

**ETHNOBOTANICAL INFORMATION, CHIHUAHUAN
DESERT GARDENS, CENTENNIAL MUSEUM,
UNIVERSITY OF TEXAS AT EL PASO**

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Biology Special Problems Course**

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Accounts of Species

Acacia greggii. Fabaceae.

Common Names: Catclaw, catclaw acacia, "O -opat" (Pima).

USAGES

CEREMONIAL

Papago: Wood used to make prayer sticks.

OTHER PRODUCTS

Papago: Wood used to manufacture pole tops used to dislodge saguaro fruits; as weaving material for curved structure construction; twigs used in cradle board construction; a 1-inch long pod utilized as scraper in deerskin curing process; coiled basket construction material; branches wrapped into a hoop to be used as an implement to hold a deer-head hunting "mask" to the hunter's head.

Pima: Utilized for basket construction, particularly granary baskets, some as large as 6 feet tall.

FOOD

Pima and Yuma: Both used the seeds either fresh or dried; bitter pods were parboiled to remove or reduce the bitterness, then eaten fresh or dried and later made into a flour which was then made into cakes or mush. For the Pima, the beans were eaten in precontact times.

COSMETIC

Papago: *A. greggii* buds and blossoms were dried and kept by the women as prized perfume sachets.

LITERATURE

Castetter, E. F., and W. H. Bell. 1942. Pima and Papago Indian agriculture. University of New Mexico Press, Albuquerque.

Castetter, E. F., and R. M. Underhill. 1935. The ethnobiology of the Papago. University of New Mexico Bulletin, Biological Series 4 (3).

Ebeling, W. 1985. Handbook of Indian foods and fibers of arid America. University of California Press, Los Angeles.

Russel, F. 1985. The Pima Indians. University of Arizona Press, Tucson.

Agave americana. Agavaceae.

Common Name: "Aot"(Pima), mescal.

USAGES

FOOD

Apache
Papago
Pima

All three of these tribes gathered the mescal heads and roasted them in a pit for 24-36 hours. First the pit was dug, then a fire was built. When the fire had died, down stones were added, then the mescal heads were cooked upon this. Mescal heads were eaten alone or with a pinole, and a syrup was boiled until thick and black from the juice of the mescal heads.

LITERATURE

Russel, F. 1985. The Pima Indians. University of Arizona Press, Tucson.

Agave lechuguilla. Agavaceae.

Common Name: Lechuguilla, ixtle (Spanish).

USAGES

OTHER PRODUCTS

Papago: Used fibers to make a twisted cordage.

Archaeological site: Frightful Cave in Coahuila: Ixtle cordage, sandals, and burial sticks were found dating back a couple of thousand years.

LITERATURE

Castetter, E. F., and R. M. Underhill. 1935. The ethnobiology of the Papago. University of New Mexico Bulletin, Biological Series 4 (3).

Worthington, R. D. 1998. Syllabus of "Plants in Southwest cultures", Biology 3341. Unpublished paper. El Paso, Texas.

***Agave parryi*.** Agavaceae.

Common Names: Century plant, mescal (Spanish), "kwa ni"(Hopi).

USAGES

CEREMONIAL

Hopi: The stalk and fibers were used ceremoniously in firemaking.

FOOD

Havasupai: Roasted the young stalks; baked buds were mixed with water to produce mescal.

Hopi: Received pit-baked leaves and buds as trade items from the Havasupai.

Tarahumara: Cooked the agave juice to make mescal (wine).

Mescalero Apache: Baked the agave hearts in special stone pits.

MISCELLANEOUS NOTES

The Mescalero Apache derived their name from this plant (Spanish gift).

Mescal trade; ancient commerce origins in Cordova Cave 300-11000 C.E.

The Havasupai altered the agave flower bud growth by placing stones on them.

LITERATURE

Ebeling, W. 1986. Handbook of Indian foods and fibers of arid America. University of California Press, Los Angeles.

Farrer, C. R. 1991. Living life s circle: Mescalero Apache cosmovision. University of New Mexico Press, Albuquerque.

Schlett, S. F. 1995. The ethnobotanic practice of the Hopi people. Thesis, University of Texas at El Paso, El Paso.

Artemisia ludoviciana ssp. mexicana. Asteraceae.

