below, acuminated, with two conspicuous plaits.

PETT. Proc. Zool. Soc. 1842, p. 202.

*Hab.* Tamaio, West Columbia.

Species 61. (Mus. Brit.)

AURICULA DENTICULATA. *Aur. testâ fulvâ, fusiformi; spirâ elongatâ, pyramidatâ, ultimo aufractu ventricosâ, ovato, labio columellari conspicuè triplicato, labio externo intus incrassato, obtusè bidentato.*

THE TOOTHED AURICULA. Shell fulvous, fusiform; spire elongated, pyramidal, last whorl ventricose, ovate; columellar lip conspicuously three-plaited, outer lip thickened within, with two conspicuous teeth.

D'ORRIGNY. Voy. Amér. Mérid. Pl. XLII. f. 4, 5.

*Hab.* Bermuda.

Species 62. (Mus. Brit.)

AURICULA SIAMENSIS. *Aur. testâ obtusè conicâ, castaneo quadrifasciatâ; spirâ brevissimâ, ultimo aufractu superiè obtusè angulato, infrâ subtruncato; aperturâ intus fasciatâ, columellâ conspicuè bicipitatâ; labio externo incrassato.*

THE SIAMESE AURICULA. Shell obtusely conical, with four chestnut bands; spire rather short; last whorl obtusely angular above, slightly truncated below; aperture banded within; columella conspicuously two-plaited; outer lip thickened.

MARTENS. MS. Brit. Mus.

*Hab.* Siam.

Species 63. (Mus. Brit.)

AURICULA MITRALIS. *Aur. testâ olivæformi, angustâ, levî; spirâ elevatâ, obtusâ, convexissimâ; ultimo aufractu cylindrico, pallidè fuscâ, superiè maculato; aperturâ pyriformâ, infrâ rotundâ, columellâ brevi, rectâ, uniplicatâ.*

THE MITR-LIKE AURICULA. Shell olive-shaped, narrow, smooth; spire raised, obtuse, rather convex, last whorl cylindrical, pale brown, spotted above; aperture pyriform, round below; columella short, straight, with one plait.

ADAMS. MS. Brit. Mus.

*Hab.* Mogadore.

