ETHNOBOTANY
of the
NAVAJO

Francis H. Elmore, A.A., A.B., M.S.

A MONOGRAPH
of
THE UNIVERSITY OF NEW MEXICO
and
THE SCHOOL OF AMERICAN RESEARCH

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A Monograph of the University of New Mexico and the
School of American Research

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DEDICATION

To my parents
without whose constant
and inspiring interest
this paper would
never have been
written
Acknowledgments

The author wishes to acknowledge his obligations to Dr. Edgar L. Hewett and to Dr. Reginald Fisher of the School of American Research, Santa Fe, New Mexico, without whose assistance this study would have been impossible. I am especially appreciative of the kindness of Dr. John P. Harrington, of the Smithsonian Institution, who has given many of his valuable hours working with me on the Navajo orthography. The valuable criticisms of Dr. Donald D. Brand, of the University of New Mexico, Albuquerque, and aid in identification of many plant specimens and helpful suggestions of Dr. Edward F. Castetter, also of the University of New Mexico, are acknowledged. The author is also indebted to the Southwestern National Monuments and especially to Mr. T. Carroll Miller and to Mr. Lewis T. McKinney, custodians of Chaco Canyon National Monument during the research, for their cooperation in allowing the collection of plants within the boundaries of the Monument. To my many Indian friends in the Navajo tribe whose interest and assistance have made the study possible, I extend my sincere thanks, and to my many white friends who have assisted me in one way or another, I also acknowledge my indebtedness.

F. H. E.
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Foreword

This paper is the result of seven years of intermittent work on Navajo ethnobotany, which was begun in 1936. Most of the field work was done at the Research Station of the School of American Research and the University of New Mexico, Chaco Canyon National Monument, New Mexico, while the library work was done in several Southwestern libraries. Three summers were spent working first hand with Navajo informants. The informants were usually taken into the field for identification of the plants, because of the difficulty in identifying dried and pressed specimens. It was also noted that the informants found it difficult to identify even freshly picked specimens brought into camp. This was due no doubt to the fact that the plant was out of its environment, which the Navajo regard as one of the essential factors when naming a plant. When an informant was not certain of a plant name, he was instructed to check with several of the other Navajo for the correct name and use. Whenever possible, the name and uses were checked in the absence of the original informant. It was found that a question in the affirmative almost always received an affirmative answer; so, as a result, the Indians themselves were allowed to do the explaining. Over one hundred and seventy-five species of plants were gathered in the field. Many others were noted but not collected because they were in a dry condition or were not in flower.

In every case, when the author's field notes were found to coincide with published material, the published material is cited in preference to the field notes. In practically all cases reference citations were carefully checked in the field.

It is important that work of this sort should be done as soon as possible, for in a few years the Navajo will have forgotten how many of the plants were used. Moreover, in working in prehistoric sites in any part of the country, a knowledge of the plant uses of the present-day Indian living at or near the locality is helpful in conjecturing the prehistoric uses of the plant fragments found during the process of excavation. The coming of the Spaniard contributed toward the diminishing use of the native plants, and as a result, the younger generation pays little or no attention to plant names and uses. The trading post, with all of its modern goods, has made the Navajo more and more dependent upon it. At present, much of the earlier food has disappeared. The various grass seeds are no longer harvested, and venison has been replaced almost entirely by goat meat, beef, and mutton. Coffee, tea, and occasionally goat's and sheep's milk have been added to the regular fare, almost to the exclusion of their native beverages, while modern flour and cornmeal are preferred to the laborious task of grinding native corn. Flour has replaced Indian millet and other wild seeds; canned spinach has replaced the Rocky Mountain bee weed (Cleome serrulata), Amaranthus, and other native greens; and many other plants, too numerous to mention, have been replaced by other white man's products. Due to government aid, the Navajo has given up other native practices.
The earning of money has been made easier, so that now the Navajo can buy food almost as cheaply as he can gather it, and furthermore, with about half the trouble. Although some of the food preparations listed below are no longer used, many of them are still preferred to the less substantial and more expensive modern store goods.

The whole of the Navajo country lies within a plateau region which is characterized by sandstone outcroppings. On the whole, this sandstone lies in nearly a horizontal position, everywhere cut by gorges and narrow canyons which make most of the Navajo country exceedingly difficult to traverse. The valleys are floor ed with sand and silt that, through the ages, have accumulated from the mountains and are charged with alkali salts. In many of these valleys the summer rains convert the soil into soft clay-like mud that seems bottomless and is impassible. In general outline, this country stretches from the Rio Grande of New Mexico on the east to the Marble Canyon of the Colorado River on the west, and from the San Juan River on the north to the Zuñi Mountains and the Little Colorado River on the south. This approximates the "Old Navajo Country" which was bounded by four sacred peaks. These were Blanca Peak near Alamosa, Colorado, Mount Taylor near Grants, New Mexico, the San Francisco Peaks near Flagstaff, Arizona, and La Plata Mountains in southwestern Colorado. The present Navajo country covers in all about 26,000 square miles, of which approximately 4,000 are outside of the Reservation boundaries. About 90 percent of the country lies between three and seven thousand feet in elevation in the Upper Sonoran and Transition Zones. This permits a wide variation in the amount of rainfall and the character of the vegetation.