Common Names: Mexican oregano, estafiate (Spanish), "yztau hiatl" (Aztec), "Zizim" (Maya).

USAGES

MEDICINAL

Maya: The plant was boiled and used for pleurisy as a hot application; a decoction was used for coughs, asthma, and for diarrhea. Additionally, a poultice of this plant was placed directly on the abdomen for colic.

Spanish New Mexicans: A tea from this plant that was used for stomach aches, side pains, and small amounts were given to babies for diarrhea and vomiting. Older people would sometimes make larger quantities of the tea and bathe in it.

LITERATURE

Curtin, L. S. M. 1997. Healing herbs of the Rio Grande: Traditional medicine of the Southwest (Michael Moore, ed.). Western Edge Press, Sante Fe.

Atriplex wrightii. Chenopodiaceae.

Common Names: Saltbush.

USAGES

OTHER PRODUCTS

Pima: Used the branches of the saltbush to cover (shade) tobacco seeds.

FOOD

Hopi: Fresh greens boiled with meat for flavoring.

Papago: Small greens used fresh as food.

Pima: Nutritious meal made from the parched seeds of various saltbushes, the leaves and young shoots were used as fresh greens, and other food could be seasoned with the saltbush by boiling some of the greens in it.

LITERATURE

Castetter, E. F., and W. H. Bell. 1942. Pima and Papago Indian agriculture. University of New Mexico Press, Albuquerque.

Ebeling, W. 1986. Handbook of Indian foods and fibers of arid America. University of California Press, Los Angeles.

Chilopsis linearis. Bignoniaceae.

Common Names: Desert willow, "quaankish" (Cahuilla).

USAGES

OTHER PRODUCTS

Cahuilla: Wood used in house construction, in the making of granaries to store mesquite beans, acorns, and other foods. Wood used in bow construction, used as a frame to hold ollas, and the tree itself was comfortable shade and provided a nice camping area. The fibrous material of the bark used in making nets, shirts, and breechclouts, and the long limbs were used to reach high-up fruits and nuts.

LITERATURE

Bean, L. J., and K. S. Saubel. 1972. Temalpakh: Cahuilla Indian knowledge and usage of plants. Rubidoux Printing Company, Riverside.

Dasyilirion wheeleri. Agavaceae.

Common Names: Sotol, spoon plant, "umu k" (Papago).

USAGES

OTHER PRODUCTS

Kickapoo: Used this plant as cordage for sewing cattail mats and in tying saplings for housing construction.

Papago: Dasyilirion used for making extremely large, 6 by 3 foot sleeping mats; also cradle board mats, back mats for the carrying frame, and other basket construction. In addition to very large sleeping mats, they also constructed enclosure mats for storage of grain and for enclosing the rain-calling ceremonial area.

Zuni: Utilized this plant in the construction of winnowing baskets.

FOOD

Papago: The flower stalks were eaten as greens, boiled or cooked buried in the ashes.

LITERATURE

Castetter, E. F., and W. H. Bell. 1942. Pima and Papago Indian agriculture. University of New Mexico Press, Albuquerque.

Castetter, E. F., and R. M. Underhill. 1935. The ethnobiology of the Papago. University of New Mexico Bulletin, Biological Series 4 (3).

Ebeling, W. 1986. Handbook of Indian foods and fibers in arid America. University of California Press, Los Angeles.

Worthington, R. D. 1998. Syllabus of "Plants in Southwest cultures", Biology 3341. Unpublished paper. El Paso, Texas.

Ephedra nevadensis. Ephedraceae.

Common Names: Indian tea, Mormon tea, Mexican tea, "tutut" (Cahuilla).

USAGES**FOOD**

Cahuilla: Used fresh or dry twigs and boiled for tea which was a very popular drink. Also, seeds ground into a meal which was then made into a mush.

Panamint: Seeds ground into a flour which was then used to make bitter breads or cakes.

Papago: Used this plant to make a tea.

LITERATURE

Castetter, E. F., and R. M. Underhill. 1935. The ethnobiology of the Papago. University of New Mexico Bulletin, Biological Series 4 (3).

Eberling, W. 1986. Handbook of Indian foods and fibers of arid America. University of California Press, Los Angeles.

Ephedra torreyana. Ephedraceae.

