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KAROK ETHNOBOTANY

BY

SARA M. SCHENCK AND E. W. GIFFORD

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ABBREVIATIONS

BAE-B	Bureau of American Ethnology, Bulletin
UC	University of California Publications
-AR	Anthropological Records
-PAAE	American Archaeology and Ethnology

KAROK ETHNOBOTANY

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INTRODUCTION

In July, 1939, Mr. and Mrs. W. Egbert Schenck accompanied the Giffords to Karok territory for ethnological field work, making headquarters at Orleans, Humboldt County, on the Klamath River. Mrs. Schenck generously undertook to study the ethnobotanical aspects of Karok culture, thus supplementing the data recorded by E. W. Gifford.

Two Karok women, Mrs. Mary Ike, an octogenarian, and Mrs. Mamie Offield, a younger woman who served as interpreter, were our principal mentors. These two women live in the vicinity of Somesbar, Siskiyou County, near the confluence of the Salmon and Klamath rivers. Additional data were recorded from Mrs. Georgia Orcutt, who lives at Orleans.

Plants which Mrs. Schenck could not certainly identify were submitted to Professor H. L. Mason, Director of the Herbarium, University of California, who kindly gave his opinion. Mr. William O. Bright, a student of the Karok language, supplied additional names, but no data as to use.

Karok territory lies east of the redwood belt which

parallels the Californian coast from Monterey County northward to the Oregon border. The Karok live along the Klamath River from above Bluff Creek, Humboldt County, to above Happy Camp, Siskiyou County. The altitude ranges from 250 feet at Slate Creek to 1,060 feet at Happy Camp. The Klamath River flows between lofty hills and mountains, so the Karok hunting and gathering activities are carried on over a considerable range in altitude. Thus the plants discussed in this paper are not all from the immediate banks of the river.

Many plants are used by the Karok in connection with "medicines," i.e., spoken formulas or charms of magical import. The informants usually refer to this by saying that the collector "talks to" the plant when picking it.

Harrington records generic terms meaning "trees," "bushes," "plants," etc.¹ and also gives general terms for the parts of plants. We recorded oxra as the generic term for berries of any kind. Incidentally, our orthography for Karok words lacks the refinements of Harrington's transcriptions and those of Mr. Bright.

THE PLANT SPECIES BY FAMILIES

We have recorded 239 identified species and varieties of plants in Karok territory. In the following discussion we have numbered them, for convenient reference. We have included a few plants that are unknown to our informants, but which we had collected. In addition, there are some whose genus only is identified, and seven wholly unidentified. There are no doubt many more species known to the Karok, but the season and the difficulties of collecting limited the number we were able to record. For instance, summer was not the best season for fungi, and probably many flowering plants were through blossoming at the time of our visit.

The number of identified species and/or varieties, listed by families in descending order of frequency, is as follows: Sunflower 20, Lily 18, Rose 16, Heath 15, Grass 11, Parsley 10, Pea 8, Pine 8, Oak 7, Figwort 7, Fern 6, Saxifrage 6, Buckthorn 6, Mint 6, Willow 5, Buckwheat 4, Orchid 4, Buttercup 4, Honeysuckle 3, Barberry 3, Phacelia 3, Mosses and Lichens 2, Fungi 2, Horse-tail 2, Cypress 2, Sedge 2, Iris 2, Purslane 2, Pink 2, Mustard 2, Maple 2, Evening Primrose 2, Dogwood 2, Gentian 2, Gilia 2, Nightshade 2, Birch 2, Geranium 2, Nettle 2, Primrose 2, others 1 each. The significance of these figures is only partly cultural, since factors of plant distribution enter in, some families being abundantly represented in the region, others only scantily.

We begin with mosses, lichens, and fungi, and then follow the arrangement of families and species used by Willis Linn Jepson in his Manual of Flowering Plants of California.²

MOSSES AND LICHENS

The generic term for mosses and lichens recorded by J. P. Harrington was used by our informants also: 'asaxxé'm.

¹J. P. Harrington, Tobacco among the Karok Indians of California, BAE - B 94, pp. 47 ff., 1932.

²A Manual of the Flowering Plants of California, Berkeley, 1923-1925; reprinted by University of California Press, 1951.

1. Evernia vulpina, Tree Lichen, Karok manil maashaxaeme, "mountain moss." This lichen was found on Douglas Fir. The Karok soak it in water and use the decoction as a yellow dye for porcupine quills, which are worked into the design of some basket caps, but it is not used in other kinds of baskets.

2. Usnea barbata, Karok ashaxaeme. No use.

FUNGI

3. Fomes pinicola, Shelf Fungus, Karok tuxuwai ixbahakaiwish. This was found on a fir log. The Karok peel off the white underside of this fungus and rub it on buckskin to "polish" or smooth the skin. This fungus is not eaten. It has woody sporophores.

4. Trametes subrosea, another and smaller tree fungus, also with woody sporophores, is called by the same Karok name as the preceding species. Used like preceding species.

FERN FAMILY

5. Gymnogramme triangularis, Gold Fern, Karok apshikkhamnakuishich, "black legs." This serves as medicine; it is "talked to" in order to mitigate the after-pains in childbirth.

6. Adiantum pedatum, Five finger Fern, Karok ikritapkir. Its stems are used for black designs in basket caps and other baskets. The leaves are stripped off and the stems softened by being pulled over a stick. After the lengthwise fibers are thus loosened, the outer covering of the stem is removed and dried and is used in basketmaking.

This fern stem is also used as decoration on clothing, especially on the Jump Dance dress.

7. Pteris aquilina var. lanuginosa, Bracken, Karok kataship. When salmon are caught in the river they are brought up to the house, or near the house, and the tails cut off, so that the fish will bleed. They are laid on a bed of bracken, usually on a hillside, and are not gutted until the next day, but the bracken is changed as it gets

bloody. After being bled and cleaned, the fish are dried and smoked in a brush hut.

Bracken leaves are used for wrapping tobacco leaves when they are first gathered.³

8. *Woodwardia radicans*, Chain Fern, Karok tiptip. The stem is used in basketmaking. The leaves are stripped off the stem, which is pounded with a stone to soften the fibers. The two central fibers are separated out and cleaned of pith and juice by running the fingernail down the fiber. They are then hung up to dry, and, when quite dry, are dyed in alderbark dye. No mussel scraper is used to clean the fibers.

9. *Polystichum unitum*, Sword Fern, Karok tiptip hich, "imitation tiptip," tiptip'unuhyaachas, "round tiptip" (Bright). The fronds are used in a game played by adults of both sexes to see who has the longest wind. Beginning at the bottom of the frond, the player touches each leaflet, first on one side of the stem and then the other, and says "tiip" each time he touches a leaflet. Whoever goes farthest up the frond wins. There is no gambling on this game.

10. *Aspidium rigidum* var. *argutum*, California Wood Fern, Karok 'assak vaatxarakavruukvutihan, "shouting down from on a rock" (Bright). No use.

HORSE-TAIL FAMILY

11. *Equisetum hyemale* var. *robustum*, Common Scouring-rush, Karok chimchikara. The dried stalk serves as an abrasive to sharpen the edge of the mussel shell used to scrape and prepare iris fibers for cordage (see 57). The dried stalk is also used for polishing arrows.

The stalk is soaked in water and applied as a remedy for sore ("bad") eyes. Also a boiled decoction of the plant is used to wash the eyes. No spoken formula is needed for this medicinal use.

In the Karok First Salmon ceremony the ceremonial cleansing of the priests involved the use of this plant.⁴

12. *Equisetum arvense*, Common Horsetail, Karok chimchikara tunuweich, "imitation chimchikara." This is not used.

PINE FAMILY

13. *Pinus lambertiana*, Sugar Pine, Karok oskiip; the nut, ous. Sugar pines were formerly more abundant than they are now. This is one of the trees -- cedar is another -- that are used for building sweathouses, the fallen trunks being made into planks. In the World Renewal ceremony sugar pine wood is not used for firewood by the priest, because the Karok associate it with cemeteries,⁵ where it is presumably used for boards or posts.

The pitch of the tree is used as an adhesive. The coagulated sap or "sugar" is gathered from hollow trees and eaten without preparation or mixing with other foods.

The chief value of the tree to the Karok, however, is its nuts, which are used for food. The places where the sugar pines grow are owned by individuals. When it is time to gather the cones, each owner invites his family and friends to come with him, and then, when the cones are gathered, they are divided equally among the relatives and guests. Tanuaxanuwa, "Let's go and bite the

nuts," is the Karok phrase for the expedition to gather sugar pine nuts. They make a hook, wurannaru, of a long pole of fir (18) with a stick tied on it at an acute angle with hazel withes. The climber (sawan) hooks this on the first limb of a sugar pine tree, and with this help climbs up the tree. Then he hooks another limb if necessary and thus climbs as high as he wishes. With a smaller hooked stick called teita he hooks a branch near a cone and shakes it until the cone falls. In the meantime, the others on the ground are "making medicine" and singing, "Cut it off, Beaver, cut it off!" Or they sing, "Cut it off, Pitchy-hands [gray squirrel], cut it off!" The climber has made his medicine (sung the charm) while climbing the tree.

After the cones have been shaken from the tree and picked up, they are set up on end along both sides of a big stick, and a fire is built over them. When it has cooled, the cones are beaten with a stick until soft. They are then split in two and the seeds caught in a basket. The nuts that do not shake out are carefully picked out. They are then carried home and are ready to be eaten without further process. They can be stored for the winter.

The gathering party is usually gone from its village about a week, as sugar pines grow at some distance from the river and at higher elevations.

A Karok story tells of a turtle who went to a pine-nut gathering party (osuaxra). He started about two months ahead, in July, to go for the pine nuts, but he traveled so slowly he did not arrive until the nuts were all picked up. So they told him "As long as you live, you'll always be too late." When anyone is slow or lazy, they call him "Turtle."

The Yurok use the roots in basketry, but only as a substitute⁶ when more satisfactory materials are unobtainable.

14. *Pinus ponderosa*, Yellow Pine, Karok sarum. The pale brown root fibers are an important element in baskets, especially cups and acorn baskets. O'Neale describes the preparation of the roots.⁷ Straight unbranched roots are preferred, gathered after the tree has bloomed so they are tough enough. Roots should not be dug until they are long enough to extend beyond the radius of the lower branches. They are dug with a digging stick, sharpened and hardened in fire, and are cut with elk horn wedge (paraam) and stone maul.

The roots are taken home and cut into pieces as long as possible. Then the woman digs a pit in which she builds a fire. She cleans the roots and lays them all parallel. She covers them with earth and on top she builds a fire, which is maintained for as long as two days. Then she tests the roots to see if they are cooked sufficiently. If light in color, they are done. She splits the cooked roots into four pieces. Those that are not to be used at once are dried and put away; those intended for immediate use are split into smaller strips by deer-bone awl and scraped with mussel shell to render them soft and pliable.