# AURICULA.

|   | Date. | Species. |   | Date. | Species. |
|---|-------|----------|---|-------|----------|
| angulata, <i>Petit</i> .....                | IV.   | 28       | lutea, <i>Quoy</i> .....                    | III.  | 19       |
| ber, <i>Mühlfeldt</i> .....                 | VII.  | 53       | malchi, <i>Müller</i> .....                 | I.    | 2        |
| Australis, <i>Quoy</i> .....                | V.    | 34       | Mide, <i>Linnaeus</i> .....                 | I.    | 1        |
| avena, <i>Petit</i> .....                   | IV.   | 24       | minuta, <i>Gmelin</i> .....                 | VII.  | 57       |
| bidentata, <i>Seg</i> .....                 | VII.  | 54       | mitralis, <i>Adams</i> .....                | VII.  | 63       |
| borealis, <i>Coaral</i> .....               | VII.  | 56       | nigra, <i>Philippi</i> .....                | V.    | 33       |
| Brauni, <i>Philippi</i> .....               | V.    | 36       | nitidula, <i>H. &amp; A. Adams</i> .....    | V.    | 41       |
| Brotiana, <i>Pfeiffer</i> .....             | V.    | 37       | nucleus, <i>Gmelin</i> .....                | IV.   | 26       |
| Castra, <i>Koster</i> .....                 | VII.  | 53       | olivacea, <i>Carpenter</i> .....            | VI.   | 51       |
| Ceylonica, <i>A. Adams</i> .....            | II.   | 5        | oparica, <i>Adams</i> .....                 | III.  | 20       |
| Chinensis, <i>Pfeiffer</i> .....            | II.   | 11       | oryza, <i>A. Adams</i> .....                | V.    | 40       |
| cingulata, <i>Pfeiffer</i> .....            | VI.   | 46       | pallidescens, <i>Petit</i> .....            | II.   | 19       |
| coflea, <i>Chenailz</i> .....               | IV.   | 27       | Panamaensis, <i>C. B. Adams</i> .....       | VII.  | 59       |
| coniformis, <i>Lamarek</i> .....            | VII.  | 57       | pellucens, <i>Sowerby</i> .....             | III.  | 19       |
| coaral, <i>Deshayes</i> .....               | VII.  | 54       | pepita, <i>King</i> .....                   | V.    | 33       |
| costata, <i>Quoy</i> .....                  | VI.   | 49       | pusilla, <i>Adams</i> .....                 | III.  | 21       |
| costellaris, <i>H. &amp; A. Adams</i> ..... | VI.   | 42       | pyriformis, <i>Petit</i> .....              | VII.  | 60       |
| eristata, <i>Pfeiffer</i> .....             | VII.  | 55       | granifera, <i>Monsson</i> .....             | IV.   | 30       |
| Omaliogiana? <i>Adams</i> .....             | IV.   | 26       | Redfieldi, <i>Pfeiffer</i> .....            | VII.  | 52       |
| decussata, <i>Adams</i> .....               | IV.   | 29       | saccata, <i>Pfeiffer</i> .....              | III.  | 13       |
| denticulata, <i>D'Orbigny</i> .....         | VII.  | 61       | Sandwichensis, <i>Edgour</i> .....          | V.    | 36       |
| doliolum, <i>Petit</i> .....                | IV.   | 22       | sculpta — ?.....                            | III.  | 14       |
| Dunkeri, <i>Pfeiffer</i> .....              | II.   | 9        | semiplicata, <i>H. &amp; A. Adams</i> ..... | III.  | 14       |
| elongata, <i>Puccoy</i> .....               | III.  | 15       | semisculpta, <i>A. Adams</i> .....          | II.   | 8        |
| felis, <i>Lamarek</i> .....                 | IV.   | 25       | Siamensis, <i>Marbuis</i> .....             | VII.  | 62       |
| frumentum, <i>Petit</i> .....               | IV.   | 23       | stagnalis, <i>D'Orbigny</i> .....           | II.   | 3        |
| Gangetica, <i>Benson</i> .....              | II.   | 4        | striata, <i>Pease</i> .....                 | VI.   | 44       |
| globulus, <i>D'Orbigny</i> .....            | VI.   | 43       | subula, <i>Quoy</i> .....                   | II.   | 12       |
| Gundlachi, <i>Pfeiffer</i> .....            | VI.   | 50       | subulata, <i>H. &amp; A. Adams</i> .....    | VI.   | 45       |
| Quoyi, <i>A. Adams</i> .....                | V.    | 39       | sulculosa, <i>Monsson</i> .....             | V.    | 35       |
| helvaca, <i>Philippi</i> .....              | II.   | 7        | Tabogensis, <i>C. B. Adams</i> .....        | VI.   | 57       |
| Hooglyensis, <i>Banfield</i> .....          | III.  | 18       | toratelliniiformis, <i>Petit</i> .....      | II.   | 5        |
| incassata, <i>Adams</i> .....               | III.  | 17       | turrita, <i>Pfeiffer</i> .....              | IV.   | 31       |
| Jade, <i>Linnaeus</i> .....                 | III.  | 16       | Umhassiana, <i>Krauss</i> .....             | VI.   | 45       |
| Kraussii, <i>Koster</i> .....               | V.    | 32       | variabilis, <i>Gassies</i> .....            | VI.   | 46       |
| Liberiana, <i>Adams</i> .....               | VII.  | 58       | zonata, <i>Mühlfeldt</i> .....              | V.    | 32       |
| livida, <i>Linnaeus</i> .....               | VII.  | 58       |   |       |          |



# INDEX TO VOLUMES

SHOWING IN WHICH VOLUME EACH GENUS WILL BE FOUND.

The Genera marked \* are Land Shells, those marked † are Freshwater, the remainder are Marine.