Common Names: Joint-fir, Mormon tea, Mexican tea, canutillo (Spanish: "little tube"), canutilla (Spanish: "Little reed"), tepopote (Spanish: "little straw"), popotillo, American ephedra.

USAGES

MEDICINAL

Pima: Made decoction from stems and used as an antiluetic (anti-syphilitic).

Mescalero Apache: Made decoction from the entire plant and used as an antiblenorrhagic.

Spanish New Mexicans: Decoction tea used to reduce fever and to relieve kidney pain. Also, used as a treatment to counteract venereal disease. The recipe is: First, boil a handful of the plant in a quart of water, then strain through a cloth. Second, drink one glass of this tea (hot) at least three times a day, about 1 hour before meals. Third, when the pain is gone, one must eat a chopped red onion three times before meals for approximately 6 to 8 days.

FOOD

Navajo: Used for a hot tea; first the stems were roasted, then boiled.

LITERATURE

Curtin, L. S. M. 1997. Healing herbs of the Upper Rio Grande: Traditional medicine of the Southwest (Michael Moore, ed.). Western Edge Press, Sante Fe.

Elmore, F. H. 1976. Shrubs and trees of the Southwest Uplands. Southwest Parks and Monument Association, Globe.

Worthington, R. D. 1998. Syllabus of "Plants in Southwest cultures", Biology 3341. Unpublished paper. El Paso, Texas.

Ephedra viridis. Ephedraceae.

Common Names: Mormon tea, green ephedra, joint fir.

USAGES

MEDICINAL

Navajo: Used the tops of the plant to boil into a cough medicine.

OTHER PRODUCTS

Navajo: Used this plant for a light tan dye.

LITERATURE

Elmore, F. H. 1976. Shrubs and trees of the Southwest Uplands.
Southwest Parks and Monument Association, Globe.

Worthington, R. D. 1998. Syllabus of "Plants in Southwest cultures",
Biology 3341. Unpublished paper. El Paso, Texas.

Fallugia paradoxa. Rosaceae.

Common Names: Apache plume, poñil (Spanish).

USAGES

COSMETIC

San Ildefonso Pueblo: The women steeped the leaves of this plant in water until the leaves were softened, and then the hair was washed in it to promote growth.

Spanish New Mexicans: The women boiled the roots to use as a final hair rinse to prevent hair from falling out.

MISCELLANEOUS NOTES

Some Spanish New Mexicans used this plant to counter "bewitchment spells. The plumes were ground with sangre de venado, rock salt, and fireplace soot. The whole preparation was then put into a wine (only the kind of wine that Catholic priests drink before breakfast); they then drank the whole concoction. It is said that this is to drive away evil.

LITERATURE

Curtin, L. S. M. 1997. Healing herbs of the Upper Rio Grande: Traditional medicine of the Southwest (Michael Moore, ed.). Western Edge Press, Sante Fe.

Geranium caespitosum. Geraniaceae.

Common Names: Cranesbill, wild geranium, patita de Leon (Spanish).

USAGES

MEDICINAL

Chippewa and **Ottawa**: Used a decoction of the whole plant as a dysenteric.

Spanish New Mexicans: Roots chewed for healthy teeth and also used as a decoction to quell diarrhea and for the second stage of dysentery.

LITERATURE

Curtin, L. S. M. 1997. Healing herbs of the Rio Grande: Traditional medicine of the Southwest (Michael Moore, ed.). Western Edge Press, Sante Fe.

Gutierrezia microcephala. Asteraceae.

Common Name: Snakeweed.

USAGES

MEDICINAL

Cahuilla: Used primarily for medicinal purposes: it was a cure for toothaches, a solution was made as a gargle for sore throats, and parts of this plant were placed directly inside the mouth of the patient to alleviate the pain therein.

LITERATURE

Bean, L. J., and K. S. Saubel. 1972. Temalpakh: Cahuilla Indian knowledge and usage of plants. Rubidoux Printing Company, Riverside.

Larrea tridentata. Zygophyllaceae.

Common Names: Creosote, chaparral, greasewood, "cikoi" (Papago), hediondilla (Spanish: "the little bad smell"), gobernadora (Spanish: "the governess").

USAGES

MEDICINAL

Apache: Used poultices for rheumatism.

Maricopa: Used bark for intestinal troubles.

