

ANNOTATED LIST OF PLANTS

I. INDIGENOUS WILD PLANTS

The use of wild plants is declining, and very many foods, once popular, are now neglected. Villages, families, and individuals vary in this respect, and one informant speaks of the use of a certain plant in the present while another limits it to the past. The prejudice of the New Mexican Tewa against American drugs has preserved fairly well until now their knowledge of the plants' which they use as remedies. At Hano, however, the decline in native medicine is already far advanced.

TREES

Tenjo, 'large tubes' (*teŋ*, tube; *jo*, augmentative).

Abies concolor. White Fir, Balsam Fir.

The twigs are said to have been used for making pipestems.¹

The *kwæ*, 'balsam,' 'resin,' from the pimples found on the main stem and larger branches is used in the treatment of cuts.

The Fir clan (*Tenjoŋowà*)² of Hano is seemingly named after this tree. The Tewa of Hano are unable to describe the *tenjo*, which, they say, is not found within their present local range; but they speak of it as a tree common in the old Tewa country. The Fir clan is classed with the Cloud and Water clans; also with the Bear clan (*Keŋowà*) and the Stick or Plant clan (*P'etowa*), and bestows 'bear' and 'stick' personal names as well as names of its own, as:

tenjotŋaki, 'fir bunch.' M.

tsáŋwæ, 'green.' F.

'*awotsáŋwæ*, 'spread green.' F.

'*okjuŋse*, 'glaucous yellowness.' F.

kalatsaŋ, 'new leaf.' F.

ŋoseŋ, 'nut man.' M.

Te'jivi (*te'*, unexplained; *jivi*, ? to sift).

Negundo interius Box-elder. New Mexican Spanish *nogal*.

Pipe stems were made of the twigs of this tree.

The seeds of this tree are called *te'jivipobì*, 'box-elder flowers' (*te'jivi*, box-elder; *pobì*, flower), because of their winged, flower-like appearance (fig. I).

Tŋwŋ (possibly akin to *tŋwè*, to dye).

Alnus tenuifolia. Alder.

1 Young leaves of ? *Abies concolor* are ritually smoked in stone "cloud-blowers" by the Hopi. (See specimen 66057, Stanley McCormick Coll., Field Museum, Chicago.)

2 Cf. F. W. Hodge, Pueblo Indian Clans (*Amer. Anthr.*, IX, p. 350, 1896)--"Tényo-háno"[-ŋowà], "Pine" clan of Hano; also J. Walter Fewkes, *Nineteenth Ann. Rep. Bur. Amer. Ethn.*, pt. 2, p. 615--"Tenyúk," Hano "Pine" clan.

The bark of the tree, dried and ground fine, is boiled until it becomes red. When the liquid is cool, deerskin is soaked over night, and then is dyed red. Sometimes the bark is chewed and the juice is ejected on deerskin, which is then rubbed between the hands. Many of the alders have been used by noncivilized peoples in dyeing.

P̄innæ'ın tewàbe, 'mountain Tewa-fruit' (*p̄in*, mountain; *næ*, locative; *tewà*, Tewa; *be*, roundish fruit). Cf. *tewàbe*, 'Tewa fruit,' *Sericotheca dumosa*.

Betula fontinalis. Streamside Birch.

P'e ke'iq, 'hard stick' (*p'e*, stick; *ke*, hard).

Celtis reticulata. Hackberry.? New Mexican Spanish *palo duro*.

The Tewa and Spanish names are descriptive of the character of the wood. Whether the Tewa name is merely a translation of the Spanish remains to be determined. Handles for axes and hoes are now made of the wood.

The berries were eaten.

II.

Juniperus monosperma. One-seeded Juniper. New Mexican Spanish *sabina*.

This is the "common cedar" of the Rio Grande region. It is used largely for firewood by the New Mexican Tewa and also at Hano.

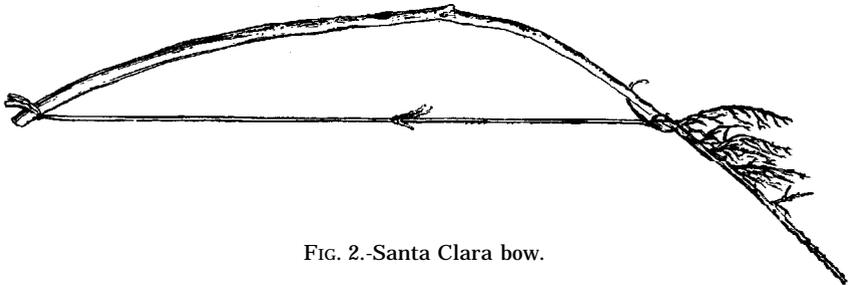


FIG. 2.-Santa Clara bow.

The bark is called either *hyqwiðè* (*hy*, juniper; *qwiðè*, shreddy bark); at Hano, *hyqwi* (*hy*, juniper; *qwi*, fiber); or *hyk'owà* (*hy*, juniper; *k'owà*, tegument, bark). It is in daily use as tinder and kindling material. Formerly it was used as tinder' in conjunction with flint and steel. Folk-tales at Hano represent that it would ignite merely from the heat of the sun. Long shreds of this bark, bound into compact bundles by means of *p'aqwi*, 'yucca fiber' (*p'a*, *Yucca baccata*; *qwi*, fiber), were formerly used as torches to give light in the houses and to carry light from house to house. At Hano the bark is used also to chink the walls and roofs of log houses built after the Navaho fashion.

In New Mexico the wood was used for making bows (see fig. 2). Small ceremonial bows of cedar branches, provided with yucca strings, are carried by some *katsina* at Hano, for instance, during the *k'awot'o*.

At Santa Clara the leaves, *hyka* (*hy*, juniper; *ka*, leaf), are used by women the third day after childbirth. The leaves are boiled in water; a little cold water is added, and the decoction is set beside the patient, who is left alone for a short time. She rises and bathes herself with the decoction and also drinks a small quantity. At San Ildefonso the treatment is the same, except that a woman stays to assist her to bathe.¹

At Hano a lying-in woman is fumigated on the fourth day after delivery with *hykala*, juniper leaves (*hy*, juniper; *kala*, leaf), placed on hot coals in a vessel; some families use another plant, but juniper is probably the one generally employed. Formerly the lying-in woman drank an infusion of juniper leaves during the first four days after delivery; but now, following the Hopi custom, she drinks plain warm water for twenty days.²

The juniper is regarded as "hot," and almost every part of it is a medicine for "cold" conditions. At San Ildefonso the leaves are used as medicine.

At Hano the leafy twigs, *hykala* (*kala*, leaf), after being toasted on the embers, are bound tightly over a bruise or sprain to reduce the pain and swelling.

At Santa Clara juniper gum, *hykwæ* (*kwæ*, gum, balsam) is used as a filling for decayed teeth. At Hano it is chewed as a delicacy.

The berries, *hypege* (*pege*, berry), are eaten by children and young people. Men bring home twigs loaded with the ripe berries to please their young relations. The berries are considered more palatable when heated in an open pan over the fire. At Santa Clara juniper berries, as well as a decoction of them in water, are considered an effectual remedy for every kind of internal chill, "because they are hot". They are said to be an active diuretic. At San Ildefonso the berries are eaten but not taken as medicine.

Juniper branches are used in a few ceremonies and dances. At Hano they are sometimes used as a hasty substitute for *tsele* (see p. 43); for instance, *tsonekatsina* from Hano and Sichomovi wore them on January 25, 1913. At Santa Clara the impersonator of an *'õk'wva* called *jund'i' sendo* (*jyn*, thrust; *sendo*, old man) or *hyqwi'pond'i' sendo* (*hy*, juniper; *qwi*, fiber; *po*, head; *sendo*, old man) wears a hat of juniper bark as a headdress.³

1 M. C. Stevenson, The Zuñi Indians, *Twenty-third Ann. Rep. Bur. Amer. Ethn.*, p. 297: "Hot tea of toasted juniper twigs and berries steeped in boiling water is drunk by a woman in labor to prevent constipation." See also this author's Ethnobotany of the Zuñi Indians, *Thirtieth Ann. Rep. Bur. Amer. Ethn.*, p. 55.

2 The Yavapai at McDowell, Ariz., who now use the leaves and twigs of the creosote bush(?) *Larrea glutinosa* to steam lying-in women four days after childbirth, and also drink a decoction of the leaves as a remedy for internal chill, say that they used juniper (*tyõka*) for these purposes as long as they lived in the mountains.

3 The impersonator of *kwikwiljaka*, "one of the older Hopi kachinas now seldom seen," wears a similar mat of juniper bark. See *tihu* of this kachina in Field Museum, Chicago (McCormick Coll., 65757).

Hypobli, 'Juniperus monosperma flower' (*hy*, Juniperus monosperma; *pobli*, flower).

Hwo (*hy*, Juniperus monosperma; *wo* (?)).

Juniperus scopulorum. New Mexican Spanish *cedro*.

The wood of this tree is red.

Pxi, 'deer piñon' (*pæ*, mule deer; *xi*, piñon tree).

Picea engelmanni. Engelmann Spruce.

This tree is found at the higher elevations where deer are more plentiful. It is said that deer are fond of staying among these trees.

Nwæy (cognate with Jemez *kwá*, *Pinus brachyptera*).

Pinus bachypterya. Rock Pine, Western Yellow Pine. New Mexican Spanish *pinavete*. (See pl. 2, b.)

At Hano two *nwæykala* (*nwæ*, rock pine; *kala*, leaf), 'rock-pine leaves,' is attached to each of the prayer-feathers, *pele*, which are prepared during the *t'antai* ceremonies in December. Branches of rock pine for this purpose are fetched by a runner.

Tō (cf. *xi*, piñon nut).

Pinus edulis, Piñon Pine, Nut Pine. New Mexican Spanish *piñon*.

Piñon pine is the commonest tree on the lower mesas. It is much used as firewood.

The nuts, generally roasted for eating, were formerly an important food. After corn harvest, about October 15, many of the Santa Clara people go to the mountains for several days to gather piñon nuts. They are also bought from Mexican peddlers ¹ and eaten raw on festive occasions. ² The Navaho bring them for sale to Hano, as they do to Jemez and the Keresan pueblos, and the Indian storekeepers also sell them.

At Hano the resin of the piñon, *tōkwæ* (*kwæ*, gum, balsam), is used for mending cracked water-jars, also for excluding the air from cuts and sores. The resin of piñon or of another conifer is sometimes smeared over earthenware canteens to make them watertight. Compare this with the resin-coated basket canteens of southern Arizona.

At Santa Clara *tō* is said to be the oldest tree, and its nuts the oldest food of the people. It was the result of going up on the western mesa and eating the fallen piñon nuts that the people "first knew north and west and south and east?"

Ka'qñæ, 'smooth leaf' (*ka*, leaf; *'qñæ*, smoothness).

Pinus flexilis. White Pine.

¹ Benavides (Memorial, 1630, pp. 47-48) says that piñon nuts from New Mexico were traded to Mexico: "Los arboles de piñones que son de diferente especie de los de España, porque son grandes, y tiernos de partir, y lis árboles, y piñas chicas, y es tanta la cantidad, que parece inacawable, y de tanta estima, que vale la fanega en Mexico á veinte y tres, y veinte y cuatro pesos, y los que lo bueluen á vender ganen en ellos."

² Cf. Hough, *Amer. Anthr.*, X, p. 40, Washington, 1897.

Te'ñæ (*te*, *Populus wislizeni*; *ñæ*, as in *'ǫñæ*, salt, and *kũñæ*, turquoise).

Populus acuminata. Rydberg's Cottonwood_

Populus angustifolia. Narrow-leaf Cottonwood, Mountain Cottonwood.

Nǫnǫ.

Populus tremuloides. Aspen. (See pls. 2, a,3.)

At San Ildefonso the leaves of this tree are boiled and the decoction is drunk for urinary trouble.¹

Hodge² gives *Nána-tǫóa* as a "tree (birch ?)" clan at Nambé.

Te.

Populus wislizeni. Valley Cottonwood.

This is the common cottonwood along the Rio Grande. The Tewa are more familiar with it than with any other large broad-leaved tree, and they use it more than any other.³ The wood is used for making many artifacts, notably the *tetǫmbe*, 'cottonwood drum' (*te*, *Populus wislizeni*; *tǫmbe*, Hano Tewa, *tǫmmele*, drum). English 'tree' is often translated *te* in case no particular species is referred to.

Cottonwood buds are called *tek'e*, 'cottonwood kernels' (*te*, *Populus wislizeni*; *k'e*, kernel, grain, as kernel or grain of corn).

The white fluff of cottonwood buds is called *teuǫñ'okũ*, 'cottonwood fluff' (*te*, *Populus wislizeni*; *uǫñ*, unexplained; *'okũ*, downy, down, state of being downy).

Hodge⁴ gives as Cottonwood clans at various pueblos: San Juan, Santa Clara, and San Ildefonso, *Te-tǫóa*; Cochiti, *Í'traháni-hánuch*. At Hano the Cottonwood clan, *Te'e-towà*, is classed with the Sacred-dancer clan, *Katsinaítowà*, and the Macaw clan, *Talítowà*.

Tse (Hano Tewa, *tsele*).

Pseudotsuga mucronata. Douglas Spruce. New Mexican Spanish *pino real*, 'royal pine.'

Branches of this tree, which grows in the mountains and deep canyons, are used by the Tewa in almost all their dances. For example, at Santa Clara, February 9, 1911, the male performers in the *pogonfawè* wore loose collars of spruce branches covering their shoulders and breasts, and carried spruce branches in their left hands. In the Basket dance, *tunfawè* (closely corresponding with the *humiskatsina* of Oraibi), held at Santa Clara, October 21, 1912, the male performers wore spruce branches hanging from their necks and waist-belts, while small twigs of spruce formed part of the headdress called *popoðì*,

1 U. S. Dispensatory: Bark of certain species is possessed of tonic properties and has been used in intermittent fevers with advantage.

2 *Amer. Anthr.*, IX, p. 352, 1896.

3 For the use of cottonwood in prayer-sticks see footnote, p. 49.

4 *Op. cit.*, p. 351.

'squash blossom.' The female performers carried sprigs of spruce in their right hands, concealing their wooden rasps, *ḡwæmp'e*. On the afternoon of the day preceding the dance the five *capitanes* went to the forest, cut eight young spruce trees, and brought them, unobserved, to the village; and after midnight these were planted in the plazas, two at each dancing place. These were referred to in the song-phrase, *jagiwó' qndí tsáḡwæ'i náñá* (*jagiwó' qndí*, archaic form of *sagiwó' onđi*, beautiful; *tsáḡwæ'i*, greenness, green thing; *ná*, it; *ñá*, to be present). Spruce branches worn or carried by dancers at Santa Clara are always thrown into the Santa Clara River when the dance is over.