15. *Pinus ponderosa* var. *jeffreyi*, Jeffrey Pine, Karok isvirip. The roots are used for weaving tobacco baskets.⁸

16. *Pinus sabiniana*, Digger Pine, Karok axhiyushiip. The nuts are used as beads to decorate dance dresses. Some beads are perforated at both ends, others at one end

³Harrington, p. 88.

⁴A. L. Kroeber and E. W. Gifford, *World Renewal: a Cult System of Native Northwest California*, UC-AR 13:37, 1949.

⁵Kroeber and Gifford, p. 15.

⁶L. M. O'Neale, *Yurok-Karok Basket Weavers*, UC-PAAE 32:31, 1932.

⁷*Ibid.*, pp. 17-19.

⁸Harrington, p. 103.

and one side. The nut shells are very hard, and the Karok make holes for stringing the beads by abrading the nuts on a rock. The string is of iris fibers.

There are not many places in Karok territory where digger pines grow, but there is a place up the Salmon River where the nuts can be gathered on the ground. The trees are not climbed to get the nuts.

17. *Pinus tuberculata*, Knob-cone Pine, Karok ishshwikipis, the nut oskihich, "imitation sugar pine nuts." The cones are gathered when ripe and are heated in a fire, being rolled from side to side. They are then turned upside down and tapped on a rock, when little nuts fall out. These are black, and are used to make beads and ornaments for dresses. Mary Ike says she does not know how they are perforated.

There is no special expedition to gather these nuts. They are gathered when seen, and if it is convenient, the cones are roasted and the seeds extracted at the time; otherwise, the cones are carried home.

18. *Pseudotsuga taxifolia*, Douglas Fir or Douglas Spruce, Karok tapush. The men go to the mountains to get boughs of this tree for sweathouse fuel. In carrying these, they sing ("cry") as they come. Each man selects his own tree and cuts the boughs off, leaving only a few at the top. The tree then becomes identified with the man and stands as a "memory tree" (ikthusa) after his death.

The boughs are considered both "good luck" and anti-septic. The boughs are used as "seasoning" when elk or deer meat is barbecued in the earth oven, the boughs being placed directly over the meat with a maple leaf mat on top of them.

Planks are made from this wood when a convenient tree is available.

Georgia Orcutt says that the salmon harpoon shaft is made of this wood, tipped with two foreshafts of *Amelanchier alnifolia* (123). The dip-net poles are also of Douglas Spruce, as is the hook for climbing sugar pine trees (13).

Soot, obtained by burning the pitch in a hollow tree, is rubbed into the punctures made in tattooing a girl's chin. This is done when she is about twelve years old. The punctures are made with pieces of quartz, the mother's brother's wife being the tattooer. Today, the younger generation calls the chin tattooing "One Hundred and Eleven," because the design is three vertical parallel lines.

The cones of this tree are used by certain participants in the Panamenik World Renewal ceremony. The archers rub the cones on each other's bare skin until the men cry out.⁹

Before a hunt, boughs of the Douglas fir are laid on the fire and the "gun" (bow and arrow) is passed through the smoke while a formula is sung. This keeps the deer from smelling the hunter and makes the hunt successful.

For medicinal use, see the account under *Artemisia vulgaris* var. *heterophylla* (237).

19. *Abies grandis*, Lowland Fir, Karok maxaisarip. The needles are boiled in a basket with hot stones and the infusion is drunk. This is a tonic taken any time of the year, not used only in illness. No formula is recited. No other use is made of any part of the tree, although the Hupa use the roots for basketry.¹⁰

REDWOOD FAMILY

20. *Sequoia sempervirens*, Redwood, Karok 'uekanpahiip, "coast pahip" (Bright).

⁹Kroeber and Gifford, p. 53.

¹⁰Goddard, Life and Culture of the Hupa, UC-PAAE 1:39, 1903.

CYPRESS FAMILY

21. *Libocedrus decurrens*, Incense cedar, Karok ichiwananeiach. Boards are made from this tree. The boughs and twigs are sometimes used as brooms. It is not used as medicine.

22. *Chamaecyparis lawsoniana*, Port Orford Cedar, Lawson Cypress, Karok kupurriip. Planks of this wood are used in building sweathouses. When a suitable log is found lying on the ground, the men burn it into desired lengths. These lengths are then split into planks with an elkhorn wedge (paraam) and stone maul. The initial split is made with a wooden wedge driven with a boulder. Sometimes a standing tree is selected and is felled by burning around the base. The wood is thought to be very durable.

When a house is built, the main post is of this wood. A hole is dug, cedar bark is put in, and then the post is set up. The bark serves to protect the post, which is apt to be a split piece.

Blocks of this wood are made into circular stools or are shaped into pillows or headrests and used in the sweathouse. The pillows acquire a polish from use.¹¹ Each section or quarter of the sweathouse has its own name, and the pillow is in place here. When a visitor comes, he is invited to take his place in a designated corner or section.

Branches are used as brooms, but are inferior to those of *Vaccinium parvifolium* (185) for this purpose.

YEW FAMILY

23. *Taxus brevifolia*, Western Yew, Karok xupari. The wood is used to make bows, whittled to shape with a sharp stone. Goddard describes the Hupa manufacture of the bow from this wood.¹²

The Karok scrape the bark off the twigs and boil it, and the liquid is drunk for stomachache. No charm (formula) is needed. The bark is also used as a handle or covering for a stone knife. The stone blade is smeared with pine pitch and then the bark is tied on with iris-fiber string.

Tobacco pipes are made of this wood, also of syringa wood, *Philadelphus lewisii* var. *gordonianus* (105), or the wood of any of the four manzanitas, *Arctostaphylos*¹³ (180-183).

BUR-REED FAMILY

24. *Sparganium simplex*, Karok tapraratumnyuaich. The Karok do not use this. Mary Ike gave the same name for both this species and *Juncus ensifolius* (38).

GRASS FAMILY

25. *Bromus hordeaceus*, Karok ikravapu, "pounded." This is a food grain that "has always grown here." It is gathered about the first of July. A special tightly woven burden basket is held somewhat sidewise and under the grass, and the grass heads are struck toward the basket with a stick. The grain is then put in a tight shallow winnowing basket (muru) with coals of black oak bark (achtuun) and is shaken around to parch. Then the chaff

¹¹For shapes of pillows and stools, see Kroeber, Handbook of the Indians of California, BAE-B 78, 1925, pls. 10 and 19.

¹²Goddard, p. 32.

¹³Harrington, p. 135.

is winnowed away, the basket being tipped slightly and struck on the bottom with a stick. This parching is all the cooking this grain requires. It is then pounded on a hopped mortar. (The basket hopper is called *ikkiramnam*.) The meal is mixed with water into a gruel and eaten without further cooking.

26. *Bromus rigidus*, Karok *aktipannara*, is gathered and prepared like the preceding species.

27. *Glyceria fluitans*, Manna Grass. No Karok name and no use.

28. *Poa annua*, Blue Grass, Karok 'achichtunveechas, "little lice" (Bright).

29. *Briza minor*, Quaking Grass, Karok 'apsun'axraan, "snake tracks" (Bright).

30. *Elymus glaucus*, Western Rye Grass, Karok *purukuri*. This yields edible seeds, which are parched in a basket with hot coals and pounded into flour. The flour is mixed with water and eaten as a paste. It is also used as "medicine" to settle quarrels between families or individuals. This medicine can be made only once, but it works.

31. *Hordeum leporinum*, Wild Barley, Karok 'akeiip (Bright). In Jepson's manual this species is included under *Hordeum murinum*.

32. *Hordeum murinum*, Wall Barley, Karok *sitapvuuy*, "mouse-tail" (Bright).

33. *Avena sativa*, Cultivated Oat, Karok *ikravapu*, "pounded." Used as food.

34. *Aira elongata*, Karok *ikravapuishnanich*, "imitation *ikravapu*." This no longer grows in the region. The grain was lighter in weight than the *ikravapu* (33). It was gathered by cutting off the grain heads.

35. *Torresia macrophylla*, California Vanilla Grass, Karok *kitikuhara*. Dogs eat this when they feel sick. It is used as a medicine for a woman who has a miscarriage. A formula is spoken over the plant, which is then soaked in water, and the woman drinks the water. A pregnant woman also drinks this to prevent the foetus from getting too large.

SEDGE FAMILY

36. *Scirpus acutus*, Common Tule, Karok *taprara*, is used for making matting.

37. *Carex leptopoda*, Karok *katikuxara*. No use.

RUSH FAMILY

38. *Juncus ensifolius*, Karok *tapraratumnyuaich*, "make-believe *taprara*." Cf. *Sparganium simplex* (24). This has no value, but is sometimes used in teaching little girls to make baskets.

LILY FAMILY

39. *Xerophyllum tenax*, Elk Grass or Fire-lily, Karok *panyura*, "wildgrass." This is an important material in basketmaking.¹⁴ It is gathered in June and July in the mountains "away from here" in areas which have been burned over by the Indians during the preceding year. It is gathered after the burning because then only new green leaves will be on the plant and it is more easily picked and worked in this state. Some women insist they can use only plants that have been burned over, whereas others say the burning is not necessary. Georgia Orcutt says you cannot possibly use this grass unless it has been burned over the previous year.

Mary Ike sometimes splits off fibers by holding a hair of her head taut and inserting it in a split end of the leaf,

which she then pulls so that the hair splits it for its full length. The Hupa use this plant in the same way as the Karok, for basketry and for dress ornaments.

40. *Veratrum californicum*, Corn Lily, Karok *oxorupan*, "shred the stem." The inner white stem of this plant is torn into ribbons, which are braided into the girls' hair for ornament. The plant has no other use.

41. *Schoenolirion album*, Karok *basrakupkam*. The plant is of no economic value, but people amuse themselves by putting the large leaf over their teeth, sucking in the breath, and so breaking the leaf with a snapping sound.

42. *Chlorogalum pomeridianum*, Soap Plant, Karok *imyuha*. The bulb is eaten after being roasted in an earth oven like other bulbs ("potatoes"). See *Brodiaea laxa* (46). It is then eaten by separating the layers of the bulb, much as we eat artichokes.

Georgia Orcutt describes cooking it as follows. A pit is dug and lined with stones. A fire is built in it, and as soon as the fire burns out, the ashes are removed. Poison oak leaves, huckleberry leaves, and grape leaves are placed on the hot stones and the bulbs are laid on them, then more of the same leaves, then more bulbs and more leaves. Over this are spread sand and ashes, and a fire is built on top. Next morning the bulbs are taken out, and they "smell good." The leaves are like "sticky paper," from the exuded mucilaginous juice.