Papago: Among the Papago pharmacy, this plant is the most universal remedy; some of their uses include relief for stiff limbs; sore muscles; snake, spider, or scorpion bites; healing and ease of discomfort for women after childbirth; skin sores (human and domestic animals); and as an emetic.

Pima: Chew and swallow gum as anti-dysenteric.

Seri: Women use this for contraceptive purposes.

Spanish: Used for sick cattle and horses saddle sores.

Yavapai: Steamed branches used for lying-in women for 4 days after childbirth. Also, use as a decoction against internal chills and colds.

CEREMONIAL

Papago: Considered a "sacred" plant. Papago cosmology: Earth Maker took soil from his breast and cikoi was the first green thing to grow. Also used to make gourd rattle handles.

Papago and Pima: Used to make tattoo ink. Also used to paint masks.

ENTERTAINMENT

Papago: Wood used to make sticks for "hand-game".

OTHER PRODUCTS

Papago: Wood used to hold stone arrows; wood tips hardened in a fire and used as a single point to hunt small game; wood stakes used for stretching hides out on the ground; drill sticks used in fire-making; branches used for spine removal of Opuntia fruits; branches stuck in the ground used to shade growing tobacco plants; wood used in construction of gathering poles used to obtain saguaro fruits.

MISCELLANEOUS NOTES

"King Clone". An enormous specimen is in Johnson Valley, California (near Los Angeles). It is 25 x 75 feet, and it has been determined to be a single bush. It is dated as about 12,000 years old, with the most conservative dating at 9,400 years.

In 1962, at Yucca Flat, Nevada, a thermonuclear explosion was detonated. All vegetation was seemingly destroyed. An ecologist, 10 years later, discovered that 20 of the original 21 creosote had resprouted.

LITERATURE

Castetter, E. F., and R. M. Underhill. 1935. The ethnobiology of the Papago. University of New Mexico Bulletin, Biological Series 4 (3).

Nabhan, G. R. 1985. Gathering the desert. University of Arizona Press,

Tucson.

Worthington, R. D. 1998. Syllabus of "Plants in Southwest cultures",
Biology 3341. Unpublished paper. El Paso, Texas.

Mirabilis multiflora. Nyctaginaceae.

Common Names: Wild four o'clock, maravilla (Spanish).

USAGES

MEDICINAL

Spanish New Mexicans: Used for sore throats: the dry root of the maravilla was scraped and the scrapings were rolled in a cigarette paper; the smoke of that "cigarette" was then blown into the throat.

Tewa: The roots were ground to make an infusion for swellings.

Zuni: Men would gather the roots of this plant and give them to the women who would then grind them into a powder and mix it with hot or cold water to counter the effects of overeating. Also, a pinch of the powdered root was put into a dinner drink as a means to reduce overeating in young men.

LITERATURE

Curtin, L. S. M. 1997. Healing herbs of the Rio Grande: Traditional medicine of the Southwest (Michael Moore, ed.). Western Edge Press, Sante Fe.

Nicotiana trigonophylla. Solanaceae.

Common Names: Wild tobacco, "winpuri" (Papago), coyote tobacco (Papago), desert tobacco, "pi: 'va" (Hopi).

USAGES

MEDICINAL

Papago: Used tobacco smoke as a purifying agent and also used in medicine healing ceremonies.

CEREMONIAL

Cahuilla: Consider this a "sacred plant": this was one of the first plants created by the god "Mukat". The Cahuilla chewed, smoked, or used this plant in a drinkable decoction for ritualistic, shamanistic, medicinal, or other purposes.

Hopi: The Hopi used a smoking mixture of *N. trigonophylla*, *Populus tremuloides* var. *aurea* (aspen), *Pinus ponderosa* (ponderosa pine), and spruce for ceremonial purposes.

Mojave and Yuma: Both smoked the leaves of this plant.

Papago: The plant was dried and smoked in a "carrizo" stem or in an inner white corn husk.

ENTERTAINMENT

Cocopa and Maricopa: According to Ebeling (1986), some members of these tribes sometimes smoked for pleasure.

MISCELLANEOUS NOTES

Both Castetter and Underhill (1935) and Ebeling (1986) cite the smoking of *N. trigonophylla* in the tubular internodes of the immature stalk of a cane reed (*Phragmites australis*, and *P. communis*). According to Ebeling, the Papago use of cornhusk cigarettes was unknown until post-contact times.

