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BY

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THE GOSIUTE ENVIRONMENT

THE home of the Gosiute Indians was formerly all of the generally desert territory bordering Great Salt Lake on the south and extending westward into eastern Nevada. To the passing traveler this whole region, before certain limited portions were reclaimed by irrigation, appeared so utterly desolate and uninviting that he must have wondered that any human being should be found there excepting from direst necessity. Yet the Gosiute still clings to it as his home and native land, loving it with a love as ardent as ever burned in the breast of patriot. Away from it he saddens and pines; and no thought to him is so harrowing, no fear so unrelenting, as that the white man's government, for the white man's greed, may yet force his remnant people away to some hated reservation. To be sure, he now holds in his own right but a few restricted areas; yet he is still free to roam much as he will the entire region made sacred to him by the camps and graves of his forefathers. In the truer, deeper sense still his are its gray desert stretches, its rugged mountains and steep-walled canons, its scattered springs, hidden seeps, and slender streams, about which cluster a host of legends and traditions he treasures from the past and teaches to his children's children; its animals and plants, the haunts and habits and uses of which it has been his love and much of his practical education to know; its clear, invigorating air, and its rich, lingering twilights with their indescribable mystery and charm.

The region as a whole is broken by a series of mountain ranges running in a generally north-and-south direction and rising for the greater part from a thousand to six thousand feet above the general plateau. Between the ranges are level valleys

floored with alluvial gravel, sand, and silt, washed and accumulated through many ages from the mountains and charged with the alkaline salts forming so marked a characteristic of the country. In the lowest part of the valleys there is typically an alkali flat, or playa, where in the winter season water collects in a shallow sheet and converts the soil into a soft, clay-like mud that is bottomless and impassable. In the summer-time the flat is dry and hard, and often shows white and glistening from an incrustation of alkaline salts. The mountains are furrowed with many gulches and narrow cañons which here and there in their courses expand into pleasant, meadow-like basins locally termed "parks."

The annual rainfall in the valleys is very low, the precipitation increasing slowly with the altitude up the mountains. At the same time the air is naturally excessively dry, the moisture content being, according to Gilbert,[1] but 45 per cent. of that necessary for saturation, as against 69 per cent. in the region between the Mississippi river and the Appalachian mountains, and the power of evaporation annually 80 inches as against 22 inches over Lake Michigan. From the lower ranges the snow that falls commonly evaporates without melting or melts without the formation of definite streams. The heavier snows of the higher ranges feed scattered springs and the small streams running down the cañons and out a varying distance into the valleys, where, often becoming charged with alkali, they sink into the parched soil and are lost. Many of the springs at the bases of the mountains are brackish or salty, and some are warm.

The vegetation of this arid region, while generally scant, is more abundant than would generally be expected; and there is no part even of the valleys in the driest times wholly devoid of plants, excepting limited portions of some of the playas most heavily charged with alkali, and especially the Great Salt Lake desert. In these places scattered clumps of the several "greasewoods" occur about the margins. The vegetation of the valleys and slopes, as well as of the hills and of much of the mountain-

1. *Lake Bonneville, pp. 6 and 7, 1890.*

sides, possesses a monotonous uniformity of appearance due to an immense profusion of individuals of but few species. Those most constant and conspicuous are shrubby and suffrutescent plants which occur almost to the exclusion of other forms. No trees are found among them. Grasses grow in tufts; but these die out with the advancing season everywhere excepting in favored recesses and parks of the mountains. Turfing grasses, such as are so conspicuous in the plains region east of the Rockies, are not found excepting certain salt forms almost worthless for pasturage and confined to the alkaline meadow lands. As a protection against the intense dryness of the region these characteristic plants have mostly much reduced leaves with tough cuticle and often a dense covering of hair. The prevalent color of the vegetation is a wearisome gray or dull olive. Only at long intervals is this monotony of color relieved by the bright green of the richer vegetation of the oases about springs and along streams.

It is impossible for plants of the higher orders to thrive in the strongly alkaline soil in the lower portions of the valleys. The plants growing here belong for the greater part especially to the Chenopodiaceae, of which one of the best known and most widely distributed is the common greasewood *(Sarcobatus* vermiculatus). Of similar habit and abundance is Halostachys *occidentalis.* Along with these, among other abundant plants of the same family, occur *Suaeda depressa* and especially the peculiar glasswort *(Salicornia herbacea)* which in marshy saline ground flourishes over wide areas, and forms with its brightly colored, fleshy stems a pleasing feature of the landscape.

Farther back from the playas are found the chenopods, *Eurotia lanata* or the white sage, the familiar and excessively abundant *Grayia Polygaloides,* the larger spinescent *Shepherdia argentea,* several species of *Atriplex,* and others.

Intermingling to some extent with the last mentioned forms and beyond the alkaline soil of their preference wholly predominant, is the ever common sagebrush *(Artemisia tridentata).* This form almost completely usurps the better soil of the valleys and plains, and extends far up on the mountain-sides.

With the sagebrush over the gravelly foothills are also found *Tetradymia canescens, Purshia tridentata,* and *Cowania mexicana.* In the swales, and in similar places favored by the drainage, *Bigelovia* is a common plant. The smaller suffrutescent rabbitbrush or the torchweed, *Gutierrezia,* abounds almost everywhere and often forms a conspicuous feature over large areas. Among the Artemisias occur here and there the brilliantly flowered cacti, and during the spring and early summer such herbaceous forms as the common *Phlox longifolia,* various *Gilias, Phacelias, Lithospermums* and *Echinospermums, Oenotheras, Allium,* several species of *Astragalus,* the gaudily flowered *Balsamorrhiza sagittata* and other Compositae, and later in the season in some parts the beautiful sego lily, *Calochortus nuttallii.*

The lower mountains, like the valleys, are chiefly destitute of trees and are overgrown with bushes and shrubs of the kinds found on the lowlands or with these, because of the exposed positions, more scattered and dwarfed. On the higher mountains, however, coniferous woods occur in tracts of varying extent. At lower levels the cedar *(Juniperus)* is everywhere common, and at higher levels also is the spruce. The nut pine *(Pinus monophylla),* of so much importance to the Indians, is abundant in parts of certain ranges, of which may be mentioned especially the Deep Creek mountains. The mountain mahogany *(Cercocarpus ledifolius),* also formerly much used by the Gosiute, is widespread. Among herbaceous plants common over the mountains are such forms as *Lomatium multifeda,* species of *Peucedanum,* the much-prized *Carum gairdneri,* yamp and other Umbelliferae; *Castilleja parviflora* and *Pentstemon glaber; Heuchera* and *Mitella,* and other Saxifragaceae; the larkspurs, *Delphinium menziesii* and *bicolor; Eriogonums,* and various species of Compositae.

In the canons containing streams of water occurs a comparative wealth of plants not found elsewhere. Of the trees and shrubs on the stream banks there are various species of willow, the quaking aspen, the cottonwood, the birch *(Betula occidentalis),* the service-berry *(Amelanchier alnifolia),* the wild or choke-cherry *(Prunus demissa),* haws *(Crataegus rivularis),* the

kinnikinnick *(Cornus stolonifera)* , the elder *(Sambucus racemosa),* the maple *(Acer glabrum),* the sumac or "squaw-berry" *(Rhus aromatica),* and the wild rose *(Rosa californica, fendleri,* and *nutkana)* . In the richer soil of cañons and foothills the scrub-oak *(Quercus undulata)* grows densely. As an undergrowth over the sides of the cations the box *(Pachystima myrsinites)* and Oregon grape *(Berberis repens)* are common, while various species of wild currant *(Ribes), Ceanothus velutinus,* and other shrubby plants, often grow in dense patches. Of common herbaceous plants growing in favorable places and season may be mentioned such forms as *Erythronium grandiflorum, Fritillaria pudica, Smilacina amplexicaulis,* and other lileales, *Claytonia, Geranium richardsoni, Wyethia amplexicaulis, Mimulus luteus, Mentha* and other Labiatae, *Clematis, Aquilegia,* and others of similar rank.

In this ill-favored region large game was not relatively abundant; and the Gosiute could not be primarily a hunting tribe. They seem to have placed no regular dependence on forms larger than the abundant jack-hare, although when opportunity was propitious they sometimes undertook the securing of antelope and deer. At one side of Mill Creek cañon, which is in the Wahsatch mountains and opens into the Salt Lake valley, there is a mountain valley which, broad and open at its upper part, as the cañon is approached narrows to a vertically sided gorge and terminates abruptly at a precipice of great height. Occasionally the Gosiute resorted to this richer territory beyond their proper range, and, at opportune times, surrounding deer or antelope, would drive them down the valley to the gorge, where the terrified animals, finding retreat impossible, leaped over the precipice to their death. From this the Mill Creek cañon is known to the Indians as *Tĭn-go-ûp*, which means Rock or Precipice Trap. Some of the older men also tell of a great "trap" artificially constructed in the Cedar mountains and formerly kept in repair from year to year. This was a great V-shaped runway, the sides of which were fences or walls formed of logs and brush. At the time of a drive all available men and women would make a wide semicircle about antelope

that might be in the region, and shouting and continually closing in, would drive the animals to the narrow apex of the run or corral where hidden hunters easily killed the bewildered game.

While antelope, deer, bear, and other large game formed scarcely more than an occasional source of sustenance for the Gosiute, the jack-hare, exceedingly common throughout the region, was highly important to them, and was regularly a chief dependence in fall and winter for meat, raiment, and blankets. After a hunt the meat was dried and preserved, while the skins were dressed and made into fur ropes, which were then bound together to form blankets or articles of clothing which are very warm and serviceable. It was the custom to hold great rabbit hunts or "drives" every fall. In these drives the whole tribe engaged and was sometimes joined by neighboring bands. The common procedure was to construct of greasewood, sagebrush, or other convenient material, a great V-shaped enclosure, similar to the one described, with a hole at the narrowed apex leading underground into a passage covered above with a hide. The hares were surrounded and driven into the enclosure by the cooperation of men, women, and children. As the hares reached the apex of the V they would run into the underground passage, from which they were quickly removed one by one and despatched by men stationed there for the purpose. Sometimes the hares were merely driven into the heap of brush where, bewildered and impeded, they were easily killed with clubs.

In the spring and early summer the ground squirrel, or spermophile, everywhere present, was trapped or hunted, originally with bow and arrow. It is still sought for food and is much relished. Certain of the larger desert lizards, as well as snakes, were also formerly eaten; but these forms are no longer sought for this purpose, although declared to be palatable.

An abundance of food was furnished at times by the black cricket *(Anabrus simplex)*, several species of locusts, and the cicada. The crickets often occurred in vast swarms, or "armies." They were not only eaten in season, but were dried and preserved for winter use in baskets or other receptacles

covered in pits. A favorite method of cooking fresh crickets was to place them in pits lined with hot stones in which they were covered and left until thoroughly roasted. This dish is really very palatable and is compared by the Indians to the shrimp, which they accordingly term the "fish cricket." Locusts were similarly prepared and preserved for winter use. The cicada was eaten not only after cooking, but also fresh. Indian children may still often be seen catching these insects, deftly removing head and appendages, and eating them at once with evident relish.

VEGETAL PRODUCTS USED AS FOOD

It was, however, on the products of the plant kingdom, as available in the flora in some features touched above, that the Gosiute placed their chief dependence for food, a fact that in trapper and pioneer days led to their being included under that omnibus and odious designation of "Diggers," or "Root Diggers." Living close to nature and impelled by strict necessity, thev knew the plants of their region with a thoroughness truly surprising. From root to fruit they knew the plants in form and color, texture and taste, and according to season and habitat. Whatever portion of a plant could serve in any degree for food they had found out; and what would poison or injure they knew to avoid. From plants, too, they obtained most of their medicines, which were many, as well as the materials for making most of their household and other utensils. The education of the Gosiute children in a knowledge of these and other matters important to them in their original state was formerly given with much care by the grandparents; but since the change in mode of life consequent on the coming of the white race, this education, or drill, is much neglected. As a result the knowledge concerning plants and their properties possessed by the younger generations is very inferior to that of the older men and women now fast passing away.

The Gosiute ate the leaves and stems of many plants as "greens" after boiling them in water according to the usual custom. Some members of the Cruciferae and Compositae con-

taining acrid or otherwise distasteful oil or other principles were sometimes taken through a preliminary course of repeated washings to remove the objectionable taste so far as possible, after which they were cooked and eaten as usual. The leaves and petioles of the arrow-root *(Balsamorrhiza sagittata),* termed *ku'-si-a-kĕn-dzĭp*, furnished one of the most used and dependable foods of this type. This is an abundant and conspicuous member of the early season flora throughout the region. The hastate leaves of this plant, mostly radical and forming a tuft, are eight or nine inches long with still longer petioles, and the flowers are large showy yellow heads like those of the sunflower. *Cymopterus longipes* (*an-dzûp'*) is an umbellale, widely distributed and abundant like the preceding form. It is an early spring plant with more or less tufted leaves of pinnately decompound form, and with umbels of yellow flowers. The leaves of this plant in season furnished a standard and favorite dish. The leaves of the closely related *Cymopterus montanus* were not eaten, but the caudex and basal portions of petioles occasionally were. Among many other plants of which the leaves were eaten may be mentioned *Troximon aurantiacum* (*mu'-tci-gĭp*), native watercress *(Nasturtium), pa'-mu*, and *Ranunculus aquatilis,* the entire plants of the latter two being used. The entire plant of the cancer-root *(Aphyllon fasciculatum), po'-ho-ru*, a pale leafless parasite growing on the roots of sagebrush and species of *Eriogonum,* was also eaten. The stems of the plumed thistle *(Cnicus eutoni), po'-gwo*, furnished food, as did also in quantity the lower tender stems and root-stocks of the bulrush (*Scirpus lacustris* var. *occidentalis), saip.* A plant of primary interest to the Gosiute, because it furnished one of their most valued medicines but also was the source of a certain amount of food, is *Lomatium multifida* (*to'-dzûp*). Only the youngest shoots just as they were breaking through the ground were used as food, and these but rarely, the ill-tasting older growths being always rejected as unusable.

Of the plants that furnished food to the Gosiute in the form of roots, root-stocks, tubers, and bulbs, none is popularly so well known as the beautiful *Calochortus nuttallii-si'-go* to the

Indians, and hence "sego," the common name among the white residents of Utah. It is the State flower. The bulbs of this lily were formerly gathered and used for food. Not only were they eaten in season, but they were preserved in quantity for winter use by being dried and placed in pits, like those hereafter to be described, from which they were taken as needed, and were then most commonly cooked with meat in the form of stews. When the Mormons first arrived in Utah and the struggle for food was so severe with them, they learned from the Indians the value of this article; and the digging of sego bulbs in the spring did much in many families to ward off starvation.

Another lily furnishing an edible bulb is *Fritillaria pudica (w&'-a-go)*, a yellow-flowered form blooming in the mountains in early spring. It was much less important than sego. The Camassia, *pa'-si-go*, furnished a more important food of this class, and in some sections where available was extensively used. The bulbs of the wild onions *(Allium bisceptrum,* etc.), *küñ'-ga*, and those of the common spring beauty *(Claytonia Caroliniana), dzi'-na*, were also eaten in season, but are said not to have been preserved for winter use.