The fibers that remain after the bulbs are eaten are used to make a small brush (*tashirawa*). A handful of fibers is doubled over the end of a stick at right angles to the stick. Coarser fibers from the outside of the bulb are woven into the finer fibers to hold them in place. The brush is used to sweep the inside of the basket hopper when acorns are pounded.

This bulb, pounded and mixed with water, is also used as a detergent for washing clothes. In cleaning a buckskin dress this mixture is put on the fringe of the dress and the dress is pounded on a rock with a stick. It is rubbed with soap root and white clay from near the river and stretched over a burden basket to dry. Then it is rubbed with *Fomes pinicola* (3) to whiten it still more. Buckskin blankets are similarly treated.

43. *Chlorogalum angustifolium*, Karok *xanchusa*. Georgia Orcutt says this bulb is used in the same way as the preceding species. She calls both plants by the English name "soap root."

44. *Alium bolanderi*, Wild Onion, Karok *hanach'yu*, is used precisely like *Alium acuminatum*, which follows.

45. *Alium acuminatum*, Wild Onion, Karok *hanach'yu*, is relished by only old men and old women. It tastes like garlic. In the music for the Kick Dance there is a song about these onions.

46. *Brodiaea laxa*, Grass Nut, Karok *pufish tayish*, "deer potato," because the deer eat the blossoms. People eat the root, which they dig with a stick called *wayip*. They dig a pit, line it with rocks, and build a fire in it. As soon as the fire has burned out, the pit is cleaned of ashes and the cleaned bulbs are put in on a mat of fresh maple leaves, then another mat of maple leaves is laid over them. Madrone leaves are put on top of this, then hot rocks. The hot rocks are covered with earth and on this a fire is built. The bulbs are eaten the next day when the pit is opened.

47. *Brodiaea capitata*, Blue Dicks, Karok *tayii* (Bright).

48. *Brodiaea ida-maia*, Firecracker Plant, Karok *ichyuniha tayish*, "throw-down potato." The seed pods of *Brodiaea ida-maia* are dried and hung up as ornaments. They keep a long time.

49. *Calochortus pulchellus*, Golden Lantern, Karok *xavin*. The bulb is baked in the earth oven and eaten.

¹⁴O'Neale, p. 21.

50. *Lilium rubescens*, Chaparral Lily, Karok xiripipich, "throw away famine." No reason is given for the name. The plant, which grows abundantly near the river, is not used.

51. *Lilium occidentale*, Eureka Lily, grows only on "high places." The bulb is baked in the earth oven, like other bulbs, and eaten. Mary Ike calls it "bitter xavin," xavin being the Karok designation for *Calochortus pulchellus* (49).

52. *Lilium pardalinum*, Tiger Lily, Karok matayish, "mountain tayish." This is the most highly regarded of the bulbs. Mary Ike likes it very much. It is dug in the fall and cooked in the earth oven like other bulbs.

53. *Disporum smithii*, Fairy Lantern, Karok pottat'tui, is not used. The squirrels eat the berries.

54. *Smilacina amplexicaulis*, Fat Solomon, Karok pikwasahich, "imitation leather." The root is called anupuhich, "imitation navel."

The root is put on the navel of a child after the umbilical cord is cut, to keep it well. Or, if the navel protrudes, this root is also put on the navel to make it grow right. No spoken formula is needed.

55. *Trillium ovatum*, Coast Trillium, Karok anupuhich, "imitation navel." The Karok name has reference to the root's resemblance to *Smilacina amplexicaulis* (54).

The root is used as medicine for boils. It is scraped until the juice comes and is then placed immediately over the boil and allowed to stay. When it is taken off, it has brought the boil to a head. No formula is used with this.

56. *Trillium rivale*, Karok pikvasahiic, "imitation feathers which stand up in headdress" (Bright). So called on account of its flowers, which suggest to the Karok the red woodpecker feathers used in dance costumes. No use is made of the plant.

IRIS FAMILY

57. *Iris macrosiphon*, Ground Iris, Karok a'appakash, "rope material," or, according to Harrington, pa'a'pka'as.

This is one of the most important plants because fish nets and deer nets are made from it. The leaves are dried and then scraped with a musselshell scraper. Two holes are made in the shell and a thong is put through them. The first finger is then pushed through the thong loop, while the shell is held in the palm of the hand, or the shell may be held in the palm of the hand without the thong. With this the two outer fibers of the leaf are separated and cleaned. The fibers are dried again, and then twisted together by being rolled along the front of the thigh. Cord of various sizes, according to the needs, is made.

This string or cord is used not only to make fish nets but also for camping bags, snares for deer and other game, traps, etc. Woodpeckers are caught with nets made of this cord.

Georgia Orcutt says that women prepare the fibers with the musselshell scraper, but that men make the twine. They make it when they are sitting around in the sweathouse. The men make the nets, too.

Mary Ike calls certain iris plants aachirira aappakash, "bird aappakash," and says they are not used for anything. A specimen taken for identification proved to be *Iris macrosiphon*, not *Iris missouriensis* as first supposed.

58. *Iris macrosiphon* var. *purdyi*. This specimen has been identified by Professor H. L. Mason. This variety is also used for rope.

ORCHID FAMILY

59. *Habenaria elegans*, Rein-Orchis. Mary Ike does

not know the Karok name for this plant. It is not used.

60. *Peramium decipiens*, Rattlesnake Plantain, Karok achnapucht, "ring-tailed cat's ears." This plant is not used by the Karok.

61. *Epipactis gigantea*, Stream Orchis, Karok pinef yukuku, "coyote shoes." The Karok have no use for this plant except for its "pretty flowers."

WILLOW FAMILY

62. *Salix laevigata*, Red Willow, Karok kufip furak, "red kufip." This species grows along the river and is used as a protective charm by those ferrying turbulent waters. Cf. *Salix sitchensis* var. *coulteri* (65).

Georgia Orcutt says she uses the roots to make baskets; she also uses the twigs, when they are "nice," for warp sticks.

63. *Salix sessilifolia* var. *hindsiana*, Sandbar Willow, Karok pa'arak. The twigs are used to make the warp sticks for twined baskets. They are first gathered in April, and again in August when the new shoots are big enough to use and the twigs are most easily peeled. After they are peeled, they are allowed to dry and are tied in bundles to be used when needed.

The roots of this plant are also basket material. They are gathered in the winter after the river has receded, exposing the roots. The smaller roots are gathered, scraped, and dried, and used on the inside of the overlaid twined baskets. The root fibers are called ishcha'sip.¹⁵

64. *Salix scouleriana*, Nuttall Willow, Karok kufip inara. This species grows only in wet places. The root is the best material the Karok have for both fire drill and fire hearth, according to Mary Ike, who knows no other use for the plant. Georgia Orcutt, on the contrary, says this is not used to make fire, that only *Salix sitchensis* var. *coulteri* (65) is so used.

65. *Salix sitchensis* var. *coulteri*, Velvet Willow, Karok kufip, "pussy willow" (which would seem to be an English rather than a true Karok designation). The roots are used in basketmaking, like *Salix sessilifolia* var. *hindsiana* (63). The twigs are used by fishermen to string salmon through the gills. Salmon steaks are strung on them to dry, the sticks being thrust through the salmon in three places so the meat is kept stretched nicely.

A fresh branch of this plant tied to the bow of a boat is a charm against danger when one is crossing the river in high water. The proper charm formula must be recited by someone who knows it, usually by a woman.

The root of this willow is used as a fire drill, as well as fire hearth. (Cedar hearths are also used, and shredded cedar bark is used as tinder.)

Georgia Orcutt says the formulist priest of the World Renewal cult makes fire with a hearth of kufip root and drill of kufip branch. She says she has seen it done, but only ceremonially.

Near Mary Ike's house is a thicket of this willow, which they beat with a stick to make the wind blow on hot days.

66. *Populus trichocarpa*, Black Cottonwood, Karok ashappip. A love medicine is made of the leaves of this tree. The proper formula is sung when the medicine is made.

Georgia Orcutt says she uses the roots for baskets; see also the statement by O'Neale.¹⁶

¹⁵See O'Neale, p. 16.

¹⁶Ibid., p. 14.

BIRCH FAMILY

67. *Alnus rhombifolia*, White Alder, Karok kiwitip. The roots, used for baskets, are called akiwitippishchash. The dye derived from the bark is called aiopa.

For dye, the inner bark of this tree is dried and ground up, mixed with flour (?), and allowed to stand in the sun. Then the dried Chain Fern (8) fibers that are to be dyed are put in this and water is added; or the pounded bark is soaked in water, and the fern is dyed in the infusion.

Alder roots are used for the inner fibers of some overlaid twined baskets. These are gathered and prepared in the same way as the willow roots. These fibers are not so good as fern or bear grass, but are used for caps and other things that need not be strong or waterproof.

The wood is used in smoking salmon, eels, and deer meat. The salmon dry in two or three days, but eels take longer. Georgia Orcutt says only alder wood is used for this purpose.

68. *Alnus rubra*, Red Alder, Karok akvittip. Roots used in basketry.

HAZEL FAMILY

69. *Corylus rostrata* var. *californica*, California Hazel, Karok assis; the nuts, assis huntapan.

The nuts are eaten in season or gathered and stored in large storage baskets, like acorns.

Sar'ip, hazel sticks, are prepared for baskets, including tobacco baskets,¹⁷ the young hazel shoots being used for baby baskets (stahst tui). A bush is burned and the next year the young shoots are gathered, peeled, and dried for about three weeks. Carrying baskets are also made of hazel shoots.

Withes are twisted to make rope, and serve many purposes¹⁸ as lashings.

Hazel poles are used on the fish-trigger or set net.

Georgia Orcutt says there used to be more hazel nuts than now, and that the hazel shoots were better when the brush was burned down each year. "Now the brush has grown up all around, and nothing is any good any more."

Bent hazel wood is used as the heavy part of the frame for snowshoes. The pieces are about one-half inch in diameter.

OAK FAMILY

70. *Quercus garryana*, Oregon Oak, Karok axaweiip; the acorns, axawham. The acorns of this species do not have as good a flavor as those of the favorite Tan Oak but are eaten when the latter fail. They are hard to pound into meal.

The bark on either side of a knot of this tree is gathered for medicinal use. After the proper formula is sung, the pounded bark is rubbed on the abdomen and sides of a young mother before her first baby comes. She also drinks a little of a warm infusion made by putting a hot stone in a cupful of the bark and water.

71. *Quercus sadleriana*, Deer Oak, Karok yawish, the name of both tree and acorn. This species, a small tree-bush, grows on mountain slopes. A United States Forest ranger told us that the acorns are so sweet they can be eaten as picked. The acorns look and taste like those of *Quercus garryana* (70). The Karok do not grind these into flour, but shell and parch them in a flat basket with coals and eat them without further preparation. Acorns prepared in this way are called tamiuru.