LITERATURE

Castetter, E. F., and R. M. Underhill. 1935. The ethnobiology of the Papago. University of New Mexico Bulletin, Biological Series 4 (3).

Eberling, W. 1986. Handbook of Indian foods and fibers of arid America. University of California Press, Los Angeles.

Schlett, S. F. 1995. The ethnobotanic practice of the Hopi people." Thesis, University of Texas at El Paso, El Paso.

Nolina erumpens. Agavaceae.

Common name: Beargrass.

USAGES

OTHER PRODUCTS

Papago: This plant was chiefly used as material in basket construction. *Nolina* was utilized as a foundation element in baskets of all sizes, including the 3-foot tall granary baskets. *Nolina* also was used in agave-heart cooking pits as moistened material to cushion and steam the hearts.

LITERATURE

Castetter, E. F., and R. M. Underhill. 1935. The ethnobiology of the Papago. University of New Mexico Bulletin, Biological Series 4 (3).

Eberling, W. 1986. Handbook of Indian foods and fibers of arid America. University of California Press, Los Angeles.

Worthington, R. D. 1998. Syllabus of "Plants in Southwest Cultures." Biology 3341. Unpublished paper. El Paso.

Oenothera clavaeformis. Onagraceae.

Common Names: Evening primrose, desert primrose, "tesaval" (Cahuilla).

USAGES

FOOD

Cahuilla: The leaves were gathered fresh and used as greens. The caterpillar of the white line sphinx moth (*Celerio lineata*) was one of the Cahuilla's favorite foods. The Cahuilla name for this insect is "piyakhtem", and it is said that they taste similar to pork rinds. The following preparation for the caterpillars is given: First chop off the head, then clean out the insides, and then boil, parboil, or dry in the sun.

LITERATURE

Bean, L. J., and K. S. Saubel. 1972. Temalpakh: Cahuilla Indian knowledge and usage of plants. Rubidoux Printing Company, Riverside.

***Prosopis glandulosa*.** Fabaceae.

Common Names: Mesquite, mesquitl (Nahuatl), honey mesquite, western honey mesquite, ~aas (Seri).

USAGES

MEDICINAL

Aztec: Used for eye ailments, as an astringent, and to restrain excessive menses.

Cocopa: First 4 days following birth--inner bark decoction used as newborn tonic (small amount).

Comanche: Used for eye ailment and as antacid.

Mescalero Apache: Eye ailment uses.

Paipai: Eye ailment, smallpox, measles, and emetic.

Papago: Eye ailment, chronic indigestion, internal anti-spasmodic uses. Note: few uses of *P. glandulosa*, but extensive use of *P. velutina*.

Pima: Used as "bleach" for severe sunburn and for eye ailment, sore throat, respiratory afflictions, open wound disinfectant, diarrhea, stomach disorders, and as an emetic. Powdered mesquite bark was mixed with sand

to dry the umbilical cord of newborn.

Seri: Eye ailment, laxative, and emetic.

Yuma (Quechan): Relieve painful micturition, and emetic.

CEREMONIAL

Papago: Mesquite bean used ceremoniously in their harvest festival.

Seri: Black face-paint ingredient.

Yuma (Quechan): Mesquite thorns used for tattoo needles; charcoal used as tattoo ink.

Yavapai: Used black gum to clean and dye hair--abstinence practiced while "plaster" was on hair for 2 to 4 days.

ENTERTAINMENT

Cocopa: Wood used to make balls for games.

Papago: Made wood balls for games.

Seri: Made rolled hoops for games.

OTHER PRODUCTS

Seri: wood used as pestle for pounding pods, also for fuel wood.

Papago: Dwelling construction, fence construction, and fuel wood. Used bark for weft in granary baskets.

Pima: Wood used to make shovels, awls for weaving baskets, bread trays, ladles, and wood handle for rope twister.

FOOD

Cahuilla: Roasted mesquite flowers, pressed into balls, stored, later eaten

after boiling.

Mescalero Apache: Beans are one of the traditional foods eaten for breakfast by female puberty initiates.

Pima: In precontact time, mesquite was almost the most important wild food in Pima diet. Used for puddings, breads, beverages, candy made from white mesquite gum, and they ate flowers.

Papago: Used to make breads, beverages, stored pods in granary baskets.