One of the most highly prized of all food plants among the Gosiute was *Carum gairdneri* (*yamp* or *yam'-pa*), which occurs in abundance in favorable places in the higher mountains. It grows to a height of four feet and bears rather few pinnately compound leaves. The roots are swollen and tuberous. It is these that are eaten. They are sweet and pleasant to the taste, and are nutritious from the presence of an abundance of starchy material. The Indians were very fond of it and still frequently gather it. The usual method of cooking the roots was to roast them in pits lined with hot stones, in which they were commonly covered and left over night. They were sometimes boiled. The roots were cached in quantity in pits for winter use.

An industry of the Gosiute and related tribes very frequently noticed by early travelers was the gathering of the seeds of grasses and various other plants, a source of a food of fundamental importance. While many kinds of plants furnished

seeds that were used, by far the greater proportion came from the grasses and members of the Chenopodiaceae. Few grasses occurring at all abundantly did not furnish seeds, as those mentioned in due order in the later lists will indicate.

Various chenopods, previously mentioned as forming such a predominant and characteristic element of the flora over the valleys and flats, furnished a great quantity of nutritious seeds; and in some localities species of *Atriplex* and *Chenopiodium* in particular, and in wet places *Salicornia,* appear to have been the chief source of supply. Plants of these genera are so often seen growing thickly over wide areas that they would seem in places to have furnished a food supply limited only by the capacity and inclination of the Indians to harvest it. Especially *Atriplex confertifolia* (*suñ*) is abundant in the alkaline valleys throughout the region, occurring in enormous profusion in the more favorable places, so as to have been much depended on. Another species also furnishing seeds is *Atriplex truncata* (*a'-po*). The brittlewort or samphire *(Salicornia herbacea), o'ka* or *pa'-o-ka,* previously mentioned, is a low, leafless herbaceous plant with fleshy, jointed stems. It has been compared in appearance with branching coral, to living groves of which the resemblance is accentuated by its presenting colors in many shades of red, pink, and yellow. The plant occurs over extensive areas in marshy ground about the shores of Great Salt Lake and elsewhere through the region, often thickly covering the ground for miles where no other plant is found. The seeds of this plant when made into meal and cooked are said to have furnished an article tasting like sweet bread and one of which the Indians. were fond.

Of Crucifereae furnishing edible seeds the most important seems to have been the hedge mustard *(Sisymbrium canescens), poi'-ya* or *po'-nak,* the seeds of which were gathered and used n the ordinary way, but are also said to have been ground up and mixed with snow in winter, and in this form eaten as a kind of confection. In the borage family the species of Lithospermum, *tso'-ni-baip,* more especially, furnished a portion of seeds. Seeds of the mints, *Dracocephalum parviflorum* and *Lophanthus*

urticifolius, both known under the name *ba'-gwa-nûp* or *toi'-ya-ba-gwa-nûp,* were also regularly gathered. Especially nutritious and important were the seeds beaten from the heads of a number of Compositae. Among various others may be mentioned the arrowroot *(Balsamorrhiza sagittata),* previously mentioned as furnishing edible leaves, the related *Balsamorrhiza hookeri* (*mo'-a-kûmp*) , *Wyethia amplexicaulis* (*pi'-a-kĕn-dzĭp*), *Gymnolomia multiflora* (*mo'-ta-qa*), and the sunflower (*Helianthus), i'-ûm-pi.* The familiar arrowgrass *(Triglochin maritimum), pa'-na-wi,* and the cattail *(Typha latifolia), to'-ĭmp,* are also to be included here. The ripe spikes of the latter were gathered and the bristles were burned off, by which process the seeds were freed and at the same time were roasted.

The seeds of all these and the other plants were collected in approximately the same way. They were first gathered in large baskets, commonly about two and a half feet wide by three feet deep, and designated by the name *na'-pi-o-sa* or sometimes as *wu'-tsi-a-nûmp.* These baskets were closely woven, and were made tight by means of the gum or pitch of the pine by which the meshes were thoroughly filled, as with water-jugs. The ripe heads of grasses, or the seed containing portions of other plants, were knocked or swept into this basket (*ta'-ni-kûm-ma-wu''-ti-ga*) by means of a second smaller basket about the size of a three- or four-quart milk-pan and known as a *da'-nĭq^{u}.* Often this *da'-nĭq^{u}* was provided with a handle projecting from one side like the handle of a dipper, and along the side opposite the attachment of the handle with a flat piece of wood sharpened to an edge like the blade of a knife, its use being to strike against and cut off the fruiting portions of the plants. The large basket might be held in convenient position beneath taller plants with the left hand while in the right the smaller one was used to sweep across the tops of the plants; but more frequently the *na'-pi-o-sa* was carried beneath the left arm or swung upon the back. When in the last position a quick sweep of the *da'-nĭq^{u}* was made from right to left across the plants and up over the left shoulder so as to carry the loosened material into the receptacle.

The materials gathered in the baskets in this way were carried to some convenient and suitable place near the encampment and piled upon the ground preparatory to threshing. This operation, *man-gop'-ma''-wu-pain* (" to beat seed vessels," " to thresh "), was performed simply by beating thoroughly with sticks or paddles until the chaff, pods, and other accessory parts were fully loosened from the seeds. The separation of the seeds from the chaff and other waste parts-the winnowing-was next attained by slowly shaking the threshed material from a special winnowing basket or fan held at a height when a wind was blowing which could carry away the chaff while allowing the heavier seeds to fall more directly to the ground or upon skins spread for the purpose(*ma-wi'-a-nĭn*," to winnow "). The winnowing-basket (*ti''-u-wa*) was circular or ovate in form, and was shallow, being but gently and gradually depressed from the margin toward the center. Larger or heavier materials were separated by hand. At the present time the Gosiute grow wheat and oats in considerable quantity, which they thresh and winnow in this primitive way, as do also various other Indians. The threshing is sometimes done by means of horses driven round and round in a circle over the cut grain spread out on a floor or on hard ground, the tramping of the horses accomplishing what is more commonly effected by the beating with sticks or paddles. The same method is used not only among other Indian tribes in the West and by the Mexicans of the Southwest, but also among peoples of the Orient.

After the winnowing, the seeds were stored in appropriate baskets or other receptacles for winter, the containers being covered in pits in the usual way. Before using, the grain was made into meal by being ground by hand in the well-known Indian metate. Among the Gosiute this was a flat stone, *pa'-to*, generally oblong in form, upon which the seeds were placed and pulverized by means of a sub-cylindrical grinder, or mano, *du'-su*, which was rubbed back and forth under pressure. This operation in time resulted in wearing out the metate over the middle portion and leaving an elevated rim along each side, which the better held the grain in place. The meal thus pro-

duced was eaten chiefly in the form of porridge or mush, or was baked into crude cakes.

Of high importance to the Gosiute as food was the fruit of the nut pine *(Pinus monophylla), ti'-ba-wa-ra.* The expedition to the mountains for pine-nuts each fall was one of the great fixed events of the year to them; and, to this day, when so little dependence is placed on most of the original sources of their food supply, pine-nuts (*ti'-ba*) are gathered regularly in considerable quantity and kept for their own use and to some extent are marketed among the whites in trade. In visiting the regular Gosiute encampments during the pine-nut season one may feel certain of finding them in great part deserted. The method of obtaining the nuts is to gather the cones and partially to char them in a fire: in this process the nuts are roasted. The nuts are next beaten out of the cones.. If further roasting be found necessary it is done in ovens. The roasted nuts are eaten directly by some after shelling, by others with the shells on; or they may be ground into meal on a metate. Formerly the nuts, after roasting, were placed in specially constructed, tall, sack-like baskets, in which they were preserved in pits or cellars.

The acorns, *ku'-ni-ro-ûmp*, of the Rocky mountain or scrub oak *(Quercus undulata,* var.), *ku'-ni-ûp*, found over portions of this territory, were used as food in season; but they are said not to have been preserved for winter use. They were by no means of such important service to the Gosiute as the fruit of some oaks were to other tribes, such as those of California.

Of succulent fruits that of the service-berry *(Amelanchier alnifolia), ti'-ûm-pi*, was probably most important. Not only did it furnish food in season, but it was preserved in large quantities for winter use. For preservation the berries were mashed, spread out in layers in the sun, and allowed to dry thoroughly; the dried fruit was then placed in pits lined with grass. Immediately over the top of the fruit was placed a layer of the leaves of sagebrush, the whole being overlaid with cedar-bark and covered finally with earth. For use in winter the dried material was broken up on the metate and boiled

with or without meat. To this was often added a portion of certain seed meals said to improve the flavor and general palatability. The native currants (general term, *po'-go-nûp*) were gathered and preserved in the same way as the service-berries. Among these currants were the black or Missouri currant, *Ribes aureum* (*kai'-i-ûmp*); *Ribes divaricatum* (*wĭ'-sa-po-go-nûp*); and *Ribes leptanthum* and *lacustre* (*ai'-go-po-gûmp*). The fruit of the wild cherry or western choke cherry (*Prunus demissa)* was similarly used and preserved. The fruit of the raspberry *(Rubus leucodermis)* , *tu'-kwûn-dau-wi-a* or *tu'-kwûn-da-mi*, and of the strawberry *(Fragaria vesca), äñ'-ka-pa-ri-ûmp*, were sought and used in season; but no effort was made to preserve them for later use. The berries of the rose *(Rosa californica* and *fendleri), tsi'-ûmp*, were also among the foods.

BEVERAGES

Of beverages the Gosiute seem to have had but few originally. A kind of tea made from the leaves of the mint (*Mentha canadensis)* , *pa'-na-tĭ-so*, is said to have been drunk considerably and to have pleased the taste of many. The leaves of the shrub, sometimes termed "mountain tea" (*tĭn'-ai-hya*) in early days, were also used for making tea. Another plant termed *tu'-tom-pi* by the Indians, but which I have not identified among those known to me in the immediate region, is said to possess a wood from which a good beverage was formerly made.

CHEWING-GUMS

There were a number of chewing-gums. One was supplied by the gum of the Douglas spruce *(Pseudotsuga douglasii), wañ'-go;* also the latex of *Asclepias,* and of *Senecio* (*tĭm'-pi-dza-na-kwo),* among others, was dried and converted into a gum. The chewing-gum that seems to have been most prized, however, was obtained from the roots of the greater rabbit-brush *(Bigelovia douglasii)* , *si'-bû-pi.* The inner part of the root having been rejected, pieces of the outer portion were taken into the mouth and chewed, a gummy substance gradually separating out and the more fibrous material being gradually removed.

This gum is sweet and pleasant to the taste. Indian children and the elders as well may often be seen preparing it.

SMOKING

A number of plants furnished the Gosiute material for smoking. Most highly prized among these was the native tobacco plant *(Nicotiana attenuata), pu'-i-ba-u*, which grows in dry places to a height of a foot or two, and bears greenish white, salverform flowers from an inch to an inch and a half long. The leaves, borne on slender petioles and ovate to lanceolate in form, were dried and used as ordinary tobacco. Whether the related *Nicotiana quadrivalvis,* a native of Oregon and formerly cultivated by various Indians from that state eastward as far as the Missouri, was formerly grown and used by the Gosiute is uncertain. *Vaccinium caespitosum* (*tĭ'-da-kai-mi-ya*) and *Silene menziesii (yo'-go-ti-wi-ya)* also furnished leaves which were similarly dried and used for smoking. Ranking in importance with the tobacco plant proper was the kinnikinnick *(Cornus stolonifera), äñ'-ka-kwi-nûp*, the inner bark of which was smoked either alone or mixed with tobacco.

DOMESTIC OBJECTS

For the making of baskets, bowls, water-jugs, baby-baskets or cradles, etc., various species of willows (*si'-o-pi*), such as *Salix lasiandra, longifolia*, and others, supplied a considerable proportion of the material, though, when available, many much preferred the shoots of the cottonwood, *so'-o-pi*, because of their greater toughness. For the frame in their several types of basketry, branches of the service-berry *(Amelanchier alnijolia), ti'-ûm-pi*, were used, because of their strength and toughness. Water-jugs, cooking-bowls, seed-baskets, winnowing fans and other vessels designed to hold water or fine material were made impervious by being coated on the inside, or both inside and out, with the gum of the nut-pine. A smooth, glaze-like inner surface was often supplied to these vessels, as also more especially to earthen dishes, by coating them with a mucilage obtained from *Malvastrum munroanum* (*koi'-na-komp*). This

was obtained by macerating or mincing the stems and leaves of the plant in water or simply by drawing it with pressure across the surface to be coated.

Bows were most usually made from the wood of the mountain mahogany *(Cercocarpus ledifolius)*, *tu'-nûmp*, and arrows from the wood of the service-berry. The wood of the kinnikinnick was sometimes used for the framework of snowshoes.

Originally the wood of the sagebrush *(Artemisia tridentata)*, *po'-ho-bi*, was largely used, when (as it usually was) available, for producing fire by friction. For the same purpose, among others, the dried roots of the following were used cedar, *wa'-pi;* mountain mahogany, *tu'-nûmp;* and Shepherdia, *äñ'-ka-mo-do-nûp.*

HABITATIONS

The winter lodges were made almost entirely from the cedar, *wa'-pi.* The main structure was built, in the usual shape, of logs and poles of this plant, the whole being thatched with the smaller branches and the bark, the latter specifically termed *i'-na-wa-tsĭp.* For a covering over the ground within the lodges, the bark and finer branches of the cedar, or grasses, were used. It was, no doubt, Gosiute lodges that Captain Stansbury saw in 1849 when traveling through Skull valley on the western side of Great Salt Lake. He writes: "In a nook of mountains, some Indian lodges were seen, which had apparently been finished but a short time. They were constructed in the usual form, of cedar poles and logs of considerable size, thatched with bark and branches, and were quite warm and comfortable. The odor of the cedar was sweet and refreshing."[1]

MEDICINAL PLANTS

The Gosiute attained, empirically, considerable knowledge concerning the medicinal properties of the plants of this region that was invaluable to them. It may be noted that almost all of the valuable remedies in our own pharmacopoeia also were first found out and used empirically; hence it is not so surprising to find that many of the remedies used by the Gosiute are

[1] *Expedition to the Great Salt Lake,* p. 111

closely related to some of those which we have used for the same purposes. But, naturally, superstition among these Indians also played a large part; and we find them often going through a procedure or applying a treatment the value of which must be regarded as wholly fictitious.

Superstitious beliefs and practices seem to have prevailed especially where animals furnished the material used as medicine or otherwise played a part in the treatment of disease. As one of the less involved cases may be mentioned the procedure in procuring rattlesnake oil, used for rheumatism. The person having secretly found a rattlesnake must address it in some such way as this: "My good brother, you are powerful; I wish you to help me." The rattlesnake must then be killed by a single shot directed from bow or gun unerringly through the head. The body of the snake was then opened and its fat stripped into a receptacle, and the body was buried so that it should be seen by no one else. The same procedure must be repeated with each snake used. Only when this method had been carefully followed was the oil when subsequently rubbed on the affected organ supposed to be curatively effective.

As a second example may be cited the procedure by some believed to effect a cure of persistent nose-bleeding. The person affected must take secretly some of the blood from his nose to a nest of the red or occidental ant *(Pogonomymnex occidentalis),* into an excavation in which it must be poured so that it would be consumed by the ants. No dog or other animal must be permitted to touch the blood. If all had been faithfully carried out cessation of the hemorrhage was supposed to follow.