| Genus                                 | Plate & Vol. | Genus                              | Plate & Vol. | Genus                  | Plate & Vol. | Genus                            | Plate & Vol. |
|---------------------------------------|--------------|------------------------------------|--------------|------------------------|--------------|----------------------------------|--------------|
| *ACHATINA . . . . .                   | 23 5         | CARDIA . . . . .                   | 9 1          | CYPRICA . . . . .      | 27 3         | HIPODUS . . . . .                | 1 14         |
| *ACHATINELLA . . . . .                | 6 6          | CARDIUM . . . . .                  | 22 2         | CYPRICARDA . . . . .   | 2 1          | HYDATINA . . . . .               | 2 16         |
| *ADAMABELLA . . . . .                 | 2 14         | CARINARIA . . . . .                | 1 15         | CYPRINA . . . . .      | 4 19         | †HYRIA . . . . .                 | 5 17         |
| ADORBIS . . . . .                     | 2 19         | CASSIDARIA . . . . .               | 1 5          | †CYRENA . . . . .      | 19 20        | IANTRINA . . . . .               | 5 11         |
| AKERA . . . . .                       | 1 16         | CASSIS . . . . .                   | 12 5         | CYTHERA . . . . .      | 10 14        | †HO . . . . .                    | 3 12         |
| *ALYCEUS . . . . .                    | 6 20         | †CASTALIA . . . . .                | 3 17         | DELPHINULA . . . . .   | 5 1          | †HRIDINA . . . . .               | 2 16         |
| AMPHIDESMA . . . . .                  | 7 8          | CEMORIA . . . . .                  | 1 19         | DENTALIUM . . . . .    | 7 18         | ISOCARDA . . . . .               | 1 2          |
| †AMPULLARIA . . . . .                 | 28 10        | †CERITHIDEA . . . . .              | 4 15         | DIOME . . . . .        | 12 14        | KUPBUS . . . . .                 | 1 20         |
| *ANASTOMA . . . . .                   | 1 14         | CERITHIUM . . . . .                | 20 15        | DOLABELLA . . . . .    | 2 16         | LEDA . . . . .                   | 9 18         |
| ANATINA . . . . .                     | 4 11         | CHAMA . . . . .                    | 9 4          | DOLABRIFERA . . . . .  | 1 16         | †LAMPARIA . . . . .              | 2 15         |
| ANATINELLA . . . . .                  | 1 19         | CHAMOSTREA . . . . .               | 1 14         | DOLICUM . . . . .      | 8 5          | LATIA . . . . .                  | 1 3          |
| ANOLLARIA . . . . .                   | 12 15        | †CHILINA . . . . .                 | 3 19         | DONAX . . . . .        | 9 8          | LEIOSTRACA . . . . .             | 3 15         |
| †ANOCLOTUS . . . . .                  | 6 12         | CHITON . . . . .                   | 33 4         | EBEENA . . . . .       | 1 5          | *LEIOTOPIA . . . . .             | 8 13         |
| ANOCYLUS . . . . .                    | 3 20         | CHITONELLUS . . . . .              | 1 4          | EGLISIA . . . . .      | 1 5          | LEMA . . . . .                   | 5 18         |
| †ANODON . . . . .                     | 37 17        | *CHONDROFOMA . . . . .             | 11 14        | EMARGINULA . . . . .   | 9 19         | †LEMNEA . . . . .                | 15 18        |
| ANOMIA . . . . .                      | 8 11         | CIRCE . . . . .                    | 10 14        | ERATO . . . . .        | 3 15         | LINGULA . . . . .                | 2 13         |
| APLEURUM . . . . .                    | 1 16         | *CLAUSILIA . . . . .               | 17 20        | †ETHERIA . . . . .     | 2 18         | LISTERIA . . . . .               | 1 18         |
| APLYSIA . . . . .                     | 10 17        | CLAVAGELLA . . . . .               | 3 18         | ECLUMA . . . . .       | 6 15         | LEPTODOMUS . . . . .             | 5 10         |