¹⁷Harrington, p. 103.

¹⁸O'Neale, p. 15.

72. *Quercus chrysolepis*, Maul Oak or Cañon Oak, Karok xanputip; the acorns, xanput. The acorns are eaten.

73. *Quercus kelloggii*, California Black Oak, Karok xansipi; the acorn, xansiip. This acorn is made into houn ("acorns"), but is of less dietary importance than *Quercus garryana* (70) or *Lithocarpus densiflora* (74).

74. *Lithocarpus densiflora*, Tan Oak, Karok xunyeip; the acron, xuntapan. This is the most important of the acorn foods. Acorns are gathered in early fall (October). When gathering, each family has a special place where they "pick up" fallen acorns; there is no trouble between families. Mary Ike's family gather theirs at a place called Ukramislikira ("where the lake stands"). While gathering, the people live in shelters made of pine bark pried from the trees with an elkhorn wedge (paraam). They are usually engaged in acorn-gathering for about a month.

Mamie Offield says the trees are better if they are scorched by fire each year. This kills disease and pests. Fire also leaves the ground underneath the trees bare and clean and it is easier to pick up the acorns.

The following process is used in the preparation of any acorn, but those of the Tan Oak are most used because they are the most plentiful and best liked.

When the acorns are picked up, the women crack them with their teeth to take the shell off. Sometimes a group of women tries to see which can fill a basket with shelled acorns first, cracking them all with their teeth.

The name of the shelled meat is xurish; shells that are thrown away are called xuran. The shelled meats are put to dry in basket plates, which are shaken occasionally to roll the meats around and get the thin brown skins off. Then they are winnowed in basket trays and stored in big baskets inside the house. Sessua is the frame over the fire, where the acorns are dried quickly so they will stay sweet.

The women take out as many acorns as they need at a time, usually from one to three basket caps full, and pound them for the family's food. One cap full is called apxantya.

Acorns are pounded in a hopped slab mortar and the meal is sifted in a tight, flat basket, the coarse stuff being removed by tapping the basket with a stick. The fine meal is then poured into an acorn basket (ashippara), which should not have fern in the design. They take the meal to the river and place it in a sand leaching basin. They then pour over it water of increasingly higher temperature until the tannic acid is leached out by the percolating water. They taste the meal and then take it out by hand carefully, washing off the sand, and put it into an acorn basket. They pack it home, put it in a cooking basket (sarampuuk) with water, and add hot stones to cook it. The gruel is stirred with paddles of maple or madroño wood.

Each person has his own acorn cup (patara). For serving, the patara is filled with hot acorn gruel and salmon is placed on a basket plate (imvarum) set on top of the acorn bowl. The elkhorn spoon (ishuxeishurashiki) is placed on top of all. This is the service for a man; the cock eats from the cooking basket. When a woman is neat, each man of her family has his own individual acorn cup, marked by its design. The cups are taken to the river after a meal and washed with a brush made from fibers left over after basketmaking. Then the cups and plates are laid out to dry.

75. *Lithocarpus densiflora* var. *echinoides*, Scrub Tan Oak, Karok xunyeiis, the name of both bush and acorn. This is a small bush with small acorns, but these are also eaten. They are prepared in the same way as the acorns from the Tan Oak tree and they taste the same. If there is a shortage of Tan Oak acorns, people go on the mountains and collect the Scrub Tan Oak acorns.

76. *Castanopsis chrysophylla*, Giant Chinquapin, Karok sonyisip; the nut, sonyisi. The nuts are gathered and eaten like hazel nuts. They are cracked with the teeth. If there are enough, they are stored in big baskets; otherwise they are eaten when found.

NETTLE FAMILY

77. *Urtica gracilis*, Nettle, Karok 'akviin (Bright).

78. *Urtica californica*, Coast Nettle, Karok anievxaat, "smells like under arm." The plant is not good for anything.

MISTLETOE FAMILY

79. *Phoradendron villosum*, Common Mistletoe, Karok 'anach'uhish, "crow seed" (Bright).

BUCKWHEAT FAMILY

80. *Rumex conglomeratus*, Green Dock, Karok absumxarak,¹⁹ "water monster weed." This is an introduced European plant, yet the name means "what the water monster lives on." Here the mythological reference does not prove antiquity.

The plant is used as medicine, with a spoken formula. It is stone-boiled in a basket with water and the patient is steamed. The water monster is also invoked by a formula to put out fires.

81. *Eriogonum nudum*, Tibinagua, Karok tahukannaich, "imitation hook." The sour-tasting young stems of this plant are eaten raw as greens. The children play a game with the stems by hooking each other's plant, hence the native name. The one who lets go is the loser. White people boil the plant to make a medicine for kidney and bladder trouble, but the Karok do not use it in this way.

82. *Eriogonum nudum* var. *oblongifolium*. Mary Ike says this has the same Karok name as the preceding variety, and is used in the same way.

83. *Eriogonum ursinum*. This is plentiful in the higher hills, but Mary Ike did not know the plant.

FOUR-O'CLOCK FAMILY

84. *Mirabilis greenii*, Karok yupshitanachpirish, "knee and ankle." This grows only on the mountain, not down on the river. It is good medicine with a formula to make a new-born baby healthy.

Georgia Orcutt says for all such medicines it is necessary to have the fresh plant. If it is winter, a person who knows the plant may be able to get the root. Herbs are not collected and kept in the house, except *Osmorrhiza nuda* var. *brevipes* (160).

PURSLANE FAMILY

85. *Calyptidium umbellatum*, Pussy Paws. No Karok name or use.

86. *Montia sibirica*, Indian Lettuce, Karok chishihiiich, "make-believe [imitation] dog." Children play a game with the fresh flowers, after removing the leaves from the stems. Each of two players holds a stem in his hand, and tries to hook his flower around his opponent's flower. When the flowers are engaged, the players pull and the one whose flower head comes off loses. It is done over and over, and a score is kept.

PINK FAMILY

87. *Silene californica*, Indian Pink, Karok pinef ichishsrixa, "coyote flower," is not used for anything.

88. *Silene campanulata*, Karok yupshitanachpirish. Used as medicine for babies.

BUTTERCUP FAMILY

89. *Aquilegia truncata*, Columbine, Karok kishwufsan-sanhitihan, "leaves like kishwuf," *Osmorrhiza nuda* var. *brevipes* (160). The plant is not used for anything, but is known for its pretty blossom.

90. *Delphinium decorum*, Larkspur, Karok kunihare-kxurikkar, "thing for decorating arrows." The flowers are pounded in a small stone mortar (here, a small round hole in a boulder), mixed with salmon glue and fresh berries of *Berberis aquifolium* (94), and used to paint arrows and bows. There are various painted designs.

91. *Ranunculus occidentalis*, Karok mutmuut (Bright).

92. *Clematis lasiantha*, Pipe-stem, Karok pinef tatauwa, "coyote's sting" or "coyote's trap." See 218.

This plant is not used, but it figures in the story about Coyote, who set snares to catch young girls and make them fall down so he could have his way with them.

The Karok give the same name to the honeysuckle vine, *Lonicera hispidula* var. *californica* (218), which figures in the same story.

SWEET-SHRUB FAMILY

93. *Calycanthus occidentalis*, Spice Bush or Sweet Shrub, Karok oshoxurip. "It is not good for anything."

BARBERRY FAMILY

94. *Berberis aquifolium*, Mountain Grape, Karok eieunan'aay, "Oregon Indian's grape" (Bright). The berries, said to be poisonous, are not eaten. The root is a good medicine in all kinds of sickness. It is boiled and the liquid is drunk; no charm (formula) is needed.

Mary Ike says that when anyone has "yellow fever" (pneumonia?), the leaves and roots are used to steam the sick person. One or more, usually several, herbs are placed in water in a basket, the water is heated to the boiling point with hot stones, and then the basket is put close to the patient so he gets the steam from it. In old days, the treatment was usually administered under a cloth or skin. When this species is used this way, it requires a spoken formula; in other words, it is prepared as a charm medicine. See *Delphinium decorum* (90) for its use as a dye.

95. *Berberis nervosa*, Oregon Grape, Karok eukinpirish, "bile plant" (Bright).

96. *Vancouveria parviflora*, Inside-out Flower, Karok absikkinayachis. No use.

LAUREL FAMILY

97. *Umbellularia californica*, California Laurel, Karok pahip; the nut, pah. The nuts are picked up off the ground, hulled, and stored in big baskets. They are parched in the ashes of a fire, stirred around, cracked open, and eaten, often with acorn soup. Children throw the leaves into the fire to hear them crack like firecrackers.

Boughs of this tree, of *Pseudotsuga taxifolia* (18), and *Artemisia vulgaris* var. *heterophylla* (237) are buried in the coals of a fire to fumigate the house when colds and other kinds of sickness are prevalent. *Osmorrhiza nuda* var. *brevipes* (160) is used with the plants mentioned above, and is the most important ingredient. For medicinal

¹⁹Kroeber and Gifford, p. 25.

use, see account under *Artemisia vulgaris* var. *heterophylla* (237).

POPPY FAMILY

98. *Eschscholtzia californica*, California Poppy, Karok *sinvanahich*. This species is not used.

MUSTARD FAMILY

99. *Streptanthus tortuosus*. Mary Ike thinks this has been introduced recently and has no name for it.

100. *Lepidium virginicum*, Tall Pepper-grass, Karok *chantinihtuneshash*, "little tick." The plant has no use.

STONE-CROP FAMILY

101. *Sedum laxum* var. *heckneri*, Karok *xanvathich*, "imitation clam" (Bright).

SAXIFRAGE FAMILY

102. *Peltiphyllum peltatum*, Karok *kaaf*. The young shoots are eaten raw as green vegetables.

The roots are used as a medicine for a pregnant woman so that the baby will not be too large. A person who knows the formula "talks to" the plant. Then the roots are cut up and soaked in water, and the patient drinks the infusion.

103. *Boykinia elata*, Karok *mafukafich*, "make-believe *kafich*." The leaves are dried and are sometimes worn inside basket caps for their fragrance.

104. *Heuchera pilosissima*, Alum Root, Karok *kafichtunveech*, "little *kaaf*" (102) (Bright).

105. *Philadelphus lewisii* var. *gordonianus*, *Syringa* or Mock Orange. Karok *xawish*, "arrow wood." The young shoots are the most important source of arrow shafts, which have *Amelanchier alnifolia* (123) tips, not stone points.