The rainfall of the country is characterized by extreme variability. Through the whole of the Navajo country there is a scarcity of water. In the large valleys during most of the year there is none, and it is only in the mountain districts that there is a permanent supply, but in these higher elevations, life is almost impossible during the winter months. The Colorado, Little Colorado, and the San Juan Rivers are the only streams which maintain a flow throughout the year. The average mean rainfall within the Reservation is only 8.29 inches per year, while evaporation goes on at a high rate. The influence of these factors, taken together with the sparseness of vegetation, produces a great fluctuation in the volume of water carried by the arroyos. In general, these arroyos are alternately flooded and nearly dry during the rainy season, and without water in the spring and fall. This condition has an important effect on the people and their arts and crafts.

The vegetation of most of the Navajo country, while generally scant, is more abundant than would be expected. There are really no parts, even in the driest times, that are wholly devoid of plants, except perhaps in some of the basins where the soil contains an excessive amount of alkali.

The lower elevations of the Navajo country are characterized by the
piñon (Pinus edulis) and the juniper (Juniperus monosperma) and a scattered growth of shrubs. The plants are usually woody and often very uniform in size and general habitat. The characteristic shrubs of this zone are sagebrush (Artemisia spp.), cacti (Opuntia, Mammillaria, and Echinocereus), and yucca (Yucca elata and Yucca baccata). In the poorly drained areas where there is an excessive amount of alkali, the greasewood (Sarcobatus vermiculatus), shadscale (Atriplex spp.), and rabbitbrush (Chrysothamnus spp.) are found. In the canyons grow the alders (Alnus incana and Alnus tenuifolia), cottonwood (Populus wislizeni), walnut (Juglans major), and the box elder (Acer negundo). During the rainy season there is a profusion of annuals, among which are the mariposa lilies (Calochortus spp.), sunflowers (Helianthus annuus), and many Compositae.

Just above this zone, the western yellow or ponderosa pine (Pinus ponderosa), spruce (Picea spp.), and oak (Quercus spp.) are the dominant trees. In general, these forests are open and numerous shrubs and herbs are found there. Among these, the more common are the serviceberries (Amelanchier alnifolia and A. prunifolia), the wild rose (Rosa fendleri), and a few scattered shrubs of sagebrush (Artemisia spp.) and rabbitbrush (Chrysothamnus spp.). Here also is found an abundance of grasses and herbs. The most common genera of herbs encountered here are Campanula, Erigeron, Fragaria, Solidago, and Thalictrum.

In the upper limits of this zone the western yellow pine is supplanted by Douglas fir (Pseudotsuga taxifolia), aspen (Populus tremuloides), and limber pine (Pinus flexilis). The dominant shrubs here are snowberry (Symphoricarpos orbiculatus), chokecherry (Prunus demissa), and several species of willow (Salix spp.). Again, grasses and herbs are abundant.

The direct dependence of the Indian on nature has no better illustration than in the Navajo country. The Navajo live in this semi-arid region where material for various uses is rather limited. In the four essentials—land, water, vegetation, and animal life—the country is not an ideal one. The hard conditions under which the Navajo live have acted directly on their arts and crafts, on their habits and customs, and on their mind and mythology. Because agriculture could not be satisfactorily pursued under such conditions, the Navajo were continually traveling from one place to another in search of food plants and game, upon which they largely depended. The various uses of the plants by the Navajo indicate the large extent to which, after years of experiment and study, they were able to understand and utilize their surroundings.

The early Navajo subsisted chiefly on corn, which today still furnishes their chief sustenance. It was not always possible to have corn patches because of war and constant moving, so, as a result, numerous seed-bearing plants were used as substitutes. Whenever possible, small patches of corn, beans, and squash were raised. Rabbit meat and venison, together with teas made of native herbs, helped to vary their diet.

The Navajo learned to use all kinds of roots, stems, leaves, and seeds
because they made long journeys during which enough food for the entire trip could not be carried. The skillful usage of these plants, developed by the Navajo through these years of experience, is remarkable. Not many native plants were allowed to go unused. The Navajo’s knowledge of the piñon nut as a food has been used by white man in exploiting it on the markets. Other plants used by these Indians might also be introduced.

Aside from food plants, certain plants are found throughout the Navajo country which are used by most of the medicine men for ceremonial medicines and ceremonial paraphernalia, although there is some variation due to the location or time of year. The Navajo have certain classes of plants which can be used in various ceremonies. For instance, if a certain plant is not available in the immediate country or at that particular time of the year when the ceremony is given, the medicine man has a choice of several other plants which are just as potent. An example of this is the “life medicine” which contains almost forty plants. In an emergency, two or four of these plants may be used, but it is better to have six. Any others may be added if at hand. This would account, in part, for the different uses for certain plants noted by the various authorities.

Plants are so much a part of the life of the Navajo, especially the medicine man, that he never divorces himself from them. It is fair to assume that every plant used in a ceremony, whether as a medicine or for ceremonial objects, originally had some significance, but now many are lost in obscurity or are not divulged by Indian informants.

The influence of the Navajo medicine men on Navajo culture is enormous. Until the coming of the white man, there was only one system of medical care, which was embodied in a system of native medicine which was the property of the medicine men, and a few laymen. Many Navajo women are well versed in the medicinal flora of the Navajo country and are often consulted by the medicine men. A medicine man must be well versed in therapeutics as well as psychotherapy and ceremonialism, because Navajo medicines are applied in the course of ceremonials. The knowledge of the singer is not gauged so much by his familiarity with the curative powers of the herbs that he uses, as by his knowledge and dexterity in performing the rite. He, of course, must know all of the properties of the herbs used so that they can be applied properly. A glance at the list of plants used in the ceremonies and the manner of applying them lends color to the opinion that medicines are of minor importance in ceremony. Although the medicine men do sometimes rely more upon magic than on natural remedies, modern medicine has yet something to learn from them when it comes to psychotherapy.

