

CHAPTER XI

A CAUTIONARY CHAPTER ON CERTAIN POISONOUS PLANTS

“Within the infant rind of this weak flower
Poison hath residence.”

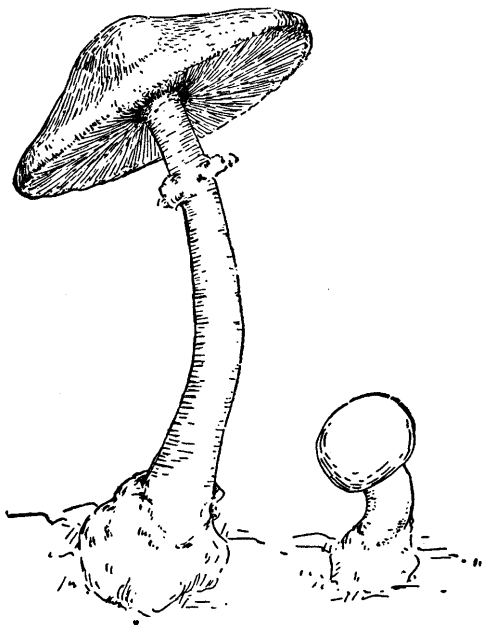
THERE is an old saying about mushrooms to the effect that the way to test their edibility is to eat a few; if you survive, they are a harmless kind; if you die, they are poisonous. The same cynic rule applies to wild plants in general, though with much greater chance for survival than is afforded by the fungus group, since the number of poisonous flowering plants growing wild in the United States is relatively small. Nevertheless there are some of such common distribution that a brief reference to a few of these that might deceive the unwary seems desirable.¹

Perhaps the plant responsible for most fatalities

¹ A useful monograph, adequately illustrated, entitled “Thirty Poisonous Plants of the United States,” by V. K. Chesnut, was issued a number of years ago by the U. S. Dept. of Agriculture, as Farmers’ Bulletin No. 86 I believe it is now out of print, but copies may be found in public libraries.

CERTAIN POISONOUS PLANTS

is that common toadstool appropriately called Death-cup (*Amanita phalloides*), whose resemblance to the edible Agaric or Field Mushroom (*Agaricus campestris*) causes it to be mistaken for the latter by the



DEATH CUP
(*Amanita phalloides*)

ignorant. Any one who has not had practical instruction in differentiating edible fungi from poisonous, would best leave the fungus order religiously alone. Mushroom gathering is a business for experts.



WATER HEMLOCK
(*Cicuta maculata*)

CERTAIN POISONOUS PLANTS

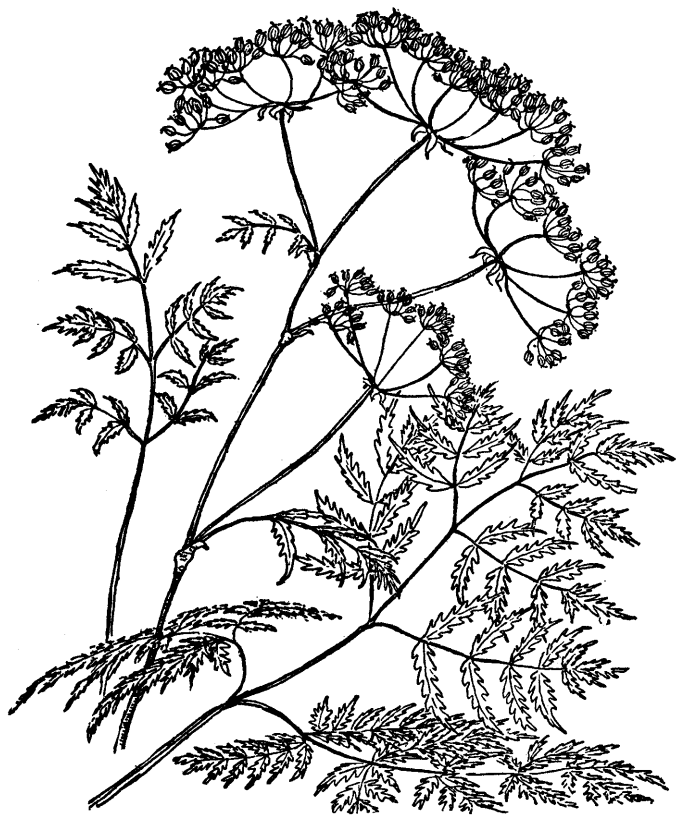
A tribe of flowering plants that includes some very dangerous members and needs to be treated with caution, is the Parsley Family-the scientists' *Umbelliferae*. To this order belongs the Water Hemlock or Cowbane (*Cicuta maculata*, L.), a perennial of marshy grounds and stream borders from the Atlantic coast westward to the confines of the Rocky Mountains. It grows from three to six feet high, with stout, erect stems blotched or streaked longitudinally with purple, and ample, compound leaves the segments of which are usually two to three inches long, lance-shaped and toothed. A peculiarity of the foliage is the veining-the veins apparently ending within the notches instead of extending to the tips of the teeth. The small white flowers, appearing in summer, are borne at the branch end in compound, long-stalked umbels, after the manner of parsley blossoms. All parts of the plant are poisonous if eaten, producing nausea and convulsions, the fleshy, tuberous roots being especially harmful. These are said to possess an agreeable, aromatic taste, and as they are often found exposed through the wearing away of the surrounding earth in freshets, they constitute a menace to inquisitive children and browsing cattle. Death results from eating them. On the Pacific coast two or three species of Water Hemlock