Tobacco pipes are made by poking out the pithy center of the twig with a serviceberry stick. The following quotation refers to the use of *syringa* by the immortals (*Ikkareyavs*):

The *Ikkareyavs* were making flint-pointed arrows, and wooden pointed arrows, and Indian cards, and shiny sticks, and shiny tassels, and whistles too they were making, and comb sticks too they were making of arrow-wood, and they were making arrowwood pipes too, white ones.²⁰

106. *Ribes divaricatum*, Straggly Gooseberry, Karok *yufivkunish*, "crooked nose." The berries are eaten raw, not preserved. No other use is given for the plant.

107. *Ribes roezlii* var. *cruentum*, Gooseberry, Karok *axrattip*. When the gooseberries are ripe, the Karok gather them by holding a wood basket under the bush and hitting the branches with a stick. They carry the berries home and remove the prickles by rubbing a basket cup over the berries in the wood basket. Then the prickles and other rubbish are sifted out in a basket plate. The berries are eaten raw, they are not preserved.

ROSE FAMILY

108. *Physocarpus capitatus*, Nine-bark, Karok *tapashxavish*, "real *xavish*." The Karok make arrows from the shoots of this plant but otherwise do not use it. The arrows are flint-tipped, the only one of the three kinds of Karok arrows (the others are of dogwood and *syringa*) that have stone tips. War and big game require

this kind of point. Mary Ike says they used to dip the points in rattlesnake brains before a fight, but she never saw this.

109. *Spiraea douglasii*, *Spiraea*, Karok *makchukinhish*, "mountain-make-believe-crayon." This plant is not used by the Karok.

110. *Holodiscus discolor*, Cream Bush, Karok *pitiri*, "step on and flatten." The shoots of this plant are used to make "Indian cards." A set of little sticks is prepared by scraping ten-inch lengths of shoot clean of bark. All the sticks are straight and one is marked with a black mark. The dealer takes the set of sticks in his hands and, shuffling and singing and holding his hands behind his back, he tries to prevent his opponents from guessing where the black-marked stick is. If the dealer keeps the other side from guessing where the ace (black-marked stick) is for ten times, he wins. This is a gambling game.

The name of the set of sticks is *piyunen*. If a player loses badly one day, he "makes medicine" over his *piyunen*, that is, he repeats a formula. If he is a "pure person" and knows the formula, he will have luck when he gambles the next day, and his opponent will have body lice.

111. *Rubus parviflorus*, Thimble-berry, Karok *xapuxara*. The berries are eaten when ripe; they are not preserved. The roots are soaked in water and the water is drunk as an appetizer or as a tonic for a person who is thin.

112. *Rubus leucodermis*, Western Raspberry, Karok *paturupven*. The berries are eaten when ripe but are not preserved.

113. *Rubus vitifolius*, California Blackberry, Karok *ataichurip*. The berries are eaten in season but are not preserved in any way.

114. *Fragaria californica*, Wood Strawberry, Karok *uxnahich*, "little berry." The fresh berries are eaten when ripe but are not preserved.

115. *Potentilla gracilis* var. *rigida*, Five Finger, Karok *mahuxnahich*, "mountain imitation strawberry." This plant has no use.

116. *Rosa pisocarpa*, Karok *axanat sinvanahickams*, "drown-make-believe" and "something with stickers only." The Karok do not use the plant for anything, but they believe they should not touch the hips or the bush when it is in fruit; if they do they will drown.

117. *Rosa spithamaea*, Ground Rose, Karok *axanat sinvanahich*. The belief regarding danger of drowning is held in connection with this, as well as the preceding, species.

118. *Cercocarpus betuloides*, Hard Tack, Karok *weyip*. The hard wood of this plant is the only wood used for digging sticks, which are about three feet long and one inch in diameter, and pointed at one end. The sticks are charred in the fire and rubbed to a point on a stone. At present, the plant is rare in the *Somesbar* region.

119. *Osmaronia cerasiformis*, Oso Berry, Karok *puraf*. The berries are eaten by ground squirrels, but not by people.

120. *Prunus demissa*, Western Choke-cherry, Karok *purip*; the berry, *puun*. The berries are eaten when ripe; they are not preserved.

A medicine is made by scraping the bark off the twigs. The scrapings are put beside the nose of a little baby when it has a cold. No formula (charm) is needed with this.

The gum is used in fastening *Amelanchier alnifolia* (123) foreshafts on the end of arrows. It is also applied to the surface of bows and arrows when the design is to be applied with *Delphinium decorum* (90) paint. The gum is made into a ball, stuck on the end of a stick, heated a little in the fire, and rubbed on the surfaces to be painted.

121. *Prunus subcordata*, Sierra Plum, Karok *puumpurip*,

²⁰Harrington, p. 137.

"plum purip." In the Karok region the fruit is not used. It amounts to nothing but little berries and is not worth eating. "A better kind grows near the foot of Shasta," says Mary Ike. This Shasta variety is probably kelloggii.

122. *Photinia arbutifolia*, Christmas Berry or Toyon, Karok pushiip; the berry, pusiya. The berries are put on a basket plate in front of the fire, and turned until they are wilted, when they are eaten. They are not stored.

Children throw the leaves into the fire to hear them crack.

123. *Amelanchier alnifolia*, Western Service Berry, Karok afishiip; the berry afishiil. The berries are gathered and dried in the sun "like huckleberries." Then they are stored in big baskets, covered with the conical burden basket (aatikin), and set on the shelf that runs around the inside of the house. These berries are also eaten fresh.

Twigs and stems of this species are used to reinforce the rims of basket hoppers for pounding acorns. The wood is also used wherever a basket needs stiffening, or for making handles.

A piece of twig, about four inches long, is inserted as a point in the end of a syringa arrow shaft (furapu or xarish), and bound with sinew. This binding is smeared with gum from *Prunus demissa* (120).

Georgia Orcutt says the wood is used to make the fore-shafts of salmon harpoons.

PEA FAMILY

124. *Cercis occidentalis*, Western Red Bud, Karok saxayamsurip, "down-by-the-river-honeysuckle," is not used by the Karok; it is "just pretty."

125. *Lupinus latifolius*, Lupine, Karok mahamtapparas, "mountain amtapparas." This is not good for anything.

126. *Lupinus albifrons*, Karok amtapara. "Some that grow along the river are good for medicine, but what grows on the mountain is not used." This species is used as a remedy for stomach trouble. It has to be "talked to," that is, a charm or formula is recited. It is boiled in a basket with hot stones. The patient is steamed with it and also drinks the liquid. This treatment is useless unless a formula is recited; the patient has to hire a formulist to treat him. Even if the patient knows the formula, he cannot use it on himself, it would be ineffective. The formulist charges two and a half to three dollars, or five dollars for a serious case. A formulist of this kind is not a sucking shaman, but a "brush [plant] doctor."

127. *Medicago lupulina*, Nonesuch or Black Medick. This has no Indian name and no use, according to Mary Ike. She correctly states that it has been introduced.

128. *Lotus humistratus*, Hill Lotus, Karok imtanasuhan-pinishik, "little bastard bush." No reason is given for the Indian name. The plant is used as a medicine when a woman is in labor, but it is necessary to "talk to the plant," that is, to know the formula. Any person, man or woman, knowing the formula, can administer the medicine. The patient is washed with the warm water in which the plant is soaked. She also drinks the water.

129. *Vicia californica*, Vetch, Karok 'iknitiippanach, "fringed" (Bright).

130. *Vicia gigantea*, Giant Vetch. The Karok have no name for this plant, and do not use it.

131. *Lathyrus graminifolius*, Pea, Karok kushteitik. The Karok eat this as greens in the spring of the year, when it is tender.

OXALIS FAMILY

132. *Oxalis oregana*, Redwood Sorrel, Karok takannafich. The plant, if used with a formula (charm), is good for anyone who does not feel like eating. It is

not used as food by the Karok.

GERANIUM FAMILY

133. *Geranium dissectum*, Common Geranium, Karok 'atahvichkiinach (Bright).

134. *Erodium cicutarium*, Red-stem Filaree, Karok pinhiich, "imitation pin." "Probably introduced by whites since the name contains the loan word 'pin'" (Bright).

POLYGALA FAMILY

135. *Polygala cornuta*, Milkwort, Karok ikutunvaxaraharas. The Karok do not use this plant.

SPURGE FAMILY

136. *Eremocarpus setigerus*, Turkey Mullein, Karok isyarukpihriv munevxat. The Karok do not use this plant. The Karok name means "Across-Water Widower's stinking armpit." Across-Water Widower is a mythological character.

SUMAC FAMILY

137. *Rhus diversiloba*, Poison Oak, Karok kusveip. Mamie Offield says the Karok are never poisoned by this plant, but there is evidence to the contrary. They used to swallow a little piece of the leaf as a prophylactic in the spring of the year.

Twigs of this plant, called iyunawnval, are used to spit the salmon steaks when they are being smoked. Sticks of *Salix sitchensis* var. *coulteri* (65) are also used.

Georgia Orcutt confirms both of Mamie Offield's statements about this plant. She says she can tell by the taste whether dried salmon has been cured by stringing it on kusveip. She calls the sticks yunonwi.

The leaves are used to cover *Chlorogalum pomeridianum* (42) when it is cooked in the earth oven.

BURNING BUSH FAMILY

138. *Pachystima myrsinites*, Oregon Boxwood, Karok maxapuris, "mountain huckleberry." The berries are eaten when ripe but are not preserved. The Indians have no other use for the plant.

MAPLE FAMILY

139. *Acer macrophyllum*, Big-leaf Maple, Karok saan, the leaves sanpirish. Mats, called saantaaf, made of the leaves, are used to cover the layers of dried salmon stored for the winter in baskets. Madroño leaves are put on the top. The basket in which the fish is stored is of willow openwork; it is called sharip shipnu.

Maple leaves are placed under and between layers of the bulbs when they are being cooked in the earth oven.

The paddle for stirring the food in the cooking baskets is fashioned from maple wood.

140. *Acer circinatum*, Vine Maple, Karok mahsaan, "mountain saan," or sharis. This grows only on the mountains. It is used only as a "love medicine." "Let me turn into sharis. They look at me if I look like sharis." The woman waves a branch of sharis, as she sings the formula in a lonely place by herself.

BUCKTHORN FAMILY

141. *Rhamnus purshiana*, Cascara Sagrada, Karok xoutyeupin. This is used by the Karok today in an infusion of bark as a physic. It is said that it was so used

in "the old days." No charm is required.

142. *Rhamnus californica*, Coffee Berry, Karok akrapuk afishi, "ring-tailed cat berries." The Karok have no use for the plant.

143. *Ceanothus velutinus*, Tobacco Brush, Karok oyuhorrarip. The Karok put a few leaves in their basket caps and place the caps on their heads, "to smell good." It grows only on the higher mountains.

144. *Ceanothus integerrimus*, Deer Brush, Karok kisiriip. The deer eat this brush, hence the English name.