The Navajo attributes some meaning to almost every plant, therefore he uses parts of them to assemble a thing of beauty to express his innermost thoughts and feelings. Prayersticks almost always contain plants or are made from them. These, with their accompanying rituals, the medi-
cine man passes on from generation to generation, just as the white man passes on written expressions of his innermost thoughts.

The outward characteristic of a plant often gives the observing Navajo a clue for the name. Thus, they have plants with many leaves, grape-like plants, plants with pine or spruce odor, plants which look like certain parts of animals, and many others which have special characteristics. Many plants are also termed "medicine." Some of these are applied as remedies, while others are for ceremonial usage only, but since all of the Navajo ceremonies are supposed to be curative, plants used in them are termed "medicine" although they may or may not possess curative or medicinal properties.

The Navajo is very particular about details but is also able to generalize. While there seems to be no trace of botanical orders, as our textbooks present them, there are evidences which show a tendency toward this end. The Navajo recognizes grasses, seed-dropping grasses, tobaccos, the different spruces, junipers, cacti, oaks, and many other genera of plants. They observe small differences in plants that the ordinary white man fails to see. For instance, all of the coniferous trees of the region have specific names in Navajo, while the ordinary white person calls them all pines or junipers. This is brought about by the fact that the Navajo is forced to acquire knowledge in this field by reason of his more or less direct dependence on plants. They also have a very clear concept of nature and most of its processes.

The Navajo usually have a name for each species and genus of plants, but in some cases they employ the same name for different genera. This is not due to their lack of appreciation of the botanical difference, but due to the fact that two or more plants may serve the same purpose or have similar characteristics.

Besides the native flora, plants which have been introduced and have become established, and commercial plants are included in this paper. Many plants have been introduced from Europe by the white man, and have escaped to become established as a part of the flora of the Navajo country. Through the medium of the trading post, the Spaniard and American have introduced to the Navajo almost all of our common commercial fruits and vegetables. In the majority of cases, the plants are known to the Navajo only by their fruits; many Navajo names, therefore, are descriptive of these fruits. When no uses are mentioned in either of these cases, the plants are used in much the same manner as we use them, being the results of European and Navajo acculturation.

The plants included here are only a portion of those used by the Navajo, and it is hoped that this will serve as a preliminary study to more extensive ethnobotanical research among the Navajo. It will be noted that there is a lack of medicinal data in this paper. This is due, largely, to the fact that there are other workers in the field making intensive studies of Navajo medicine.
The sequence of families is arranged according to the Engler and Prantl system, as modified by Robinson and Fernald and Coulter and Nelson. For convenience the genera and valid species are placed in alphabetical order under the family headings. Synonyms have been used only as far as deemed necessary. The synonymy, therefore, is by no means complete, and only such names are included as have been in use recently, or as is necessary for the explanation of the accepted name. The place of publication of each name is not given for the reason that it would be of use only to a professional botanist, who would usually have access to the "Kew Index" or the "Card Catalogue." The names of the genera and valid species appear in boldface type. The synonyms of each species appear in italics, and are arranged alphabetically under the valid name. For simplification, when valid names occur in the text they appear in italics. The generic and specific names are followed by the names of their authors, usually abbreviated. After the specific name, an author's name in parenthesis signifies that he originally proposed it, either in another genus or only as a subspecies, variety, or form. The author following the parenthesis was the first one to make the accepted combination. The common name or names, if there are any, are given after the Latin generic and specific names. In the Navajo country, the common names usually apply to all species of the genus, rather than to a particular one. An effort, therefore, has been made to record all of the common names of a plant, whether they apply exclusively to that species or not, as the nomenclature in various parts of the Navajo country varies. Different plants may bear the same name, or the same plant may bear different names in different localities. The more commonly accepted names appear first. In quotation marks appear wrongly applied names. The Navajo names follow these. In parenthesis, after the Navajo names, appear, first, the approximate translations of the Navajo words, and then the literal translation. The numbers appearing in parentheses in the text refer to the bibliography, as (24:42), meaning page 42 in reference number 24 of the bibliography. There are here represented 522 species, belonging to 269 genera, distributed among 82 families. Not included in the above totals are 24 plants whose family only is known, and 41 unidentified plants.


ETHNOBOTANY OF THE NAVAJO

Key to the Sounds

There are only four vowels, and their modifications, but many consonants in the Navajo language. The vowels are a, o, e, and i, pronounced as in Spanish, except that o is pronounced especially like u when i or y follows. The principal modification in quality of these vowels is a nasoral umlaut, originating just as the "voyelles nasalisées" do in French as the result of a vanished or still existing nasal consonant. The nasoral quality is indicated in writing by placing an iota subscript under the vowel letter. Short and long vowels have to be distinguished in writing, but only one length of consonants. The vowels also carry tone. An accent placed over the short vowel indicates that it is high; lack of accent, that it is low. Only long vowels and vowels plus voiced continuant can carry a combination of high and low, the circumflex over a vowel indicating high to low, or its intention, and the inverted circumflex low to high, or its intention. In the rare instances in which a consonant diphthong is not formed, a spaceless period is used as a sign of separation. Since there is nothing so practical as alphabetical order and the giving of rough equivalents in European languages for the setting forth of the sounds of a language, the following list is presented:

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>short as in akin</td>
</tr>
<tr>
<td>aa</td>
<td>long as in father</td>
</tr>
<tr>
<td>å</td>
<td>short nasoral</td>
</tr>
<tr>
<td>åå</td>
<td>long nasoral</td>
</tr>
<tr>
<td>c</td>
<td>sh as in ship</td>
</tr>
<tr>
<td>e</td>
<td>short as in met</td>
</tr>
<tr>
<td>ee</td>
<td>long as in French fève</td>
</tr>
<tr>
<td>åå</td>
<td>short nasoral</td>
</tr>
<tr>
<td>ååå</td>
<td>long nasoral</td>
</tr>
<tr>
<td>g</td>
<td>open g</td>
</tr>
<tr>
<td>h</td>
<td>as in English; rare except after vowels</td>
</tr>
<tr>
<td>i</td>
<td>short as in pin</td>
</tr>
<tr>
<td>ii</td>
<td>long as in machine</td>
</tr>
<tr>
<td>j</td>
<td>short nasoral</td>
</tr>
<tr>
<td>jj</td>
<td>long nasoral</td>
</tr>
<tr>
<td>jå</td>
<td>as the medial consonant of English azure</td>
</tr>
<tr>
<td>k</td>
<td>as Spanish hard c</td>
</tr>
<tr>
<td>k'</td>
<td>k clicked by co-closure of larynx</td>
</tr>
<tr>
<td>kh</td>
<td>aspirated k</td>
</tr>
<tr>
<td>l</td>
<td>as in lie</td>
</tr>
<tr>
<td>l'</td>
<td>voiceless l, Welch ll</td>
</tr>
<tr>
<td>m</td>
<td>as in mud</td>
</tr>
<tr>
<td>n</td>
<td>as in now</td>
</tr>
<tr>
<td>o</td>
<td>as in Spanish oto, gold, more like the o of the second syllable of this Spanish word</td>
</tr>
<tr>
<td>oo</td>
<td>long as in French close</td>
</tr>
<tr>
<td>o0</td>
<td>short nasoral</td>
</tr>
<tr>
<td>o0o</td>
<td>long nasoral</td>
</tr>
<tr>
<td>p</td>
<td>as in Spanish pan, bread</td>
</tr>
<tr>
<td>s</td>
<td>as in some</td>
</tr>
<tr>
<td>t</td>
<td>as in Spanish tomar, to take</td>
</tr>
<tr>
<td>t'</td>
<td>t clicked by co-closure of larynx</td>
</tr>
<tr>
<td>tx</td>
<td>consonant diphthong originating in over-aspiration of t</td>
</tr>
<tr>
<td>tc</td>
<td>as in Spanish muchacho, boy</td>
</tr>
<tr>
<td>tc'</td>
<td>tc clicked by co-closure of larynx</td>
</tr>
<tr>
<td>tch</td>
<td>tc aspirated as in watch-house</td>
</tr>
<tr>
<td>tl</td>
<td>as Spanish mamut lanudo, woolly mammoth</td>
</tr>
<tr>
<td>qå</td>
<td>tl clicked by co-closure of larynx</td>
</tr>
<tr>
<td>th</td>
<td>tl aspirated</td>
</tr>
<tr>
<td>ts</td>
<td>as in at zero (the s has more of a &quot;z&quot; sound)</td>
</tr>
<tr>
<td>ts'</td>
<td>ts clicked by co-closure of larynx</td>
</tr>
<tr>
<td>tsh</td>
<td>as in rat's hole</td>
</tr>
<tr>
<td>w</td>
<td>as in water, in reality 6w</td>
</tr>
<tr>
<td>y</td>
<td>as in Russian xolm, hill</td>
</tr>
<tr>
<td>y</td>
<td>as in you</td>
</tr>
<tr>
<td>z</td>
<td>as in zero</td>
</tr>
</tbody>
</table>

Marks

- closure or co-closure of larynx
- a period without spacing separates sounds
- over a vowel, or over the first letter of a double vowel or vowel diphthong, indicates nasoral quality
- high level
- over the first letter of a long vowel, or a vowel diphthong, indicates high-low, or an attempt at it [occasionally over first vowel and over second vowel]
- over the first letter of a long vowel or a vowel diphthong, indicates low-high, or an attempt at it
DIVISION I

THALLOPHYTA

CLASS I. ALGAE

SUB-CLASS I. CHLOROPHYCEAE

Order I. CONJUGALES
Family 1. ZYGEMACEAE (Pond Scum)

Spirogyra sp. Pond Scum, Brook Silk, Water Moss. 1. Txátláat (water covering). 2. Txótláat (water covering). Pictures of the serviceberry (Amelanchier prunifolia) and water moss are made of colored sand and are used to drive the evil spirit of the bear from the body (27:141).

CLASS II. FUNGI

SUB-CLASS II. BASIDIOMYCETES

Order II. USTILAGINALES
Family 2. USTILAGINACEAE (Smut)

Ustilago zeae (Beckm.) Ung. Corn Smut. Tśa’átchaan (Corn killer).