Certain clouds are ritually called 'spruce clouds', *tsé'ok' uwa*, and their personifications are called 'spruce-cloud boys', *tsé'ok' uwa'e'enyi*, and 'spruce-cloud girls', *tsé'ok' uwa'a'enyi*.

At Hano the Douglas spruce, *tséle*, is used in almost all the winter dances; the dancers wear spruce twigs made up with yucca fiber into compact neck-wreaths (called *'imbítseleket'o*, 'their spruce neckwear,' or figuratively *katsina'imbíywa'a*, 'kachinas' necklaces'), and also carry branches in their left hands, called merely *'imbítsele*, 'their spruce.' As no Douglas spruce grows near Hano, it is procured from the mountains some miles southeast or east of First Mesa. A horseman leaving Hano at daybreak to fetch it returns after nightfall. Occasionally the Navaho "bring it to Hano and barter it for corn and meal; thus, before the Little *k'awot'o* in March, 1913, the Corn clan bought a quantity of spruce branches for the use of all the members of the *estufa*,¹ *munate'e*, which this clan controls. As a rule, however, when spruce is needed for a dance, a fast runner is sent to the hills to fetch it. Returning after dark, he carries it to the *estufa*, where feathers, *pele*, are put on it; then he is asked to choose one branch, which is carried to the spring early next morning. During the night one or more large branches are planted in the plaza where the dance is to take place, and in the morning the children are astonished to see trees growing there. Spruce branches used in the dances are thrown from the edge of the mesa when the dance is over, or dropped in some appropriate place among the rocks, for instance behind the *k'ajète*, 'fetish house,' at *Tóbařsana*, 'the Gap.'

Occasionally juniper twigs and branches (*hukala*; see p. 40) are substituted for spruce.²

The New Mexican Tewa say that mankind first climbed into this world by means of a tree of this species, at *Siřop'e* in the far north. The Tewa of Hano say that when the chiefs wished to make a way for

¹ *Estufa*, the name given by the Spanish explorers to the sunken dance-houses or club-houses of the Pueblo Indians and the name current at the present time in New Mexico: Hopi *kíba*; Tewa *te'e*, and *řo'ęte'e*, the latter probably meaning 'old-time house,' etc.

² Cf. W. Matthews, *The Mountain Chant*, *Fifth Ann. Rep. Bur. Amer. Ethn.*, p. 464. The Navaho ritual requires spruce saplings (*Pseudotsuga Douglasii*), but as the spruce does not grow plentifully at a height of less than 8,000 feet, piñon saplings are sometimes substituted.

their people to the upper world, they planted first a *tenjo*, White Fir, and next a *tsele*; when both of these failed to pierce the roof of the underworld, they planted a *po*, reed, and by this the people climbed out. This version coincides with the Oraibi and Shipaulovi stories.¹

The New Mexican Tewa say that the *sq'wæ*, pine-squirrel, eats the leaves of the *tse*.

Hodge² gives *Tse-tóá* as a tree clan at San Ildefonso.

Tenuwi'iy kwæ, 'winter oak' (*tenuwi*, winter; *kwæ*, oak).

Quercus undulata. Evergreen Oak.

This is a small evergreen species abundant on the mesa sides.

Kwæ.

Quercus utahensis. Utah Oak.

This is the common oak along the streams. The acorns were used for food.³ The wood was used for making digging-sticks and many other things, including bows and war-clubs. Iron is called *kwækyηs*, a word connected with *kwæku*, 'Mexican.' The first syllable of these two words sounds exactly like *kwæ*, 'oak'.

At Hano oak is used for making rabbit-sticks, embroidery-stretchers, and other utensils.

Hodge⁴ gives as Oak clans at various pueblos: Santa Clara, ———; Pecos, *Gywi'sh*; Laguna, *Hápai-háno^{ch}*; Acoma, *Hápanyi-hánoq^{ch}*; Sia, *Hápan-háno*; San Felipe, *Hápanyi-háno*; Cochiti, *Hápanyi-hánuch*.

There is an Oak clan (*Kwæ'towà*) at Santa Clara. The Oak clan (*Kwæ'towà*) at Hano has become extinct within living memory; it is said to have accompanied the Asa clans who settled with the Hopi.

SHRUBS

'*Antamisà* (> Spanish).

Artemisia (? sp.), New Mexican Spanish *altamisa*.

One use of this plant is reported under *kojaje*, page 56.

Soḍok'uwàp'e, 'mist plant' (*soḍok'uwà*, mist; *p'e*, plant). San Ildefonso, *p'y tse'iy*, 'white rabbit-brush' (*p'y*, *Chrysothamnus bigelovii*; *tse*, white).

Artemisia filifolia. Silver Sage.

This is a favorite remedy with the New Mexican Tewa and at Hano. Bundles of the plant are dried for winter use. It is chewed and swallowed with water, or drunk in a hot decoction, as a remedy for indigestion, flatulence, biliousness, etc. A bundle of the plants steeped in boiling water and wrapped in a cloth is applied to the stomach as a hot compress.

1 Cf. H. R. Voth, Traditions of the Hopi, pp. 10, 16.

2 Amer. Anthr., IX, p. 352, 1896.

3 Benavides mentions acorns among the food products of the Santa Fe district,

4 Op. cit., p. 351.

Artemisia filifolia, *soḏok' uawàp'e*, is sometimes confused with *Artemisia canadensis*.

P'y ts'æ'iy, 'white rabbit-brush.'

Artemisia filifolia.

See *soḏok' uawàp'e*, above.

T'o.

Ademisia tridentata Rocky Mountain Sage, Sagebrush. New Mexican Spanish chamiso hediondo, "stinking greasewood," *estafiata*, *estafiate*.

The dry bushes are used for fuel where no firewood is available, as for example, on the journey from San Juan to Taos.

All the New Mexican sages are used at Santa Clara in the treatment of indigestion, and this species, the most pungent of all, is considered a very effectual remedy though disagreeably strong. It is certainly useful in dispelling flatulence. It is also said to be a good remedy for a constant feeble cough with ineffectual expectoration. In both cases the leaves are chewed and swallowed.

Qwæ. Called also *p'e ke'iy* (*p'e*, stick, wood; *ke*, hard).

Cercocarpus montanus. Mountain Mahogany. New Mexican Spanish palo duro, "hard wood." (See fig. 3.)

Puqwa'ip'e, 'rabbit-sticks' (*pu*, rabbit, cotton-tail rabbit; *qwa'ip'*, strike; *p'e*, stick) are made of the wood of this plant.

The leaves of old plants, or entire young plants, are mixed with salt, and powdered by pounding. The mixture stirred in cold water is drunk as a laxative.

P'y.

Chrysothamnus bigelovii. Rabbit-brush. (See pls. 4, a, 8, b.)

The Tewa of Hano give this name to *Bigelovia bigelovii* or *B. graveolens*.¹ Like the Hopi, they use it largely for making wind-breaks and other shelters for melon plants and young peach trees, and in damming washes and small arroyos. The March-April moon is called *p'yka'po*, 'rabbit-brush shelter moon,' because wind-breaks and dams are then renewed. A mat or bundle of *p'y*, along with a rabbit-skin blanket, is used to close the hatchway of the estufa when warmth or privacy is desired. *P'ymele*, 'rabbit-brush balls,' the white galls which appear on *Chrysothamnus bigelovii* or *C. graveolens*, are strung as beads and hung round babies' necks to stop their dribbling. The flowers, *p'y'pob'i*, are boiled to make a yellow dye for woolen yarn.²

¹ The Hopi call *Bigelovia graveolens* *hanoshivápi*, because the Tewa of the pueblo of Hano carry great bundles of it for firewood. (See Hough, *Amer. Anthr.*, vol. x, no. 2, 1897, p. 39.)

² The Navaho boil *Bigelovia graveolens* for yellow dye. (See Matthews, *Third Ann. Rep. Bur. Ethn.*, p. 377.)

Sakup'e, 'tobacco pipe plant' (*sa*, tobacco; *ku*, stone; *p'e*, stick, plant).

Edwinia Americana Wax Flower.

? ———

Ephedra antisiphilitica. Joint Fir.



FIG. 3.-Mountain mahogany.

The leaves and stems are boiled in water and the decoction is taken as a remedy for diarrhea. Sometimes the leaves and stems are chewed for the same purpose¹

Poñi' (of obscure etymology; < New Mexican Spanish *poñil* ?).

Fallugia paradoxa. Apache Plume. New Mexican Spanish *poñil* (< Tewa? But cf. Tewa 'añi' < New Mexican Spanish *añil*, p. 60); see plate 4, b.

¹ Teamster's Tea (*Ephedra antisiphilitica* Berland) is used by the Pima as a beverage, and by both the Pima and the Mexicans as a remedy for syphilis. (See Russell, *Twenty-sixth Ann. Rep. Bur. Amer. Ethn.*, p. 80.)

The slender branches are bound together and used as *tap'eñi*, 'brooms' (*ta*, grass; *p'eñi*, of obscure etymology), for rough outdoor sweeping.

Arrows are made of the straight slender branches.

At San Ildefonso women steep the leaves in water until they are soft, and wash their hair in the infusion, to promote its growth.

Sopa.

Lycium pallidum New Mexican Spanish *t omtilla*.

The Hopi eat the berries of this plant.

Pæp'e'ñæbì, 'deer weed' (*pæ*, mule deer; *p'e'næbì*, weed).

Pachistima mysinites.

Hwtsinǎbu'^u (*hw*, *Juniperus monosperma*; *tsinǎbu'^u* (?)).

Phoradendron juniperinum. Mistletoe.

This plant grows abundantly on the one-seeded junipers (see p. 39) in the region. It is said that deer eat it.

It is ground, mixed with hot water, and drunk when one "feels a chill in the stomach."

'*Abè*¹ (cf. Cochiti Keres *ápo*, *Padus melanocarpa*).

Padus melanocarpa. Chokecherry.

Bows are made from the wood.

The berries are boiled and eaten or are eaten raw.

The Jicarilla Apache grind the berries and make the meal into round cakes, six inches in diameter and about one inch thick; they are blackish in appearance and taste sweet. The Tewa call them '*abèbuwa*, 'chokecherry bread' (*buwa*, bread). Occasionally the Apache bring them to San Ildefonso at Christmas time. The occurrence of the personal name 'Abenbua'² at Pojoaque in 1715 suggests that '*abèbuwa* was formerly made by the Tewa.

Tendeyka, apparently 'slender-tubed leaves'³ (*tey*, tube; *dey*, slenderly pointed; *ka*, leaf).

?*Ptelea crenulata*.

Tf'ibatup'e, 'kid plant'³ (*tf'ibatù*, young goat < Span. *chibato*; *p'e*, stick, plant). The plant is so named because of its goat-like odor.

Ptelea tomentosa. Hop Trefoil.

Sap'i'iy, 'red tobacco' (*sa*, tobacco; *p'i*, red).

Rhus cismontana. Sumac.

The leaves were dried and smoked in pipes or made into cigarettes, either mixed with tobacco, *sa*, or alone. The Jicarilla Apache also smoke it.

1 This word rhymes with *Sabè*, 'Athapascan.'

2 Spanish Archives, office of U. S. Surveyor General, Santa Fe.

3 Identified with the Indian name from a dried specimen only.

Tsif ψ .

Ribes sp. Gooseberry.

$\widehat{P}ot'ey$, 'throws out water' ($\widehat{p}o$, water; $t'ey$, to throw out).

The name refers to the juicy character of the plant.

Ribes inebrians. Currant. New Mexican Spanish *manzanita*

The fruit is eaten. The wood was used for making bows.

$P'eywax'i\eta$, 'thorny plant' ($p'e$, stick, plant; ηwax , thorn).?—.

$Musàp'e$, 'cat plant' ($musà$, domestic cat; $p'e$, stick, plant).

Robinia neomexicana. Locust. New Mexican Spanish *uña de gato*, "cat's claw."

The wood was used for making bows.

The Tewa name, $musàp'e$, is probably due to Spanish influence; at least it is not pre-Spanish, for $musà$ is not a native Tewa word, but of the same origin as Cochiti $mósa$, etc., appearing in many Southwestern languages. Tewa $musà$ is sometimes rather incorrectly applied to the wildcat.

$K'a'a$.

Rosa sp. Wild Rose, Garden Rose.

At Santa Clara rose petals are dried and kept in the houses as an agreeable perfume. They are ground fine and mixed with grease to make a salve for sore mouth.

One of the folk etymologies of $K'a\widehat{p}o$, the Tewa name of the pueblo of Santa Clara, refers it to $k'a'a$, 'rose,' and $\widehat{p}o$, supposed to be $\widehat{p}o$, 'water,' the compound being explained as meaning 'dew.' Another, referring it to the same elements, explains that there "the roses (?) grow by the water"¹

Jan, Hano Tewa.

Salix sp. Willow.

Called also $j\eta\eta k'ili$, 'bud willow' ($j\eta\eta$, willow; $k'ili$, grain, bud), in allusion to the characteristic silvery buds.

The catkins of willow are called $'ibipob\bar{i}$, 'its flowers.' The white buds are $j\eta\eta k'ili$, 'willow grains.' The small male flowers are $j\eta\eta k'ili'ok\bar{u}$, 'bud-willow fluff or down;' $'ok\bar{u}$ is properly 'loose down of a bird,' and these flowers are so called because they are easily detached.

At the 1 'anta'i ceremony in December, willow twigs, apparently one for each household in the village, are prepared, a number of *pele* (feathers with $\eta w\bar{x}kala$) being tied by cotton strings to each twig.² The twigs are called $j\eta\eta k'ili$. They are set up in the $k'ajet'e$ to the east of the village.

1 See Harrington, Ethnogeography of the Tewa Indians, *Twenty-ninth Ann. Rep. Bur. Amer. Eth.*, p. 241.

2 A shrine on a hill above the pueblo of Jemez contains bouquets of spruce and cedar, with feathers of the turkey, eagle, and parrot tied to the ends of the twigs.

Jąnsæ'í, Hano Tewa, 'sour willow' (*jaŋ*, willow; *sæ'í*, sour).

Salix ? sp.

"Like the ordinary willow, *jaŋ*, but the bark is green, not red." It is used to cover roofs, prayer-sticks, and 'wuw'p'e, are made of it.¹ It grows on a hill, therefore called *jaŋ'í'*, a few miles south of First Mesa.