When anybody dies, the Karok make a medicine of the leaves and twigs of this plant, after they "talk to it." Everyone at the funeral takes a drink of the water and washes in it. A medicine can also be made from this plant for a woman who has suffered an injury in childbirth. This has a different formula from the medicine mentioned above.

The young Deer Brush shoots that grow after a forest fire are used to make baskets, as are the young hazel shoots. Mamie Offield claims that before the Forest Service came in there was no dense underbrush and therefore, when a forest fire occurred, it burned only the annuals, grasses, and so forth, and did not harm the forest trees. She says that these yearly fires prevented disease from attacking the forest trees. The people used to set fires every year.

145. *Ceanothus cuneatus*, Buck-brush, Karok poh'rip. This plant, which grows in impenetrable thickets, is not used by the Karok. They say that grizzly bears used to live in these thickets.

146. *Ceanothus prostratus*, Mahala Mat. Mary Ike does not know this plant.

VINE FAMILY

147. *Vitis californica*, California Wild Grape, Karok aiyi'pa, the fruit ai. These grapes are gathered and eaten when ripe; they are not preserved.

The vines are sometimes used to moor a boat. Sometimes the smaller vines are twisted to make a rope.

The small roots exposed after the high water of wintertime are very good material for baskets, according to Mamie Offield. Georgia Orcutt also says the grape rootlets are used in basketry. She says also that the leaves are put over bulbs when they are cooked in the earth oven.

MALLOW FAMILY

148. *Sidalcea malvaeflora* var. *asprella*, Checker Bloom, Karok anuhich, "imitation thimble." This plant is not used by the Karok.

ST. JOHN'S WORT FAMILY

149. *Hypericum perforatum*, Klamath Weed, Karok tsusinentalwara, "spoil the ground." Mamie Offield says this weed was introduced as cattle fodder by a man named Doolittle. The U. S. Forest ranger informed us that it came into the country from China in straw packing for dishes. Now it grows everywhere.

VIOLET FAMILY

150. *Viola sarmentosa*, Wood Violet. The Karok apply the term ichniahich, "flowers," to the blossoms, with which the children play.

LOASA FAMILY

151. *Mentzelia laevicaulis*, Blazing Star. The Karok have no name or use for this. Mary Ike says it is a "white man's" flower.

DATISCA FAMILY

152. *Datisca glomerata*, Durango Root, Karok ihyivkanva, "shout across." See *Heracleum lanatum* (164). Used as dye for basketry material.²¹

GOURD FAMILY

153. *Echinocystis oregana*, Hill Man-root, Karok tuush. This is not used by the Karok. It is said to be a poison like *Rhus diversiloba*.

MYRTLE FAMILY

154. *Myrtus communis*, Karok kisrip. An introduced plant used in basketry.²²

EVENING PRIMROSE FAMILY

155. *Zauschneria latifolia*, Karok punichi banich, "make-believe-huckleberry." The Karok sometimes pick the blossoms and suck the nectar from the end of the flower.

156. *Gayophytum humile*. The Karok have no name for this plant and do not use it.

ARALIA FAMILY

157. *Aralia californica*, Elk clover, Karok patarakuup. This plant is not used by the Karok. According to Mary Ike, it has a bad odor.

PARSLEY FAMILY

158. *Sanicula menziesii*, Gamble Weed, Karok pufich'imkaanva, "deer imkanva" (Bright).

159. *Sanicula bipinnata*, Poison Sanicle, Karok ikxash. The young greens are eaten.

This plant grows naturally in swamps. It is believed that even if you find it in a dry place, if you search you will find water near by. The water bubbles up in a little hole and disappears again soon. This is good luck water. When a woman is making baskets, she goes to it, if she knows where it is, and washes her hands. Then she will have good luck in making her basket and perhaps will sell it at a high price. When people are gambling, they go and wash their hands in a "lucky water." If you find a lucky water you do not tell anyone, but keep it secret, so that no unclean person will go near it.

160. *Osmorrhiza nuda* var. *brevipes*, Sweet Cicely, Karok kishwuf. The root of this plant is one of the most important medicines. It can be dried and kept in the house. The medicine requires a formula (charm) always, but it is used for almost anything. The house is smoked with it, if there has been illness in the house. The root is thrown on the fire at dances. If put under the pillow at night, it keeps sickness away. For headache, a little piece of the root is chewed. If a person is grieving over a lost relative, medicine is made from the root (with formula) and the mourner is bathed with the medicine.

²¹O'Neale, p. 31, where it is given as *Watsica glomerata*, evidently a misspelling.

A piece of the root is carried as protection against the "devil" (Karok apuruwa, Yurok um'a, Shasta uswa'e).

In the spring the young tops are eaten raw as greens.

It is very good luck to find it growing in a place where it has never been seen before.

Georgia Orcutt says this is the only herb that is dried and kept on hand in the house. It is good for "everything."

161. *Carum gairdneri*, Squaw-root, Karok upva'amayav, "good-tasting thing which is dug." The roots are cooked in the earth oven and eaten, but first they are dried until the skin gets loose. They are then rubbed in a basket plate (ararem' verum) until clean of skin and chaff, put in the pit, and covered with maple leaves like lily bulbs.

Georgia Orcutt says this plant does not grow near Orleans, but farther up the river.

162. *Carum howellii*. No Karok name or use was recorded.

163. *Ligusticum apiodorum*, Lovage, Karok sakusuhish (Mary Ike), kusuiwa (Georgia Orcutt). The roots are good medicine for a person who lacks appetite. The dried roots are soaked in water, which is drunk by the patient. It has to be "talked to," i.e., a formula must be recited.

164. *Heracleum lanatum*, Cow Parsnip, Karok ihyivkanva, "shout across." They use the roots to dye porcupine quills yellow, although the lichen dye is preferred for this purpose. See *Datisca glomerata* (152).

Mamie Offield says that the roots are poisonous to cattle, but that people eat the fresh shoots.

165. *Leptotaenia californica*, Karok muhish. The pounded root is smoked.²³ The roots are eaten raw.

The plant is good for a person who does not feel like eating. A formula is said to the plant and the roots are soaked in water, which is given the patient to drink.

This decoction also has to be "talked to," but the formula is different from the one recited over *Ligusticum apiodorum* (163).

166. *Pastinaca sativa*, Common Parsnip. This introduced vegetable is known only by its English name. It grows wild around Mary Ike's house.

167. *Angelica tomentosa*, Karok ishmucha, also mahimkanva, "mountain imkanva." The last Karok name refers to the root, whereas ishmucha denotes the young leaves, "the long sprouts that come in the spring." These are eaten raw as greens.

Medicine made from the root with a spoken formula is used as purification after a funeral.

SILK TASSEL FAMILY

168. *Garrya fremontii*, Bear Brush, Karok oshoxurip, "bitter sugar pine." This is bitter to the taste and is not used.

DOGWOOD FAMILY

169. *Cornus californica*, Creek Dogwood, Karok furah'puum. The branches were used for arrows, with tips of *Amelanchier alnifolia* (123) wood, not flint points.

170. *Cornus nuttallii*, Mountain Dogwood, Karok oya'amma. This is a good luck charm used by men. They gather the boughs, "talk to" the plant, put it on the fire in the sweathouse, and sweat with it. It is good luck because "the flower looks to the ocean."

HEATH FAMILY

171. *Chimaphila umbellata*, Prince's Pine, Karok hunyeip rukwtixa, "that which grows in the oaks." This is placed in the bed as a remedy for backache. Also, the leaves are boiled and the infusion is drunk; or the patient is steamed with the infusion. No charm is needed.

172. *Pirola picta*, White-veined Shin-leaf, Karok yumarepeisera. It is used to make medicine for a child who is sick, "looking like dead person." This medicine is administered by a shaman (man or woman), who sings the charm as he dips the plant in warm water (in a basket with a hot stone) and shakes it over the child. The song of the charm is short. It mentions "heaven" in an effort to bring the child back from death.

173. *Pirola asarifolia* var. *incarnata*, Karok achpush, the same as the name for some part of a fish, which C. Hart Merriam describes as "white stuff under salmon throat, inside." According to Mary Ike, this is used in the medicine made for the Brush Dance given to cure a child who is "goofy" (unmanageable, too lively). After the charm has been sung and the plant has been passed over the child, the plant is put into the basket with hot water and the child is steamed.

Georgia Orcutt says that achpush is used for medicine, but that the kind used in the Brush Dance is called xatsinnapich. Another achpush is found on the mountain; its root is dried and used with hot water as a drink for sore stomach.

174. *Hypopitys lanuginosa*, Pine-sap, Karok putin'hupara, "what-ought-to-be-underground sticking out." The Karok do not use this.

175. *Sarcodes sanguinea*, Snow Plant, Karok kutannav, "itch medicine."

176. *Rhododendron occidentale*, Western Azalea, Karok kyamsurip. The plant is known only for its pretty flowers.

177. *Rhododendron californicum*, California Rose Bay, Karok mahaxyamshurip, "mountain axyamshurip." After the men have taken the sweat bath to bring them luck they sometimes cut themselves with quartz flakes on the thigh or upper arm and then rub the leaves of this plant on the cut to make it smart. This is part of the luck-getting ceremony of the sweathouse.

178. *Gaultheria shallon*, Salal, Karok purisukams, "big huckleberry." The berries are gathered and eaten when ripe, but are not preserved.

Mamie Offield says her mother used the berries to rub over basket caps to stain them black.

179. *Arbutus menziesii*, Madroño, Karok koshr'i'pan, the tree; koshr'i'pish, the berry. The Karok gather the berries in the fall by shaking the tree or climbing up and shaking the branches. They store away the berries in storage baskets (ashipparakam, with an altikin basket as cover) after steaming them. A little water is put in an acorn-cooking basket and heated with hot stones. Then they fill the basket with madroño berries and put madroño leaves on top. After the berries are thoroughly steamed, they are dried on basket platters and stored. The prepared berries are called shivirawapu. They are soaked in warm water before eating, and sometimes they are mixed with pounded manzanita berries.

Madroño leaves are placed over the maple leaves in the earth oven, forming the last layer before the oven is covered with earth.

When a young girl goes to bathe in cold water as part of her puberty ceremony, she picks madroño leaves and throws them over her shoulder as she walks along with eyes downcast. She throws one leaf over one shoulder and another leaf over the other shoulder alternately as she goes along. This is for good luck. The woman relative

²³Harrington, p. 218.

helping in the ceremony sings the song, "It hurts me, I might step on it."

Madrõño is used as firewood in the ceremonial salmon cooking in the First Salmon ceremony.²⁴

180. *Arctostaphylos patula*, Green Manzanita, Karok pahaav or fae'uruhsa "round manzanita" (Bright). The black berries of this bush are good food when dried; they are not good eaten fresh. The dried berries can be stored.