Order III. HYMENOMYCETES
Family 3. AGARICACEAE (Gill Fungi)


Family 4. POLYPORACEAE (Bracket Fungi)

Polyporus sp. Bracket Fungus. Tshin pîzès (tree wart). The punk or fungus found on pines. In the early days these were hollowed out and employed as drinking vessels (7:186).

CLASS III. LICHENES

Order IV. ASCOLICHENALES
Family 5. USNEACEAE (Beard Lichen)

Usnea barbata (L.) Fr. Beard Moss, Beard Lichen, Old Man's Beard. Tc'óh pitaGaa' (spruce beard).

Family 6. PARMELIACEAE (Ground Lichen)

Parmelia molliscula Ach. Ground Lichen. 1. Ni’xatlát (earth covering). 2. Tshétláat (rock covering). This stone lichen may be scraped from the rocks after a rain and made into a yellow-orange dye (26:182). It is also used as a remedy for impetigo.¹

Unidentified lichens:

1. Ni’xazées (ground wart). A tiny excrescence on the surface of the ground.

¹ From legend on exhibit of Charles H. Burke Vocational School, Fort Wingate, New Mexico, at the Inter-Tribal Indian Ceremonial held at Gallup, New Mexico, August, 1936.

[ 16 ]
2. Tląat (a covering). Any kind of lichen.
3. Tshéltląat (rock covering). Any kind of lichen that grows on rocks.
4. Tshin pąahtląat (tree covering). A lichen that grows on trees.

The use of lichens as dye plants has been known from the earliest times, and before the discovery of aniline dyes, they were highly valued. The coloring principle of the dyes is contained in the peculiar acids contained in the lichens. Treatment with alkali is generally necessary to extract the color, and mordants are generally used. With some lichens, boiling the plants with the material to be dyed is sufficient to secure the desired color. (Encyc. Britt., 14th Ed., vol. 14, p. 34.) See Alnus tenuifolia and Chrysothamnus viscidiflorus for further uses.

**DIVISION II**

**PTERIDOPHYTA**

**CLASS IV. FILICINEAE**

Order V. FILICALES
Family 7. POLYPODIAEAE (Fern)

*Cheilanthes feei* Moore.
*Cheilanthes gracilis* Riehl.
*Cheilanthes lanuginosa* Nutt. Féè Lip Fern. Tjaa'nts'ilíitáa' (ear, transparent, food; i.e. bat food).

**DIVISION III**

**SPERMATOPHYTA**

**SUB-DIVISION I. GYMNOSPERMAE**

CLASS V. CONIFERAE

Order VI. CONIFERALES
Family 8. PINACEAE (Pine)

*Juniperus* spp. Juniper, Cedar. Kat (no meaning: the juniper). Although junipers are widely known as cedars, this is a misnomer. The true cedars (*Cedrus* spp.) are not native to the Western Hemisphere. The two parts of the fire drill used in the Night Chant must come from a juniper tree which has been struck by lightning. Some light bark from the same tree is used as tinder (56:586) to catch the spark from the fire drill. The bark must be shredded from the tip to the butt. The fagot is a span long and of such a diameter that it may be completely encircled by the thumb and forefinger of one hand. It is tied with four strings of yucca (*Yucca* sp.) fiber at equal distances from one another and the ends. These are used by the personator of the Black God, who is owner of all fire. He was also inventor of the fire drill and the first to produce fire (61:26-7).
In the Fire Dance which takes place on the last night of the Mountain Chant, a bunch of shredded juniper bark is carried by the dancers (39:522). They dance around the fire four times, waving the bark wand at it and finally setting fire to it (43:93). The corral, which is built for the public exhibitions at the close of a ceremony, is built of juniper and piñon (Pinus edulis) boughs, with an opening to the east (6:44). A juniper twig is dipped into the bowl buried in the center of the picture of Whirling Logs, made for the sixth day ceremony of the Night Chant, and touched to the various parts of the picture (61:125). The powders for the sand paintings are prepared before the picture is begun and kept on improvised trays of concave juniper bark (4:6) & (32:403).

The bark, berries, and twigs of a variety of junipers are suitable for dye purposes (62:7). The berries are also a supposed cure for influenza. They are boiled and the resulting juice drunk by the patients (22:302).

Juniper wood is burned to produce charcoal, which is used as a fuel (18:2), and which is ground and used for black in sandpaintings (65:263). A large pile of trunks and branches is set on fire in the evening and allowed to burn until it is a mass of coals. These coals are smothered with earth and left to cool overnight. The charcoal is taken out in the morning (18:2). The wand used in certain ceremonies is made of juniper which is about two and one-half feet long (71:117). Around this stick are bunches of white sage (Eurotia lanata) and green sage tied with deerskin (28:304). Juniper boughs are used to make the summer shelter where the women weave (5:200). Necklaces, bracelets, anklets, and wristlets are made of dried juniper seeds (41:154). In drought, sheep eat juniper (7:31). Dice are made from juniper (15:95). Prayersticks are also made of juniper (24:396).

The ancestors of the Navajo were supposed to have worn garments of woven juniper bark (23:183), the women wearing one hanging in the front and one behind. All wore sandals of yucca (Yucca spp.) fiber or juniper bark. Their blankets were made of juniper bark, yucca fiber, or skins sewn together. Each house had in front of the door, a long passageway in which hung two curtains—one at the outer end and one at the inner—made usually of woven juniper bark (58:141).