Jaŋ

Salix argophylla. Willow. New Mexican Spanish *jara*.

Salix irrrata Willow.

Jaŋ was used for basketry² and many other purposes.

Willow charcoal used as body paint is called *jaŋp'ey* (*p'ey*, blackness, black).

Hodge³ gives *Yä'n-tóá* as a Willow clan at Santa Clara.

Janjo, 'large willow' (*jaŋ*, *Salix irrorata*, *Salix argophylla*; *jo*, augmentative).

Salix cordata. Willow.

Kun

Schmaltzia bakeri (?) Skunk-bush, Three-leaved Sumac. New Mexican Spanish *Lemita*.

Baskets were made from the stems.

The fruit was eaten whole or ground.

The Santa Clara people use this wood for bows, but at San Ildefonso it is not so used.

Tewàbe, 'Tewa fruit' (*tewà*, Tewa; *be*, roundish fruit). Cf.

piŋnæ'iy tewàbe, 'mountain Tewa-fruit,' *Betula fontinalis*.

Sericotheca dumosa.

The small fruit was eaten.

Nwæjoka, 'big thorn leaf' (*nwæ*, thorn; *jo*, augmentative *ceka*, leaf)

Xanthium commune. Cocklebur.

At Santa Clara this plant is used as a remedy for diarrhea and vomiting. Children are fumigated with it as a cure for urinary disorders.

P'a (Hano Tewa, *p'alv*).

Yucca baccata. Yucca, Spanish Bayonet. New Mexican Spanish *datil*.

New Mexican Spanish, *palmilla ancha*, *amole*.

1 In a large shrine on the summit of *Tsikumuŋiŋs*, Santa Clara Peak (see Harrington, Ethnogeography of the Tewa Indians, p. 125), a peak in the Jemez Mountains at the headwaters of the Santa Clara River, Mr. W. B. Douglass found in 1911 prayer-sticks made of willow (*Salix humilis*), cottonwood (*Populus wislizeni*), box-elder (*Negundo interius*), and blades of sedge (*Cyperus*); some of these were decorated with goldenrod (*Solidago*), *Gutierrezia tenuis*, dropseed grass, and a herb of the genus *Sporobolus*. The shrine was visited by messengers from Santa Clara, San Juan, San Ildefonso, Taos, Jemez, and Cochiti. (See A World-quarter Shrine of the Tewa Indians *Records of the Past*, vol. XI, pt. 4, pp. 159-73, 1912.)

2 The Zuñi make coarse baskets of willows, dogwood, and *Chrysothamnus graveolens* (Stevenson, The Zuñi Indians, p. 373). The Hopi of Oraibi use willow twigs in the manufacture of their woven basket-trays, and all the Hopi use willow as material for large burden-baskets (Hano Tewa *jammele*).

3 *Amer. Anthr.*, IX, p. 352, 1896.

The roots of this plant provide an excellent lather; until the introduction of commercial soap, it was the only washing medium used by the Indians of New Mexico and Arizona and the New Mexican Spaniards, and it is still used for washing woolens, heavy native cotton fabrics, feathers, and human hair. After being bruised with a stone (generally one of the grinding stones), the roots are put into cold water to steep. After a few minutes they are briskly stirred and rubbed with the hand until a good lather is produced; the fibrous parts are then removed and the lather is ready for use. The lather is called 'ok'o (Hano Tewa, 'ok'olo), and the name is extended to commercial soap. In ceremonies lather represents clouds, 'ok'uwa.

The Tewa wash their hair about once a week, and also after performing dirty work, after a journey, and before taking part in ceremonies. Before a public dance all the inhabitants of a pueblo, as well as the actual dancers, are expected to wash their hair. At Hano the people wash their hair early on the morning after the conclusion of a series of ceremonies, whether a public dance follows or not; in this way the actual performers are said to "wash off their clouds."

The Tewa of Hano, like the Hopi, accompany all ceremonies of adoption and name-giving by washing with yucca suds. Thus, when an infant is named before sunrise on the twentieth day after birth, its head is washed by the paternal grandmother, and each member of the father's clan who gives an additional name smears the child's head with suds. The bride is bathed by the bridegroom's mother at the beginning of her bridal visit to the bridegroom's house, and at the end of the visit, when she is about to return to her own clan-house, women of the bridegroom's clan wash her hair before sunrise and give her a new name. When a Tewa from New Mexico visits a Tewa clan at Hano, the women of the clan wash his hair before sunrise and give him a new name; formerly they also bathed him with *amole* suds. Navaho, Ute, and Apache scalps, when they were brought to Hano, were intrusted to the *pota'ii'*, who washed them before sunrise with *amole* suds and gave them the name 'agajosojo, the Morning Star. All these washing customs are apparently foreign to the New Mexican Tewa.

Cord and rope were formerly made from the fibers of *Yucca baccata*. The fleshy leaves were boiled for a short time; when cool, the leaves were chewed and the fibers extracted and twisted into cord.

The fruit of *Yucca baccata* was formerly eaten. It was called *p'a'pe*, 'yucca fruit' (*p'a*, *Yucca baccata*; *pe*, fruit), this name being applied to dates also on account of their resemblance to yucca fruit; see page 115.

An old man at Santa Clara said that the fruit of one kind of *p'a*, though excellent, was apt to cause diarrhea, and that another kind was eaten by women to promote easy and complete delivery.

An informant from San Ildefonso described the use of *p'a* as a ritual emetic; the person chews it (part not specified, possibly the root) and then drinks water.

The leaves were sometimes baked and eaten by travelers when other provisions failed.

Mr. A. F. Bandelier kindly allowed the writers to quote from his manuscript notes on the uses of yucca at Cochiti in 1882 :

"Fishing was done in former times with long nets made of threads of *palmilla ancha* (*Yucca baccata*), which were stretched across the river, weighed down by stones, and kept floating by gourds and inflated skins. . . . The thread of the *palmilla ancha* was prepared as follows: In May or June, the governor sent out men to cut the leaves of the plants and gather them in 'hands.' They dug a hole in the ground and kindled a large fire in it; after the ground had become thoroughly heated, the embers and ashes were cleared out and the leaves placed in carefully, covered with brush, then with stones, and finally with a layer of earth. On the top of this another large tire was built and left burning over night; the leaves were thus well baked. Then the 'hands' were carried to the pueblo, and as the leaves became very sweet, the boys chewed them up, extracting the fiber, *ha-tyañi-gó-gowën*, which they carefully laid aside, each bundle by itself, returning it to the house where it belonged. That fiber was twisted into thread, and strips of netting made of it, which were handed to the officers and then the whole net made. It was thus to all intents and purposes a communal enterprise, and the proceeds were enjoyed in common. Fruits of the *Yucca baccata* are still eaten. The women went together to gather the fruit in September and October, baking it until the skin could be taken off and the fiber removed, then threw it into *caxetes* and mixed it thoroughly, boiling it alternately, until it came down to a firm jelly or paste. It was then spread into large cakes about 1 inch thick, and left to dry on hanging scaffolds, changing it from time to time until it was perfectly dry. It was then cut into squares (or, at Acoma and Laguna, rolled into loaves) and preserved. In spring it was eaten in various ways, as paste, or dissolved in water and drunk, or tortillas and guayabes were dipped into the solution, thus using it like molasses or syrup."

The fruit, *sahü*, of *Yucca baccata*, *samóá*, is eaten by the Hopi; its soapy root is called *samomobi*. The soapy root of *Yucca angustifolia*, *mohü*, is called *mohümobí*. All the yucca plants are used for basketry and a multitude of other purposes¹

The Zuñi paint designs on pottery with brushes made of yucca, needles. The pigments are ground in stone mortars and made into a paste with water to which a sirup of yucca fruit is added.² They make yucca cord for netting, strings to plume offerings, etc.³ The ancestors of the Zuñi, Ashiwi, are said to have used bowstrings of yucca fiber.⁴ The Zuñi make a conserve of the fruit of *Yucca baccata*.⁵

The archeological evidence in the pueblo area shows that yucca strips were used to make plaited sandals and baskets resembling the modern *pajo*, and for fiber and cord generally; also that yucca fiber,

1 J. Walter Fewkes in *Amer. Anthr.*, IX, 1896, p. 17.

2 M. C. Stevenson, Zuñi Indians, *Twenty-third Ann. Rep. Bur. Amer. Ethn.*, p. 375. See also this author's Ethnobotany of the Zuñi Indians, *Thirtieth Ann. Rep. Bur. Amer. Ethn.*, passim.

3 *Ibid.*, p. 113.

4 *Ibid.*, p. 36.

5 *Ibid.*, p. 368.

alone or in combination with cotton, was of great importance as a weaving material. Fur of beaver, otter, or rabbit was incorporated with yucca cord or twisted around it to make warmer or more ornamental fabrics.

In describing a pre-Spanish cave burial site probably of the Keres, just outside the Tewa domain, Dr. Edgar L. Hewett says:¹

"The body was first wrapped in a white cotton garment . . . The outer wrapping was a robe of otter or beaver fur . . . made by twisting a small rope of yucca fiber about an eighth of an inch in diameter; then with the shredded fiber of the eagle or turkey feather, the fur was bound upon the cord, producing a fur rope of about a quarter of an inch in diameter, which was then woven into a robe with very open mesh."

Numbers of fur-wrapped cords were found in a large cave higher up the canyon. Similar cords are now worn by the *koshare* (clowns) at the Keres pueblo of San Domingo.²

P'amũ (*p'a*, *Yucca baccata*; *mũ*, unexplained).

Yucca glauca. New Mexican Spanish *palmilla*.

This species is smaller than the *p'a* (*Yucca baccata*), but resembles it considerably.

The roots are used for making lather. The fruit is eaten as in the case of the *p'a*.

According to the informant, string and rope were never made of *p'amũ*.

Narrow slips of *p'amũ* are used like paint brushes in decorating pottery.

The fibrous leaves of both species of yucca, merely split into narrow strips without twisting, serve for tying material. Thus, watermelons are kept fresh for winter use by hanging them from the rafters, encased in a network of yucca strips; sliced apples and chile peppers threaded on yucca strips are hung up to dry; the sifting-baskets, called *pajo*, 'not tight, openwork, like a net' (which the Tewa of Santa Clara buy from Jemez, and the Tewa of Hano from the Second Mesa villages); are woven of yucca strips. Bandoleers and neckties of knotted yucca strips are sometimes worn by the *kosà* (clowns) and by some other dancers.

At Hano small ceremonial bows of cedar are strung with yucca. In some initiation ceremonies at Hano, the novices are beaten with yucca whips.

'Osæ.

? —————

This is a yucca-like weed. It grows near *'Osæwè*, a ridge a mile north of Nambe Pueblo,³ also in the Cochiti Mountains. Fiber from this plant was used in making string, and for other purposes.

1 Excavations at El Rito de los Frijoles in 1909, *Amer. Anthr.*, II. s., XI, p. 663, 1909.

2 Cf. *Relación Postrera de Sivola*, Winship, *Fourteenth Ann. Rep. Bur. Amer. Ethn.*, p. 569.

3 See Harrington, *The Ethnogeography of the Tewa Indians*, *Twenty-ninth Ann. Rep. Bur. Amer. Ethn.*, p. 371.

Tēdeŋ (no etymology).

? ———. New Mexican Spanish *palo duro*.

HERBS

Pobì tsæ'ìŋ, 'white flower' (*pobì*, flower; *tsæ*, whiteness, white).
Achillea lanulosa. Yarrow, sneezeweed.

Si. Hano Tewa, *si'u*.

Allium recurvatum. Wild Onion.

Sometimes called 'akqnsi, 'prairie onion,' or 'akqnsi'e, 'little prairie onion' ('akqŋ, plain; *si*, onion), to distinguish it from the cultivated onion introduced by the Spaniards, by which it has been superseded in New Mexico.

The Tewa of Hano, like the Hopi, know and use two species of wild onion: 'akqnsi'u, 'field onion,' growing on high ground, which is gathered, washed, and eaten raw, usually with broken waferbread dipped in water; and *wasì'u*, 'wind onion' (*wa*, wind; *si*, onion), growing on lower ground, which is small and almost tasteless.

'Ōkūp'e, 'turtle plant' ('ōkū, turtle; *p'e*, stick, plant). Cf. 'ōkūp'e'næbì, page 59.

Allionia linearis.

su.

Amaranthus retroflexus, *A. Blitoides*. Amaranth, Pigweed. Called in New Mexican Spanish merely *quelite*, 'greens.'

Su was boiled and at times afterward fried. Thus prepared it is said to have been a very palatable food.

Tosy'ìŋ (*to*, unexplained; *sy*, to stink, stinking).

Arenaria confusa. Sandwort.

P'y tsǎŋwæ'ìŋ, 'green rabbit-brush' (*p'y*, *Chrysothamnus bigelovii*; *tsǎŋwæ*, blue, green).

Artemisia forwoodii. Green Sage.

The leaves and stems of *p'y tsǎŋwæ'ìŋ* are chewed and the juice is swallowed when one feels "sick at the stomach."

The leaves and stems are steeped in water, and the decoction is taken as a remedy for chills. See *ì'a'ñe*, page 73.

Ķe'a'ato, 'badger sage'?, 'badger nut'? (*Ķe'a*, badger; *to*, with level intonation, sage; *to*, with falling intonation, nut). The probabilities are in favor of the meaning 'sage,' but one careful informant persistently gave the intonation of *to*, 'nut.'

Artemisia frigida.¹

This plant is used in the same way as *sobok'uwàp'e* (see p. 44), but is less valued, since it grows in the lowlands near the villages, whereas *Artemisia filifolia* is brought from the mountains.

Waḥop'e, 'milk plant' (*wa*, breast, udder; *ḥo*, water; *p'e*, stick, plant). The plant is called thus when young.

'*Ojaqwi*, ('*oja*, unexplained; *qwi*, fiber). The plant is called thus when matured and its fibers are usable.

Asclepias sp. Milkweed.

The roots were eaten raw. The immature pods also were eaten.

Cf. '*Ojaqwitsipæη*, page 67.

String and rope were made of the mature plant.

'*Imutaka* ('*imu*, unexplained; *ta*, ? grass; *ka*, ? leaf).

Asclepias sp.

A remedy for sore breasts, at Santa Clara.

Wopobì, 'medicine flower' (*wo*, magic, medicine; *pobì*, flower).

Campanula petiolata. Bluebell.

Puâ'æp'e, 'painted root plant' (*pu*, base, root; *â'æ*, painting, painted; *p'e*, stick, plant).