Not many of these bushes grow near Katimin, which is near the confluence of the Klamath and Salmon rivers, but the species is more plentiful up the Salmon River. The berries ripen in September or later.

181. *Arctostaphylos manzanita*, Parry Manzanita, Karok fas'ip "fas tree"; fas, the berry. Three different fas are recognized -- this species, *A. nevadensis*, and *A. canescens*. They are all equally valuable and are used in the same way.

The Karok use manzanita wood for several artifacts: canes, spoons, tobacco pipes,²⁵ scraping sticks for acorn soup, and reels for string (i.e., netting needles).

The berries are gathered when ripe. The acorn basket (aship) is taken to the bush and the bush is shaken so the berries fall into the basket. They are then spread out in a flat basket (muruk) to dry in the sun and are stored in a storage basket (ashipparakam).

The dried berries are sometimes pounded, mixed with salmon eggs, cooked in a basket with hot rock, and eaten.

A drink is made by letting the berries soak in water, straining the water through a basket plate, or allowing the water to percolate through the berries. This is a "good" drink.

182. *Arctostaphylos nevadensis*, Pine-mat Manzanita, Karok apunfas, "ground fas." The berries are eaten like other manzanita berries.

183. *Arctostaphylos canescens*, Karok ohusukamfas, "The-fas-that-looks-down-toward-the-ocean."

184. *Vaccinium ovatum*, California Huckleberry, Karok purissipam, the bush; puriss, the berry. These berries are gathered in the fall -- preferably after the first frost, because they are sweetest then -- and are stored in baskets (ashipparakam).

Georgia Orcutt says huckleberry leaves are used to cover bulbs of *Chlorogalum pomeridianum* (42) in the earth oven.

185. *Vaccinium parvifolium*, Red Bilberry, Karok meisiipar. It grows only on the mountains and in the gulches.

The ripe berries are eaten raw. The best brooms are made from the stems and twigs of this plant, because they are pliable and do not break off as the *Chamaecyparis lawsoniana* (22) branches do.

PRIMROSE FAMILY

186. *Trientalis europaea* var. *latifolia*, Star-flower, Karok konyepxrichtahitihan, "that-which-grows-in-the-oaks." This plant has no use.

ASH FAMILY

187. *Fraxinus oregona*, Oregon Ash, Karok akravshiip. The bark has a special use. If a person who is "not right" --that is, is ceremonially impure -- comes along while any kind of medicine is being made, the charm made with this bark will prevent any bad effect on the medicine.

The wood is not used. Georgia Orcutt says she uses

the secondary roots for baskets, collecting them when high water has exposed them and the river has receded.

GENTIAN FAMILY

188. *Centaurium muhlenbergii*, Canchalagua. The Karok have no name for this plant and do not use it.

189. *Swertia nitida*, Fräsera, Karok mahkkapafich. No use.

DOGBANE FAMILY

190. *Apocynum androsaemifolium* var. *nevadense*,²⁶ Mountain Hemp, Karok apshunmunkichimkyam, "little brown snake's weed." The seeds are eaten raw. The plant is not used for cordage.

MILKWEED FAMILY

191. *Asclepias eriocarpa*, Karok mitimshaxiri, "popping gum." When the stem is very fresh, the Karok break it partway through in many places and catch the milk in a musselshell spoon, a leaf, or some other receptacle. Early morning is the best time for this operation. When enough juice is gathered, it is stirred and heated slightly until it congeals, when it is used as chewing-gum. Putting salmon fat or deer grease on it makes it hold together better in chewing; otherwise it goes to pieces quickly. Both young and old chew the gum, especially at World Renewal gatherings (pikiavish). The fibers are not used for cordage.

MORNING-GLORY FAMILY

192. *Convolvulus fulcratus*, Karok axapakaturahitihan, "climb-up-on-a-straw." This plant is used as a love medicine and requires a sung formula: "Up the creek, I'll use the water." Anyone can gather any plant required in charm medicines, if they know the right plant. Then they take it to the formulist (man or woman) who recites the charm.

GILIA FAMILY

193. *Navarretia squarrosa*, Skunkweed. No Karok name or use.

194. *Gilia aggregata*, Scarlet Gilia or Skyrocket. Mary Ike knows no name or use for this plant.

PHACELIA FAMILY

195. *Nemophila menziesii*, Baby Blue Eyes, Karok 'atmahavnikaanich, "that which sees the first salmon coming" (Bright).

196. *Draperia systyla*, Karok ahanatshinich, "goose-berry shine"; pirish'axvaahas, "waxy-leaves" (Bright) No use.

197. *Eriodictyon californicum*, Yerba Santa or Mountain Balm, Karok pirishaxwaharash, "plant with lots of pitch" (axwaha, "pitch"). "This is a good remedy for colds, pleurisy, and tuberculosis." The present practice is to boil the leaves, strain, and make a syrup with sugar. In old times, the leaves were boiled in a basket with hot rocks and the remedy needed a charm.

BORAGE FAMILY

198. *Amsinckia intermedia*, Karok 'imkaanvaaxvaah, "imkanva head" (Bright).

²⁶This seems to be var. *nevadense*, although the specimen was collected at Somesbar, Siskiyou County, which is outside the recorded range of the variety.

²⁴Kroeber and Gifford, p. 38.

²⁵Harrington, p. 147.

VERBENA FAMILY

199. *Verbena prostrata*, Common Vervain. Mary Ike does not know the name of this plant or any use for it. She thinks it was introduced, although Jepson does not so indicate.

MINT FAMILY

200. *Trichostema lanceolatum*, Vinegar Weed or Camphor Weed, Karok yufivmatnakvanna, "stinging the nose," that is, pungent, burning. This is put in bedding to keep fleas away.

201. *Nepeta cataria*, Catnip. Mary Ike knows this as "catnip," but has no other name for it and knows no use for it.

202. *Brunella vulgaris*, Self Heal. Mary Ike does not have a name for this, nor does she know of a use.

203. *Micromeria chamissonis*, Yerba Buena, Karok champinnishich, "meadow plant." The leaves are put in the hat and clothes as perfume. The vine is sometimes hung around the neck for the same reason. It is not used as medicine or food.

204. *Stachys bullata*, Hedge Nettle, Karok saushixara, "go-down-the-hill-and-wash." They pick this because it smells good.

205. *Monardella odoratissima*, Karok samkat, "meadow kat." This is one of the ingredients sometimes used when a "sweat medicine" is prepared. With the right formula, it can be made into a "love medicine," to be used by a woman.

It is picked and put inside the hat for the nice smell when one is going on a journey.

NIGHTSHADE FAMILY

206. *Nicotiana bigelovii* var. *exaltata*, Indian Tobacco, Karok avaraheira, the plant; "that which is smoked," prepared tobacco. They used to get the "starter plants" on the river bar across from Georgia Orcutt's place at Orleans. The seed is planted on the mountain in ground that has been prepared by burning the vegetation.

After the plant is grown, they pick different parts of it and call them different names. The outside of the stem is the strongest, the next is not so strong, while the center is the mildest.

They cure the leaves by putting them out in the dew, then taking them in and drying them, then putting them in the dew again for several weeks. The leaves are then stripped and rubbed in the hands to a fine powder and put away in special baskets (oshipnu), each strength tobacco in a different place, so they can be told apart. They keep seeds for next year's crop, hanging the seed pods in the house.

Harrington's volume on tobacco among the Karok should be consulted for a detailed discussion of this plant.

207. *Solanum nigrum*, Black Nightshade, Karok shishipuris, "dog huckleberry." This naturalized European plant is not used; it is known to be poisonous.

FIGWORT FAMILY

208. *Verbascum thapsus*, Common Mullein. "Belongs to the white man," according to Mary Ike. Naturalized European plant.

209. *Verbascum blattaria*, Moth Mullein. Mary Ike cannot give a name or use for this plant. She says it is "white man's flower," which is correct, since it is a naturalized European plant.

210. *Tonella tenella*, Karok maxaiyushich, "mountain-imitation-digger-pine-nuts." The plant is not used.

211. *Pentstemon laetus*, Karok ichiwohannahuich. This plant is one of the ingredients for making medicine for a person who is grieving and cannot get over it, like a parent grieving for a child. It is used both as a "steam" medicine and as a liquid that is drunk.

212. *Mimulus moschatus*. Mary Ike says this "grows by the river," but she does not know the name and there is no use for it.

213. *Mimulus cardinalis*, Karok patchimitkiin. Medicine for a new baby is made with this plant. It is soaked in water and the baby is washed with it. A formula (charm) is required.

214. *Castilleja parviflora* var. *douglasii*, Indian Paint Brush, Karok funahich, "little woodpecker-head." Children sometimes play with the flowers, treating them as woodpecker scalps, which are used as a form of money or wealth. It has no other use among the Karok.

MADDER FAMILY

215. *Galium triflorum*, Sweet Bedstraw, Karok akkwanwawup. "Love medicine" is made with this plant. It is gathered by a woman, who sings the charm (formula), and is laid beside her when she goes to sleep. This is the song: "I'm just only a poor woman and I bet you won't walk in the road for me."

HONEYSUCKLE FAMILY

216. *Sambucus glauca*, Blue Elderberry, Karok yahuush. The ripe berries are eaten, sometimes mashed, but not mixed with anything.

A flute is made of the lower branches.

During the Brush Dance for a sick child, the medicine man or woman uses a branch of this plant to sprinkle the child.

This is called "dead person wood," according to Harrington,²⁷ who says that the Karok did not make tobacco pipes of it.

217. *Symphoricarpos albus*, Snow Berry, Karok xanchifichpuris, "frog's huckleberry"; 'axnatsinnihich, "shiny gooseberry" (Bright). This is not good for anything.

218. *Lonicera hispidula* var. *californica*, California Honeysuckle, Karok pinef tatapuwa, "coyote's trap." The plant has this name because of the way it grows. (Cf. *Clematis lasiantha*, 92).

Coyote is supposed to stretch this over the road to trip young girls and make them fall down. Coyote said: "I'm glad, because then I can eat their _____."

BELL-FLOWER FAMILY

219. *Campanula prenanthoides*, California Hare-bell. Mary Ike knows neither name nor use for this plant.

SUNFLOWER FAMILY

220. *Agoseris gracilens*, Karok mikkimshakwa. The juice of this plant is sucked out of the root near the crown and is chewed like chewing-gum.

221. *Crepis acuminata*, Karok axarashpuuf. The stems are peeled and eaten raw as greens.

222. *Grindelia robusta* var. *patens*, Gum Plant, Karok offid. This grows on flats and is gathered in the spring and eaten raw as greens. The roots, boiled in a cooking basket, are used as a shampoo to kill lice in the hair. Today the Karok say it removes dandruff.

223. *Chrysothamnus nauseosus* var. *occidentalis*,

²⁷Op. cit., p. 136.