The great majority of the many medicines used by the Gosiute were products of the plant kingdom, though to a limited number of animal substances and preparations curative qualities were attributed. As above stated, some were of unquestioned service, containing active principles identical or related closely in not a few cases to those of plants used or formerly used by our own practitioners. Often several different medicines might be used for the same ailment, or what was regarded as the same, the one selected depending on season, availability, or personal

preference. In some cases medicines were combined and given as a mixture, in which case each constituent was supposed to exercise its own peculiar virtue. Medicines were classified according to use, the classification being in correspondence with their categories of disease. Thus medicines for wounds and cuts were classed as *i'-a-na-tsu;* for bruises and swellings, *bai'-gwi-na-tsu;* for burns, *wai'-a-na-tsu;* for coughs and colds, *o'-ni-na-tsu;* for bowel troubles, *koi'-na-tsu;* for "worms," *wu'-i-na-tsu;* for venereal diseases, *tĭm'-bai-na-tsu;* for rheumatism, *tso'-ni-na-tsu;* for the blood, *bu'-i-na-tsu;* for bladder and kidney troubles, *si'-na-tsu;* etc.

In setting fractured bones in the limbs, sticks of some convenient wood about half an inch thick and of convenient length were used as splints. These were tightly bound in place by means of deerskin cords passed from one to the next, about which it was wound, and so on round and round the limb in a spiral. A packing between and beneath the splints was supplied by the reed *(Phragmites)* or other grass. It is said that a paste mixed with this or some similar plant appropriately cut up was sometimes used, the whole drying beneath the splints and about the limb into a kind of cast that was rigid and effective. In one case of fracture of the leg observed under treatment by the writer, movement of the foot was prevented by means of flat pieces of wood tied firmly againt the sole with deerskin strings passing from the splintwork sheath.

In case of a wound from arrow or gunshot, a paste made by pounding or by chewing the root of the arrowroot (*Balsamorrhiza sagittata*), *ku'-si-a-kĕn-dzĭp*, previously mentioned among food plants, was applied. If the hemorrhage was severe, a ligature was applied on the central or proximal side when possible. A tea made by twisting the juice from the roots of *Mitella (to'-sa-na-tsu)* or related form was then given internally, the effect being to hasten elimination and purging. Regarded as considerably more efficacious than the arrowroot was the root of *Lomatium multifidum* (*to'-dzûp*), which is strong and rank in taste and smell. It was used, in essentially the same way as the arrowroot, upon wounds, cuts, or bruises, where the

skin was broken. In case of compound fractures this was the application made to the wounds in preference to all others. The root for use, as observed by the writer, was first minced with a knife and thoroughly ground to a pulp by crushing upon a clean, flat stone with another one used as a pestle. The paste was then smeared over the wound and bound in place. It was used as a dressing throughout the progress of healing, and it seems especially to have been valued where there was infection. Among other plants furnishing preparations used on wounds, cuts, or sores, may be mentioned *Cnicus eatoni* (*ai'-wa-bo-gûp*) and *Gilia* (*i'-am-bĭp*).

Among remedies supposed to have virtue in reducing swelling due to bruises or other causes may be mentioned first the roots of *Valeriana edulis,* which were pounded to a pulp and rubbed externally. Another was made by steeping the roots of *Wyethia amplexicaulis* (*pi'-a-kĕn-dzĭp*). The flax *(Linum lewisii)* furnished a preparation used in the same way, as did also the roots of *Mentzelia laezicaulis,* among various others. One informant stated that cases of persistent edema in the limbs were sometimes treated as follows: By means of a sharp flint chip the swollen member was cut in numerous places from one end to the other, and allowed to bleed freely. Next day the limb was tied proximally and a vein in a favorable position was opened by means of a pointed stick. The blood was allowed to flow from it for some time, after which the wound was stopped and the entire limb covered with a salve made from the roots of *Valeriana,* or of some other plant yielding a *bai'-gwi-na-tsu,* and well bandaged.

For the treatment of burns the most prized remedy was furnished by *Spirea caespitosa* Nutt. (*tĭm'-pĭn-tĭm-bo-ûmp*), a shrubby, prostrate plant forming dense mats over limestone rocks and cliffs in the canons. This plant has fleshy roots and short matted branches upon which the silky-villous leaves are arranged in dense rosulate clusters. The roots, after being cleaned and freed of their epidermis by means of a knife, were boiled in water until soft and readily reducible to a pulpy mass. This was then ready for use, the wet pulp being applied directly

in a layer over the burned part and bandaged in place. On fresh burns it was renewed usually four times each day. The remedy is still much valued, and in cases observed by the writer seemed efficacious. A moss *(Bryum)* is said by some also to have been used on burns. For the same purpose the green wood of the mountain mahogany *(Cercocarpus ledifolius)* was also sometimes charred, the charcoal formed being powdered, mixed with water, and applied to the burned part.

A number of plants furnished materials used as remedies for rheumatism. Such was *Valeriana edulis* (*toi'-ya-bĭ-tûm-ba-ga*), above mentioned, the roots of which are pounded up and rubbed on the affected parts. The common yarrow *(Achillea millefolium)* was also bandaged about affected joints, as were the steeped leaves of the sagebrush, *po'-ho-bi*.

Of remedies used for disorders of the alimentary tract there were many. A preparation much valued for intestinal disorders of babies and older children, but also used with adults, often as a secondary treatment in accidents or other disorders, was obtained from the roots of several of the Saxifragaceae, especially *Heuchera* (*wi'-gûn-dza*) and *Mitella* (*pi'-a-näñk*). The medicine is purgative in action. Because of the color of the roots the preparation is commonly known as *to'-sa-na-tsu*, meaning "white medicine." It was given in the form of a decoction. A similar remedy, used especially with children, was prepared from *Arenaria triflora* var. *obtusa*. The wood of the choke-cherry *(Prunus demissa)*, *to'-o-nûmp*, was sometimes scraped and from the scrapings a decoction made which was used also for bowel trouble, likewise more especially with children. In some cases of stomach trouble an emetic was given to relieve pain and to effect restoration. For this purpose the root of *Silene multicaulis* is said to have been used, this being mashed or ground up, put in warm water, and drunk. Another emetic was prepared from the poison sego *(Zygadenus nuttallii)*, *ta'-bĭ-si-go-ûp*.

In cases where a person was thought to be suffering from worms or other intestinal parasites the gum from *Pinus monophylla* (*ti'-ba-wa-ra*) was sometimes put into boiling water and drunk as hot as could be borne.

The roots of *Peucedanum graveolens* (*i'-djaip*), etc., were used as a medicine called, from the high value placed upon it, *pi'-a-na-tsu*, meaning "great medicine." This was used for sore throat by being reduced to a pulp and applied directly by means of a finger. Sometimes a string was tied to a piece of the root and the latter then swallowed to be again drawn out over the affected part by means of the string. A decoction was also made from the root.

For colds, coughs, and pulmonary or bronchial affections a favorite remedy was prepared from the leaves of the cedar, *wa'-pi*. The leaves were boiled in water and the decoction drunk hot. During the winter season, in families where there are children, one is still likely to find a pot of cedar-tea on the fire. A remedy for coughs and general colds with the accompanying headache was also prepared by some by making a decoction of cedar-leaves and sagebrush-leaves in tea made from *Mentha canadensis* (*pa'-gwa-nûp*). Another remedy used for biliousness with severe colds was a mixture of *pi'-a-na-tsu*, previously mentioned, with some laxative or *koi'-na-tsu*, and the resin of the pine, a decoction of the three being prepared and drunk at intervals.

A tea or decoction prepared from the roots of *Lithospermum pilosum* and *multiflorum* (*tso'-ni-baip*) was much used for kidney trouble. It seems to be a strong diuretic. The writer has also seen it used for this purpose among the Ute.

The Gosiute had a considerable number of remedies (*tĭm'-bai-na-tsu*), severally regarded as efficacious in varying degrees for venereal diseases and other affections of the sexual organs. Among plants furnishing such remedies may be mentioned *Parnassia fimbriata, Spiraea millefolium,* and *Eriogonum ovalifolium*. The application was mostly in the form of a wash or a poultice.

A favorite remedy in cases of fevers was furnished by the leaves of the common sagebrush *(Artemisia tridentata) po'-ho-bi*. This plant is similarly much used among the white people in many of the outer settlements. Indeed, among many it is regarded almost as a panacea, being used for coughs and colds,

rheumatism, and other ailments, as well as for fevers, the application sometimes being external, sometimes internal, depending on the affection. In intermittent fevers the white sage *(Eurotia lanata), tci'-cop*, was used considerably.

SOME FEATURES OF WORD FORMATION IN THE GOSIUTE LANGUAGE

The primary stems of the Gosiute language are chiefly verbal in character. They are monosyllabic in form and are largely further reducible to significant elementary sounds. The vowel sounds, where capable of dissociation in this way, represent general modes of motion that are modified or conditioned in definite ways by combination with consonants placed in the initial position. Hence, leaving aside secondary and exotic factors, the vital, active part of the language is found to be especially vivid. The verbs largely define themselves; and it is likely for this reason that it has seemed necessary for each verb or verbal combination to be set off or introduced by a general causal particle, ma.

In the composition of the primary stems to form secondary combinations and words, the more specific particles come first, those expressing the more general notions being final; that is, the first syllables control and restrict the final ones. The combination is thus such as clearly to suggest or to define the action or conception to be symbolized or represented. In verbs the final syllable in the indefinite form is often one that signifies some general action or mode of action. N, *ĭn*, or the more definite *kĭn* are such endings representing, in effect, making, producing, or simply acting or doing; no designates general motion or transportation, etc. By means of such endings nouns are readily converted into verbs. When a stem representing a noun in the objective or other relation is incorporated, it occupies the initial position in the verbal combination. Some simple examples of verb formation follow.

a, *ha* indicates movement or extension out or away from, in a straight line, projection, etc.

a'-pi (a'-vi; ha'-bi), a secondary root derived from the preceding

particle, + *bi* (*vi*), meaning primarily to accumulate, to rest upon, etc. Hence *a'-pi* means to rest or lie upon while extended, to lie out upon, to lie down. Used separately in speaking of persons, the form of the verb becomes *ha'-vi-do*.

pa'-ha-b&no, meaning to swim. It is composed of *pa*, water, + *ha'-bi*, to lie extended, + no, indicating motion.

ka'-ri-no, to ride sitting down. Derived from *ka'-ri*, to sit down, + no, as in the preceding combination. Applied to riding in train, wagon, etc., in a general way.

pûñ'-ga-ri-no, to ride horseback. The preceding word with *pûñ*, representing *pûn'-go*, horse, incorporated.

ai'-no, to lope. From *ai*, a root meaning to spring or rebound, to leap, etc., + no, indicating locomotion as in the preceding words.

pañ'-go-ĭn, to dive. From *pa*, water, + go, root, meaning to penetrate, etc., + *ĭn*.

ki'-wa-tso-kĭn, to cut with scissors. From *gi'-wa* to bite or cut apart (*gi*, bite or cut into, + *wa* to press aside or apart, to separate), + *tso*, to squeeze or press together, + *kin*, explained above.

gwĭ'-ca-kĭn, to braid. From *gwa'-ci*, tail, braid, etc., + *kĭn*.

ba'-hu-ĭn, to smoke (tobacco). From *ba'-u*, tobacco, + *-ĭn*.

Nouns, with which we are here chiefly concerned, are readily derived from verbs and verbal combinations through the use of suffixes which, like the verbal endings previously mentioned, convey definite general or class ideas. Verbs are sometimes used as nouns without the use of such suffixes. Nouns compounded of simpler nouns or of other words are frequent. In the plant names hereafter given it will be seen that one noun in such compounds frequently bears a possessive or adjectival relation to the principal. In such cases this relation is indicated by the addition of *n* or m, or by using the particle *ûn* or *ûm* more discretely. For example:

ni'-am, my. From *nia*, I, + *m*.

ai'-tĭn-tain-ti, bore of gun. From *ai'-ti*, gun, + *n* + *tĭn'-ti*, hole, etc.

Tĭm'-pĭn-o-gwût, Provo river. From *tĭm'-pi*, stone, + *og'-wût*, river.

Ai'-bĭm-pa, Deep creek. From *ai'-ba*, clay, + *m*, + pa, water or creek, i. e., clay water.

to'-go-ûn-go-na, painted cup (*Castilleia*). From *to'-go-a*, snake, + *ûn*, + *gu'-na*, fire; i. e., snake fire.

The more important noun suffixes occurring in plant names are indicated below, in order.

1. *tci*, *tsi* (*tc*, *ts*). A common ending in names of living things or parts of such. In Gosiute it is more frequent in animal names. It also occurs in plant names, but with nothing like the frequency to be noted in the Ute where it is the commonest ending. Examples:

See further under 3.
po'-ni-ûts, skunk.
yu'-nû-tsi, badger.
mu'-tu-nats, humming-bird.
yu'-ro-gots, Rocky Mountain jay.
du'-ĭ-tci, child, baby.
näñ'-kĭ-tci, ear. (Also as *näñ'-kûs*).
deutc, brother-in-law.
su'-go-pû-tsi, old man.
o'tci, grandson.

2. *bi*. Indicating a living thing or part of a living thing. In the former case commonly followed by the ending considered under 1, as represented below under 3. Examples:

bi, the heart.
nam'-pi, foot. From na, meaning support or bottom part, + *m*, + *bi*.
pam'-pi, head. From *pa*, top, summit, + *m*, + *bi*.
tĭm'-pi, mouth. From *tĭ*, referring to teeth or cutting object, + *m*, + *bi*.
mam'-bi, hand.
mo'-bi, nose. From *mo*, indicating protrusion, extension, etc., + *bi*.

3. *bĭ'-tci*, *bĭtc*. The preceding stem, + the animate ending *tci* (*tc*). Indicates a living individual or something regarded as such. Very common in animal names, but only occasional in those of plants. Examples:

i′-a-bĭtc, gopher.
mom′-bĭtc, owl.
tu′-ko-bĭtc, wildcat.
we′-gom-bĭtc, turkey buzzard.
păñ′wĭtc, fish.

4. *-ûp* (*-ĭp*, *-p*). One of the commonest endings in plant names. As a noun ending it indicates substance or material, or simply thing or object; and, hence, in plant names it is often the practical equivalent of "plant." In some plant names, in fact, the ending is clearly a modification of *o′-pi*, meaning tree, wood, or plant. The regular suffix is added mostly to verbs, though it may also under some conditions be added to nouns. It may also be added to verbs to indicate completion of an action, forming thus regularly one of the past tenses or giving a participial effect. Examples:

tĭ′-kûp, food. From *dĭ′-ka-kĭn*, to eat, + *-ûp*.
pa′-gĭn-ûp, cloud. From *pa′-gĭn*, to produce water, + *-ûp*.
wai′-ûp, charcoal. From *wai′-hĭn*, to burn, + *-ûp*.
go′-ûp, enclosure, corral, trap, snare, etc. From go, a root in its most frequent sense meaning to surround or to enclose, + *-ûp*.
da′-pi-ûp, sock, stocking. From *da′-pi*, foot, leg, + *-ûp*.