Castilleja linariaefolia. Painted Cup, Indian Paint-brush.

The red flower is prominent in decorative art at Hano; it is painted on pottery, painted and carved in wood, and imitated in colored yarn on a wooden framework.

P'u'qwi'iy, 'brown rabbit-brush' (*p'u*, *Chrysothamnus bigelovii*; 'q', brown).

Chrysopsis hirsutissima. Golden Aster.

Ta'añæη, Hano Tewa '*ta'jæη* (*ta'a*, unexplained; *ñæη*, apparently *ñæη*, nest).

Atriplex canescens. Salt Bush. (See pl. 7, a.)

At Hano the ashes are stirred into the dough for *mowa* (see p. 29) in order to turn it from purplish-gray, the natural color of meal ground from "blue" kernels, to greenish-blue.

? ———.

Cicuta occidentalis. Water Hemlock.

'*Ojop'e* ('*ojo*, unexplained; *p'e*, stick, plant).

Coleosanthus umbellatus.

P'e'ñæḥl'æqwi'sæ'iy, 'white tendriled weed' (*p'e'ñæḥl'æ*, weed; '*aqwi*, tendril; *isæ*, white).

Cuscuta. Dodder.

1 Flowers of this plant, tied to *pahos*, are used in the *Sojal* ceremonies of the Hopi.

Sæmp'e, 'porcupine plant' (*sæŋ*, porcupine; *p'e*, stick, plant).

Datura meteloides. *Datura*. (See pl. 5, b.)

Seeds of this plant were found in perfect condition in the large community house in Rito de los Frijoles Canyon. The Tewa of the present day seem to make no use of the plant.¹

'*Ok'uwàp'e*, 'cloud plant' (*'ok'uwà*, cloud; *p'e*, stick, plant).

Eriogonum annuum.

Pòbì tsáŋwæ'íŋ, 'blue or green flower' (*pòbì*, flower; *tsáŋwæ*, blue, green).

Townsendia eximia.

Eriogonum divergens.

Pojèka, 'three leaves' (*pojè*, three; *ka*, leaf).

Fragaria ovalis. Strawberry.

'*Awi*.

Galium triflorum. Bedstraw.

Nwætsáŋwæ, 'hot tooth' (*ŋwæ*, thorn; *tsáŋwæ*, hot).

Galium sp. ? Bedstraw.

If chewed, this plant makes the gums smart and burn.

Páñìp'epòbì, 'five-stalked flower' (*páñì*, five; *p'e*, stick, stalk; *pòbì*, flower).

Geranium atropurpureum. Geranium, Cranesbill.

Nwæp'e'ñæbì, 'thorn weed' (*ŋwæ*, thorn; *p'e'ñæbì*, weed).

Geum strictum. Avens.

Pòbìwíjèkì, 'swaying flower' (*pòbì*, flower; *wíjèkì*, to sway, intransitive).

Gilia greeneana. Red Gilia.

Pòbìŋwíŋ, 'standing flower' (*pòbì*, flower; *ŋwíŋ*, to stand).

Gilia longiflora. White Gilia. New Mexican Spanish *lina*.

A second informant criticized this name as being merely descriptive and not proper to this particular plant (probably because he did not know the name).

The dried flowers and leaves of *Gilia longiflora*. ground and mixed with water, make a soapy lather, which is good for sores on any part of the body or for headache.

¹ The Zuñi use the roots of *Datura stramonium* as a narcotic and anesthetic, and the blossoms and roots ground to a powder as an external application for wounds and bruises. (See M. C. Stevenson, The Zuñi Indians, *Twenty-third Ann. Rep. Bur. Amer. Ethn.*, p. 385; also Ethnobotany of the Zuñi Indians, *Thirtieth Ann. Rep. Bur. Amer. Ethn.*, passim.) Some of the Yuman tribes use the leaves as a narcotic. Doctor Hough says (*Amer. Anthr.*, x, p. 38) that the use of *Datura meteloides* as a narcotic "is extremely rare and is much decried by the Hopi." Miss G. Robinson, formerly field matron at Second Mesa, informs the writers that a Hopi doctor at Sichomovi administered doses of *Datura* to two children who were brought to him from Shongopovi. One of the patients, a child of three months, afterward suffered from a succession of convulsive fits with loss of muscular control, and did not fully recover, or acquire the power of speech; the other, a girl about three years of age, lost muscular control and died about a month later.

Kojaji. Hano Tewa, *kojaje* (< Span. ?).

Gutierrezia longifolia. New Mexican Spanish *yerba de vibora* and *coyaye*.

This plant grows freely in the sand about the Tewa villages. It is eaten by live stock.

At Santa Clara the midwife gives a mixture of *kojaji*, 'antamisà' (see p.44), and *sa*, native tobacco, to the patient in the form of snuff. The patient is also fumigated by placing *kojaji* on hot coals on a *puki* (base used in making pottery), over which she stands, wrapped in a blanket. The same remedy is used for painful menstruation. At San Ildefonso a newborn child is fumigated in the same way.

At Hano *kojaje*, as well as a smaller plant resembling it, called *kojaje*'*ibitije*, 'younger brother of kojaje' (fresh or, in winter, dried), is boiled in water and the decoction given for gastric disturbances. In a case of gastric influenza with violent vomiting and bleeding from the stomach, three half-pint doses a day were given. A fresh decoction was made daily and the treatment was continued for five or six days.

Fresh green *kojaje*, chopped fine, is rubbed on the skin around the ear to relieve earache.

Sprigs of *kojaje* are tied on many kinds of prayer-sticks by the Tewa of Hano as well as by the Hopi. It is almost the only flowering plant available for the December ceremonies.

P'o'a (*p'o*, water; 'a, perhaps 'a, clothing). Cf. Hano Tewa *n'q'eta*, 'earth clothing' (*n'q'eta*, earth; 'a, clothing), a name for lichen (see p. 68).

Halerpestes cymbalaria. Crowfoot.

Snares for catching bluebirds are made from this plant.

Helianthus annuus. Sunflower. New Mexican Spanish *añil*.

The fire-stick, *p'ap'e*, for lighting cigarettes is sometimes a dried sunflower stalk.

A scalp song at Hano describes sunflowers as watered by the tears shed by Navaho girls.

Pw'beje.

Hymenoxys floribunda. Colorado Rubber Plant.

The skin of the roots is pounded until it becomes gummy. The material is then chewed as Americans chew chewing-gum.

P'imp'e, 'mountain stalk' (*p'ina*, mountain; *p'e*, stick, stalk, plant).

Hypopitys latisquama. Pinesap.

'*Ogohep'e*'*næb'i*, 'sour weed' (*ogohē*, sour, sourness; *p'e*'*næb'i*, weed).

Ionoxalis violacea. Violet Wood-sorrel.

'*Agojop'e*, 'star plant' (*agojo*, star; *p'e*, plant).

'*Kallstroemia brachystylis*. New Mexican Spanish *contrayerba*.¹

¹ The *contrayerba* used by the Spaniards in Peru as an antidote for poison, and introduced into England in 1581 under the name of drakesroot, is an entirely different plant.

At San Ildefonso the chewed leaves are put on a sore or swelling, and at Santa Clara the roots are used as a remedy for diarrhea.

P̄iṅṅw̄iki, 'mountain slope' (*p̄iṅ*, mountain; *ṅw̄iki*, steep slope).

Why the plant should be called thus could not be explained.

Laciniaria punctata. Blazing Star.

The roots were eaten as food.

'*Oki*

Lappula floribunda Stickseed.

P' e' n̄æb̄i' q̄w̄i' iṅ, 'brown weed' (*p' e' n̄æb̄i*, weed; 'q̄, brown).

Lupinus aduncus. Lupine.

Tosq̄mbe.

Martynia sp.

The open seed-vessels, wound about with woolen yarn, are sometimes used at Santa Clara and at Hano in making artificial flowers for dancers' headdresses. ¹

P' e' n̄æb̄i' ts̄iḃè' iṅ, 'sticky weed' (*p' e' n̄æb̄i*, weed; *ts̄iḃè*, sticky, usually said of glutinous substances).

? *Puk̄æ* (Santa Clara).

Nuttallia multiflora.

This plant is rough, covered with minute hairs, and clings to clothing tenaciously. A young boy, before he is put on a horse for the first time, is stripped of his clothing and this rough plant rubbed briskly on the bare skin of his legs. His clothing is put on and he is placed on the back of the horse. The Tewa maintain that this treatment enables the boy to adhere to the horse.

The Franciscan Fathers apply "tenacious" to the sticky quality of *Mentzelia* (*Nuttallia*).²

Sȳts̄iq̄i' iṅ (*sȳ*, to smell, intransitive; *ts̄iq̄i' iṅ*, unexplained).

Monarda menthaefolia. Horsemint. According to E. Cata of San Juan the English-speaking Americans call this plant Pennyroyal.

At San Ildefonso parts of the plant are cooked with meat to flavor the latter. The dried plant is ground fine and the powder is rubbed over the head as a cure for headache or all over the body as a cure for fever.

At Santa Clara *sȳts̄iq̄i' iṅ* is a very popular remedy. As a treatment for sore throat, a decoction of the dried leaves is taken internally, and, at the same time, a small quantity of the dried and ground leaves is enclosed in a narrow strip of deerskin or calico and worn by the patient around his neck. As *sȳts̄iq̄i' iṅ* is regarded as one of the

¹ The Zuñi use these seed-vessels in the same way.

² The Franciscan Fathers, An Ethnologic Dictionary of the Navaho Language, St. Michaels, Arizona, p. 194, 1910.

“cold” medicines, it is used in the treatment of fever: the leaves are chopped or finely ground, and the powder, slightly moistened, is rubbed on the patient’s head, face, and limbs and inside his mouth, and

also given him in water to drink. *Sutsiqi’iη* is said to be a remedy for sore eyes, but the method of application has not been ascertained.

At Hano this plant is cooked and eaten.

P’e’ñæb̄i ηwætsīb̄è’iη,
 ‘sticky podded weed’
 (*p’e’ñæb̄i*, weed; *ηwæ*,
 thorny, thorn; *tsīb̄è*,
 sticky).

Oreocarya multicaulis.

Qwiwip’e, ‘in a row plant’
 (*qwiwi*, line, row; *p’e*,
 stick, stalk, plant).

Pentalostemum oligophyllum, *P. candidus* Prairie Clover.

At San Ildefonso, the sweet roots of the plant are eaten raw.

At Santa Clara it is applied to an *Atriplex*, species not determined. Women and children chew the plant as a delicacy.

K’ohepob̄i, ‘humming-bird flower’ (*k’ohe*, hummighbird; *pob̄i*, flower).

Penstemon torreyi.

Beard-tongue.

Used at Santa Clara as a dressing for sores.

Qwā.

Peritoma serrulatum. Rocky Mountain Bee Plant, Guaco. New Mexican Spanish *guaco*. (See fig. 4.)

This is a very important plant with the Tewa, inasmuch as black paint for pottery decoration is made from it. Large quantities of young plants are collected, usually in July. The plants are boiled well in water; the woody parts are then removed and the decoction is again allowed to boil until it becomes thick and attains a black color.



FIG. 4.-Rocky Mountain bee plant.

This thick fluid is poured on a board to dry and soon becomes hardened. It may be kept in hard cakes for an indefinite period. When needed these are soaked in hot water until of the consistency needed for paint.

Guaco is also used as a food. The hardened cakes are soaked in hot water, and then fried in grease.

The finely ground plants are mixed with water and the liquid is drunk as a remedy for stomach disorders; or sometimes fresh plants wrapped in a cloth are applied to the abdomen.

Hano Tewa *Kwæ'y* or *kwæly*. Hopi, *tumi*.
*Peritoma serrulatum*¹.

This plant is of sufficient economic importance to be named in songs with the three chief cultivated plants, corn, pumpkin, and cotton. It is gathered in spring, and, after long boiling to rid it of the alkaline taste, is eaten with *f akewè* (cornmeal porridge), a small quantity of salt being added at the time of eating?

'*Ōkūp'e'næbì*, 'turtle weed' ('*ōkū*, turtle; *p'e'næbì*, weed). Cf. '*Ōkūp'e*, page 53.

Phacelia corrugata. A fern species.

Tsigo'ot'e (*tsigo*, forehead; '*ot'e*, unexplained), probably referring to the custom of cracking the pod on one's forehead.

Physalis neomexicana. Ground Tomato, Ground Cherry. New Mexican Spanish *tomate*, *tomate del campo*.

The fruit is covered with a bladdery envelope which the boys crack with a popping sound by pressing it quickly on the forehead.

The berries are eaten.

Tomatoes also are called by this Tewa name, as well as by the Spanish name *tomate* (< Nahuatl *tomatl*, Mex. Span. *tomate*). See Tomato, p. 113.

? *P'o'ani*.

P'innæ'iy qwǎ, 'mountain guaco' (*p'iy*, mountain; *næ*, locative; *qwǎ*, *Peritoma serrulatum*).

Polanisia trachysperma. Clammy Weed. (See *Stanleyella wrightii*, p. 61.

P'yñæ'æ (*p'y*, apparently *Chrysothamnus bigelovii*; *næ'æ*, unexplained). Cf. Hano Tewa *p'yjæ*, page 60.

Portulaca oleracea. Purslane.

The top of this fleshy plant is eaten boiled by both Indians and Mexicans:

1 See Fewkes, *Amer. Anthr.*, IX, p. 16, 1896.

2 The Hopi boil the leaves with green corn. (See Hough, *Amer. Anthr.*, X, p. 37, 1897.)

P'ujæ, Hano Tewa (*p'u*, apparently *Chrysothamnus bigelovii*; *jæ*, unexplained). Cf. *p'uñæ'æ*, page 59.

Portulaca retusa (Hopi *pihala*).¹

This plant used to be eaten, cut up fine, in gravy.

Námp'e, 'earth stalk' (*náŋ*, earth; *p'e*, stick, stalk, plant).

Ptiloria sp.

Pylhu.

Quamoclidion multiflorum. Four-o'clock. (See pl. 5, a.)

An infusion of the ground roots in water is drunk for cases of swelling, probably those of dropsical origin. The roots after being ground are mixed with corn flour to improve the taste.

'*Añi'* (<New Mexican Span. *añil*).

Hano Tewa *Alijowa*.

Pinnæ'iy '*añi'*', 'mountain sunflower' (*piŋ*, mountain; *næ*, locative; '*añi'*', sunflower).

Rudbeckia flava. Black-eyed Susan.