USEFUL WILD PLANTS

occur, also inhabiting marshy places, and all are possessed of the same deadly properties.

The famous Poison Hemlock of Greek history and Macbeth's witches (*Conium maculatum*, L.)-the basis of the death potion of Socrates-is also a member of the Parsley family, native to Europe and Asia but now extensively naturalized in the United States in waste grounds on both sides of the continent. It is a smooth, hollow-stemmed, much branched, bluish-green biennial, sometimes as high as a tall man, but usually much lower, with large, coarsely dissected leaves, the leaf-stalks dilated at the base and sheathing. The stems are often spotted with dark purple. The small white flowers appear in June in compound, many-rayed umbels. The poisonous principle-an alkaloid called conia or canine-is permanently resident in the seeds and only temporarily in other parts of the plant. According to Chesnut, the root is nearly harmless in March, but dangerous if consumed afterwards, and the leaves become poisonous at the time of flowering. The effect of the poison is a general paralysis of the system until death. A drug, conium, prepared from the plant, is a powerful sedative and has been used medicinally as a substitute for opium.²

² One wonders why hemlock, which we associate with a forest



POISON HEMLOCK
(*Conium maculatum*)

USEFUL WILD PLANTS

Noxious berries that sometimes tempt children to their sorrow are those of the Moonseed (*Menispermum Canadense*, L.), so called because of the curious seeds, which are shaped like a crescent or horse-shoe. This is a climbing perennial vine of fence rows and waterside thickets, indigenous from Canada to Arkansas and Georgia. The large leaves are rather wider than long with a somewhat heartshaped base. The small greenish flowers are scarcely noticeable, but the vine attracts attention in autumn because of its conspicuous bunches of berries, bluish-black with a bloom, which look so much like chicken grapes that the novice may mistake them for these. Stories of poisoning from eating wild grapes sometimes get into the newspapers, and are traceable to the Moonseed, whose berries are poisonous-narcotic, a character of the family to which the vine belongs. The clustered, black berries of the common Nightshade (*Solanum nigrum*, L.), a naturalized weed of waste places everywhere? are also a tempting sight, but had better be avoided; for while they are doubtless harmless when thoroughly ripe (I have myself

tree, should be applied to an herb. According to Prior in "Popular Names of British Plants," the term was originally given in England to any of the Umbelliferae—the word being degenerate Anglo-Saxon meaning "straw plant;" because of the dry, hollow stalks that remain after flowering.



MOONSEED
(*Menispermum Canadense*)

USEFUL WILD PLANTS

tremblingly eaten them in moderation), they are said on good authority to be poisonous when not ripe, and color is not a sure guarantee that the state of safety has been attained.