Seri: Toasted pods before pounding; mesocarp ground into flour mixed with water to make dough; seeds separated (40% protein) from endocarp and made into flour. Sweet drinks made from pods (33% sugar). "Seri say that food from mesquite makes children fat and their skin light in color (both desirable traits to Seri)" (Simpson, 1977).

MISCELLANEOUS NOTES

In time of famine many desert peoples (Papago, Pima, Yuma, etc.) would raid packrat nests. These rodents store pods underground in separate piles (different foods were separated) and, if the hunter was lucky, the rat would accompany the pods to the pot.

When equines and bovines feed on mesquite pods, seeds passing through the animals' intestinal tract have a higher germination rate.

LITERATURE

Castetter, E. F., and W. H. Bell. 1942. Pima and Papago Indian agriculture. University of New Mexico Press, Albuquerque.

Nabhan, G. R. 1985. Gathering the desert. University of Arizona Press, Tucson.

Russel, F. 1977 (1980 reprint). The Pima Indians. University of Arizona Press, Tucson.

Simpson, B.B. (ed.). 1977. Mesquite, its biology in two desert ecosystems. International Biological Program, Synthesis Series 4.

Worthington, R. D. 1998. Syllabus of "Plants in Southwest cultures",
Biology 3341. Unpublished paper. El Paso.

Prosopis pubescens. Fabaceae.

Common Names: Screwbean mesquite, tornillo, "ko utcilt" (Pima)

USAGES

MEDICINAL

Pima: The bark was used for wound dressings, powdered and boiled.

FOOD

Pima: The screwbeans were placed in layers alternating with cocklebur leaves. The pit was then covered with earth for 3 to 4 days. Then, the beans were taken out and spread to dry. When dry, they were either placed into arrowbush baskets, or they were used promptly. The common method was to grind the dried beans in a mortar; then the flour was made into pinole, or breads. Screwbean was a main supplemental food for the Pima. Additionally, the mesquite catkins were eaten fresh, stripped from the stems between the teeth. A white gum (sap) was used in candy making, and the inner bark was sometimes used as a rennet substitute.

LITERATURE

Castetter, E. F., and W. H. Bell. 1942. Pima and Papago Indian agriculture.
University of New Mexico Press, Albuquerque.

Eberling, W. 1986. Handbook of Indian foods and fibers of arid America.
University of California Press, Los Angeles.

Russel, F. 1985. The Pima Indians. University of Arizona Press, Tucson.

Rhus trilobata. Anacardiaceae.

Common Names: Skunkbush, three-leaf sumac, lemonade berry, lemita (Spanish), "su: 'vi" (Hopi).

USAGES

CEREMONIAL

Hopi: This wood is used as one of the construction materials for making prayer sticks. This wood is also used for one of the traditional woods in the sacred kiva fire.

OTHER PRODUCTS

<p>Apache Coahuilla Hopi Panamint Paiute Navajo</p>	<p>All of these tribes utilized this plant for complete basket construction. First, the peeled branches are used for the warp, then branches are split into three strands (pith and bark removed); these flat, tough strands are used for the weft and sewing material in coiled basket construction. The Navajo also used the leaves and berries of this plant to make a black dye.</p>
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Zuni: The stems with the bark removed were used for basket making.

FOOD

Apache: Made a bread from the ground-up berries.

Tewa: They ate the whole fruits (which are red, not white), or they ground them up for other food uses.

MISCELLANEOUS NOTES

The Kickapoo crushed the berries in water, then added more water plus sugar to make a delightful cold drink. The Mescalero Apache also ate the berries.

LITERATURE

Curtin, L. S. M. 1997. Healing herbs of the Upper Rio Grande: Traditional medicine of the Southwest (Michael Moore, ed.). Western Edge Press,

Sante Fe.

Eberling, W. 1986. Handbook of Indian foods and fibers of arid America. University of California Press, Los Angeles.

Schlett, S. F. 1995. The ethnobotanic practice of the Hopi people." Thesis, University of Texas at El Paso, El Paso.

Worthington, R. D. 1998. Syllabus of "Plants in Southwest cultures", Biology 3341. Unpublished paper. El Paso.

Sporobolus airoides. Poaceae.

Common Name: Dropseed, "nz: 'nz" (Hopi).