Kup'e'ñæði, 'rock weed' (*ku*, rock; *p'e'ñæði*, weed).

Leptasea austromontana.

Pinnæ'im *p'e'ñæði*, 'mountain weed' (*piŋ*, mountain; *næ*, locative; *p'e'ñæði*, weed).

Senecio macdougalii.

Hano Tewa '*Awæ*,. Hopi *asa*.

Sophia Sp.² Tansy Mustard.

The plant is used to make black paint for decorating pottery.³ Bundles of the plant, moistened, are steamed in a can in a pit oven; "some people boil it, but steaming thus is the best way, so that it will melt smooth." A quantity of liquid is then squeezed out, and the mass which remains is molded into a cake and, wrapped in corn husk, is stored for winter use. It is an article of trade between women. For use, a small piece is broken off, dipped in water, and rubbed down on a stone pallette with a hard mineral paint called *kup'eŋ* (*ku*, stone; *p'eŋ*, blackness).

'*Awæ* is cooked and eaten in spring.

The Hano people translate the name of the *Asa* clan of Sichomovi as '*Awæ'towa*.

'*Oða* (unexplained).

Sphaeralcea lobata. Globe Mallow.

1 Fewkes, *Amer. Anthr.*, x, p. 15, 1896.

2 See Fewkes, *ibid.*; Hough, *ibid.*, x, p. 40, 1897.

3 The method of preparation seems doubtful or variable. Hough says that the seeds are ground in a mortar, forming an oily liquid which serves as a medium for the iron paint. Fewkes says that an infusion of the flowers is mixed with iron pigment, the juice of the *asa* being presumed to cause the pigment to adhere. The Tewa of New Mexico (see above) and the Zuñi (Stevenson, *The Zuñi Indians*, p. 375) use the liquid obtained by boiling *Peritomas errulatum*. The Hano method is given here.

Finely powdered roots are applied to wounds caused by snake bites and to sores in which considerable pus appears. The pus is said to be drawn out by the action of this remedy.¹

The skin from the roots is pounded into powder; water is added to make a paint, which is used on the face preparatory for the dance.

K'o t'awo, 'medicine for broken arms' (*k'o*, arm; *t'a*, to break, *wo*, medicine).

Pot'awo, 'medicine for broken legs' (*po*, leg; *t'a*, to break; *wo*, medicine).

Taraxacum taraxacum. Common Dandelion. New Mexican Spanish *consuelda*.

The young plants are eaten as greens.

The leaves ground fine are used in dressing fractures. At San Ildefonso the ground leaves, reduced with water to a paste, are spread over the fracture, and fresh leaves of the same plant bound over it with rags. At Santa Clara a cloth spread with leaves on which ground *consuelda* leaves are sprinkled is tied over the fracture. *Consuelda* leaves ground and mixed with dough are applied to a bad bruise.

T'ün sü'iy, 'seed which smells' (*t'ün*, seed; *sü*, to smell, smelling).
Thalictrum fendleri. Meadow Rue.

Tep'e, 'tea plant' (*te* <Span.; *p'e*, plant).

Dep'e, 'coyote plant' (*de*, coyote; *p'e*, plant), and *kotà*, New Mexican Spanish *cota*.

Thelesperma gracile and *T. trifidum* New Mexican Spanish *te*,
te silvestre, *cota*.

The leaves are steeped and the tea is drunk as a beverage by Indians and Mexicans.

P'innæ'iy qwǎ, 'mountain guaco' (*p'iy*, mountain; *næ*, locative; *qwǎ*, *Peritoma serrulatum*).

Stanleyella wrightii.

This is a species of mustard, the Mustard family being closely related to the guaco. The informants stated that *p'innæ'iy qwǎ* is used in the same way as guaco for making paint for pottery and as food. (See *Polanisia trachysperma*, p. 59.)

Pinka, 'heart leaf' (*p'iy*, heart, heart-shaped; *ka*, leaf).

Viola canadensis. Violet.

'*Akonsu'siqi'iy*, 'prairie horsemint' (*'akoy*, valley, field, open country; *susiqi'iy*, see p. 57).

? ———

A small horsemint growing in the mountain canyons.

¹ *U. S. Dispensatory*: Forms closely allied to this species are described as having several medicinal properties. Fresh plants of the Common Mallow have been used as a suppurative or relaxing poultice in case of external inflammation.

Hano Tewa, *Kojaje 'ibitije*.

? _____

See under *kojaji*, page 56.

P'u tsæto'iy, 'buff-colored rabbit-brush' (*p'u*, *Chrysothamnus bigelovii*; *tsæto*, buff-color, buff-colored).

? _____

The galls of this plant, *p'ub'e'e* (*p'u*, rabbit-brush; *be*, ball; 'e, diminutive), ground up and drunk in water, are a good though very strong medicine for the stomach (Santa Clara).

CACTI

Sæ

Opuntia. Prickly Pear Cactus, Round-leaved Cactus.

Opuntia camanchica. Prickly Pear Cactus, Round-leaved Cactus.

(Pl. 6, b, shows the *Opuntia camanchica*.)

The fruit of both of these species is eaten; it is called *sæp'e*, prickly pear (*sæ*, prickly-pear cactus; *p'e*, fruit), or *sæŋwæbe* (*sæ*, *Opuntia*; *ŋwæ*, thorny; *be*, ball, roundish fruit), 'thorny round fruit of *Opuntia*.'

This plant is perhaps usually called by the Tewa of San Juan *sæŋwæ* 'thorny *Opuntia*' (*sæ*, *Opuntia*; *ŋwæ*, thorny, thorn).

The Tewa of Hano call the fruit of this or a similar cactus *sænto* (*sæ*, *Opuntia*; *to*, nut).

Jo.

Opuntia arborescens. Chandelier Cactus, Cane Cactus. New Mexican Spanish *entraña*. (See pl. 8, a.)

The Tewa of Hano eat the cooked fruit of this or of a similar species, *jomelesælxæ* (*jo*, *Opuntia*; *mele*, ball, roundish fruit; *sælxæ*, boil, cook), in summer. ¹ The women pick the fruit with tongs, *sæntop'e*, made of cleft sticks (*sæ*, *Opuntia*, see above; *to*, nut; *p'e*, stick), and carry it home in baskets. It is put into a *p'ajo* (basket made of slips of yucca), and rubbed with a stone to dislodge the spines. It is then dropped into boiling water and allowed to cook for some time. This fruit is eaten with *fakewè*, cornmeal porridge, with the addition of sugar.

The fruit of "a flat cactus," also called *jo*, is cooked in the same way.

Ŋwǎnsabèwaku, 'Navaho testicles' (*Ŋwǎŋ*, Jemez; *Sabè*, Athapascan; *waku*, testicle). ²

Mamillaria sp. Ball Cactus (See pl. 6, a.)

The spines were burned off and the entire plant was eaten raw.

The Tewa know by report the giant saguaro of southern Arizona, "used for the roof-beams of houses."

¹ The Zuñi cook the fruit of *Opuntia filipendula*. (See Stevenson, The Zuñi Indians, p. 368.)

² At Santa Clara a story is told of a Navaho who, prowling around a "Mexican" village by night, fell into the cactus bushes; the spines put out his eyes, and he was caught and mocked by the people next morning.

VINES

Any kind of vine is called 'ap'æ.

'Ap'æ 'okw'iy, 'downy vine' ('ap'æ, vine; 'okw, downy, down).
Clematis ligusticifolia Clematis.

When the vine is in fruit the long plumose styles are said to look like the down of an eagle.

*Kaqwi'*ap'æ, 'tie leaves vine' (*ka*, leaf; *qwi*, to tie; 'ap'æ, vine).
Humulus lupulus neomexicanus. Hop .

GOURDS

Po'oje (*po*, squash, pumpkin; 'oje, unexplained).

Cucurbita foetidissima. Wild Gourd. (Pl. 7, b.)

The roots ground fine and stirred in cold water are drunk as a laxative.¹

For cultivated squashes, see page 100.

GRASSES AND GRASSLIKE PLANTS

The word meaning 'grass' is *ta*. All true grasses and grasslike plants, as sedges, may be called *ta*. There is evidence here of classification and recognition of a distinct group of plant life. Most of the grass names are compounded, *ta* being an element common to nearly all of them. In the event that a species of grass is not known by a special name it is spoken of merely as *ta*. This is of course similar to our common method of naming grasses; unfamiliar species are spoken of as 'grass,' while better known kinds are apt to be given specific names. Many of the Tewa grass names given below are merely descriptive terms and not real names of species. (See pl. 3.)

Ta is also used meaning 'hay,' in this sense being the equivalent of New Mexican Spanish *zacate*.

Straw is called *ta*, 'grass,' 'hay,' or *tak'owà*, 'grass tegument' (*ta*, grass; *k'owà*, tegument, skin). Chaff also is called *tak'owà*. Stubble left where grass or hay has been cut is called *tap'ek'y*, 'grass stalk-skeleton' (*ta*, grass; *p'e*, stick, stalk; *k'y*, hard part of an object, cob of corn, skeletal part of the body).

Wheat straw or chaff is *tatak'owà*.

Hodge² gives as Grass clans at various pueblos: San Juan, Nambe, and Tesuque, *Tá-tdóa*; Hano, *Tá-tówa*.

Taηwæ'iy, 'thorny grass' (*ta*, grass; *ηwæ*, thorny, thorn).
Cenchrus carolinianus. Sand Bur.

¹ U.S. Dispensatory: "The pulp of the root of *Cucurbita dagenaria*, or gourd, is said by Dr. Chapin to be a powerful and even drastic purgative."

² *Amer. Anthr.*, IX, p. 35, 1896.

Ta *p'o'iy*, 'hairy grass' (*ta*, grass; *p'o*, hairy, hair).

Elymus canadensis Wild Rye.

Lycurus phleoides. Texan Timothy.

Pim̄pinta, 'chirping grass' (*pim̄p̄iy*, to make a noise by blowing through a pinched grass stalk, by blowing on a grass leaf held between the two thumbs, or by putting a grass leaf between the two lips and sucking; *ta*, grass).

Tapipi, 'grass whistle' (*ta*, grass; *pipi*, onomatopoeic, connected with *pim̄p̄iy*, to chirp; see below.).

Panicum barbipulvinatum. Panic Grass.

One may say of the note produced by holding a leaf or leaf-sheath of this grass between the lips and sucking: *p̄ints̄iwaḡi n̄á p̄im̄p̄iy*, 'it chirps like a mountain bird' (*p̄iy*, mountain; *ts̄iwe*, bird; *waḡi*, like; *n̄á*, it; *p̄im̄p̄iy*, to chirp thus by means of grass).

Little bundles or brooms made of this grass are used by the women for cleaning metates and metate boxes.

Ts̄ibeta, 'bird grass' (*ts̄iwe*, bird; *ta*, grass).

Alopecurus aristulatus. Rush Grass.

Muhlenbergia trifida Hair Grass.

Schizachyrium scoparium. Sage Grass.

Two kinds of grass are used to make brooms:

Tap'ēñi k̄á'n̄iy ± ta, 'tasseled broom (grass)' (*tap'ēñi*, broom; *k̄á'ñ*, tassel).
? —————

This grass grows in the fields and by the river.

A single plant of this species would be called *tak̄á'n̄iy*, 'tasseled grass.'

Ta t̄án'iy, 'seedy grass' (*ta*, grass; *t̄áñ*, seedy, seed).

Tap'ēñita, 'broom grass' (*tap'ēñi*, broom; *ta*, grass).

Bouteloua curtipenula. Mesquite Grass.

This grass grows in the mountains, and Mexican peddlers often bring bunches of it to sell in the Tewa villages.

The grasses are gathered in August, tied in firm bundles, and carefully dried. The long soft end of the broom serves to sweep the adobe floor, and when worn shorter by use, it makes a convenient brush for the hearth and the metates. The short butt-end of the broom serves as a hair-brush. Before sweeping, the New Mexican Tewa women sprinkle the floor copiously to lay the dust, for this purpose dipping their fingers into a dish of water. The Keres women blow a 'mist' (Tewa, *sobok'wva*) of water from their mouths for the same purpose. The Hano people, on account of both the scarcity of water and the fineness of their adobe, seldom sprinkle the floor at all.

Ta k̄ebe, 'bent-necked grass' (*ta*, grass; *k̄e*, neck; *b̄e*, bent, a bend).

Bouteloua gracilis. Grama Grass. (See fig. 5.)

'*Añyta* ('*añy*, unexplained; *ta*, grass).

? ———.

Much of this grass grows along the irrigating ditches.



FIG. 5.-Grama grass

Ta pî'in, 'red grass' (*ta*, grass; *pî*, red).

Tasen & 'horn grass' (*ta*, grass; apparently *sen*, horn).

? ——— New Mexican Spanish *zacate azul*.

This kind of grass grows on the hills east of the Rio Grande and elsewhere. It is excellent food for cattle.

Tajo, 'large grass,' 'boss grass' (*ta*, grass; *jo*, augmentative).
Carex sp. Sedge?

? ———.

'*Awa* (unexplained), a kind of cattail.

This has narrower leaves than '*awap'a*, below.

'*Awap'a* ('*awa*, a kind of cattail; *p'a*, large, thin, flat and roundish). This has larger leaves than '*awa* and *p'a* is added to distinguish it as regards this feature.

Typha latifolia. Cattail.

'*Awase* ('*awa*, a kind of cattail; *se*, unexplained).

? —

A kind of tall straight-stalked water grass.

'*ɛŋkwamp'e*, 'frog weed' (*p'ɛŋkwəŋ*, frog; *p'e*, stick, stalk, plant).

? —

Described as a kind of rush.

Po, *posu*.

Phragmites phragmites. Reed, cane. New Mexican Spanish *carrizo*

It is said that this plant formerly grew plentifully along the Rio Grande near the Tewa villages. Now none can be found there. It grows, however, along Jemez creek near Jemez pueblo.

The plant was used for making arrows, game-sticks for the cañute game, and many other purposes.

FUNGI

Te; '*Qŋŋù* (<Span.) New Mexican Spanish *hongo*. Applied to any fungus resembling toadstool or puffball.

? ———

Te is applied to any large fungus, as a toadstool, mushroom, puffball, etc.

So far as could be learned the Tewa do not distinguish between the edible and the poisonous kinds. The informant stated that they ate any kind they found and that they never suffered ill effects. In preparing toadstools and mushrooms for food they are first boiled, then fried. A stick must be laid across the top of the kettle containing the cooked toadstools or mushrooms from which one is eating, otherwise he would thenceforth be afflicted with a poor memory.