So, too, the crimson berries of the familiar Poke-weed, Pigeon-berry or Garget (*Phytolacca decandra*, L.) should be kept out of the mouth, in spite of the fact that birds devour them with greediness. The whole plant is imbued with an active principle that induces vomiting and purging, and in the root this is so virulent that it has been known to cause death. As mentioned in a previous chapter, when preparing the young shoots as potherbs two waters should be used, that in which they are first boiled being thrown away. Another familiar weed, the Corn Cockle (*Agrostemma Githago*, L.), a purple flowered, hairy foreigner occurring in our grain fields, harbors within its seeds a rank poison. Flour in which a large quantity of these seeds has been ground may produce fatal results. Cockle seeds, by the way, are saponaceous and will create a lather if shaken up well in water.

On the Pacific slope, in the country of the Camas described in Chapter II, is a plant of the Lily tribe in general appearance resembling Camas but with a bulb that is poisonous. It is realistically known as

CERTAIN POISONOUS PLANTS

Death Camas, and also as White Camas and Lobelia. It haunts damp meadows and streamsides, and is in botanical parlance *Zygadenus venenosus*, Wats. The white flowers serve to distinguish it from the blue Camas, which otherwise it strongly simulates. The effect of eating the *Zygadenus* bulb is a profound nausea accompanied by vomiting. Mr. F. V. Coville records a crafty practice of the Klamath medicine men, who would sometimes make a mixture of tobacco, dried iris root and Death Camas, and give it to a person in order to nauseate him. Then they would charge the victim a fee to make him well again!

A poison unsuspected by most of us resides in the leaves of that beautiful evergreen shrub, the American Laurel or Calico-bush (*Kalmia latifolia*, L.), which glorifies with its white and pink bloom the spring thickets of the Atlantic seaboard. Man has little occasion to put these leaves in his mouth, but the ill effect upon cattle and sheep has been often reported. A like offender is the Laurel's little red-flowered cousin, the Sheep-Laurel or Lambkill (*K. angustifolia*, L.). Stock may also suffer fatally from eating the wilted foliage of the Wild Black Cherry (*Prunus serotina*, a tree already described, with clusters of edible, small, black, somewhat

USEFUL WILD PLANTS

astrigent fruit) . The most dreaded of cattle-poisons, however, particularly on the Western ranges, is probably the so-called Loco-weed, a term applied to several species of *Astragalus*-especially *A. mollissimus*, Torr., distinguished by purple flowers and densely hairy foliage. The genus is of the



LOCO-WEED
(*Astragalus mollissimus*.)

CERTAIN POISONOUS PLANTS

Pea family, and is a very large one, widely distributed. There are nearly two hundred American species, mostly western-herbaceous plants with odd-pinnate leaves, spikes or racemes of usually small, narrow flowers generally produced from the leaf-axils, the seed pods mostly bladderly or swollen. These, when dry, have a habit of rustling noticeably in a passing breeze, whence another common name, Rattleweed. Astragalus is often abundant where horses and cattle graze, and certain species have been found to create serious trouble with animals that eat the herbage. They become afflicted with a sort of insanity, or as the Westerners say, they are "locoed,"³ the victims of a slow poisoning. The eyesight grows defective, the movements are spasmodic and irrational, then sluggish and feeble, the coat becomes disheveled and dull of color, emaciation sets in, and finally after a few months or it may be a year or two, death comes. It was at one time thought that the poisoning was not of the plant itself but due to the presence of the metal barium which the plant drew into its system from the soil, but this theory is now abandoned.

A dangerously poisonous weed is the Jimson or Thorn-apple (*Datura Stramonium, L.*), whose large

³ Spanish loco, crazy, foolish.

USEFUL WILD PLANTS

funnel-shaped, white or violet flowers and thorny seed-vessels adorning ill-smelling, branching plants,



JIMSON-WEED
(*Datura Stramonium*)

are familiar sights in fields and waste grounds from the Mississippi eastward and from Canada to the Gulf. The whole plant and particularly the seeds

CERTAIN POISONOUS PLANTS

are possessed of a virulent narcotic poison, which taken into the human body produces vertigo, nausea, delirium and a general anarchy of the nervous system. In that quaint old work, "History and Present State of Virginia" (1705), by Robert Beverly, the author gives a curious account of what happened to some soldiers who made a boiled dish of the early shoots of the plant, supposing them to be edible pot-herbs. "Some of them eat plentifully of it," writes Master Beverly, "the Effect of which was a very pleasant Comedy ; for they turn'd natural Fools upon it for several Days: One would blow up a Feather in the Air; another would dart Straws at it with much Fury; another, stark naked, was sitting in a Corner, like a Monkey, grinning and making mows at them ; a Fourth would fondly kiss and paw his Companions and sneer in their Faces with a Countenance more antick than any Dutch Droll. . . . A thousand such simple Tricks they play 'd, and after Eleven Days, return'd to themselves again, not remembering anything that had pass'd."⁴