5. *-ûmp*. Composed of the possessive *ûm* (*m*) and *-ûp* (*p*). The possessive belongs primarily to a preceding noun, but the combination has acquired the character of a largely integral suffix with a definite and peculiar force. It conveys usually the idea of material used for some purpose. It occurs frequently in the names of plants or of plant products used for food. In some plant names, etc., it is likely the representative of the combination of *ûm* and *ba*, meaning seed, or *bi*, hence "fruit." Examples:

tsi′-ûmp, roseberry. From *tsi′-o-pi*, the rose (the entire plant), + *-ûmp*; i. e. the part of the plant used for food, the fruit of the rose.

po'-gûmp, currant (the berry).
äñ'-ka-ti-wi-ûmp, sumach berries (fruit of *Rhus*).
so'-ko-ri-ûmp, Oregon grape (the plant). From *so'-ko-ri*, deer, + *-ûmp*, the plant serving as food for the deer.
wi'-ûmp, haws.

6. *na*. Used mostly as a prefix to designate a support, source, means, or instrument. Examples:

na'-dsi-ta, cane. From *na*, + *dsi'-ta*, stick, rod for thrusting, etc.
na'-tse-ya, handle (as of a teacup). From *na*, + *tse'-ya*, to carry.
na'-gwa-na, perfume. From *na*, + *gwa'-na-kĭn*, to give out a smell or odor.
na'-dĭ-ko, bait. From *na*, + *dĭ'-ka-kĭn*, to eat.
na'-dsa-to-wi, shell thrower (of a gun). From *na*, + *dsa'-to*, to draw or jerk out, + *wi*.

7. *-nûmp*. A combination of *na* and *-ûmp*, the two particles discussed under 5 and 6. It is a very common noun ending used to indicate means or instrument. Examples:

tĭ'-ki-nûmp, table. From *dĭ'-ka-kĭn*, to eat, + *-nûmp*.
ka'-ri-nûmp, chair. From *ka'-ri-do*, to sit down, + *-nûmp*.
go'-to-nûmp, stove. From *(ma-)go'-to*, to heat, make hot, to burn, + *-nûmp*.
tso'-tĭ-gi-nûmp, pillow. From *tso*, particle referring to the head, + *(ma-)rĭ'-gi*, to lay or place upon, + *-nûmp*.
go'-ti-nûmp, spear. From *go'-tĭn*, to thrust into, etc., + *-nûmp*.

Some words recurring frequently in combination in plant names may next be listed. In compounds, of course, these words do not occur, as a rule, in their entirety, but are represented by one or more of the more significant syllables.

As examples of words frequently entering into names to indicate a color characteristic, the following may be listed. The forms within parentheses represent the syllables ordinarily appearing in compounds.

to'-si-bĭt (to-sa), white.

tu′-o-bĭt (*to*), black.
äñ′-ka-bĭt (*äñ-ka*), red.
pu′-i-bĭt (*pu-i*), green.
o′-a-bĭt (*o-a*), yellow.
on′-ti-gait (*on-ti*), roan, etc.
ku′-tsĭp (*ku-tsi*), ashen, gray, etc. Meaning primarily ashes. Used in plant names especially to indicate the ashen or grizzly appearance due to thick growths of pubescence, etc.

Words indicating habitat occur with especial frequency in plant names.

ku′-tsĭp. In addition to the force above explained, this word in combination may also indicate growth as being in dry soil, etc.
pa, water.
tĭm-pi (*tĭm-pi*, *tĭn*, *tĭ*), rock.
toi′-ya-bi (*toi-ya*), mountain.
toi′-ya-wĭnt, cañon.

The two following are very frequent in names of plants where it is desired to indicate size, especially where there are several closely related forms to be discriminated and size represents a prominent difference.

pi′-ûp (*pi-a*, *pi*), large, tall.
tĭ′-ai-qû-tsi, *tĭ′-dû-tsi* (*ti-a*, *tĭ-da*), small, short, etc.

Naturally we find in plant names syllables representing or indicating some particular part or feature of the plant.

ba, *bi-a*, seed, fruit.
gûp, pod, seed-vessel, fruit.
o′-pi, wood.
a′-ka, *si′-a-ka*, stem, shoot, etc.
sĭ′-gi, leaf.
wa′-tsĭp, bark.
ai′-go-gûnt, thorn.
ai′-dĭ-wĭs, *wĭ′-sa*, spine, prickle.

A few of the more frequently occurring words used in plant names to indicate relations or characters other than those indicated above are these:

na′-tsu, medicine.
ŭ′-sha, wolf, and, secondarily, false.
wu′-da, bear.
pûñ′-go, horse.
tai′-bo, white-man, this being frequent in names more recently devised to indicate forms introduced into the region since the advent of the whites.

The more general terms used by the Gosiute to indicate plant groups were largely and primarily indicative of habitat, the ecological relations seeming most obtrusive to their minds. Next to the ecological relations, the economic seemed to have influence, and we find groupings based on uses in medicine and as foods. As examples of names applied to plants according to habitat may be mentioned the following:

pa′-bu-ip, applied to any plant floating upon water, or growing in water with leaves above surface, etc. From pa, water, + *bo* (*po*), root indicating position upon surface of, floating, rising, etc., + *-ûp* or possibly *o′-pi*.
tĭm′-bo-ip, applied to any plant growing upon or over rocks, etc. From *tĭm*, referring to rock as above explained, + *bo*, as in the preceding, + *-ûp*.
toi′-ya-da-tsĭp, applied to a shrub growing on mountain or in canon.
pan′-di-sip, applied to a plant growing submerged in water. From pan, aquatic, + *dĭ′-si-*, meaning to penetrate or thrust into or beneath, + *-ûp*. It is also applied to animals, such as water-beetles, living beneath water.

In the case of the great majority of the plants dealt with in these pages the Gosiute names and uses have been tested repeatedly in order, so far as possible, to eliminate errors and to determine the standard as distinguished from the occasional and extraneous. The work has been carried on at different seasons, and tests have been made at such different times through various better-informed men and women of the tribe (Skull Valley division), who have been consulted both singly and in groups. However, there is a certain number of species

and forms of names which I have not been able to test to an extent wholly satisfactory to myself.

The Gosiute plant names, like our own popular ones, with which they are properly to be compared, are frequently generic rather than specific in compass, or, naturally, they may apply to species lying in technically different though usually closely allied genera. In some cases they are the practical equivalents of popular English names, while in other cases they are distinctly different in scope from these or may be without any name in our own language at all corresponding, for a large proportion of plants in the West are without popular designations of any sort. It often happens that a single kind of plant is known under two or more names to the Gosiute. In such case one name is commonly more general in scope and applicable to various other related or supposedly related forms, while the other may be strictly applicable only to the particular form under consideration. Then, again, the same plant may be regarded from different points of view, classed on correspondingly different bases, and so come to be designated under several class or generic names indicating these several relations. Thus, it may be regarded as to its habitat, as to its structure or appearance, as to its service to man or animal for food, or as to its use for medicinal purposes, etc. It may bear a different name indicative of each of these relations in addition to that which may be regarded as in a measure specific and restricted to it alone. The restriction in a name depended much on the importance or commonness of the plant, there being different names even for closely related species in many cases-proportionately much more numerous than is the rule among our own people.

In ordinary speaking among the Gosiute a long plant name may frequently be shortened through the omission or dropping out of one or more syllables. Such abbreviation may result in changes in the remaining syllable thus brought into different relations with each other through the operation of definite phonetic laws, as of rhythm in quantity, etc., which cannot be considered here. There may thus result several current forms from one original name.

The values of the letters used in recording Gosiu words in the present paper are approximately those of the Bureau of American Ethnology alphabet. Attention may be called to essential equivalence and, within the limits set by certain phonetic rules, the mutual interchangeability, (1) of *k* and g, (2) of *t, d,* and *r,* and, less completely (3), of *n* and m. Of the letters or sounds of the second group, *t* is most commonly initial in position, and *r* and *d* internal.

LIST OF PLANTS ACCORDING TO SCIENTIFIC NAMES, WITH POPULAR AND GOSIUTE EQUIVALENTS

Abies menziesii Lindl. Balsam. *sa′-nañ-go-bi: sa′-na,* gum, pitch, etc., + *añ′-go-bi,* fir.

Abronia fragrans Nutt. Sand Puff. *ta′-ka-dĭ-di-a-rûp. ta′-ka-dĭ-da-rûp.*

Acer glabrum Torr. Maple. *pa′-go-ni-ûp. pa′-kwi-ni-ûp.* (Probably from pa, water, + *ku′-ni-ûp, kwi′-ni-ûp,* oak.)

Achillea millefolium L. Yarrow. *wañ′-go-gĭp.* Used commonly among the Gosiute in form of a tea for biliousness, headache, etc. Also applied externally for rheumatism and sometimes on bruises.

Aconitum fischeri, etc. Monkshood; Aconite. *ĭ′-ca-bo-go-nûp. ĭ′-ca-bo-gûp. ĭ′-ca-bo-gop.* Likely from *ĭ′-ca,* deceptive, false, baneful, + *bo′-gop,* fruit, berry, the name referring to poisonous properties as a result of which horses that eat it sometimes die.

Acorn. *ku′-ni-ro-ûmp. ku′-ni-ûp,* oak, + *ro* + *-ûp.* See further under Quercus.

Actaea spicata L. Baneberry. *toi′-ya-ba-gwo-no-gĭp.*

Agaricus. Mushroom. *so′-ai-tûmp.*

Agropyron repens Beauv. Blue-joint. *o′-ro-rop. o′-ro. o′-do. wa′-don-dzĭp. pĭ′-ga-yu-gĭp; pĭ′-ga-dĭt.* The seeds of this grass among those formerly eaten.

Allium bisceptrum Watson, acuminatum Hook. Onion. *küñ′-ga.* Bulbs eaten in spring and early summer. Not preserved for later use.

Alnus incana Willd. Alder. *u′-gu-dzûp.*

Alopecurus aristulatus Mx. Foxtail Grass. *tĭ′-so-nĭp: tĭ-* + *so′-nĭp,* grass.

Amaranthus sp. Amaranth. *ats.* Seeds formerly eaten and constituted an important source of food.

Ambrosia psilostachya DC. Ragweed. *tu'-ro-sip. tu-ro-vi*, black, + *sip*, sap, juice. Name apparently referring to "black sap." Occasionally used as a remedy for sore eyes. For this purpose the leaves were steeped in hot water and bandaged over the affected organ. The same name was often applied to *Iva axillaris, q. v.*

Amelanchier alnifolia Nutt. Service-berry; June-berry. *ti'-ûm-pi.* Berries formed a very important source of food among the Gosiute, being used both in season and preserved in large quantities for winter use. For preservation the berries were mashed and dried as previously described. If the berrying grounds were not too far distant from the winter encampment, the dried berries were cached on the spot to be obtained during the winter as needed or to be transported at a favorable time to a more accessible position. This plant also furnished the material preferred for arrows and for the framework of cradles and other forms of basketry.

Amsinckia tessellata. *tso'-hamp. 1 ku'-hwa.* Seeds among those formerly eaten.

Anaphalis margaritacea Benth. and Hook. Everlasting. *mo'-ha-gûp.*

Androsace septentrionalis *?ka'-na. See* Lewisia.

Anemone multifida Poir. Wind-flower. *toi'-ya-mo-ha-gûp. toi'-ya-mo-gûp.*

Angelica pinnata Watson. *pa'-si-go-ûp; pa'-si-gwĭp.* Roots used as medicine. Occasionally spoken of as *ku'-i-gwa-nûp*, but incorrectly so, according to the best informed Indians.

Antennaria dioica Gaertn. Everlasting. *toi'-ya-na-tsu: toi'-ya-bi*, mountain, + *na'-tsu*, medicine. *? ku'-yi-ko-nûp* (*ku'-yi-gwa-nûp*). Said by one informant to have been used in case of snow-blindness, being steeped in water and bandaged over the eyes. The first name is probably not wholly specific.

Aphyllon fasciculatum Torr. and Gray. Cancer-root. *po'-ho-ru: po'-ho-bi*, sagebrush, + *ru*, son. The name is given in reference to this plant as a parasite upon the roots of the sagebrush. The entire plant was sometimes eaten.

Aplopappus macronema Gray and **parryi** Gray. *tĭm'-bi-mo-a-gwa-nûp.*

Aplopappus suffruticosus Gray, **macronema Gray.** *toi'-ya-ba-hwip. toi'-ya-ba-o-pi.* The name means in effect simply "mountain plant," and is not wholly specific.

Apocynum androsaemifolium L. Dogbane; Indian Hemp. *wu'-da-wa-nûp: wu'-da*, bear, + *wa'-nûp*, string, rope, fiber, etc. The reference of the name is to the strong fiber obtainable from this plant.

Aquilegia ccerulea James. Columbine. *pa'-wa-gûm-pi. pa'-o-gûm-pi.* Several Gosiute asserted that the plant furnished a medicine that acted on the heart. Seeds were sometimes chewed as medicine, and a tea made from roots was used for abdominal pains and when one was "sick all over."

Arabis holboellii Hornem. Rock Cress. *si'-bo-i-ûp.* Cf. *Cleome lutea,* to which the name is also applied.

Arabis retrofracta Gray. Rock Cress. *pi'-a-poi-na. pi'-a-si-bo-i-ûp.*

Arctium lappa L. Burdock. *mu'-pa-tai-gi-nûp.* The burdock is an introduced plant, and the name above given is used only by a limited portion of the Gosiute, having been formed relatively recently.

Arenaria biflora. Sandwort. Indicated under the indefinite or general term *tĭm'-bo-ip.*

Arenaria congesta Nutt. Sandwort. Classed as a *koi'-na-tsu*, bowel medicine.

Arenaria triflora var. **obtusa** Watson. *wi'-djan-gwo-djop: wi'-dja*, pine-hen, + *n* + *gwo-djop. toi'-yan-tĭm-ba-dzap.* Like the preceding, classed as a *koi'-na-tsu.*

Argemone mexicana var. **hispida** Gray. Prickly Poppy. *? pa'-ra-tĭ-tsĭn-bo-gop. toi'-ya-na-bo-gop.*

Aristida purpurea Nutt. Triple-awned Grass. *o'-gĭp. o'-gwĭp. toi'-ya-o-gwĭp. yo'-nĭp.*

Arnica cordifolia Hook. *ta'-ni-kûmp.*

Arnica parryi Gray. *mo'-ha-gûp.* Cf. Anaphalis.

Artemisia biennis Willd. *pi'-a-wa-da. wa'-da. on'-tĭm-pi-a-wa (-da).* The seeds of this plant were formerly gathered and used as food extensively.

Artemisia discolor Dougl. and **trifida** Nutt. *ku'-tsi-pa-wa-tsĭp. ku'-tsi-pa-wats (-hwats) : ku'-tsĭp*, ashes, ashen, gray, etc., + *pa'-wats* or *pa'-hwats.* Cf. in the following name. Seeds formerly eaten as with the preceding.

Artemisia dracunculoides Pursh. *pa'-hwats, pau'-wats. pa'-wa-tsĭp, pa'-wa-sĭp.* Seeds of this plant are oily and nutritious. Formerly much gathered as food. Said to have formed a favorite dish.