K'unsæpete (*k'uŋ*, corn; *sæpete*, unexplained).

? ———. Corn smut.

1Mr. W. B. Douglass found loops of sedge (cyprous) with feathers attached in a large shrine on Santa Clara peak, *Tsikumuŋiŋ*, a peak in the Jemez Mountains, near the headwaters of the Santa Clara River. See p. 49, footnote.

At San Ildefonso corn smut stirred in cold water is drunk as a cure for diarrhea. At Santa Clara some women use it in the same way as a remedy for irregular menstruation. ¹

Tesæ, 'valley cottonwood stew' (*te*, *Populus wislizeni*; *sæ*, stew, sauce).

? ———

This is a fungus growth found on the ground near, or on the decaying wood of, a cottonwood tree. When boiled and eaten it is considered a delicacy.

'*Ojaqwitsipæŋ*, 'milkweed eye pus' (*'ojaqwi*, milkweed, *Asclepias* sp. see p. 54; *tsi*, eye; *pæŋ*, pus).

? ———.

A reddish creamlike scum on stagnant water.

This is seen on pools along the Rio Grande. It has little smell. This substance is not used by the Tewa.

P'q'²eŋ, 'stained,' 'stain,' 'moldy,' 'mold.'

? ———. Mold, Mildew.

Thus: *pãm p'q'²niŋ*, 'moldy bread' (*pãm*, bread; *p'q'²eŋ*, moldy, mold.)

Nãm p'u, 'earth swelling' (*nãm*, earth; *p'u*, to puff up).

Geaster sp. Earth Star.

At Santa Clara the powdery seed-spores are used as a remedy for a white or yellow discharge from the ear; they are blown into the ear through a tube of corn husk or paper.

Nãm p'u.

? ———. Potato.

See *sægoḃe*, page 73.

FERNS

K'æŋ'ãm p'e, 'mountain-lion-foot plant' (*k'æŋ*, mountain-lion; 'ãm, foot; *p'e*, stick, stalk, plant).

Dryopteris filix-mas. Shield Fern.

It is believed that this plant produces no seeds. The spore-sacs on the under surfaces of the fronds are considered to have no function of reproduction.

Pōka, 'water leaf' (*pō*, water; *ka*, leaf).

Filix fragilis. Brittle Fern.

Paḃ'v'e. (San Ildefonso.) 'Ōk'up'e'ñæḃì ('ōk'ḡ, unexplained; *p'e'ñæḃì*, weed). (Santa Clara.)

Notholaena fendleri. Cloak Fern.

¹ Mrs. Stevenson (The Zuñi Indians, 23d Ann. Rep. Bur. Amer. Ethn., p. 297) tells of a usage of this fungus by the Zuñi: "Though hemorrhage is uncommon it sometimes occurs, and for this trouble a tea is made by pouring boiling water over the fungus known as corn smut (*Ustilago maidis*), which has the same effect as the ergot of thepharmacoepia."

This plant ground tine is used on the lips as a remedy for cold sores.

MOSSES AND LICHENS

Mosses and lichens are called merely *k'owà*, 'tegument,' 'skin.' The name of the substance on which the plant grows is usually pre-joined. Thus: *kuk'owà*, 'moss growing on rock,' literally 'rock skin' (*k'u*, rock; *k'owà*, tegument, skin).

Mosses ground are applied to the lips as a remedy for cold sores.

At Santa Clara *kuk'owà* is rubbed on sores about a child's mouth, and also put into the cavity of a decayed tooth to stop pain.

Nǎŋ'a, Hano Tewa (*nǎŋ*, earth; 'a, clothing).

Lichen sp.

At Hano a lichen, *nǎŋ'a*, is applied to the teeth and gums to cure toothache.

SCOURING RUSHES

Potek'ŋŋ (*potē*, apparently *potē*, 'fishweir'; *k'ŋŋ*; stiff object, leg).

Equisetum arvense Scouring Rush, Horsetail. New Mexican Spanish *cañatillo*

This plant grows where there is water. It is of a dark green color and never exceeds two feet in height. Horses eat it.

The plant was called snake-grass by a white man living in the neighborhood.

Tŋŋtedēŋ.

? ——— New Mexican Spanish *cañatillo*.

A decoction made from this is a good medicine for babies when they catch cold. It is also a remedy for diarrhea.

WILD PLANTS FROM OUTSIDE THE TEWA COUNTRY

P'āsej'ŋŋ, 'yellow plant' (*p'e*, stick, plant; *tse*, yellow).

Maclura aurantiaca. Osage Orange or Bois d'arc.

This is a shrub said to grow in Texas and the valley of the Arkansas River, especially in a place called Garcia. The limbs are straight and thorny and the color of the wood is yellow. The wood of this shrub was considered better for making bows than any which grew in the Tewa country.¹ It was brought from the east by the Tewa, or obtained from the Comanche or other Eastern tribes.

Tsep'e, 'eagle plant' (*tse*, eagle; *p'e*, stick, plant).

Prosopis glandulosa. Mesquite sp. (not screw mesquite). New Mexican Spanish *mezquite*.

¹ Many of the Pima hunting bows are made of Osage Orange wood, a material that is now obtainable from the whites along the Salt River. (See Russell, *The Pima*, *Twenty-sixth Ann. Rep. Bur. Amer. Ethn.*, p. 95.)

Very few Tewa are acquainted with this plant; it does not grow in the Tewa country. Many individuals were questioned about it. At last a Tewa who had been in the southern part of New Mexico so described it that it was recognized as the mesquite. The fruit is called *tsep'emü*, 'eagle plant pods' (*tse*, eagle; *p'e*, stick, plant; *mü*, pod). This informant said that the screw mesquite (*Prosopis pubescens*) pods used to be obtained from the Mescalero Apache. These were twisted into the ear as a cure for 'ojep'ohe, 'ear-ache' ('oje, ear; p'o, hole; he, sick, sickness). Cf. *Ta'ne*, page 73.

KQ'nto, 'buffalo nut' (*kQ'nto*, buffalo; *to*, nut).

? ——— Walnut. New Mexican Spanish *nogal*.

Wild walnuts used to be gathered by the Tewa when they hunted buffalo in the Arkansas River valley. Walnuts are still called *kQ'nto*, but more often merely *to*, 'nuts.'

Tu p'i'v'i, 'red kernels' (*tu*, kernel; *p'i*, red).

? ———

A large red seed, resembling one of the seeds of a rose; the plant is 2 or 3 feet high and has leaves like those of a rose. The tree (?) is said to be plentiful on the Comanche, Kiowa, and Osage reservations. The Comanche sometimes bring the seeds when they visit the New Mexican pueblos, and Pueblo Indians visiting the Comanche country carry the seeds back with them.¹ They are valued as a medicine for women at their periods; a piece of a seed is broken into small fragments and swallowed with water.

P'ekwa'a, 'vegetable beads' (*p'e*, stick, plant; *kwa'a*, beads). A merely descriptive name.

? ———

Large brown seeds from a bush four feet high which grows in the mountains near Rio Verde, Arizona.² A man at Santa Clara professed to recognize these seeds as "good when you have wind [i. e., wandering neuralgic pains] in the head, making your head ache and making you crazy." They should be rubbed into a greasy paste and smeared on the head.

PLANTS NOT SATISFACTORILY IDENTIFIED

Qwæpu, (*qwæ*, unexplained; *pu*, root).

? ——— ? Alder. Cf. *qwæ*, page 45, and the use of *t'pu*, alder, pages 38-39.

1 The Mohave Apache obtain this seed from the neighborhood of Tucson; it grows also in northern Mexico. Apparently they use these seeds only as beads. The White Mountain Apache use them as medicine. A specimen of this seed may be seen in the Field Museum, Chicago (Owen coll., No. 84647).

2 The Mohave Apache collect these seeds. The White Mountain Apache use them as medicine. A specimen of this seed may be seen in the Field Museum, Chicago (Owen Coll., No. 84650).

A woody stem used for coloring deerskin, called by the Yavapai *'ikwāla*, was identified by a man at Santa Clara as a remedy, applied externally, for spots on the face and arms, for throat-ache, or any other pain.

? ———.

Vagnera amplexicaulis. False Solomon's Seal.

The ripe berries were eaten.

'Asap'a (*'asa*, unexplained; *p'a*, large and flat).

? ———.

A small plant that grows in the hills behind San Ildefonso.

Kop'e, 'planting plant' (*ko*, to plant; *p'e*, plant).

? ———.

An informant at Santa Clara gave this name, probably in error, to a dried specimen of *Villanova dissecta*.

Kop'e is mentioned as a plant which is buried with corn at planting-time to promote the growth of the latter.

Ko'emp'e, 'buffalo plant' (*ko'eη*, buffalo; *p'e*, plant).

? ———.

K'ump'e, 'cob plant' (*k'uη*, corn-cob; *p'e*, plant).

? ———.

K'ujop'e, 'wolf plant' (*k'ujō*, timber wolf; *p'e*, stick, plant).

? ——— New Mexican Spanish *yerba de lobo*.

The Santa Clara people obtain this plant in the mountains southwest of the Rito de los Frijoles Canyon; they use it in treating a swollen bruise.

Kutembi (*k'u*, skunk-bush; *teη*, tube; *bi*, unexplained).

? ———.

This plant is found on the hills east of San Juan Pueblo.

The leaves are chewed to allay thirst.

The leaves are steeped and the decoction is drunk as a remedy for urinal troubles.

Jowop'epob'i (*jowō*, ——— ; *p'e*, stick, plant; *pob'i*, flower).

? ———.

This plant is described as growing in the mountains, attaining a height of two feet, and bearing large red and white flowers.

The plant is dried and ground to a fine powder; this is applied dry to the surface of a wound which has been first moistened.

Malbà (< Spanish).

Malva sp. New Mexican Spanish *malva*.

At Santa Clara this plant is used as a remedy for headache. The plant ground is made into a paste with the addition of water and a

small quantity of sugar. The paste is applied over each temporal artery and on the forehead between the eyebrows.

Mānsipu (*mānsù* <Span. ; *pu*, base, root).

? ——— New Mexican Spanish *yerba del manso*.

This plant grows especially along both sides of Ojo Caliente Creek, in the vicinity of La Cueva, New Mexico. Mexicans dig it there and sell it among Mexicans and Indians. A decoction is made of the plant as one makes coffee, and this is drunk hot for stomachache.

Okāḡwæp'e, (*'okāḡwæ*, sounded like *'okāḡwæ*, turkey-buzzard; *p'e*, stick, weed). Known also merely as *'okāḡwæ*.

? ———

This plant is described as growing about two feet high. It is said to be a good remedy for sick babies, the leaves being merely tied on the cradle. The additional information was obtained that the plant has large roots, which are not edible.

'Osa *wi'a*.

? ———

This is described as a species of weed, growing in lakes, springs, and pools; it is tender and peppery, and was eaten raw. (See *Bevi*, water-cress, page 112.)

'Osa (no etymology),

? *Angelica* sp.

A specimen of the root only was obtained. The leaf is said to resemble that of tobacco.

The root, *'osapu* (*pu*, root), is highly valued as a remedy for diarrhea and almost all stomach disorders. A very small dose is recommended. Some boil the root and drink the decoction; others chew the root dry. A small piece ground fine and swallowed with a cupful of water cures stomachache and vomiting. Young women should not take this remedy, as it is highly astringent; it is particularly dangerous for a woman near the time of her confinement.

'Osapu is an article of trade in the Tewa villages; it is brought from the mountains by "Mexican" peddlers.

The same root is used as a stomach tonic by the Yavapai and other tribes of southern Arizona.¹

'Osu.

? ———

Described as a kind of plant which grows in the mountains.

Pa'wup'e (San Ildefonso), 'fish staff' (*pa*, fish; *'wup'e* staff, prayer-stick). *Pa'ewop'e* (Santa Clara). See below.

? ———. New Mexican Spanish *yerba de pescado*, 'fish weed.'

¹ *Angelica atropurpurea* is used by the White Mountain Apache as a remedy, a small quantity being mixed with tobacco. (Specimen in Field Museum, Chicago.)

A kind of straight-stalked weed said to grow six inches high and to have no flowers (San Ildefonso).

At Santa Clara a similar name, *pa'ewop'e* (*pa*, fish; *'ewop'e*, meaning uncertain), along with the Spanish name *yerba de pescado*, was applied to a broad-leaved plant having fleshy tap-roots, the *mát'xéfa* of the Yavapai. The roots, dried and ground fine, were said to be prepared and used as a salve for pimples on the face and nose.

Pæñuqwa, 'snake palo duro' (*pæñu*, snake; *qwa*,? *Cercocarpus parvifolius*).

? ———

A kind of shrub.

P'entsáñwa'iy 'black-green' (*p'ey*, black; *tsáñwa*, blue, green).

? ———

A plant having dark foliage and a yellow flower.

P'e'næðì qwa'iy, 'thorny weed' (*p'e'næðì*, weed; *qwa*, thorny, thorn).

? ———. Common thistle.

P'e'næðìp'a, 'broad weed' (*p'e'næðì*, weed; *p'a*, large, thin, flat and roundish).

? ———

A broad-leaved lily-like plant which grows in the mountains

Budup'e'næðì, 'donkey weed' (*budu*, donkey, <Span. *burro*; *p'e'næðì*, weed).

? ———

Donkeys are fond of eating this weed.

Pæñup'e'næðì, 'snake weed' (*pæñu*, snake; *p'e'næðì*, weed).

? ———

The leaves of two shrubs are smoked with native tobacco to make it milder, especially in religious ceremonies.

P'im p'uñæ'æ, 'mountain purslane' (*p'iy*, mountain; *p'uñæ'æ*, *Portulaca oleracea*).

? ———.

This shrub grows in the mountains near Cochiti, and the Santa Clara people procure it from that pueblo. Cf. *Qwap'e*, below.

Qwap'e (*qwa*?; *p'e*, stick, plant).

? ———

The leaves resemble those of *p'im p'uñæ'æ* (see above) but are smaller. This shrub grows on the hills to the west of Santa Clara Pueblo.

Pit'ipodì, 'red little ball flower' (*p'i*, red; *t'i*, small and roundish like a ball; *podì*, flower).

? ———.

A plant which grows in the mountains. It resembles the firepoker of our gardens.

Pogq'ntu (*pogq'ntu*, ———; *tu*, kernel).
? ———

A San Ildefonso informant stated that this plant grows low on the ground in the hills. The seed-pods are six inches long; these are gathered when ripe and are eaten after being roasted in hot ashes.