Karok oxuichpachi. Girls tie the stems and flowers on the end of their hair rolls as imitation mink skins, like the skins used in the Deerskin Dance.

224. *Solidago elongata*, Golden Rod. Mary Ike has no name for this plant and knows no use for it. She says it has come in recently, though Jepson's²⁸ discussion of distribution does not speak of it as an introduced species in the region.

225. *Erigeron philadelphicus*, Skevish. Mary Ike does not know any name for this or any use.

226. *Erigeron linearis*, Fleabane. Mary Ike knows no name or use for this.

227. *Micropus californicus*, Karok 'iekamahyaanaram, "thing to put feathers in" (Bright).

228. *Gnaphalium decurrens* var. *californicum*, California Everlasting, Karok mukiita. "Eye-medicine's grandmother" is what Mary Ike calls this plant, explaining that, although it greatly resembles the next species, it is of no use.

229. *Gnaphalium microcephalum*, White Everlasting, Karok ishkamakyannarav, "feathers-to-put-in." This is a very good eye medicine if the plant is "talked-to" (formula recited) and soaked in cold water. The eyes are washed with the infusion.

230. *Gnaphalium chilense*, Cotton-batting Plant, Karok 'amtapparas, "dusty" (Bright).

231. *Hemizonia corymbosa*, Coast Tarweed. The Karok have no name and no use for this.

232. *Madia elegans*, Common Madia, Karok maktunvechash, "little mak." This is not used as a food plant by the Karok, because not enough of it grows here, but they say the Hupa use it like "oat-flour" (grass seed). It grows in quantities on the Bald Hills near Hoopa. The Hupa burn the hills while the plants are still green but after the seeds have matured. After burning they take their "oat-baskets" (seed baskets) and gather the seed from the charred plants. It does not require further parching before being pounded. The flour is called maauk.

233. *Xanthium canadense*, Cockle Bur. No Karok name and no use.

234. *Anthemis cotula*, Mayweed, Karok nishitihich, "wart plant." So called because the flowers look like warts. It is good medicine for pregnant women if the formula is sung.

235. *Helenium puberulum*, Rosilla. Mary Ike says there is no use and no Karok name for this plant.

236. *Achillea millefolium* var. *lanulosa*, Common Yarrow or Milfoil, Karok achnatapvuyhich, "imitation rat's tail"; kuchich'apvuy, "lizard tail" (Bright). This is medicine for an open arrow or gunshot wound. The plant is gathered and the charm is said to it. The stalk and the leaves are put in water and then applied to the wound.

237. *Artemisia vulgaris* var. *heterophylla*, California Mugwort, Karok kaat. This plant is used medicinally. A shallow pit is dug in the dirt floor of the house. Hot rocks are put in the bottom and covered with earth. Then branches of this plant and of *Pseudotsuga taxifolia* (18) and *Umbellularia californica* (97) are laid on the earth. Over these herbs is spread a blanket, on which the patient is laid. He remains there as much as half a day while the steam comes up through the plants, which have been "talked to" before being put over the hot rocks. Branches of this plant are waved over the patient, while the medicine man or woman sings charms. This is very good medicine, "Makes you feel fine." It is supposed to be good for colds and about any kind of sickness.

A special charm (formula) is used when California Mugwort is administered as a drink to a woman to relieve the pains of afterbirth.

238. *Petasites palmata*, Sweet Coltsfoot, Karok kafichkamshash, "big kaf." This can be used as a medicine for a sickly baby. It is a "steaming" medicine, used with a charm. No other herbs are used with it.

239. *Centaurea melitensis*, Napa Thistle or Tocalote. There is no Karok name and no use for this. Mary Ike thought it was introduced.

UNIDENTIFIED PLANTS

The following plants were identified as to genus only:

A lily of the genus *Erythronium* (Adder's Tongue) was called by the Karok 'axpaheknikkinach, "thing to fasten on ceremonial headdress" (Bright). Three other lilies, perhaps *Brodiaea*, were named by Mrs. Ike as being eaten: tavis heiki (early "potato"), shirishtai, and ataichukinich.

An orchid of the genus *Cypripedium* (Lady's Slipper) was called by the Karok pinefyukuku, "coyote shoes."

A species of *Potentilla* (Five Finger), a member of the Rose Family, is called mutmut by the Karok. When the stem is green, the children make a little hole in it and whistle through it with a sound like "mut, mut, mut." Both boys and girls use this toy.

A species of *Godetia*, a member of the Evening Primrose Family, is called by the Karok anu'sihich, "make-believe-thimble." They do not use it.

A species of *Dodecatheon* (Shooting Star), a member of the Primrose Family, is called by the Karok aksanvahish, "imitation bad luck."

A species of *Plantago* (Plantain), a member of the *Plantago* Family, lacks a Karok name, according to Mary Ike. She says it is good horse feed. She thinks it was introduced.

Three plants for which Karok names were obtained have not been identified even as to family.

Shukinhich, "make-believe tattoo." Juice from the stem of this plant is dabbed on the arm by children, then soot is rubbed in to imitate tattooing (shukinha).

Tishram sivkurutvaraiva (tishram, "valley or flat"; kurutvaraiva, "to bend and sweep around"). This plant is used to offset the influence of an unclean person, who may drop in when "medicine" is being made. The plant is mixed with the other plants used for the medicine, and a formula must be recited to make the charm effective.

Xanpushinisenach, "hummingbird plant," from xanpushineshwe, "hummingbird." No use.

A certain mushroom, found in November, is cooked on coals and eaten.

CULTURAL SUMMARY

The following list is arranged on a cultural basis and includes plants referred to in mythology, although these are not, strictly speaking, utilized. We also list plants which the Karok do not use and those for which they have no names. We have omitted unidentified species and

those plants identified only as to genus.

For convenience, we use for the identified species and varieties the numbers given in the preceding account of species, that is, numbers 1-239.

²⁸Op. cit., p. 1035.

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COMPARATIVE NOTES

The Hupa, who inhabit the same forested region as the Karok, just east of the redwood belt, make much the same use of plants as the Karok, as far as the published records show. A comparison of Karok ethnobotanical data with those of central and southern Californian groups reveals some striking differences in the utilizations of plants and suggests an independent development of certain aspects of the northwestern culture.

Many of the Karok species occur also in central and southern California. A number of these are similarly used in all three regions. Sixty-two of the Karok species, however, or more than a fourth of the total of 239 discussed in this paper, are in whole or in part differently used or are not used at all in the central and southern gathering

economies. These 62 plants, with their botanical names, are listed below, numbered in accordance with the species list (pp. 377 to 390). The regional uses are indicated as follows: K, Karok; C, central California; S, southern California.

1. *Evernia vulpina*: K dye, C medicine.
7. *Pteris aquilina* var. *lanuginosa*: K no use, C basketry.
12. *Equisetum arvense*: K no use, C abrasive.
14. *Pinus ponderosa*: K basketry, C chewing gum, medicine.
16. *Pinus sabiniana*: K beads, C food, chewing gum, medicine.
18. *Pseudotsuga taxifolia*: K ceremonial, C basketry.

21. *Libocedrus decurrens*: K planks and brooms, C leaching.
40. *Veratrum californicum*: K "hair ribbons," C food.
41. *Schoenolirion album*: K amusement, C food.
42. *Chlorogalum pomeridianum*: K food, C food, fish poison.
52. *Lilium pardalinum*: K food, C wreaths.
61. *Epipactis gigantea*: K flowers, C medicine.
63. *Salix sessilifolia* var. *hindsiana*: K basketry, C no use.
66. *Populus trichocarpa*: K love medicine, C no use.
67. *Alnus rhombifolia*: K basketry, dye; C medicine, arrows.
80. *Rumex conglomeratus*: K medicine, C food.
89. *Aquilegia truncata*: K flowers, C food.
92. *Clematis lasiantha*: K no use, C medicine.
93. *Calycanthus occidentalis*: K no use, C arrow shaft.
98. *Eschscholtzia californica*: K no use, C medicine, S food.
108. *Physocarpus capitatus*: K arrow shafts, C food.
110. *Holodiscus discolor*: K gambling sticks, S food.
113. *Rubus vitifolius*: K food, C medicine, food.
116. *Rosa pisocarpa*: K no use, C food.
118. *Cercocarpus betuloides*: K digging sticks, C arrow tips, clubs, digging sticks.
124. *Cercis occidentalis*: K flowers, C basketry.
125. *Lupinus latifolius*: K no use, C food.
126. *Lupinus albifrons*: K medicine, C no use.
135. *Polygala cornuta*: K no use, C medicine.
136. *Eremocarpus setigerus*: K no use, C fish poison.
137. *Rhus diversiloba*: K oven cover, C basketry, medicine.
139. *Acer macrophyllum*: K oven cover, C basketry.
141. *Rhamnus purshiana*: K medicine, C food.
142. *Rhamnus californica*: K no use, C food, medicine.
143. *Ceanothus velutinus*: K perfume, C food.
144. *Ceanothus integerrimus*: K medicine, C food.
145. *Ceanothus cuneatus*: K no use, C digging stick.
148. *Sidalcea malvaeflora* var. *asprella*: K no use, S food.
151. *Mentzelia laevicaulis*: K no use, C medicine.
152. *Datisca glomerata*: K dye, C medicine, fish poison.
153. *Echinocystis oregana*: K no use, C food, fish poison.
157. *Aralia californica*: K no use, C medicine.
159. *Sanicula bipinnata*: K food, C medicine.
164. *Heracleum lanatum*: K food, dye; C medicine, food.
175. *Sarcodes sanguinea*: K medicine, C flowers.
177. *Rhododendron californicum*: K irritant, C tools.
179. *Arbutus menziesii*: K food, C drink.
180. *Arctostaphylos patula*: K food, C no use.
182. *Arctostaphylos nevadensis*: K food, C smoked.
187. *Fraxinus oregona*: K basketry, C bow, tobacco pipe.
191. *Asclepias eriocarpa*; K chewing gum, C cordage, S cordage, chewing gum.
200. *Trichostema lanceolatum*: K flea repellent, C medicine, fish poison.
203. *Micromeria chamissonis*: K perfume, S medicine.
205. *Monardella odoratissima*: K perfume, C medicine.
211. *Pentstemon laetus*: K grief "medicine," C no use.
212. *Mimulus moschatus*: K no use, C food.
213. *Mimulus cardinalis*: K medicine, C no use.
214. *Castilleja parviflora* var. *douglasii*: K playing, C nectar.
215. *Galium triflorum*: K love charm, C medicine.
217. *Symphoricarpos albus*: K no use, C medicine.
218. *Lonicera hispidula* var. *californica*: K no use, C basketry.
228. *Gnaphalium decurrens* var. *californicum*: K no use, C medicine.