Artemisia tridentata Nutt. Sagebrush. *po'-ho-bi.* A tea made from the leaves of this abundant plant was much used as a medicine in febrile conditions, etc. The leaves were also used as a covering over berries and other foods preserved in caches.

Asclepiodora decumbens Gray. *? pi'-wa-nûp.* A chewing gum formerly made from the latex of this plant.

Aster adscendens Lindl. Aster; Starwort. *pa-otq'-ga.*

Astragalus iodanthus Watson. Rattle-weed; Buffalo-bean. *na'-da-pa-ra-na-gint. da'-pa-rai-nûmp.* The name refers to the shoe-shaped legumes.

Astragalus junceus Gray. Rattle-weed. One of the *pûñ'-go-na-tsu,* or horse medicines, as which, it is said by some, to be much valued. The name is from *pûñ'-go,* horse, and *na'-tsu,* medicine.

Astragalus utahensis Torr. and Gray. Rattle-weed. *to'-sa-wu-da: to-sa,* white, + *wu'-da,* bear. *ti'-a-sa-ton-dzi.* The first of these names was doubtless suggested by the dense woolly covering of the plant and its legumes.

Atriplex canescens (Pursh) James. *dzi'-cûp.* Seeds eaten.

Atiplex confertifolia Watson. *suñ. su'-no. ? ka'-nûm-pi.* The seeds were formerly eaten, this and other species of Atriplex forming one of the most important sources of seed food. This and the related forms frequently occur in the region over great areas. The seeds were gathered like those of the grasses as described previously.

Atriplex truncata Torr. *a'-po.* Seeds gathered for food.

Avena sativa L. Oat. *o'-a-tûmp:* apparently from English oat + *-ûmp.*

Balsamorrhiza hookeri Nutt. *o'-a-kûmp (mo'-a-kûmp). a'-kĕn-dzĭp. wi'-a-kĕn-dzĭp.* Seeds gathered as food.

Balsamorrhiza sagittata Nutt. Arrowroot. *ku'-si-a-kĕn-dzĭp; ku'-si-ak. a'-kĕn-dzĭp.* This brilliantly flowered plant, which is abundant over the hills and mountain-sides throughout the territory of the Gosiute, was formerly of much economic importance to them. In the spring the large leaves and their petioles were boiled and eaten. Later when the seeds were ripe these were beaten out of the heads into baskets and used as food as in the case of those of Helianthus. The root was applied

as a remedy upon fresh wounds, being chewed or pounded up and used as a paste or salve upon the affected part.

Bark. *wa′-tsĭp.*

Beckmannia erucaeformis Host. Slough Grass. *u′-gû-pi; u′-gûp.*

Berberis repens Lindl. Oregon Grape. *so′-ko-ri-ûmp: so′-ko-ri,* deer, + *-ûmp,* indicating food, etc. Hence "deer food."

Betula angustifolia Koch. *a′-tam-bĭ-tcûp. a′-tam-bĭ-tcĭp.*

Betula occidentalis Hook. Birch. *u′-di-ûp.*

Bigelovia douglasii Gray. Rabbit-brush; Rayless Golden-rod. *si′-bû-pi.* A chewing-gum was prepared from the roots of this plant, as previously described.

Bigelovia pulchella Gray. Rabbit-brush; Rayless Golden-rod. *ta′-bĭ-si-bû-pi. ta′-bĭ-si-pomp. ta′-bĭ-tci-pomp. ta′-bĭ-ci-pomp.* The first name is from *ta′-bĭ,* sun, + *si′-bû-pi,* name of *Bigelovia douglasii,* the preceding form which is regarded as the typical Bigelovia. The second is probably from *ta′-bĭ* + *pam′-pi,* head, etc.

Branch (shoot). *si′-ûñ-gûn. si′-a-ka.*

Brickelia grandiflora var. minor Gray(?). *ʔ wa′-na-tsi-mu-gi.* Said by one informant that seeds were sometimes mixed in minor amounts with the meal made from seeds of other plants (grasses, etc.), and that it improved the cakes made from the latter, acting, it was said, like "baking powder." He said it had to be used with care to prevent poisonous effects. His statement was not confirmed by others. The roots furnished a medicine.

Brizopyrum spicatum Hooker. *ku′-so-nĭp.*

Bromus breviaristatus Thurb., etc. Brome Grass. *to'-bai-ba-bi. to′-pai-bi. to'-ho-bai-bi to'-ho-bi. ti′-ba-bi.* Seeds formerly eaten.

Bryum sp. Moss. *so′-go-ba-gwĭp. so′-ko-ri-bo-ûmp.* In the first name so-go means earth. In the second *so′-ko-ri* means deer, the reference being to the eating of the moss by this animal.

Bud. *ĭ′-gi-si-a-ka:* from *ĭ′-gi,* present, initial; *si′-a-ka,* sprout, branch.

Calochortus nuttallii Torr. and Gray. Sego. *si′-go.* The common name for this attractive lily is taken from the Indian name. In the spring and early summer the bulbs of the sego were formerly much used as food by the Gosiute, constituting a standard source at that time of the year. The bulbs were also dried and preserved for winter use in the usual type of pit or "cellar."

Camassia esculenta Lindl. Camass. 1 *pa′-si-go.* As with the pre-

ceding form the bulbs of this plant were formerly a prized source of food and likewise were preserved for winter use. They were usually cooked by roasting in pits lined with hot stones.

Cardamine cordifolia Gray. Bitter Cress. 1 *mo′-a-gwa-nŭp.*

Carex hookeriana Dew. Sedge. *ai′-bi-baip.*

Carex jamesii Torr., **muricata,** etc. Sedge. *pa′-gi-gĭp.*

Carex utriculata Boott. Sedge. *pa′-gi-gĭp. pai′-gĭp. ai′-bi-baip: ai′-ba,* clay, + pa, water, *-ûp. ? pa′-da-wĭ-si-go-ûp.* Children sometimes eat lower tender stems and parts of the roots.

Carex sp. Sedge. *pa′-ra-wĕ-ci-gop.* Roots rarely used as medicine.

Carum carvi. *tĭn′-ta. ? a′-pa.*

Carum gairdneri Benth. and Hook. *yam′-pa; yamp.* The fleshy roots of this plant furnished a food very important to the Gosiute and some related bands and one of which they were especially fond. The plant is widely distributed and occurs abundantly in the mountains. The roots were commonly prepared by roasting in a pit lined with hot stones. They were preserved in quantity for winter use.

Castilleja miniata Dougl. Indian Paint-brush; Painted-cup. *koi′-di-gĭp.* Also spoken of as a *to′-go-ûn-go-na;* but this name more frequently restricted to the next.

Castilleja parviflora Bong. and **minor** Gray. Indian Paint-brush: Painted-cup. *to′-go-ûn-go-na:* from *to′-go-a,* snake, rattlesnake, + *ûn* + gun, *gu′na,* fire, thus meaning "snake fire."

Catkin, pistillate of willows, etc. *bi′-a-gûnt.*

Catkin, staminate, of willows, etc. *ĭ′-djam-ûm-bu-i.*

Ceanothus velutinus Dougl. New Jersey Tea. *a′-di-rûm-bĭp-äñ-ka-sip. a′-di-rûm-bĭp.*

Cercocarpus ledifolius Nutt. Mountain Mahogany. *tu′-nam-pi. tu′-nûmp.* The wood of the mountain mahogany was the favorite material among the Gosiute for bows. Powdered charcoal made from the wood was used on burns by some.

Cercocarpus parvifolius Nutt. Mountain Mahogany. *tu′-hi-nûp.*

Chaenactis douglasii Hook. and Arn. *wañ′-gĭn-gĭp. ko′-si-bo-qûn-tos.* Sometimes minced or mashed up and rubbed on limbs, etc., for soreness or aching.

Chamaebatiaria millefolium Maxim. *tĭñ′-go-ip. tiñ′-gwip.* Used as a remedy for gonorrhea.

Chenopodium capitatum Watson. Goose-foot; Pigweed. *kûm′-ûn-tsi-a. ? pa′-gwo-nûp.* Prob. pa'-wa + *gi* + *n* + *ûp.* Seeds extensively gathered for food, this species being the source of a large supply.

Chenopodium leptophyllum Nutt. Pigweed; Goose-foot. *i′-û-pi.* Seeds serving as food as with the preceding form.

Chenopodium rubrum L. and **capitatum** Watson, Pigweed; Goose-foot. *on′-tĭm-bi-wa-tsĭp: on′-tĭm-bi-wai: on'-ti-gait,* roan, etc. *kûm′-ûn-tsi-a.* Seeds eaten as with those of preceding species.

Chrysopsis villosa Nutt., etc. Golden Aster. *toi′-ya-dĭ-sas. toi′-dĭ-sas. ? tu′-go-wa-tsĭp.*

Cinna arundinacea var. pendula Gray. Rood Reed Grass. *to′-bai-ba-bi. to′-bai-bi.* Seeds gathered for food.

Citrullus vulgaris. Watermelon. *pa′-rĭ-ki-nûmp: pa*, water, + *dĭ-ka-kĭn*, to eat, + *nûmp.*

Claytonia caroliniana var. sessilifolia Torr. Spring-beauty. *dzi′-na.* Bulbs used as food. The same name is sometimes applied to the cultivated potato (vid. sub. Solanum).

Claytonia perfoliata Don. *pa′-gwo-dzûp.*

Clematis douglasii Hook. Clematis; Virgin's Bower. *o′-bĭn-da-ma-nûmp. a′-ra-si-mu?*

Clematis ligusticifolia Nutt. Clematis; Virgin's Bower. *o′-bĭn-da-ma-nûmp.* Furnished a medicine.

Cleome integrifolia Torr. and Gray. *a′-na-gwa-nûp. bĭ′-tci-gwa-nûp. bĭ′-dji-gwa-nûp.* Leaves pounded up in water and applied as a remedy to sore eyes.

Cleome lutea Hook. *si′-bo-i-ûp.* Occasionally spoken of under the same name as the preceding.

Cnicus drummondi Gray. Plumed Thistle. *tĭn′-tsĭñ-ga. tsĭ′-na. tsĭñ′-ga-bo-gop. tsĭñ′-ga. tsĭ′-na-bo-gûp.* Stems formerly eaten.

Cnicus eatoni Gray. Thistle. *po′-gwo; po′-go. ai′-wa-bo-gop* (*-gûp*) ; *ai′-gwa-bo-gop* (*-gûp*). Also loosely known under second name of the preceding and its variants. Used as a remedy on cuts and sores. Stems eaten. Apparently the thistle most used as food.

Cnicus undulatus Gray. Plumed Thistle. *pa′-bo-go. pa′-bo-gwo.* Also as *tsĭñ′-ga*, etc. Stems eaten.

Comandra pallida A. DC. Bastard Toad-flax. *tĭm′-bo-ip.*

Cornus stolonifera Michx. Kinnikinnick; Dogwood. *äñ′-ka-kwi-*

nûp. äñ'-ka-koi-nûp. Cf. Shoshoni *äñ'-ka-sib.* The inner bark of this plant, most commonly called kinnikinnick in the West, was formerly much smoked as a tobacco. It was commonly mixed with ordinary tobacco when the latter was procurable. The effect is described by one Gosiute as not a little like that of opium. The wood was also used in making snowshoes. The name refers to the red color of the shoots.

Cone, of *Pinus. ti'-ba-ûn-gop.* The name is from *ti'-ba,* pine-nut, + *ûn,* possessive, + *gop,* pod or seed-vessel.

Cowania mexicana Don. Cliff Rose. *hĭ'-na-bi.* Leaves used as a medicine.

Crataegus oxycanthus. Thorn. *oi'-tcĭp.*

Crataegus rivularis Nutt. Haws. *wi'-ûm-pi; wi'-ûmp.*

Crepis glauca Torr. and Gray. *mu'-tci-gi; mu'-tci-gĭp; mo'-tci-gĭp; mo'-tcĭ-gi; mu'-ha-ti-bu-i.* Leaves said to have been eaten.

Crepis occidentalis Nutt. *mo'-a-mu-ĭ-tci-gĭp. mo'-a-mu-Gtci-gi.*

Cymopterus longipes Watson. *an-dzûp'.* Cf. Shoshoni *tci-yan-dûp.* The leaves of this plant, so abundant and widespread in this region, formed a common article of food in the spring. They were prepared by boiling.

Cympoterus montanus Torr. and Gray. *tu'-na.* Seeds and underground parts eaten; but not the leaves as with the preceding form.

Cystopteris fragilis Bernh. *pa'-sa-gwûp. pa'-sa-gwĭp.*

Delphinium bicolor Nutt. and **menziesii** DC. Larkspur. *tu'-ku-ba-gûmp. pa'-ga-sau-wi-no-ûp.* Recognized as poisonous. The first name refers to the deep blue flowers (*tu'-kûm,* the sky, and hence, blue, etc.).

Deschampsia caespitosa Beauv. var. Hair Grass. *toi'-ya-so-nĭp: toi'-ya-bi,* mountain, + *so'-nĭp,* grass. *toi'-ya-si-wûmp: toi'-ya-bi,* mountain, + *si'-wump,* q. v. Seeds eaten.

Deschampsia danthonioides Munro. Hair Grass. *mo'-no. ? yo'-ni-so-nĭp.*

Deyeuxia canadensis Beauv. and **stricta** Trin. Reed Bent Grass. *añ'-go-ma-tai-yu; a%'-go-ma-tsai-yu: añ'-go-bi,* spruce, + *ma'-tsai-yu. ni'-a-bĭp. ni'-a-bi.*

Dodecatheon meadia L. Shooting Star. *pa'-hu-ip ; pa'-bu-ip.*

Dracocephalum parviflorum Nutt. Dragon-head. *toi'-ya-ba-gwa-nûp: toi'-ya-bi,* mountain, or *toi'-ya-wĭnt,* canyon, + *pa'-gwa-nûp,* mint, which see further. The same also applied to the

related forms *Lophanthus urticifolius* and Scutellaria. Seeds of these forms were gathered as food.

Echinospermum redowskii Lehm., **floribundum** Lehm., etc. Stickseed. *tso'-nap.* This name was applied to various borraginaceous plants in about the same way as our popular name "stickseed."

Eleocharis palustris R. Br. Spike-rush. *wan'-dzi-baip.* By some occasionally loosely spoken of as *ba'-hwap*, correctly the name for Juncus.

Elymus canadensis L. Wild Rye. *o'-ro-rop; o'-ro; o'-do. ti'-wa-bi-nĭp.* Seeds formerly largely gathered for food.

Elymus sibiricus L. Wild Rye; Lyme Grass. *o'-ro-rop; o'-ro; o'-do.* By some also loosely spoken of as *ni'-a-bi*, q. v. Seeds used for food as with preceding.

Epilobium alpinum L. Willow-herb. *u'-sa.*

Epilobium coloratum Muhl. Willow-herb. *tu'-si-gĭp.* The name refers to the black seeds.

Epilobium spicatum L. Willow-herb. *pa'-ga-so-nap.*

Epipactis gigantea Dougl. *wan'-di-wa-sûmp. wan'-di-wa-sĭp.*

Equisetum hiemale L. Scouring Rush. *i'-sa-yu-gĭp.* Name refers to use by Indian children for whistles.