An informant at Santa Clara gave this, probably in error, as the name of the Mesquite, which he professed to have seen on the Mexican border. From the seeds, called *pogq'ntu* (*pogq'ntu*, ———; *tu*, kernel), and from which the plant evidently gets its name, flour was made.

Pogwæ (*pø*, water; *qwæ*, ? *Cercocarpus parvifolius*).
? ———

Said to be a kind of herb which Tewa boys use as a perfume.

Pøtap'e, 'dry water plant' (*pø*, water; *tä*, dry; *p'e*, stick, stalk, plant).
? ———

This is a kind of weed that grows by the water.

Pøtæ, 'water tube' (*pø*, water; *tæ*, tube).
? *Villanova dissecta*.

Sægøbe (*sægo*, unexplained; *bæ*, roundish fruit, ball).
? *Solanum jamesii*. Potato.

It is said that *sægøbe* was originally applied to a white-flowered plant, native to this region, which bears small edible tubers similar to potatoes. These tubers likewise are called *sægøbe* and are still eaten by the Tewa. No specimen of the plant could be obtained?

See *papa* and *nämp'u*, which are also applied to 'potato.'

Swollen glands are called *sægøbe*.

Sæhk'o.
? ———

Described as a kind of hard-wooded shrub.

Sepatowi.
? ———

This name was obtained at Santa Clara. *Sepatowi* is said to be a kind of water alga.

This plant is placed on the forehead to stop nosebleed.

Tä'ne.
? ———

Said to be the correct name of one of the species of plant wrongly called *p'u tsäñwæ'iy* in this paper. This information was volunteered

1 Cf. Hopi *tümna* ("a small nodule"), potato (*Solanum jamesii*). It is boiled and eaten with a talc of greasy taste called *tüm'n' tåka*, potato clay.' (See Fewkes, *Amer. Anthr.*, x, 1895, p. 19.)

by one of the old informants who had been "thinking it over" for several weeks.

The plant is said to resemble *tsep'e* (p. 68).

Tiwo, 'swelling medicine' (*ti*, swollen, a swelling; *wo*, magic, medicine).

? _____

This plant is found on the hills east of San Juan Pueblo.

The root of the plant pounded is applied to swollen parts.

Tsif yu.

? _____

A kind of shrub.

Tsætop'u'ugi (*tsæ*, white; *top'u'ugi*?).

? _____.

A weed which resembles the dusty-miller of our gardens. It is said to look as if it had been rolled in gypsum or dust. It grows in the mountains and in the lowlands.

Tu p'i'iy, 'red kernel' (*tu*, kernel; *p'i*, red).

? _____

See page 69.

Tusa, 'flesh tobacco' (*tu*, flesh; *sa*, tobacco).

? _____

This is described as a kind of wild tobacco.

Tujo (*tu*, unexplained; *jo*, apparently *jo* augmentative).

? _____.

A plant which grows in the mountains.

Um'p'op'e, 'blood plant' (*um'p'o*, blood, < *'uŋ*, blood; *p'o*, water, liquid; *p'e*, stick, stalk, plant).

? - - -

A kind of plant found growing under pine trees in the mountains. It has red flowers and red juice, whence its name. Specimens were obtained from the mesa south of Frijoles Canyon,¹ but these have not yet been identified.

Nwiku (unexplained).

? _____. New Mexican Spanish *lechero*.

Wopi'ivi, 'red medicine' (*wo*, magic, medicine; *p'i*, red).

? _____

This is described as a plant bearing red flowers; it is boiled and the decoction is drunk for purifying the blood. The plant grows in the mountains.

¹ See Harrington, The Ethnogeography of the Tewa Indians, *Twenty-ninth Ann. Rep. Bur. Amer. Ethn.*, p. 410.

Kepe, Hano Tewa (*ke*, apparently *ke*, bear; *p̂e*, berry).

? ———

Red berries gathered and eaten in summer.

Pakotseji'i, Hano Tewa (*pako*, said to be an old word; *tse*, yellow).

Hopi, *to'itsma*.

? ———

A plant with yellow flowers somewhat resembling *Gutierrezia*.

This plant was formerly cooked with meat, or, dipped in salt water, was eaten with new corn.

Sojomelep'e (Hano Tewa), 'urinal-pot plant' (*sojo*, urine; *mele*, pot; *p'e*, plant).

? ———

A plant bearing large roundish seed-vessels.

Taje'ǎ, Hano Tewa (*taje*, unexplained; 'ǎ, sweetness).

? *Atriplex* sp. Orache.

At Hano the young leaves and stalks are eaten, boiled, in spring.

Sip'ulu'i (Hano Tewa), 'stomach swelling' (*si*, belly; *p'ulu*, swell). This is a second Hano name.

? ———.

Talaŋ, Hano Tewa (said to mean 'spread wide').

Any plant having leaves spread wide on the sand would be so called.

The Hano people never eat this plant for fear their stomachs would swell.

Tamy (Hano Tewa), 'grass bag' (*ta*, grass, *my*, bag).

? ———

A grass used to cover the hatchway of the estufa (kiva) when warmth or privacy is needed.

Titimp'e, Hano Tewa (unexplained).

? ———

Described as a flowering plant.

Tonvasxlæ, Hano Tewa (?*to*wà, people, Indian; *sxlæ*, stew, boil).

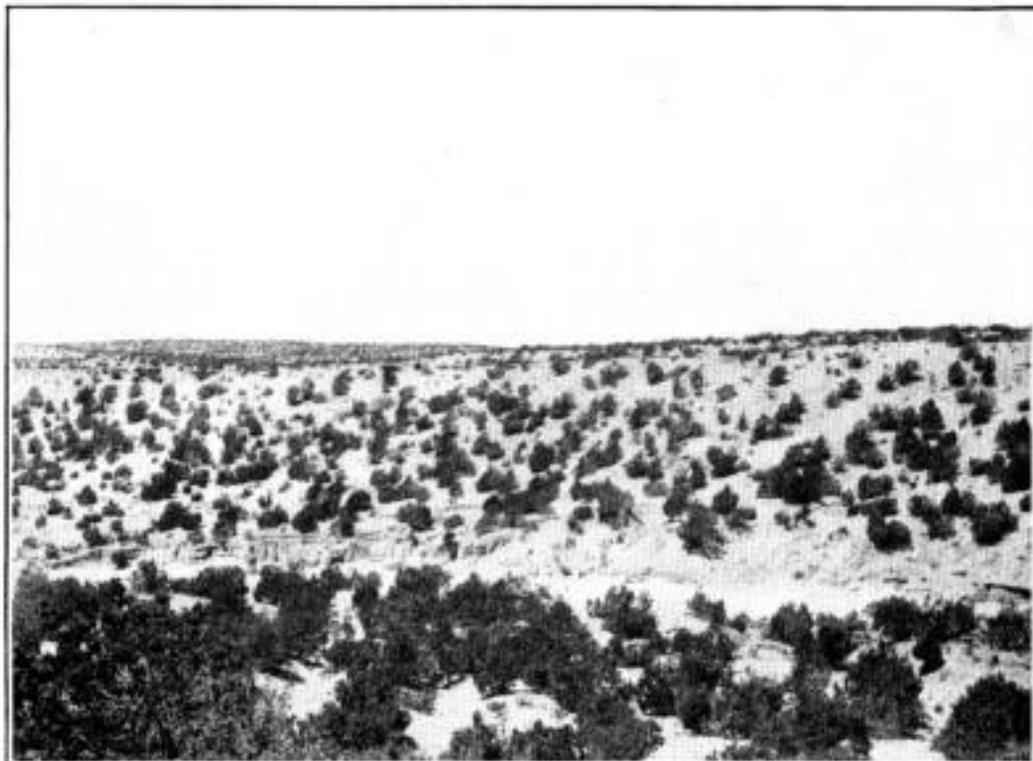
? ———

A plant which is eaten, boiled.

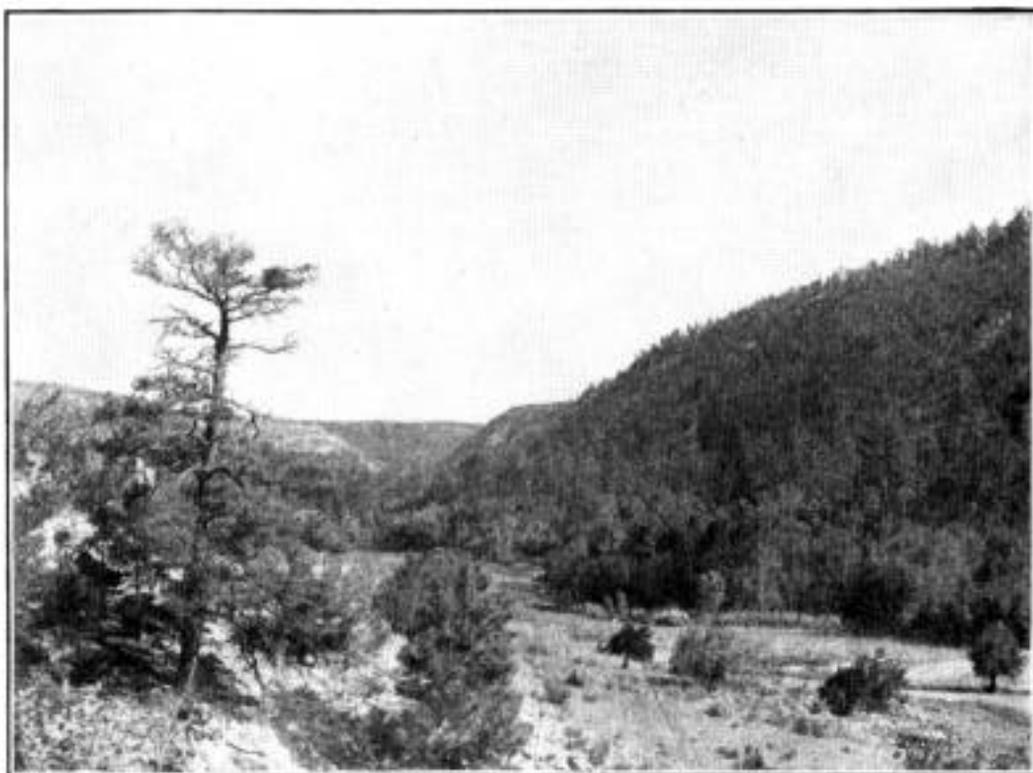
Tsik'u, Hano Tewa (unexplained).

? ———

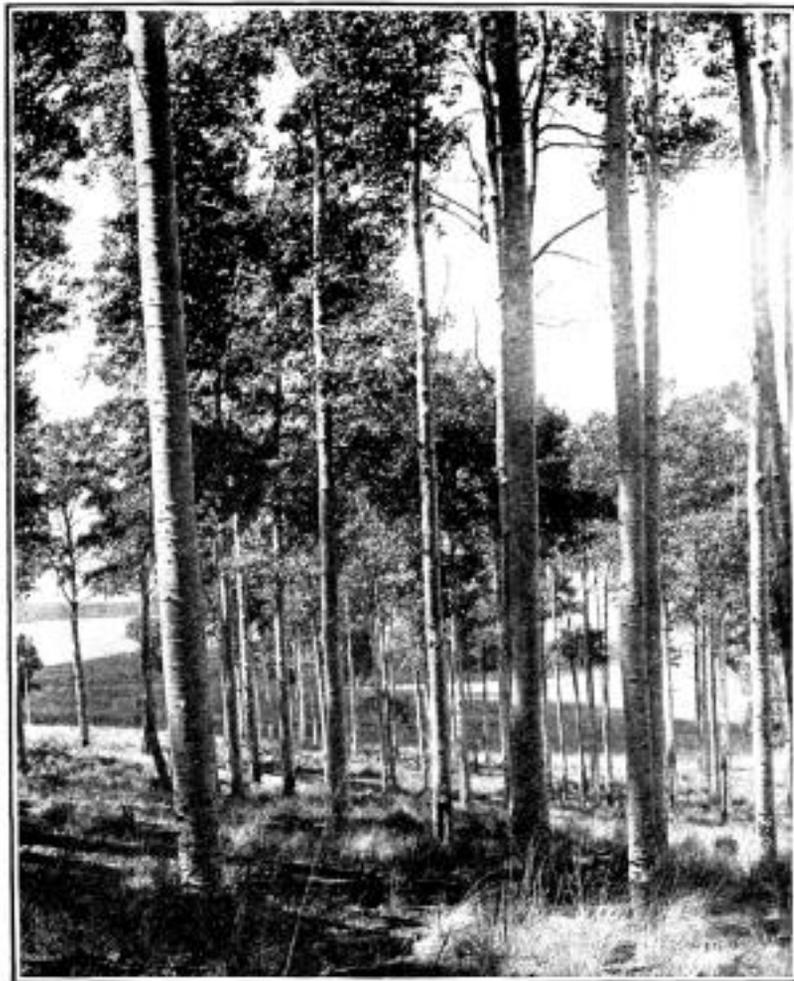
Rabbit-sticks, musical rasps, stirring-sticks for cooking, shade-sticks, lease-rods, and heddles for weaving are made of this hard, knotty wood.



A. VIEW NEAR SANTA FE, N. MEX., SHOWING THE GENERAL APPEARANCE OF COUNTRY DOMINATED BY A GROWTH OF PIÑON PINE AND CEDAR.



B. CANYON OF EL RITO DE LOS FRIJoles, SHOWING STREAMSIDE DECIDUOUS FOREST; BETWEEN THIS AND THE STEEP MESA SIDE ON A NARROW STREAM TERRACE IS SEEN A GROWTH OF TALL ROCK PINE.