Juniper, especially when dry, is called tilk'yiis (it crackles); dry juniper bark is called tilk'yiis pijiih (it crackles, its fuzz) and was mixed with mud in hard times and worn as clothing (27:69); juniper gum is called kat pitjeh (juniper, its gum) or tjeε"īlpt'hiįįh (gum, tenacious). The bark is also used in the construction of hogans. See Alnus tenuifolia, Artemisia tridentata, Cowania stansburiana, Helinium hoopesii, Lepto-taenia dissecta multifida, Oenothera spp., Petalostemon candidus, Pinus edulis, Populus spp., Yucca spp., and Zea mays.

Juniperus californica Carr. utahensis Engelm.

Juniperus utahensis (Engelm.) Lemmon.
**ETHNOBOTANY OF THE NAVAJO**


*Juniperus communis* L. Common Juniper. 1. Katteeníniih (juniper, sharp). 2. Katteeníniih (juniper, sharp; i.e. juniper [whose needles are] sharp).

*Juniperus monosperma* (Engelm.) Sarg.

*Juniperus occidentalis* Hook. var. *monosperma* Engelm.

*Sabina monosperma* (Engelm.) Rydb. One-seeded Juniper, Cherry-stone Juniper, Cedar, Sabina. Kat (no meaning: the juniper). The wood of this tree is used for firewood, fence posts, and hogan roofs, both ordinary and ceremonial, because it does not readily decay (83:37). The berries are eaten in the winter or fall when they are ripe. One of my informants stated, when asked if they were good to eat, that they were “a little bit sweet when ripe.” The Navajo, in times of food shortage, chew the inner bark (13:32). It is sometimes chewed for the flavor that it gives. When the snow is deep, the Navajo also cut the branches off for the sheep to eat (24:257). The bark and berries are sometimes used for coloring wool green (19:2). A canopy to protect a newly-born child from the sparks of the fire is made of juniper (24:467).

The Navajo claim that the finishing touches on their baskets are their own. They account for this in a legend which is, perhaps, not wholly mythical. In the ancient days a woman was seated under a juniper tree finishing a basket as she always had, when she thought how much better it would be if she could make a more beautiful margin. As she sat there, a juniper branch from an overhanging tree was thrown into her basket by one of the gods. It immediately occurred to her to imitate the peculiar fold of the juniper leaves, and that is why Navajo baskets have this characteristic rim (40:110).

The stick carried in the War Dance is made of a piece of juniper from which all of the twigs, except a small bunch at the tip, have been trimmed. At the tip where the leaves are left, a bunch of rabbitweed (*Chrysothamnus* sp.) or snakeweed (*Gutierrezia sarothrae*), gram grass (*Bouteloua gracilis* or *B. hirsuta*), and several other articles, including a buckskin bag full of chipmunk corn, are tied (14:173) & (71:119).

Prayersticks (24:393), bows for the canopy of the baby’s cradle (24:470), charcoal for smelting silver (24:275), and the bow, formerly carried in war are also made of juniper (24:318).

At times, the leaves of the juniper are chewed and spit out for better luck, as, for instance, into the face of a balky burro (24:495). See *Alnus tenuifolia* and *Juniperus scopulorum*.

*Juniperus occidentalis* Hook.

*Sabina occidentalis* (Hook.) Heller. Sierra Juniper, Western Juniper. Kat (no meaning: the juniper). The wand used in the War Dance is

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2. Ibid.
3. Now usually called the Squaw Dance.
sometimes made of this species of juniper. The stick is about three feet long and trimmed smooth except for a bunch of leaves at the top (71:117). In dyeing buckskin reddish, *Juniperus occidentalis* ash, the pounded root of the mountain mahogany (*Cercocarpus montanus*), and the powdered bark of the black alder (*Alnus tenuifolia*) are used. The root bark of the mountain mahogany is allowed to boil and the alder bark added. The juniper ashes are rubbed well into the buckskin before applying the liquid. Finally, some of the powdered bark of the alder is rubbed over this and the skin put away to dry (44:70).

The sierra juniper is used in making the prayersticks of the west, perhaps because its outer branchlets and needles have a tone of yellow, which is the color of the west (44:63). See *Alnus tenuifolia*, *Phragmites communis*, and *Pinus ponderosa*.


*Juniperus scopulorum* Sarg.

*Sabina scopulorum* (Hook.) Heller. Rocky Mountain Juniper, Rocky Mountain Cedar, Red Mountain Juniper, Red Mountain Cedar, Red Juniper, Red Cedar, Cedro. 1. Kat'niiji (juniper, plucked). 2. Ka'niiji (juniper, plucked). 3. Ka'neeziih (juniper, long; i.e. juniper [which has] long [leaves]). Dandruff is said to be removed by an application of red juniper and a grass, tlooloh (grass, dangling; i.e. grass [whose leaves are] dangling), which are rubbed well into the head after bathing it (24:112). This is also one of the plants used in the War Dance medicine which is taken internally (24:409).

The blackening ceremony of the War Dance is begun inside the hogan by the administration of a mixture of herbs to the patient. The mixture consists of the following plants: one piece of red mountain juniper, one piece of common juniper limb (*Juniperus monosperma*), one piece of pine (*Pinus sp.*) limb, and one piece of chipmunk-tail grass. These are pounded finely and mixed with water. After both the man and his wife drink some of the medicine, more water is added and their bodies are washed from their feet, up over their heads, to their mouths (14:179). See *Hedeoma nana* and *Muhlenbergia cuspidata*.