Erigeron canadensis L. Fleabane. 1 *on'-tĭm-pi-wai. on'-tĭm-pi-wa-tsĭp.* Probably not correctly applied to this form, the name by nearly all being restricted to species of Chenopodium, q. v.

Erigeron glabellus Nutt. var. Fleabane. *ti'-sas; dĭ'-sas. toi'-ya-dĭ-sas. toi'-dĭ-sas, toi'-ya-da-ti-go-ra.*

Erigeron grandiflorus Hook. Fleabane. *ta'-kan-dĭ-di-a-gûp; ta'-kan-dĭ-dai-gûp: ta'-ka*, arrow, + *dĭ'-di-a-kĭn*, to kill, etc., + *gop, gûp*, snare, means of securing, etc. The root is said to have been used in the preparation of an arrow poison.

Erigeron leiomerus Gray. Fleabane. *ti'-sas; dĭ'-sas* (vid. E. glabellus). *pu'-i-dĭ-sas: pu'-i-bĭt*, blue, violet, etc., + *ti'-sas. ? toi'-ya-ta-son-dzi.*

Erigeron macranthus Nutt. Fleabane. *pa'-uñ-ga. kai'-si-na-bop. koi'-si-na-bop.* The word *mo'-a-gûp* is often applied in a general way to various fleabanes by some Indians.

Eriogonum brevicaule Nutt. *pu'-i-wa-nûp.*

Eriogonum caespitosum Nutt. *tim'-bi-tĭm-bo-i-ûmp.*

Eriogonum cemuum Nutt, *oi'-tcu-mo; oi'-tcu-yo: oi'-tcu*, bird, + *mo'-a* (prob.), leg, given in reference to the peduncles which resemble slender bird legs. See also E. *inflatum.*

Eriogonum heracleoides Nutt. *bĭ'-tca-mu-kŭm. bĭ'-tca-mok.* Name refers to hand-like appearance of peduncles and rays. See also Peucedanum. *o'-a-pa-dza-ki.*

Eriogonum inflatum Torr. *oi'-tcu-mo; oi'-tcu-yo; oi'-tcu-o* (cf. E. cernuum, etc.). *? pi'-a-ga* (prob. not specific).

Eriogonum microthecum Nutt. and several others closely related. *sa'-na-kûn-da. sa'-na-kûnt. äñ'-ka-wa-dzûmp.*

Eriogonum ovalifolium Nutt. Silver Plant. *sa'-na-kûn-da; sa'-na-kûnt.* One of the *tĭm'-bai-na-tsu.* Also an eye medicine and used occasionally for "stomach ache."

Eriogonum umbellatum Torr. *sa'-na-kûn-da. sa'-na-kûnt. o'-a-pa-dza-ki* (cf. preceding forms).

Eriogonum villiflorum. *toi'-gûp-a-gûnt.* Said to have been used as an application in burns, but the author has not seen it so used.

Erodium cicutarium L'Her. Stork's Bill; Alfilaria. *yam'-pa-gwa-nûp.* The odor is something like that of yamp, hence the name.

Erythronium grandiflorum Pursh. Dog-tooth Violet. *toi'-ya-wĭt-ûm-ba-ga.*

Euphorbia montana Engelm., dentata Michx., etc. *mo'-a-ba-bu-ip. ?toi'-ya-ba-bu-ip.*

Eurotia lanata Moq. White Sage. *tci'-cop.* Used as a remedy in fevers, especially intermittents.

Ferula (Lomatium) multifida Gray. *to'-dzûp.* The young shoots of this umbellifer were sometimes eaten but never the grown plant which was far too strong in taste. The roots furnished a remedy highly esteemed as an application on wounds and bruises. For this purpose the root is first sliced or minced and then thoroughly mashed to a pulp on a stone. It was then ready to be spread upon the affected part. The author saw it thus applied to an Indian's foot that had been crushed under the wheel of a wagon. For distemper in horses a remedy regarded as excellent among the Ute and also among the Gosiute was to burn the roots of this plant in a pan held beneath the nose of the sick horse so that the latter would inhale the smoke. The seeds were eaten to some extent.

Festuca tenella Willd. Fescue Grass. *si'-wûmp. yo'-ni-so-nĭp* (Goship. Cf. Glyceria). Seeds eaten.

Festuca ovina L. var. **brevifolia** Watson. Fescue Grass. *toi'-ya-si-wûmp. tĭ'-si-wûmp. yo'-ni-so-nĭp* (Goship. Cf. preceding form and Gl yceria). Sometimes this and preceding form are mentioned as *to'-bai-bi* (*see* Poa). Seeds eaten.

Flower (general term). *hĭ′-bĭñ-gûp.*

Fragaria vesca L. Strawberry. *äñ′-ka-pa-ri-ûmp: äñ′-ka-bĭt,* red, + *pa-ri,* watery, referring to water, + *ûmp;* i. e., freely, "red water berry." Used as food in season.

Franseria hookeriana Gray (?). *pi′-a-tso-hwa.*

Fritillaria pudica Spreng. Buttercup; Yellow Bell. *wi′-na-go.* Bulbs to some extent formerly eaten.

Galium aparine L., var., and relatives. Bedstraw. Said to be one of the *pûñ′-go-na-tsu* or horse medicines, but no more specific name for the plant was recalled by informants tested. One stated that the plant was a good medicine for horses when "given out," but of such use the author has no information beyond this one statement.

Geranium fremontii Torr. Wild Geranium; Crane's Bill. *ka′-na-*gwa-na. *pa′-hu-ip.* Decoction made from root used for diarrhea, etc. The medicine is an active and efficient astringent. It may be remarked that a species of the same genus was formerly much used for similar purposes in our own medical practice, and that by some it was highly esteemed.

Geum macrophyllum Willd. *nĭn′-ûn-tsai.* Decoction from roots used as medicine.

Geum rossii Seringe. Said by one to be an *i′-a-na-tsu.*

Gilia aggregata Spreng., etc. *mu′-tu-nats-ûm-bĭ-dci.* The name means "humming-bird's milk" and was applied to several other forms (cf. Zauschneria).

Gilia gracilis Hook. and **linearis** Gray. *i′-am-bĭp:* probably *i′-a,* wound, + *m,* + *bĭp.* The plant is said to be mashed and applied on wounds and bruises.

Glaux maritima L. Sea-milkwort. *pa′-ru-sip.* 2 *o′-ta-bi-da.*

Glyceria aquatica Smith. Reed Meadow Grass. *pa′-si-wûmp:* pa, water, + *si′-wûmp,* "water si′-wûmp," in reference to the habitat in wet ground and along streams. *kûm′-a-ra-tsi-yu-gĭp.* Seeds used as food.

Glyceria distans Wahl. Manna Grass. *si′-wûmp. yo′-ni-so-nĭp* (Goship). Cf. Festuca, to which also applied. Glyceria is apparently the primary or standard form. Seeds formerly an important source of food.

Glyceria nervata Trin. *si′-wûmp. tai′-gwi-bi.* Seeds as food.

Glycosma occidentalis Nutt. *? pa′-si-gwĭp. pi′-a-po-gop.* **Cf.** Osmorrhiza and Angelica, which are also called by the same name, the former probably being the *pa′-si-gwĭp* proper.

Gnaphalium sprengelii Hook. and Arn. Cudweed. *toi′-ya-da-ti-bu-da (-go-ra). nan′-te-bĭtc.*

Grass (general term). *so′-nĭp.*

Grayia polygaloides Hook. and Arn. Shad Scale. *kan′-gûm-pi. mo′-do-nŭp.*

Grindelia squarrosa Dunal. Gum Plant; Arnica. *mu′-ha-kûm.* Cf. use of term further under the word in Gosiute list. Cough medicine from roots among Ute and possibly among Gosiute, though the author has not been informed of such use nor has he seen the plant gathered for the purpose.

Gutierrezia euthamiae Torr. and Gray. Torchweed; Rabbit-**brush.** *kû′-ki-koi-nûmp.*

Gymnolomia multiflora Benth. and Hook. *mo′-ta-qa. ĭ′-ca-mo-ta-qa: ĭ′-ca,* false, + *mo′-ta-qa.* **Seeds** formerly eaten.

Hedysarum mackenzii Richard. *pa′-sa-ton-dzĭp* (prob. *pa′-sa,* dry, + *ton′-tso,* clover, + *-ûp*). *pi′-o-ra: pi′-ûp,* large, long, + *o′-ra,* stem. By some also spoken of as *mo′-do-büc.*

Helenium autumnale L. Sneeze-weed. *tĭ′-da-ya-gûp; ti′-ya-gûp. mo′-ta-qa; mu′-ta-qa.*

Helenium hoopesii Gray. Sneeze-weed; Sneezewort. *tĭ′-da-ya-gûp; tĭ′-ya-gûp. toi′-ya-mo-ta-qa.*

Helianthella uniflora Torr. and Gray. *mu′-ha-kûmp; mo′-ha-kûmp. pi′-a-pa-ot′′-qa: pi′-ûp,* large, + *pa-ot′-qa, q. v.*

Helianthus annuus L. Sunflower. *i′-ûm-pi.* The seeds of the sunflower formed a highly prized source of food and oil among the Gosiute. The seeds when ripe were beaten out of the heads into baskets by means of paddles or by means of the ordinary collecting baskets previously mentioned.

Heracleum lanatum Michx. Cow Parsnip. *ko′-no-gwĭp.*

Heuchera rubescens Torr. and related species. Alum-root. *wi′-gûn-dza. pa′-sa-wi-gûn-za.* The roots of this plant and closely related forms and species of Mitella used as a remedy for colic, etc., in babies and children. The properties of the roots are generally astringent. The preparation from the root is commonly spoken of as "*to′-sa-na-tsu,*" meaning "white medicine," in reference to the color. It is used in the form of a tea or decoction. It is still constantly used and is highly valued.

Hieracium gracile scouleri Hook. and Hook. Hawkweed. *mû-tci-gĭp; mo′-tci-gĭp. mû′-tci-gi; mo′-tci-gi.*

Holodiscus discolor var. dumosus Maxim. *ku′-si-wup. tĭñ′-go-ip.*

Hordeum nodosum L. and **jubatum** L. Barley. *kwa'-tci-ûp. kan'-kwai-tcûp.*

Humulus lupulus L. Hops. *wa'-nûp. wa'-na-na-tso-mo-gi. u'-na-tso-mo-gi. bi'-tca-mok.*

Hydrophyllum occidentale Gray and **capitatum.** Water-leaf. *toi'-ya-ba-gwa-dzûp: toi'-ya-bi,* mountain, + *ba'-gwo-dzûp.*

Hypnum sp. Moss. *pa'-oñ-gûp.* Cf. Polytrichum.

Iva axillaris Pursh. *tu'-ro-sip: tu'-o-bĭt, tu'-ro-vi,* black, + sip, sap, juice, + *ûp.* The same name includes also Ambrosia, cl. v.

Iva xanthiifolia Nutt. *tu'-ro-sip. ?kûm'-ûn-tsi-a.* Used by a few but doubtless incorrectly. See Chenopodium.

Ivesia gordoni Torr. and Gray. *?toi'-ya-wañ-go-gĭp.*

Jamesia americana Torr. and Gray. *toi'-ya-bĭn-da-tsĭp. toi'-ya-da-tsĭp.* One of a number of mountain plants known under this general designation.

Juncus balticus Deth. Bog-rush. *pa'-hwap. pa'-ûm-ûp. pa-ma-wûp.*

Juncus bufonius L. Bog-rush. *pai'-yo-nĭp.*

Juncus parryi Engelm. Bog-rush. *tĭm'-pĭn-pa-gi-gĭp. pa'-hwap,* etc. (cf. J. *balticus).*

Juniperus californica var. **utahensis, etc. Cedar; Juniper.** *wa'-pi; wap.* The full name, as frequently heard among the Shoshoni, is *wa'-ap-o-pi,* and clearly means fire, match or kindling wood. In the Gosiute and most related dialects the *o'-pi,* wood, is not heard, the form being variously, *wap, wa'-pi,* and *wai'-ap* (cf. Gosiute *wai'-hĭn,* to burn). One of the most familiar of arborescent plants in the Gosiute territory, occurring widely over the foot-hills and mountains. It furnished the wood most commonly used in the construction of winter lodges, the bark (*i'-na-wa-tsĭp*) being used for thatching and occasionally as a covering on the floor, though smaller branches and especially grasses were commonly applied to the latter purpose. The bark was also used to line and cover the pits in which dried fruits, etc., were stored. The leaves furnished a favorite medicine for coughs and colds, being used in the form of a tea. It is still much in use for this purpose. The cedar-berries, known as *wap'-ûm-pi,* were sometimes eaten in fall and winter after proper boiling.

Juniperus communis var. alpina. *wa'-pi. añ'-go-gwa-nûp:* prob. *añ'-go-bi,* spruce, + *gwa'-nûp,* odor, scent, or referring to such.

Juniperus scopulorum Sarg. Red Cedar. *pa'-wa-pi.*

Kalmia glauca Ait. American Laurel. *tĭm′-pĭn-tu-nûmp: tĭm′-pi,* rock, + n + *tu′-nûmp,* mahogany. One of the plants spoken of under the general designation *tĭm′-bo-ip.* The leaves were by some used as medicine.

Krynitzkia fulvocanescens Gray. *ku′-si-ya-ni-gûnt: ku′-tsĭp,* ashes, in reference to the dense gray pubescence, + *ya-ni-gûnt.*

Lactuca leucophaza Gray. Lettuce. *mu′-tci-gĭp; mu′-tci-gi. pa-ot′-qa.* The second occasionally heard, but incorrect.

Lactuca ludoviciana DC. Lettuce. *mu′-tci-gĭp; mu′-tci-gi. ? bĭ′-tci-gwa-nûp.* The leaves of the various species of Lactuca were eaten.

Lathyrus ornatus Nutt. Everlasting Pea. *mu'-da-bh.* Also known under the general names of *pi′-o-ra,* referring to the stem, and *na′-da-pa-ra-na-gĭnt,* in the restricted usage applied properly to Astragalus, referring to the pod.

Layia glandulosa Hook. and Arn. *mo′-ta-qa; mu′-ta-qa.* Applied also to several other related forms. Vid. sub *mo′-ta-qa.*

Leaf. *sĭ′-gi.*

Lemna. Duckweed. *wa′-da-bu-ĭp. pai′-ya-bo-sip.*

Lepidium medium Greene. Peppergrass. *wu′-bu-i-nûp.* The same name was also applied to several other forms of the same family with about the same flexibility as our popular name "peppergrass." Cf. Draba.

Lewisia rediviva Pursh. *ka′-na.*

Lichen (general term). *tĭm′-pĭn-so-kûp.*

Linum kingii Watson. Flax. *na′-na-rĭp.? tĭm-pi-sa-wap.*

Linum lewisii Pursh. Applied as a remedy to bruises, etc. Said to take down swelling, etc. Cf. use of flax-seed meal.

Lithospermum hirtum Lehm. Gromwell. *äñ′-ka-tso-nap; äñ′-ka-tso-ni-baip: äñ′-ka-bĭt,* red, + *tso′-nap* or *tso′-ni-baip* (cf. next forms), the reference probably being to the deep orange color of the corollas.