There are several species of *Datura* indigenous within our limits, all resembling one another in general look and all poisonous. On the Pacific Slope,

⁴ Beverly calls the plant James Town weed, which seems to have been the original term, now corrupted to Jimson.

USEFUL WILD PLANTS

the commonest species is *D. meteloides*, DC., called *toloache* by Mexicans and Indians. This, like several species of Spanish America, has played a noteworthy part in the ceremonial life of our aborigines. An infusion of the plant was customarily administered in certain rites, as those of puberty; and it was a drug commonly resorted to by medicine men to induce a hypnotic state or a condition evocative of prophecy. Only a little while ago a California Indian expressed to me his faith in the power of *toloache* to unravel mysteries and reveal the whereabouts of lost animals. The likelihood of death from overindulgence makes its employment risky, and it is nowadays comparatively neglected. Among the New Mexico Zuñis, the blossom of this *Datura* is a sacred flower, and a representation of it figures as an adornment of the women in some of their dances. Mrs. Stevenson in her "Ethnobotany of the Zuñi Indians,"⁵ records a legend about this flower worthy of Ovid. It seems that long, long ago while the Zuñis still dwelt in the underworld, a boy and a girl, brother and sister, found a way up into this world of light, and would take long walks upon the earth, wearing upon their heads *Datura* flowers. And so they learned many wonderful things, and had many

5 30th Ann. Rept. Bureau of American Ethnology.

CERTAIN POISONOUS PLANTS

interesting adventures. One day they met the Divine Ones, the Twin Sons of the Sun Father, to whom, child-like, they prattled of what they had found out-how they could make people sleep and see ghosts, and how they could make others walk about and see who it was that had stolen something. Thereupon the Divine Ones decided that this little couple knew altogether too much, and should be made away with. So they caused the brother and sister to disappear into the earth forever; and where they sank down flowers sprang up, the counterpart of those that the children had worn upon their heads. The gods called the flowers by the name of the boy, *Aneglakya*; and by that term the Zuñis know them to this day, for the flowers had many children and we find them throughout the land.

In western Texas and southern New Mexico, ranging across the frontier down into Old Mexico, there grows a handsome shrub of the Pea family, with glossy, odd-pinnate, evergreen leaves of leathery texture, and one sided racemes of papilionaceous, violet-colored flowers, succeeded by long pods that contain about half a dozen large scarlet bean-like seeds apiece. This is the Red Bean, Mescal Bean, or as the Spanish-speaking population call it, *Frijillo*, which means the "little pink bean." To

USEFUL WILD PLANTS

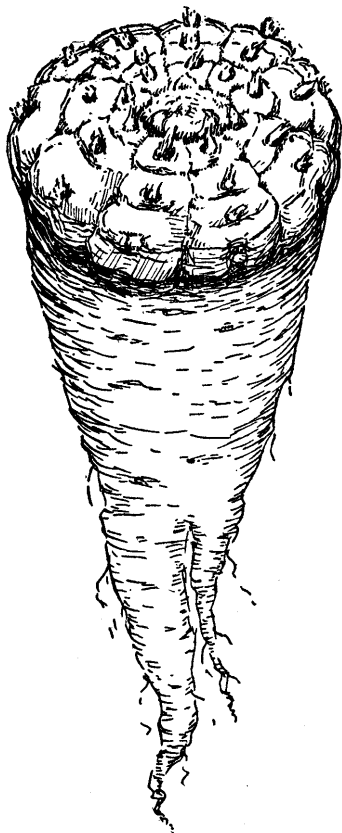
botanists it is *Broussonetia secundiflora*, Ort., or *Sophora secundiflora*, Lag. The seeds contain a narcotic poison that makes them dangerous particularly to children, who are likely to be attracted by the brilliant color. The crushed seeds have been used from very early times by the Indians, who, it is reported, could make themselves deliriously drunk on half a bean, and sleep two or three days on top of it, while a whole bean would kill a man. 'Among some tribes, as the Iowas, there were religious rites connected with the Red Bean, and a society was founded upon it.