USAGES

FOOD

Hopi: Considered a wild staple of the Hopi diet, the seeds were used to make a finely ground meal. *S. cryptandrus* also was considered an important wild staple food. The seeds were ground up with maize to make into cakes.

LITERATURE

Eberling, W. 1986. Handbook of Indian foods and fibers of arid America. University of California Press, Los Angeles.

Schlett, S. F. 1995. The ethnobotanic practice of the Hopi people. Thesis, University of Texas at El Paso, El Paso.

Sporobolus wrightii. Poaceae.

Common Names: Sacaton grass, "ohki" (Papago).

USAGES

OTHER PRODUCTS

Pima: Hairbrushes were made from sacaton grass roots.

FOOD

Papago: They would burn a whole patch of this grass, then sweep the seeds off of the ground. Seeds are parched by being placed in a flat basket with a few embers, and this is shaken constantly to prevent the burning of the seeds.

MISCELLANEOUS NOTES

Sacaton is the name of one of the Pima reservations.

LITERATURE

Castetter, E. F., and W. H. Bell. 1942. Pima and Papago Indian agriculture. University of New Mexico Press, Albuquerque.

Castetter, E. F., and R. M. Underhill. 1935. The ethnobiology of the Papago. University of New Mexico Bulletin, Biological Series 4 (3).

Russel, F. 1985. The Pima Indians. University of Arizona Press, Tucson.

***Yucca baccata*.** Agavaceae.

Common Names: Datil, banana yucca, soapweed, "Ha valt" (Pima), "Hoi" (Papago), "huskane" (Mescalero Apache).

USAGES

MEDICINE

Pima: The fruits were eaten raw as a cathartic.

Hopi: Fruits were baked in earthen ovens and then used as a laxative.

CEREMONIAL

Mescalero Apache: Fruits are gifted to female puberty rite initiates; the Singer gives this to his "daughter".

OTHER PRODUCTS

Hopi: The juice of this yucca was used for the varnishing of kachinas.

Papago: Split leaves were used for weft of wrapped weaving projects; leaves were also utilized as foundation material in coiled basketry construction.

FOOD

Cochiti and Zuni: Both considered this fruit a great luxury. It was eaten raw or first boiled and then skinned and eaten.

Hopi: Fruits were eaten dry, roasted, or raw. Flowers were also eaten, with the white blossoms preferred.

Maricopa: Ate the fresh fruits, but also dried and stored them for future use.

Navajo: The fruits were eaten raw or cooked. They were dried for storage by placing fruits on flat stones near fire. When they were dry, they were often ground, then kneaded into small cakes for storing.

Mescalero Apache: Flowers were eaten, and young leaves were cooked in soups or with meats.

Papago: This was an important staple crop. The fruits were eaten fresh, or the fresh fruits were made into a gruel. Also, the seeds were removed by hand and the pulp ground on a metate (cornmeal was first rubbed on the metate and the muller to prevent sticking). The seeds were then dried by spreading them onto saguaro ribs in the sun; when they were perfectly dry, they were beaten on a mat to remove the fiber, then stored in granary

baskets, and later they were ground into a meal. The pulp was patted into cakes and dried on hot stones; they then were dried further by spreading on the house roof in the sun. When dried thoroughly, they were stored in jars for later use.

Pima: The fruits were always gathered in August by the men. Fruits could be boiled, dried, and then ground on stone and boiled with flour to make a gruel.

San Felipe: Partly cooked fruits formed a thick substance that was dried and stored for future use.

COSMETIC

Pima: *Yucca baccata* stems were reduced to pulp and used as a soap. *Yucca elata* also was used for soap.

LITERATURE

Castetter, E. F., and W. H. Bell. 1942. Pima and Papago Indian agriculture. University of New Mexico Press, Albuquerque.

Castetter, E. F., and R. M. Underhill. 1935. The ethnobiology of the Papago. University of New Mexico Bulletin, Biological Series 4 (3).

Eberling, W. 1986. Handbook of Indian foods and fibers of arid America. University of California Press, Los Angeles.

Farrer, C. R. 1991. Living life's circle: Mescalero Apache cosmivision. University of New Mexico Press, Albuquerque.

Russel, F. 1985. The Pima Indians. University of Arizona Press, Tucson.

Schlett, S. F. 1995. The ethnobotanic practice of the Hopi people. Thesis, University of Texas at El Paso, El Paso.