| ARCA . . . . .                        | 17 2         | COLUMBELLA . . . . .               | 37 11        | FASCIOLARIA . . . . .  | 7 4          | LEPTORINA . . . . .              | 18 10        |
| ARXONAUTA . . . . .                   | 4 12         | COSCILOLEPAS . . . . .             | 2 14         | FICULA . . . . .       | 1 4          | LUCINA . . . . .                 | 11 6         |
| ARTEMIS . . . . .                     | 10 6         | COSTUS . . . . .                   | 56 1         | FISURELLA . . . . .    | 16 6         | LITHARIA . . . . .               | 5 8          |
| ASPERGILLUM . . . . .                 | 4 12         | CORRIS . . . . .                   | 1 18         | FISTULANA . . . . .    | 1 20         | MACRA . . . . .                  | 21 8         |
| ASTARTE . . . . .                     | 3 19         | CORRELLA . . . . .                 | 5 2          | FUSUS . . . . .        | 21 4         | MAGLUS . . . . .                 | 4 18         |
| ATYS . . . . .                        | 5 17         | CRANIA . . . . .                   | 1 13         | †GALATEA . . . . .     | 6 16         | MALLES . . . . .                 | 3 11         |
| †AUCRICULA . . . . .                  | 7 20         | CRANOPSIS AND<br>ZEIDORA . . . . . | 1 19         | GALFOTOMA . . . . .    | 1 19         | MANGELLA . . . . .               | 8 3          |
| AVICULA . . . . .                     | 18 10        | CRASSATELLA . . . . .              | 3 1          | GASTROILENA . . . . .  | 4 20         | MARGARITA . . . . .              | 3 20         |
| †BARTELETTA AND<br>MULLERIA . . . . . | 1 18         | CRENATELLA . . . . .               | 2 11         | GERA . . . . .         | 2 19         | MARGINELLA . . . . .             | 27 15        |
| BODIPIPIA . . . . .                   | 1 19         | CERPIDULA . . . . .                | 5 11         | †GLACIOSOMAE . . . . . | 1 2          | MEGASPIRA . . . . .              | 1 19         |
| BUCINUM . . . . .                     | 14 3         | CERPIBULUM . . . . .               | 7 11         | GLYCIMERIS . . . . .   | 1 19         | †MELANIA . . . . .               | 59 12        |
| *BULMUS . . . . .                     | 89 5         | CICULLEA . . . . .                 | 1 17         | GNATHODON . . . . .    | 1 19         | †MEGALOPSIS . . . . .            | 3 12         |
| BULLA . . . . .                       | 6 16         | CICULLES . . . . .                 | 7 19         | HALLA . . . . .        | 1 14         | †MELATOMA . . . . .              | 3 12         |
| BULLA . . . . .                       | 4 3          | CUMINGIA . . . . .                 | 2 19         | HALLIOTIS . . . . .    | 17 3         | MEROB . . . . .                  | 3 14         |
| BULLINA . . . . .                     | 1 18         | *CYCLOPHORUS . . . . .             | 20 13        | HAMINEA . . . . .      | 5 16         | MESALLA AND<br>EGLISIA . . . . . | 1 5          |
| CALYPTREA . . . . .                   | 8 11         | *CYCLOSTOMA . . . . .              | 23 13        | HARPA . . . . .        | 4 1          | MESODESMA . . . . .              | 4 8          |
| CANCELLARIA . . . . .                 | 18 10        | CYCLOSTREMA . . . . .              | 3 19         | †HELIX . . . . .       | 210 7        | MEYA . . . . .                   | 1 11         |
| CANSA . . . . .                       | 1 10         | *CYCLOPS . . . . .                 | 9 14         | HEMIPecten . . . . .   | 1 6          | MITHA . . . . .                  | 39 2         |
| CAPSILLA . . . . .                    | 2 10         | *CYLINDRELLA . . . . .             | 16 20        | †HEMISINUS . . . . .   | 6 12         | MODOLA . . . . .                 | 11 10        |
| CARDILLA . . . . .                    | 1 19         | CYMBIUM . . . . .                  | 26 13        | HINNIBLES . . . . .    | 1 8          | MORCIBROS . . . . .              | 4 2          |