To-day one hears little of the Red Bean Society, but the cult of another dangerous vegetable poison of the Southwest is still active. This is the so-called Sacred Mushroom, Mescal-button, Dry Whisky, Peyote, or *Raiz diabolica* (devil's root)-names given in common speech to a small cactus, *Lophophora Williamsii*, whose use has become a rather desolating factor among the present-day Reservation Indians of the United States. Some of these, it appears, maintain a regularly organized association called the Sacred Peyote Society with a form of baptism "in the name of the Father, and the Son and the Holy Ghost," the Holy Ghost being Peyote!⁶

6 Quoted by W. E. Safford, "Narcotic Plants and Stimulants of

CERTAIN POISONOUS PLANTS

The cactus is indigenous to the arid regions bordering on the lower Rio Grande both in the United States and Mexico. It resembles a carrot in shape, and the entire plant, except about an inch at the top, grows underground. This top is flat and round, two to three inches across, and wrinkled with radiating ribs. There are no spines but numerous tufts of silky hairs, amid which pink blossoms are borne in season. The chemical properties embrace three alkaloids whose effect is powerfully narcotic and deliriant, in some respects resembling opium. Lummholtz, in his "Unknown Mexico," gives an inter-



MESCAL-BUTTON
(*Lophophora Williamsii*)

the Ancient Americans," in Ann. Rept. Smithsonian Institution, 1916.

USEFUL WILD PLANTS

esting account of the superstitious reverence accorded by the Tarahumar Indians of Chihuahua towards this plant, which in their language is called hikula. They treat it as a divinity and Lumholtz was required to lift his hat in the presence of the dried "buttons." Catholicized Tarahumares make the sign of the cross before it ; and it is regarded as a safeguard against witches and ill fortune. It is claimed that its use takes away the craving for alcohol, which may be true; but it substitutes another, and, between Scylla and Charybdis, what is the choice?

The poisonous effect of a few native species of *Rhus* upon the skin of many persons is well known. On the Atlantic slope the species whose caustic juices possess this property are the Swamp Sumac (*Rhus venenata*, DC.) and the Poison Ivy (*R. Toxicodendron*, L.). The former is a graceful shrub or small tree of swampy situations, the smooth leaves compound with leaflets abruptly pointed and with entire margins. They turn in the autumn a brilliant red, very seductive to the gatherers of autumn foliage. The panicles of greenish flowers, produced from the axils of the leaves, are followed by grayish white berries. The plant is also called Poison Sumac and, less correctly, Poison Elder, The



SWAMP SUMAC
(*Rhus venenata*)

USEFUL WILD PLANTS

Poison Ivy is very variable in habit, either a low, upright bush, or a vine climbing by aerial rootlets



POISON IVY
(*Rhus Toxicodendron*)

over fences and far up into the crowns of trees.⁷
It has leaves of three short-stalked leaflets, and

⁷ Some botanists prefer to treat Poison Ivy as of two species-the climber being designated *Rhus radicans*.

CERTAIN POISONOUS PLANTS

flowers and fruit like those of the Swamp Sumac. This 3-leaflet arrangement serves to distinguish the plant from the harmless but somewhat similar looking Virginia Creeper or American Ivy, which has leaves of five parts. On the Pacific Slope, the representative poisonous *Rhus* is *R. diversiloba*, T. & G., commonly called Poison Oak. It is in general appearance like the eastern Poison Ivy, either bushy or climbing, but the leaflets are variously lobed and toothed, suggesting an oak. Among popular remedies in California for *Rhus* poisoning is a strong decoction made by boiling the leaves of the Manzanita, applied hot and repeatedly to the affected parts. The historian Bancroft records that a Spanish expedition in the Southwest early in the eighteenth century, under Governor Valverde, suffered greatly from Poison Oak and found relief by chewing chocolate and applying the saliva to the eruption. Rather a pleasing remedy, on the whole, one would fancy; and I am glad to think of those old campaigners in the desert having that little taste of sweet in the bitterness of their lot.