*Juniperus virginiana* L. Virginia Juniper, Virginia Savin. 1. Kat'tiltxaah (juniper, cracking; i.e. juniper [which makes a] crackling [sound]). 2. Ka'niiji (juniper, plucked). 3. Ka'neeziih (juniper, long; i.e. juniper [which has] long [leaves]). This species of juniper is often used to make the wand carried in the War Dance Ceremony (71:117). See *Pinus ponderosa*.

*Picea engelmanni* Parry. Engelmann Spruce. 1. Te'oteeniniih (spruce, sharp; i.e. spruce [that has] sharp [needles]). 2. Te'oteeniniih (spruce, sharp).

*Picea pungens* Engelm. Colorado Blue Spruce, Silver Spruce. Te'6 (no meaning: the spruce). For the Chant of the Sun's House, the branches
of the Douglas fir (Pseudotsuga taxifolia) and of the Colorado blue spruce are used (72:186). See Opuntia polyacantha.

Picea spp. Spruce. There are several species of spruce, of which an unidentified species is distinguished as tc'ontxyeelih (spruce, flat; i.e. spruce [whose needles are] flat). Spruce is a favorite tree for ceremonial use: the unraveling of ceremonial objects is done with a hoop made of spruce (24:416); a ceremonial dress of spruce twigs in the form of a cone is unraveled over the patient at the Witch Chant (26:73); most of the personators in the Night Chant wear collars of spruce (61); a small bow is made of spruce and used in the Shooting (26:21), Witch, and Lightning Chants (24:418) in dispatching similar small arrows over the hogan (26:73); and in the sweathouse the patient usually sits on spruce twigs, but Artemisia is sometimes used when the spruce gatherers fail to arrive on time (61:77).

On the last night of the Mountain Chant, a sun is made to ascend a board which is standing upright in a basket filled with spruce twigs (23:228). Later on in the same ceremony, a basket is filled with spruce and piñon (Pinus edulis) twigs out of which a stuffed weasel is made to stick his head (23:230). In the Fire Dance there is a spruce tree dance at dawn (16:30).

To revive a person who has fainted, in cases of weakness and indisposition attributed to the sight of blood, or in cases of the violent death of man or animal, a medicine is made from those plants which have been struck by lightning, and then a spruce and a pine (Pinus sp.) arrow are shot over the body. This all takes place at the War Dance (24:366).

A high, stiff, lasting lather is made of a solution of yucca (Yucca sp.) roots and water by whirling between the hands a beater of spruce twigs (61:100). See Alnus tenuifolia, Artemisia sp., and Prunus demissa.

Pinus edulis Engelm. Piñon, Pinyon, Nut Pine, Two-leaf Piñon. 1. Tchá'ol (unetymologizable, but referring to the foliage of a live tree). 2. Teestshiin (dry [piñon] log; referring to the trunk of a dead tree). Piñon gum is called pitjeeh (its gum or pitch); the nut is called nict'ii pináa' (piñon or pine nuts); the wood is called teetsshiin (dry piñon log), which if green would be called tchá'ol; the needles are called pí'il (its needles). A black dye is made from piñon gum, the leaves and twigs of sumac (Rhus trilobata) and a native yellow ocher, leetsih (earth, yellow). The sumac leaves are put in water and allowed to boil until the mixture becomes strong. While this is boiling, the ocher is powdered and roasted. Piñon gum is then added to the ocher and the whole roasted again. As roasting proceeds, the gum melts and finally the mixture is reduced to a black powder. This is cooled and thrown into the sumac mixture, forming a rich blue-black fluid which is essentially an ink (16:376). When this process is finished the wool is put in and allowed to boil until it is dyed the right shade. This same dye is also used to color leather (24:303) and buckskin (24:230).
Water bottles made by the Navajo are covered with piñon gum to make them water-tight. The gum is heated and poured into the jar, and by turning the jar, the melted gum is brought in contact with the entire inner surface, after which the surplus is poured off. The outside is also covered with the gum to which a red clay has been added so that the bottle when finished has a reddish hue (24:297). The gum, together with tallow and red clay, make a salve which is smeared on open cuts and sores. The Navajo smears his body with piñon pitch before burying a person, and while mourning, the forehead and under the eyes is smeared (86:123).

Piñon nuts are gathered in large quantities by the Navajo. They are either swept into piles and threshed to remove the débris, or they are picked by hand from the ground. But the most profitable method of all is robbing rats' nests (13:40-1). Most of the excess piñon nuts are sold or traded to the Zuñi (79:70). The piñon nuts are also roasted in pots or skillets, and sometimes mashed and made into a butter similar to peanut butter, which is called 'atihic. The nuts are crushed between two stones to remove the shells, and then made into a paste which is used to spread on hot corn cakes (6:46). The dried seeds of the piñon are made into necklaces, bracelets, anklets, and wristlets (41:154).

Hogans for ordinary, as well as for ceremonial, usage (63:510) are usually built of piñon logs which are about eight to ten inches in diameter, and from ten to twelve feet long (24:489). Loom poles, beams, and uprights used in the construction of looms (24:243), ceremonial pokers (24:415), ceremonial wands (24:391), and various parts of the Navajo cradle, are made of piñon wood because it is so easily carved (24:464). It is also used extensively for firewood. The best black for sandpaintings is obtained from the charcoal of the piñon tree (11:7).