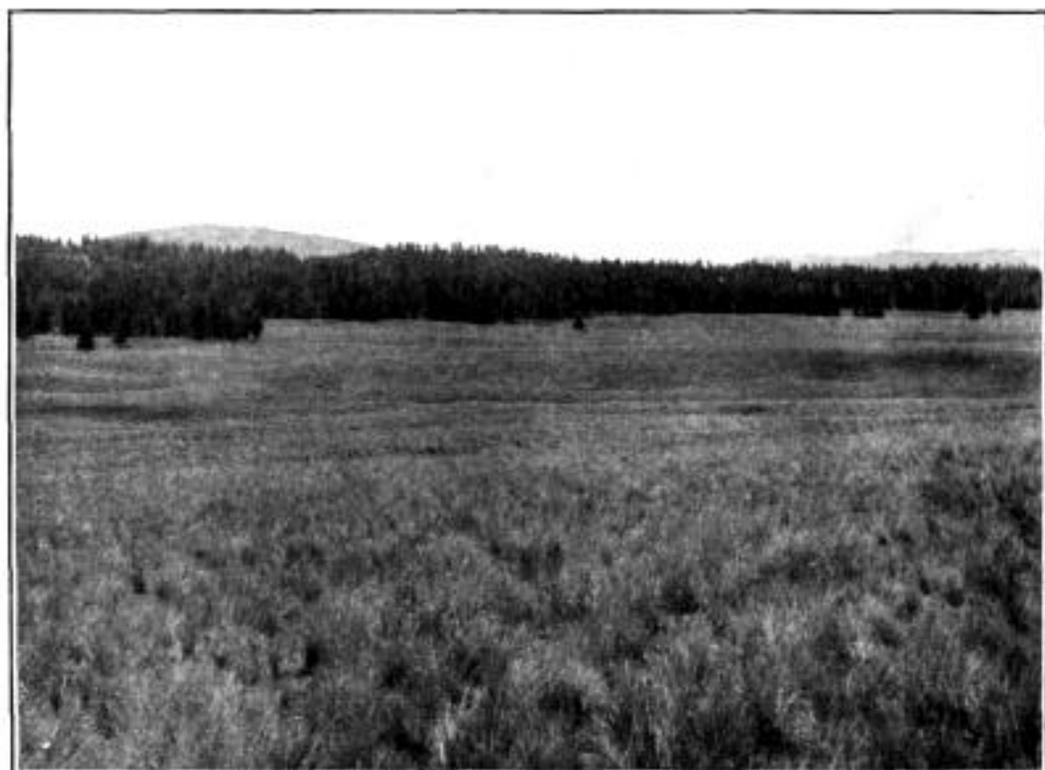
A. ASPEN GROVE AT THE EDGE OF GRASSLAND AREA IN THE VALLE GRANDE.



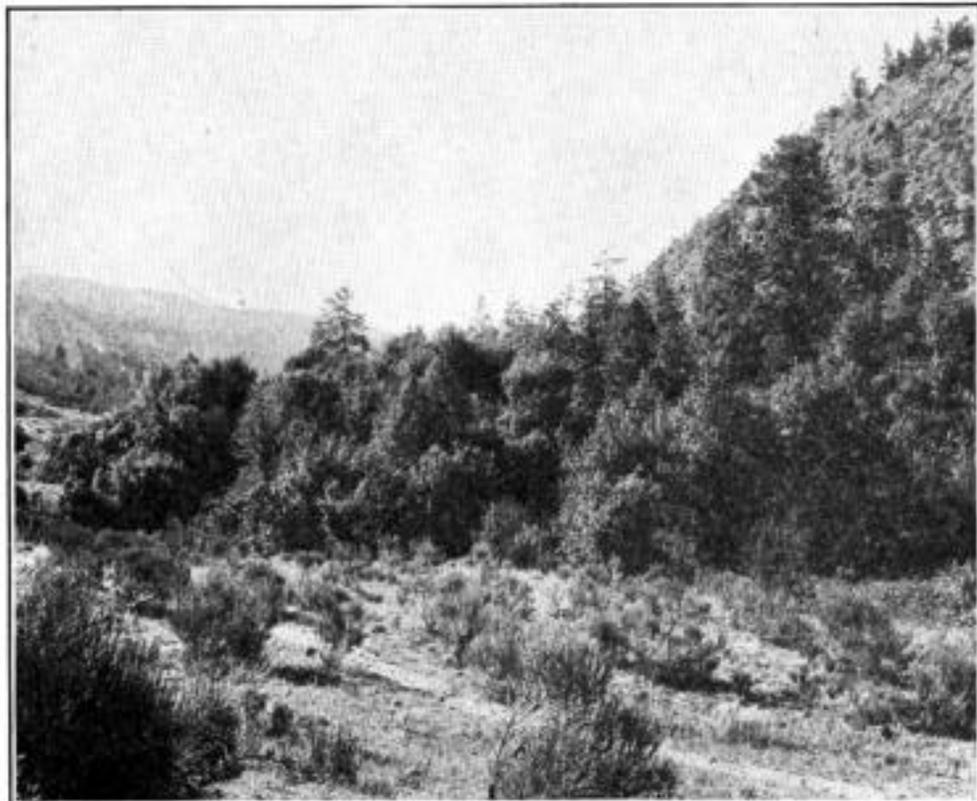
B. ROCK PINE FOREST OF MESA TOP.



J. AN EASTERN SLOPE AT THE CREST OF THE JEMEZ MOUNTAINS. TALL ROCK PINES ARE SCATTERED OVER THE GRASSLAND; AN ASPEN GROVE IS SEEN AT THE LEFT; LARGE GRASS CLUMPS, SO CHARACTERISTIC HERE, ARE IN THE FOREGROUND.



K. VALLE GRANDE, SHOWING WHERE GRASSLAND GIVES WAY TO SPRUCE AND ASPEN ON THE SLOPES.



A. CANYON OF EL RITO DE LOS FRIJOLES, SHOWING STREAMSIDE FOREST AND NUMEROUS RABBIT-BRUSH SHRUBS (*CHRYSOTHAMNUS BIGELOVII*) IN THE FOREGROUND ON TALUS SLOPE.



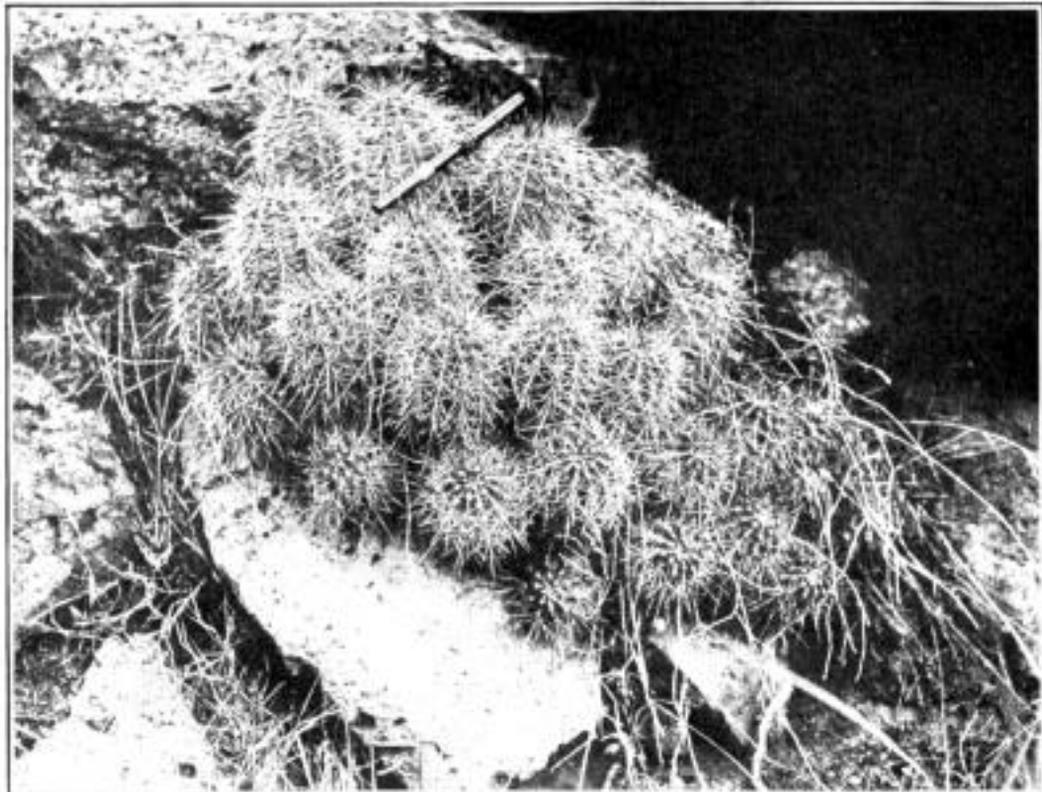
B. PLUMED ARROYO SHRUB (*FALLUGIA PARADOXA*) IN ARROYO IN CANYON OF EL RITO DE LOS FRIJOLES.



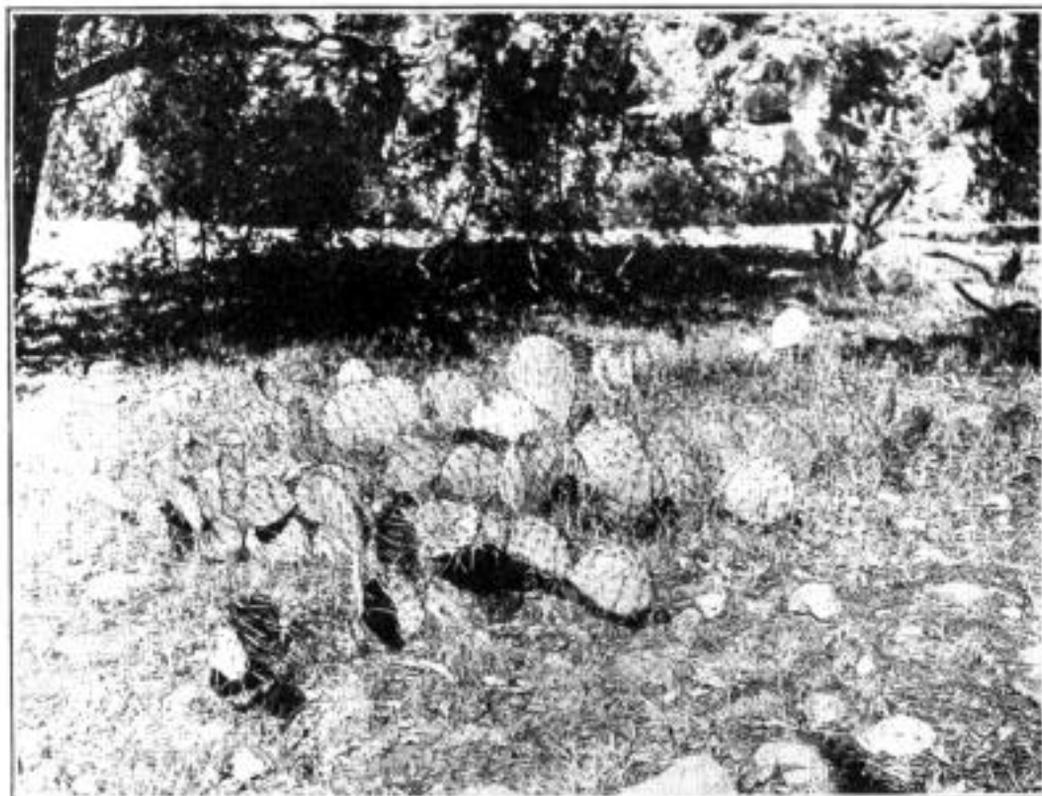
A. FOUR-O'CLOCK (*QUAMOCLIDION MULTIFLORUM*). THIS LARGE CLUMP MEASURED SEVERAL FEET ACROSS. RATHER COMMON IN THE CANYONS.



B. *DATURA METELOIDES*, A LARGE AND CONSPICUOUS PLANT OF STREAM TERRACES AND TALUS SLOPES.



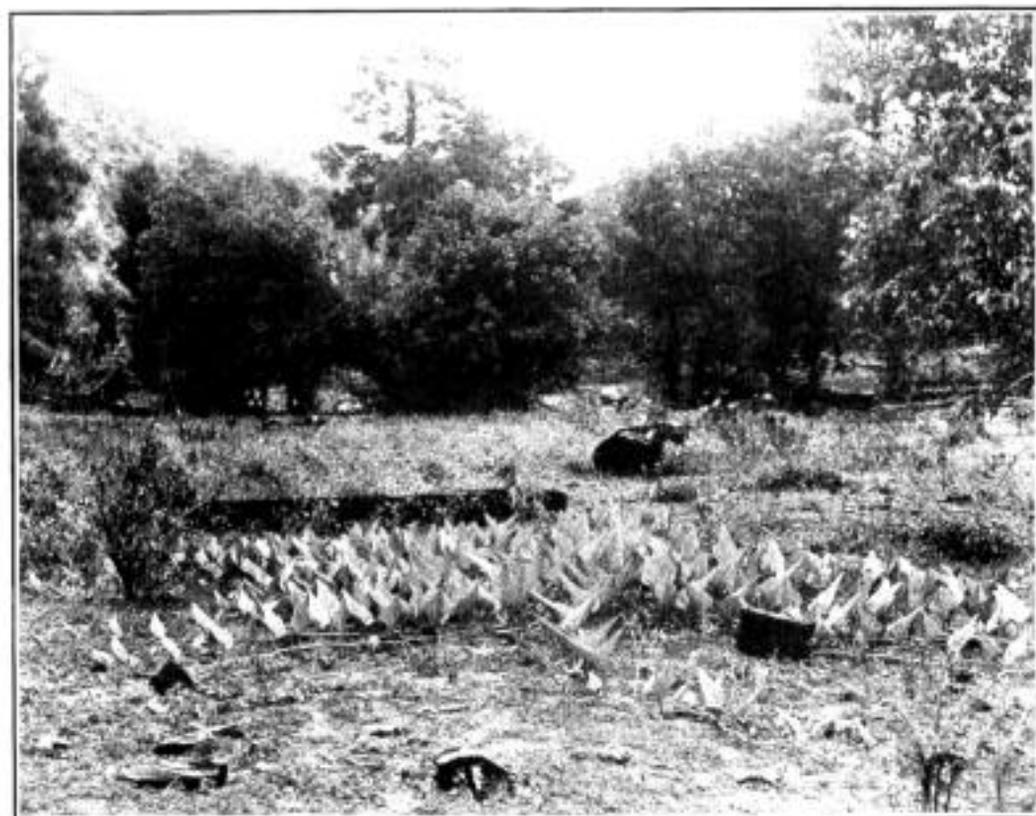
A. BALL CACTUS (*MAMILLARIA* SP.).



B. PRICKLY PEAR (*OPUNTIA CAMANCHICA*).



A. SALT BUSH (*ATRIPLEX CANESCENS*), A SHRUB SEVERAL FEET HIGH IN THE CANYONS ON TALUS SLOPES AND STREAM TERRACES.



B. WILD SQUASH (*CUCURBITA FOETIDISSIMA*), A TRAILING FORM IN CANYONS.



A. CHANDELIER CACTUS; CANE CACTUS; "CANDELABRA;" "ENTRANA" (*OPUNTIA ARBORESCENS*). A TYPICAL AND STRIKING SHRUB OF THE REGION.



B. RABBIT-BRUSH (*CHRYSOTHAMNUS BIGELOVII*).