## INDEX TO THE VOLUMES.

| Genera         | Plates Vol. | Genera         | Plates Vol. | Genera        | Plates Vol. | Genera         | Plates Vol. |
|----------------|-------------|----------------|-------------|---------------|-------------|----------------|-------------|
| +MULLERIA      | 1 18        | PETRICOLA      | 3 19        | ROSELLARIA    | 3 6         | TERRATRUTA AND |             |
| MUREX          | 37 3        | PHARUS         | 1 19        | ROTELLA       | 4 20        | RYNCHONELLA    | 11 13       |
| MYA            | 3 20        | PHASIANELLA    | 6 13        | RYNCHONELLA   | 1 13        | TEREDO         | 4 20        |
| MYADORA        | 1 2         | PHILINE        | 2 18        | SANGUINOLARIA | 1 10        | TERACIA        | 3 12        |
| MYCETOPUS      | 4 16        | PHOLADOMYA     | 1 18        | SAXICAVA      | 2 20        | TORNATELLA     | 4 15        |
| MYOCHAMA       | 1 12        | PHOLAS         | 12 18       | SCALARIA      | 16 19       | TRICHOZEPHIS   | 2 19        |
| MYTELMERIA     | 1 20        | PHORS          | 3 1         | *SCARABUS     | 3 12        | TRIDACNA       | 8 14        |
| MYTILUS        | 11 10       | †PHYSA         | 12 19       | SCAPHANDER    | 1 18        | TRIGONIA       | 1 12        |
| NASSA          | 29 8        | PINNA          | 34 11       | SCINTILLA     | 6 19        | TRITON         | 20 2        |
| NATICA         | 30 9        | +PIRENA        | 2 12        | SCUTUS        | 2 17        | TROCHITA       | 3 11        |
| NAUTILUS       | 6 12        | PLACUNA        | 5 18        | SIGARETUS     | 5 15        | TROCHUS        | 16 13       |
| NAVIA          | 1 20        | PLACUNANOMIA   | 3 11        | SILICUARIA    | 4 20        | TUGALIA        | 1 17        |
| +NAVICELLA AND |             | PLANAXIS       | 5 20        | SIMPULOPSIS   | 2 13        | TUGONIA        | 1 14        |
| LATIA          | 8 9         | †PLANORBIS     | 14 20       | SIPHONARIA    | 7 9         | TURBINELLA     | 13 4        |
| NEILO          | 1 18        | †PLEIDON       | 1 16        | SOLARICUM     | 3 15        | TURBO          | 13 4        |
| NERITA         | 19 9        | PLEUROBRANCHUS | 1 17        | SOLECITRUS    | 8 19        | TURRITELLA     | 11 5        |
| +NERITINA      | 37 9        | PLEUROTOMA     | 40 1        | SOLEMYA       | 1 20        | *TYMPANOTOS    | 2 15        |
| NERITOPSIS     | 1 20        | PLEUROTOMARIA  | 1 19        | SOLEN         | 7 19        | TYPHIS         | 3 19        |
| NISO           | 1 15        | PLECATTLA      | 4 19        | SOLENELLA AND |             | UMBRELLA       | 1 11        |
| NUCULA         | 5 18        | †POTAMIDES     | 1 15        | NEILO         | 1 18        | †UNIO          | 16 16       |
| OLIVA          | 30 6        | PSAMMOBIA      | 8 10        | SOLETELLINA   | 4 19        | URCHILUS       | 1 18        |
| ONISCIA        | 1 5         | PSAMMOTELLA    | 1 10        | SPIERITUM     | 5 20        | VANIKORO AND   |             |
| ORBICULA       | 1 13        | PIROCERA       | 6 6         | SPONDYLUS     | 18 9        | NERITOPSIS     | 3 20        |
| OSTREA         | 33 18       | *PIEROCYCLOS   | 5 14        | STOMATELLA    | 5 19        | VELORITA       | 1 20        |
| OVULUM         | 14 15       | PIERPODA       | 6 20        | STOMATIA      | 2 19        | VENERUPIS      | 4 19        |
| +PALUDINA      | 11 14       | *PUPA          | 20 20       | STROMBUS      | 19 6        | VENUS          | 26 14       |
| +PALUDOMUS     | 3 4         | *PUPINDE       | 10 20       | STRUTHIOLARIA | 1 6         | *VERTAGUS      | 5 15        |
| PANDORA        | 3 19        | PUPPRA         | 13 3        | STYLIFER      | 2 20        | VITHINA        | 10 13       |
| PANOPAEA       | 6 19        | PYRAMIDELLA    | 6 15        | †SUCCINEA     | 12 18       | VOLTA          | 22 6        |
| PARTULA        | 4 6         | †PYRAZUS       | 1 15        | TAPES         | 13 14       | VISELLA        | 2 11        |
| PAVELLA        | 42 8        | PYRULA         | 9 4         | TEINOSTOMA    | 1 19        | YOLIDA         | 5 18        |
| Pecten         | 35 8        | PASELLA        | 8 2         | †TELESCOPIUM  | 1 15        | ZEIDORA        | 1 19        |
| PECTUNCULUS    | 9 1         | RICINULA       | 6 3         | TELLINA       | 58 17       | ZIZYPHINUS     | 8 14        |
| PERICULARIA    | 1 20        | RIMULA         | 1 19        | TERRERA       | 27 12       | ZYLOPHAGA AND  |             |
| PERUM          | 1 11        | Rissoa         | 13 20       | TERRILLUM     | 1 14        | NAVEA          | 1 20        |
| PERNA          | 6 11        |                |             |               |             |                |             |