Lithospermum pilosum Nutt. and **multiflorum** Torr. Gromwell; Stickseed. *tso′-ni-baip. tsom′-ba. tso'-nap.* (From *tso′-mo, tso,* hook, etc., + *ba,* seed, + *-ûp* or *-ĭp,* the reference being to the bur-like fruit.) Cf. our popular name "stickseed," which corresponds in a general way to the Indian word. The seeds were formerly eaten. The roots formed a valued remedy in kidney troubles (diuretic).

Lonicera utahensis Watson and **involucrata** Banks. Woodbine;

Honeysuckle. *pi′-a-ra-dûm-bĭp. pi′-a-da-rûm-bĭp. pa′-ri-a-ûn-dĭk-ûp: pa′-ri-a*, elk, + *ûn* + *dĭ-kûp;* i. e., "elk's food." Cf. the Ute *te′-ĕd-kav.* These plants are also very often spoken of under the name *wu′-da-ûn-dĭ-kûp*, "bear's food," because the berries are said to be sought for food by the bear. Cf. the name "bear-berry" applied by people of Montana, etc., to species of Lonicera.

Lophanthus urticifolius Benth. *toi′-ya-ba-gwa-nûp: toi′-ya-bi*, mountain, + *pa′-gwa-nûp*, mint (Mentha), the reference being to habitat. Cf. Dracocephalum and Scutellaria, etc., to which forms the same name applies. The seeds were formerly extensively gathered for use like those of grasses and chenopods.

Lupinus leucophyllus Dougl., parviflorus Nutt., etc. Lupine. *kwi′-ta-kwa-nûp* (prob. *kwi′-tûp*, excrement, + *kwa′-nûp*, odor).

Lycopodium. *pam′-bu-i-ûp.*

Lycopus sinuatus Eli. Water Horehound. *nĭ′-di-ba; nĭ′-dĭb.* Occasionally heard as *ba′-gwa-nûp* or *pa′-gwa-nûp*, the name of the mint (Mentha).

Lygodesmia grandiflora Torr. and Gray. Said to be one of the horse medicines, *pûñ′-go-na-tsu.*

Madia glomerata Hook. Tarweed. *nan′-tai-bĭtc; nan′-te-bĭtc.*

Malvastrum coccineum Gray. False Mallow. *pa′-sa-koi-no-komp. koi′-no-komp.* Cf. the following species.

Malvastrum munroanum Gray. *koi′-na-komp. koi′-ya-kûmp.* This and the preceding form were formerly pounded up in water to form a mucilage or gummy paste (*wi′-nau-tsaug*) which was applied over the rough inner surfaces of earthen dishes, such as bowls (*wi′-nau*). The mucilage filled up the small holes, etc., and hardening left a smooth, glaze-like surface. This *wi′-nau-tsaug* (bowl "filler") was also sometimes used on wicker vessels after the latter had first been "pitched" with pine gum.

Mammillaria sp. Cactus. *mu′-tsa.* After removal of the outer portion the inner was often used as food.

Matricaria discoidea DC. May-apple. One of the "*tĭ′-sas.*"

Melica poaeoides Nutt. Melic Grass. *wa′-bi.*

Medicago sativa L. Lucern; Alfalfa. *pu′-i-dĭ-kûp.* The name means simply "green feed."

Mentha canadensis L. Mint. *pa′-gwa-nûp:* pa, water, in reference to habitat, + *gwa′-nûp*, in reference to the sweet odor (odor of pennyroyal). *pa′-na-tĭ-so.* From the leaves of this plant a

beverage was formerly prepared and used by many much as they now use tea.

Mentzelia albicaulis Dougl., **multiflora** Gray, and **pumila** Torr. and Gray. *ku'-hwa.* Seeds said to have been used to some extent as a remedy on burns (*wai'-a-na-tsu*).

Mentzelia laevicaulis Torr. and Gray. *pi'-a-ku-hwa.* Cf. the preceding.

Mertensia alpina Don. Lungwort. *toi'-ya-mo-ta-komp.*

Microseris sp. *koi'-nûmp.*

Mitella trifida Graham. Mitre-wort. *pi'-a-näñk. to'-sa-na-tsu.* The roots of Mitella and Heuchera were gathered as a medicine for colic, etc., in babies. It was given in the form of a tea and was and still is much valued. The color of the dried roots gave the name *to'-sa-na-tsu,* "white medicine," to the preparation and occasionally to the plant itself.

Monolepis chenopodioides Moq*kûm'-ûn-tsi-a.* Cf. Chenopodium.

Nasturtium palustre DC., etc. Water-cress. *si'-bo-i-ûmp. 1 pa'-mu.* Eaten.

Negundo aceroides Moench. Box-elder. *gu'-su-wup.*

Staminate flowers of. *ku'-ni-ûp.*

Pistillate flowers of; samara of. *näñ'-ki-tco: näñk,* ear, and probably *tso'-mo, tco,* beads, etc.

Nicotiana attenuata Torr. Tobacco. *pu'-i-ba-u.* This was the source of tobacco largely used by the Gosiute, the leaves being dried in the usual way and used either alone or mixed with the inner bark of kinnikinick (see under Cornus).

Oenothera biennis L. Evening Primrose. *tsi'-gi-tûmp.* Seeds said to have been eaten occasionally.

Oenothera caespitosa Nutt. Evening Primrose. *ka'-na-gwa-na.* Roots used as a medicine.

Opuntia rutila Nutt., **polyacantha** Haw., etc. Cactus, Prickly Pear. *ai'-gwo-bi.* Formerly used as food, the spines being removed and the joints roasted in hot coals.

Orogenia linearifolia Watson. *kwi'-ta-po-ni. kwi'-ta-po.* Indians say bears sometimes dig up and eat the bulbs of this plant.

Orthocarpus linearifolius Benth. *ta'-bi-wûmp. pi'-a-ta-bi-wûmp.*

Oryzopsis cuspidata Benth. Mountain Rice. *wai.* A valuable bunch-grass very common in Nevada and Utah which formerly furnished an abundance of seeds or grain to the Gosiute.

Osmorrhiza nuda Torr. Sweet Cicely. *pa'-si-gwĭp.? pa'-si-go-ŭp; pa'-si-go.* Cf. also the related Glycosma and also Angelica.

Oxyria digyna Hill. Mountain Sorrel. *äñ'-ka-si-yu-na.*

Pachystima myrsinites Raf. Box. *ta'-tsĭp.*

Parnassia fimbriata Banks. Grass of Parnassus. *tĭm'-bi-wi-gûn-dza; tĭm'-bi-wi-gûn-ta.* One of the *tĭm'-bai-na-tsu.*

Parnassia parviflora DC. Grass of Parnassus. *koi'-gwa-nûp. toi'-ya-gwa-nûp.* Cf. *Saxifraga nivalis,* a related form.

Pentstemon confertus Dougl. var. Beard-tongue. *tu'-go-wi-n ûp.*

Petiole. *o'-ra.*

Peucedanum graveolens Watson, kingii, etc. *i'-djaip.* The roots of several species of Peucedanum formed one of the most valued medicines among the Gosiute, being, in fact, termed by them *pi'-a-na-tsu,* or "great medicine." In "sore throats" it was mashed and applied directly to the affected surface. In cases of biliousness and severe colds it was sometimes used as a decoction, being by some mixed with a *koi'-na-tsu* and pine resin.

Peucedanum simplex Nutt. *bĭ'-tca-mu-kûm.* The name applied strictly to a species of Eriogonum; but also used in a more general sense to indicate several other plants, like the present one, which have long peduncles bearing rays suggestive of fingers radiating from a hand.

Phacelia menziesii Torr. and **circiuata** Jacq. *wu'-sĭ-bĭñ-gûnt. wu'-si-gûnt.* The name refers to the clothing of hispid hairs on stems and leaves of these plants.

Phalaris arundinacea L. Canary Grass. *o'-gwĭp. o'-gĭp.* Cf. also Beckmannia, to which the name primarily belongs. Phalaris is regarded as the "little brother" of Beckmannia.

Phleum alpinum L. Cat's-tail Grass; Mountain Herd's Grass *tĭ'-so-nĭp.* Cf. Alopecurus, which is also included under the name.

Phlox longifolia Nutt. Sweet William; Phlox. *si'-bi.*

Phoradendron juniperinum Engelm. Mistletoe. *o'-ka.*

Phragmites communis Trin. Reed. *paij; paidj.* This tall reed is found in abundance in some places along streams and about ponds and is common along the shores of Utah Lake. A sweet secretion or honey-dew formed on the leaves by aphides was formerly gathered by the Indians and used as a sugar (*u'-ga-pi-na*). The same was true of similar secretions formed on the leaves of the cotton-wood and other plants. In pioneer days in Utah the Mormons also gathered this secretion to some extent.

Pinus monophylla Torr. and Frem. Nut Pine. *ti′-ba-wa-ra.* The nuts (*ti′-ba*) from this tree formed one of the important foods of the Gosiute; and the invariable journey into the mountains each fall for the pine-nut harvest is still looked upon as a great fixed event of the year. In the pine-nut season at this time the Indians go chiefly to the Deep Creek mountains.

Pinus edulis Engelm. Piñon Pine; Nut Pine. *ai′-go-û-pi.* When this species was accessible the nuts were gathered and used like those of the preceding species.

Plant (general term). *si′-a-ka. pu′-i-si-a-ka.*

Plantago eriopoda Torr., **patagonica** Jacq., **major** L., etc. Plantain. *toi′-gû-pa-gûnt.* The name refers to the elevated head of the flowers (*toi*, indicating elevation, etc., + *gûp*, fruit, + *a*, connective, + *gûnt*). The same name is sometimes applied to Ranunculus for the same reason.

Poa californica Munro. Meadow Grass. *tĭn′-ä-bĭp. ni′-a-bĭp; ni′-a-bi.* Seeds eaten.

Poa tenuifolia Nutt. "Bunch Grass"; Meadow Grass. *ni′-a-ba-so-nĭp; mi′-a-ba-so-nĭp. ni′-a-bĭp.* Cf. the preceding. The seeds of this abundant "bunch grass," notwithstanding their small size, were an important source of grain to the Gosiute.

Poa pratensis L. Blue Grass; Meadow Grass. *ni′-a-bĭp. añ′-go-mû-tsai-yu.* The latter name commonly applied also to Deyeuxia, and apparently more narrowly restricted to the latter. Species of Deyeuxia are also often spoken of as *ni′-a-bĭp*, the forms of the two genera not being sharply distinguished by them as is only natural. Their names, like our own popular ones, often included species which, scientifically studied, botanists place in separate genera; while in other cases their distinctions were very close.

Polemonium caeruleum L. Greek Valerian. *ĭ′-ca-ûn-toi-nûmp.* The name refers to the fact that the wolf (*ĭ′-ca*) is said to eat the berries of the plant sometimes when sick.

Polygonum amphibium L. *pi′-a-pa-oñ-gop-pai-dja-rûmp: pi-ûp*, large, + *pa′-oñ-gop*, moss, water-weed, + *pai′-dja-rûmp.*

Polygonum erectum L. *äñ′-ka-pa-bu-ip. äñ′-ka-pu-i.*

Polygonum hartwrightii Gray. *pa′-gu-ĭp. ta′-kûm-bu-i.*

Polygonum imbricatum Nutt. *ko′-ka-bi; ko′-ga-bi.*

Polygonum viviparum L. 1 *toi′-ya-da-ti-bu-da.*

Polytrichum juniperinum. Moss. *tĭm′-pĭn-pa-bo-i-ûp. pa′-oñ-gop; pi′-a-pa-oñ-gop.* Cf. Hypnum.

Populus angustifolia James. Cottonwood. *so′-o-pi; so′-ho-bi.* The shoots of the cottonwood furnished the material for much of the basket work among the Gosiute. Because of greater strength it was preferred to the willows. The honey-dew formed by aphides on the leaves was gathered and used somewhat as sugar.

Populus tremuloides Michx. Quaking Aspen. *sĭñ′-gû-pi; sĭñ′-gûp.*

Potentilla anserina L. Five Finger. *ʔ so′-ko-bai-gûn-ĭp-wa.*

Potentilla fruticosa L. *wa′-tsi-gûnt. wa′-na-gûnt.*

Potentilla glandulosa Lindl. Five Finger. *pa′-sa-wi-gûmp.* Roots used as medicine. Said to be applied as poultice to swollen parts, and also to be used internally.

Potentilla pennsylvanica L. Five Finger. *ku′-si-wañ-go-gĭp. ku′-tsa-ga-ti-wo-ra-rat.*

Potentilla plattensis Nutt. Five Finger. *ĭ′-ca-ro-dzûp: ĭ′-ca*, wolf, + *to′-dzûp*, q. *v*.

Primula parryi Gray. Primrose. 1 *pu′-i-pa-si-go. ʔ toi′-ya-da-ti-bu-da ; toi′-ya-na-ti-bu-da.*

Prunus demissa Walpers. Choke Cherry; Wild Cherry. *to′-o-nûmp. toñ′-gi-cip.* The fruit was used as food. For winter use after gathering it was mashed and spread out in layers to dry in the sun. It was then cached like that of the service-berry previously described. For use, the common method was to grind up the dried fruit, boil in water, and to eat as a sort of mush.

A decoction from the bark was used as a "blood medicine," *bu′-i-na-tsu*, in cases where a person was affected with frequent hemorrhages at the nose, etc.; or, according to the Gosiute explanation, when the person "has too much blood." The bark was also used as an *ilai′-na-tsu* for babies and children.

Pseudotsuga douglasii Carr. Douglas Spruce. *añ′-go-bi. wañ′-go-bi; wañ′-go.*

Purshia tridentata DC. *hĭ′-na-bi.* Cf. Cowania, from which the name is extended by many to the present form:

Pyrus sambucifolia Cham. and Schlecht. *ʔku′-no-gĭp.* This is properly the name of the Elder (Sambucus) and it is doubtful whether the name is properly applied to the present form which in general appearance resembles it, and hence its specific name. It was heard applied to this form but once.

Quercus undulata Torr., var. Scrub Oak; Rocky Mountain Oak.

ku'-ni-ûp. kwi'-ni-ûp. The acorns (*ku'-ni-ro-ûmp*) were prepared for food in season; but they were not preserved for winter use.

Ranunculus aquatilis L. var. *mo'-a-pa-oñ-gop: mo'-a -l- pa'-oñ-gop,* moss, etc. 1 *pa'-mo.* Entire plant said to have been sometimes eaten, after boiling, which removed the acrid principle.

Ranunculus cymbalaria Pursh. Buttercup; Crowfoot. *ni'-u-ru-pam-pi. toi'-gû-pa-gûnt.* The names refer to the elevated, cone-shaped heads (*toi*, elevate, etc., + *gûp*, fruit, + *gûnt*). The names are not wholly specific, being applied to some other forms having similar heads.

Ranunculus sceleratus L. Buttercup. *a'-tam-bi-tcĭp; ha'-tam-bi-tcĭp.*

Rhus trilobata Nutt. Sumac; Squaw-berry. *ai'-tcĭb; i'-tcĭb. d-i-t&b.* Berries eaten to some extent.

Rhus glabra L. Sumac; Squaw-berry. *äñ'-ka-ti-wi-ûmp. äñ'-ka-ti-wi-a.* Berries eaten. The leaves were formerly smoked.

Rhus toxicodendron L. Poison Oak; Poison Ivy. *ta'-da-bi.*

Ribes aureum Pursh. Missouri or Black Currant. *kai'-i-ûmp. po'-go-nûp; po'-gûm-pi.* The second name, while often used as applying to this species, is also the general term for the currant berry of this and other species, in this usage being nearly the equivalent of our word currant. The fruit of this and the following species, which seem to have been less important, was used as food and was dried in quantity and preserved for winter in the usual way.

Ribes divaricatum Dougl. var. Currant. *wĭ'-sa-po-go-nûp. wĭ'-sa-po-gûmp.* The prefixed portion of the name, *wĭ'-sa*, refers to the prickles borne on this species.

Ribes lacustre Poir and **leptanthum** Gray var. **brachyanthum.** Currant. *ai'-go-po-gûmp.* The prefixed or first portion of this compound name means process or thorn, in reference doubtless to the spines of this species.

Ribes oxyacanthoides L. Currant. *toi'-ya-po-go-nûp.* The name means "mountain currant."

Root. *tsĭn; tsĭn'-a.*

Rosa californica and fendleri Crepin. Rose. *tsi'-o-pi.* The name means "prickle plant." The berries, known as *tsi'-ûmp* **or** *dzi'-ûmp*, were gathered for food.

Rosa nutkana Presl. Rose. *ti'-a-bi.* The berries are spoken of as *mo'-gon-dzi-ûmp*, which means poison or deleterious rose-berries, these berries not being regarded as good to eat.

Rubus leucodermis Dougl. Raspberry. *tu'-kwûn-dau-wi-a. tu'-kwûn-da-mi.* Berries eaten.

Rubus nutkanus Moçino. Salmon-berry. *tu'-kwûn-dau-wi-a. wu'-da-ûn-dĭ-kûp.* The second name refers to the fact that the berries are sought for food by the bear. The same name is also given to a species of Lonicera, q. v. Berries eaten.

Rudbeckia occidentalis Nutt. Coneflower. *tu'-ro-vi-pam-pi. tu'-ro-pam-pi. tu'-pam-pi.* The names mean simply "black-head," in reference to the color of the cone-shaped flower heads.

Rumex salicifolius Weinman, etc. Sorrel; Dock. *äñ'-ka-pa-dja-rûmp; äñ'-ka-pai-dja-rûmp. äñ'-ka-pa-tsa-rûmp.* The root furnishes one of the remedies spoken of by the Gosiute as "blood medicines" (*bu'-i-na-tsu*). A decoction of the root is also said to have been used for injection by the rectum in cases of severe constipation.

Sagittaria variabilis Engelm. Arrow-head. *pa'-bo-bu-ĭp; pa'-ba-bu-ĭp. pa'-bu-ip. pi'-a-pa-bo-bu-ĭp.*

Salicornia herbacea L. Samphire; Glasswort. *pa'-o-ka; pa'-ho-qa. o'-ka.* Very abundant in many places in Gosiute territory about alkaline and brackish water or over damp alkaline areas. This is one of the various chenopodiaceous plants that contributed seeds so abundantly to these Indians. When the meal from the seeds of this plant was cooked it is described as having tasted like "sweet bread" by those who have eaten it.

Salix longifolia Muhl., and other species. Willow. *si'-o-pi; si'-hĭp.* The name seems to mean approximately "water or wet wood or plant (shrub or tree)," probably in reference to its habitat. The wood was commonly used in the manufacture of baskets, water-jugs, etc., though cottonwood was by most preferred where accessible. It was used for making fish-weirs (*pan'-gwi-go-ûp*), and for other purposes.

Salix amygdaloides Anders., **lasiandra** Benth., var., and **flavescens** Nutt. Willow. *sa'-gû-pi.* Also in a general way designated by the name *si'-o-pi*, as for the preceding, which is used largely in a generic sense. Used like those of the preceding.

Samara of *Negundo* and *Acer.* *näñ'-ki-tco; näñ'-ki-tso. ka'-bĭp.*

Sambucus glauca Nutt. Elder. *pa'-go-no-gwĭp; pa'-go-no-gĭp.* Bears eat the berries of this form.

Sambucus racemosa L. Elder. *ku'-no-gĭp; ku'-no-gi. ko'-no-gĭp; ko'-no-gi.* The fruit was eaten in season.

Sap. *büc.*

Saponaria vaccaria L. Soapwort. *sai′-ya-hyu-gĭn.* Long ago introduced into Nevada and Utah through early emigrant travel.

Sarcobatus vermiculatus Torr. Greasewood.

Saxifraga nivalis L. Saxifrage. *toi′-ya-gwa-nûp. ku′-i-gwa-nûp.* (Prob. *toi′-ya-bi*, mountain, + *gwa′-na*, odor, perfume, + *ûp*).

Saxifraga punctata L. Saxifrage. *pa′-sa-wi-g&n-za.* Cf. Heuchera.

Scirpus lacustris L. var. **occidentalis** Watson. Bulrush; Tule. *saip.* The lower, tender portions of the stems were formerly eaten as food.

Scirpus maritimus L. Sea Bulrush, *ai′-bi-baip. saip* (occasional). Cf. Carex *hookeriana* and *utriculata* which are often grouped under the same name.

Scutellaria. Skullcap. *toi′-ya-ba-gwa-nûp.* Seeds eaten. Cf. Dracocephalum and Lophanthus.

Sedum debile, etc. Stone-crop. *oi′-tcûn-goi-djok, ?äñ′-ka-ti-wi-a.* ? Leaves formerly smoked. The plant was ranked with the kinnikinnick because of this use.

Seed. *ba.*

Seedling. *ĭ′-gi-na-ga.* (This name is from *ĭ′-gĭn*, meaning immediate, beginning or initial, and *a′-ka*, plant.)

Senecio, several species. Groundsel. *tĭm′-pi-dza-na-kwo.* The name means "a mouth rubber or gum," the equivalent of our "chewing-gum," a chewing-gum having been prepared formerly from the latex.

Shepherdia argentea Nutt. Buffalo-berry. *äñ′-ka-mo-do-nûp. äñ′-gû-ta-gûp. añ′-gûp. o′-pĭp.* These names refer to the scarlet berries. Berries eaten.

Shepherdia canadensis Nutt. Buffalo-berry. *a′-da-rûm-bĭp. pi′-a-da-rûm-bĭp.* Cf. Ceanothus, *a′-di-rûm-bĭp-äñ-ka-sip.*

Sidalcea malaeflora Gray. *mu′-tsai-kûmp. mĭ′-ta-kûmp; mĭ′-ta-komp.*

Silene acaulis L. Catchfly. *tĭm′-pi-sa-gwûp. wa′-si-pĭt.* Said to have been used for colic, etc., in children, being a *koi′-na-tsu.*

Silene antirrhina L. Catchfly. *oi′-tcu-yo.*

Silene menziesii Hook. Catchfly. *yo′-go-ti-wi-ya.* Leaves formerly smoked as a tobacco, being dried and powdered for this purpose.

Silene multicaulis Nutt. and scouleri Hook. Catchfly. In cases of "pain in stomach," this plant was sometimes used as an emetic. The method of use was to pound up, put into warm water, and drink. It was also used as a horse medicine, or *pûñ′-go-na-tsu.*

Sisymbrium canescens Nutt. Hedge Mustard. *poi'-ya. po'-nak.* Seeds were gathered and used for food, being made into a kind of mush that was much liked.

Sium cicutifolium Gmelin. Water Parsnip. *pa'-o-tĭm-bĭtc. 1 toi'-ya-ro-dzĭp.*

Smilacina amplexicaulis Nutt. False Solomon's Seal. *ĭ'-djû-pain-po-go-nûp: i'-djû-pa*, coyote, •l- n, + *po'-go-nûp*, berry. *ĭ'-ca-bo-gûp: i'-ca*, wolf, + *po'-gûp, po'-go-nûp*, berry. Cf. the Ute name for this plant, *yo'-go-ta-ma-nûmp.* Berries said to be eaten by the bear and hence the plant is designated as one of a number known under the name *wu'-da-ûn-di-kûp*, "bear food plant." It is also known from a legendary reference as *pûn'-go-ûn-da-mi (p&'-go,* horse, + *ûn*, + *da'-mi*).

Smilacina stellata Desf. False Solomon's Seal. *pai'-ya.* Roots pounded up and rubbed on limbs in cases of rheumatism. Bears said to eat berries as with the preceding species.

Solanum tuberosum L. Potato. *go'-tsa-win.* Sometimes spoken of also as *dzi'-na*, the name primarily applied to the Spring-beauty, the bulbs of which were eaten. The potato is cultivated to some extent by the Gosiute.

Solidago canadensis L., nemoralis Ait., spectabilis Gray., etc. Goldenrod. *oi'-yĭñk; o'-a-yĭñk: o'-a-bĭt*, yellow, + *yĭñk.* Seeds to some extent gathered and eaten.

Sonchus asper Vill. Sow-thistle. *mu'-tci-gĭp; mo'-tci-gĭp. mu'-tci-gi; mo'-tci-gi.* An introduced plant designated by the name applied to the closely allied native species of Latuca, q. v.

Spartina gracilis Trin. Salt Grass. *na'-da-pu-gu-ĭ-gi. na'-da-pu-gai-gi.*

Sphaeralcea rivularis Torr. *koi'-na-komp. pĭ'-tca-gwa-nûp. toi'-na-ko-nĭp.* Cf. Malvastrum.

Sphaeralcea emoryi Torr. *koi'-no-komp; koi'-na-komp. pi'-a-koi-na-komp.* Cf. Malvastrum. This genus in general characteristics is extremely similar to Malvastrum and it is only natural that popularly and by the Indians no wide differences in designation are present.

Spirea caespitosa Nutt. Meadow-sweet. *tĭm'-pĭn-tĭm-bo-ûmp. tĭm'-bo-ûmp. tĭm'-bi-ma.* While the leaves are used as a bowel medicine it is mostly employed as a remedy for burns. For this the roots are used. These are first freed from dirt and epidermis and then boiled to a pulp which is applied as a salve

to the burned portion, as is described in the earlier portion of this paper. The remedy is highly valued and to the author has seemed efficacious in cases observed.

Spiranthes romanzoffiana Cham. Ladies' Tresses. *sai'-gi-tamp.* Used as a medicine in venereal disease, a *tim'-bai-na-tsu.*

Stachys palustris L. Woundwort. *toi'-ya-ba-gwa-nûp. pi'-a-ba-gwa-nŭp.* Seeds gathered for food along with those of Lophanthus, Scutellaria, etc., closely related forms known under the same name.

Stalk, stem. *o'-ra.*

Stephanomeria exigua Nutt. *mo'-a-gûp.*

Stipa comata Trin. and Rupr. Feather Grass. *dai'-gwi-wĭq. o'-gwĭp; o'-gĭp.*

Stipa speciosa. Feather Grass. *o'-gwĭp; o'-gĭp. yu'-gwĭp.* Cf. Aristida, a genus very close to the present one.

Stipa viridula Trin. Feather Grass. *pa'-si-wu-mûts; pa'-si-wu. o'-gwĭp; o'-gĭp.*

Suaeda depressa Watson. Sea-blite. *wa'-da.* Seeds were much liked as food.

Taraxacum officinale Weber. Dandelion, *ti'-bo-hi; ti'-bu-i. mu'-tci-gĭp; mu'-tci-gi;* mu'-tcu-g&u. Cf. Crepis.

Tetradymia canescens DC. var. inermis Gray. *si'-bû-pi.* Cf. Bigelovia.

Townsendia sericea Hook. var., etc. *mu'-tsĕm-bi-a-dĭ-kûp.* The name means literally "mountainsheep food" (*muts'-em-bi-a,* mountainsheep, + *di'-kûp*), a name referring to its serving as food for the mountainsheep. It is not specific.

Trifolium, various species. Clover. *tan'-tso.*

Triglochin maritimum L. Arrow-grass. *pa'-nu-wi.* Mentioned also as one of the various *pûñ'-go-ûn-da-mi.* Seeds eaten.

Trisetum subspicatum Beauv. *wi'-tcûb.* Also sometimes more generally as *ni'-a-bĭp.* Seeds eaten.

Troximon aurantiacum Hook. *mu'-tci-gĭp; mu'-tci-gi-a.* Leaves sometimes eaten.

Troximon sp. 1 *koi'-nûmp. See* Microseris.

Typha latifolia L, Cat-tail. *to'-imp.* Seeds eaten. The bristles of the ripe spikes were burned off, the seeds becoming roasted or partially so in the process. The seeds were then freed and dealt with as usual.

Urtica holosericea Nutt. Nettle. *tin'-ui-gop.* The name refers to the stinging hairs or nettles.

Urtica sp.? *tu′-i.*

Vaccinium caespitosum Michx. Bilberry; Blue-berry. *tĭ′-da-kai-mi-*ya. *tĭ′-mai-hya.* Leaves formerly dried and used as a tobacco. Hence, grouped with kinnikinnick (Cornus).

Valerianella congesta DC. *a′-pa.*

Valeriana edulis Nutt. *toi′-ya-bĭ-tûm-ba-ga. toi′-ya-bĭ-tûm-ba.* Roots pounded up and rubbed on externally for rheumatism. Said also to be good on swollen and bruised parts (*bai′-gwi-na-tsu*). Seeds eaten.

Valeriana sylvatica Banks. *ku′-yi-gwa-nûp; ku′-i.* Said to kill horses. An arrow poison is said to have been prepared from the root.

Veratrumcalifornicum Durand. False Hellebore. *ĭ′-ca-bo-go-nûp.* The name may be rendered "wolf currant."

Vicia americana Muhl. Vetch*ûp′-ta-wu-kwa-dju-nĭñ.*

Viola cucullata Ait. Violet. *? pa′-bu-ĭp.* Name not specific.

Viola palustris L. Violet. 1 *dzi′-na-so-so.*

Wood (general term). *o′-pi. wu′-pi.* Commonly used as the equivalent of tree or shrub, i. e., woody plant, or even of plant in general at times.

Wyethia amplexicaulis Nutt. *pi′-a-kĕn-dzĭp: pi′-ûp,* big, + *a′-kĕn-dzĭp,* q. v. Seeds formerly gathered as food. The roots furnished a remedy applied externally upon bruised and swollen limbs, etc.

Xanthium strumarium var. **echinatum.** Cockle-bur. *kwĭ′-tcĕm-bo-gop.* The name means "cow or bison fruit."

Zauschneria californica Presl. *mu′-tu-nants-ûm-bĭ-dji. mu′-tu-nants-pi-na-dĭ-kunt.* The first name means "humming-bird's milk"; the second approximately "humming-bird's sugar or sweet food," "humming-bird's nectar." The same name is also applied to *Gilia aggreguta,* etc., being of generic character and independent of the more special names of each form.

Zea mais L. Indian Corn; Maize. *ko′-mu. korn* (from English).

Zygadenus nuttalli Gray. Poison Sego. *ta′-bĭ-si-go-ûp; ta′-bĭ-si-go. ta′-bĭ-tci-gop: ta′-bĭ,* sun, referring to the clustered flowers (cf. *ta′-bĭ-si-bû-pi*), + *si′-go,* + *ûp.* Furnished a medicine used as an emetic. Also one used in certain venereal affections (*tĭm′-bai-na-tsu*).