On the fourth day of the Night Chant the Talking God carries a small sapling of piñon almost entirely stripped of its branches if the patient is male, and of juniper (Juniperus sp.) if the patient is female (61:103). On the ninth day of the Night Chant, The Slayer of Alien Gods and The Child of the Water deposit their cigarettes in the shade of a tree, preferably a piñon, while The Shooting Divinity lays hers on the ground in a cluster of Gutierrezia sarothrae (61:139). In the War Dance, the patient is painted all over with piñon and willow (Salix sp.) pitch. Dry piñon gum, together with the parts of several different birds, is burned as an incense in which the initiates into the mystery of the Night Chant receive fumigation (61:43). The corral which is built for public exhibitions at the close of a ceremony, especially the Night Chant, is built of juniper (Juniperus sp.) and piñon boughs, with an opening facing east. Piñon needles form one of the ingredients used in the medicine for the War Dance. This remedy is usually taken internally (24:464). Piñon and juniper are used to make the circle of branches for the Mountain Chant (54:985). In one of the

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4. See note 1, p. 10.
dances on the last night of the Mountain Chant, the dancers carry bunches of pifion needles in each hand, out of which extend wands arching from one hand to the other (23:227).

The sap of the tree is used as a chewing gum, and is called teestshiin pitjeeh (píon gum). See Chrysothamnus viscidiflorus, Juniperus spp., Leptotaenia dissecta multifida, Petalostemon candidus, Picea sp., Pinus ponderosa, Pinus spp., Populus spp., and Quercus spp.

Pinus flexilis James. Limber Pine, White Pine. Naatshis'4an pintistchii' (alien, hiding, burrow, its pine; i.e. Navajo Mountain pine). The small bow and arrow employed at the Witch and Shooting Chants are sometimes made of this species of pine (26:137).

Pinus ponderosa Dougl. Western Yellow Pine, Ponderosa Pine. 1. Ntistchii' (no meaning: the western yellow pine). 2. Ntischii' (the western yellow pine). One part of the Night Chant medicine consists of pollen from this tree, píon (Pinus edulis) pollen, Juniperus virginiana pollen, and pollen from Juniperus occidentalis (61:45).

Pinus spp. Pine. 1. Ntischii' (no meaning: the pine). 2. Ntischii' (no meaning: the pine). In the first ceremony of the fourth day of the Mountain Chant, the medicine man carries a bowl of pine needles in water, in which the patient washes both hands. He then drinks some of it, and finally bathes his feet and legs to the thighs, his arms and shoulders, his body, and then his face and head, before he empties the remainder over his back (78:249ff.). In the Fire Dance, the “spirits of the fire” are entirely covered with a white paste, which is probably gypsum mixed with pine gum (16:11).

The bull-roarer used in some of the ceremonies (24:414), as well as various parts of the Navajo cradle (24:469), is made of pine wood. Dry pine bark is sometimes used as a covering for shelters in the summer (25:31). The tinderbox for fire-by-friction is sometimes made of pine (24:65). The pine tree is also used extensively for firewood. The ball used in shinny is sometimes made of pine (15:623). The colored powders used in the sandpaintings are kept on pine bark trays (54:933). The gum from this tree is used in the same manner as píon (Pinus edulis) gum for coating water bottles (24:297). See Hedeoma nana, Gutierrezia sarothrae, Juniperus scopulorum, Leptotaenia dissecta multifida, Petalostemon candidus, Picea spp., and Saltiz spp.

Pseudotsuga taxifolia (Poir.) Britt.
Abies douglasii Lindl.
Abies mucronata Raf.
Pseudotsuga douglasii (Lindl.) Carr.
Ephedra torreyana S. Wats. Torrey Mormon Tea. A tea is made from its branches.

Ephedra trifurca Torr. Mormon Tea, Desert Tea, Mexican Tea, Brigham Tea, Brigham Young Tea, Teamster’s Tea, Squaw Tea, Joint Fir, Joint Pine, Cañatillo, Cañutillo, Popotillo. Tl’oh’aziih (grass, waving [back and forth]). By crushing the dried plant between the fingers and stirring the powder in a bowl of water, a tea is made which is used as a remedy for venereal diseases, kidney affections, and stomach troubles in general (20:114) & (83:38). This species is also burned with charcoal, buffalo hair, wood rat hair, and bat hair in a hole in the middle of the hogan. The person with venereal disease sits over the hole and the smudge covers his exposed parts and cures him. This plant is sometimes substituted for alder (Alnus tenuifolia) bark when making a reddish basketry dye (24:293).

Ephedra viridis Coville. Green Mormon Tea. Tokhwos’azee’ (cough medicine). This species of Mormon tea is used as a cough medicine. A decoction is made from the tops and drunk (38:239).

Sub-Division II. Angiospermae
Class VI. Monocotyledonae
Order VII. Pandanales
Family 10. Typhaceae (Cattail)
Typha latifolia L. Cattail, Cattail Flag. 1. Txatitir (pollen). 2. Txyeel (broad). In the old days, the pollen from this plant was most used by the Navajo in their ceremonies, but of later years, corn (Zea mays) pollen is commonly employed (61:41). Ceremonial necklaces and wristbands are made of the leaves for the Male Shooting Chant. The pollen is also scattered on the dancers in certain other ceremonies (49).

Order VIII. Najadales
Family 11. Alismaceae (Water Plantain)
Sagittaria arifolia Nutt.
Sagittaria cuneata Sheld. Arrowhead. Txakháa’peej (water, on-top-of, knife; i.e. [plant whose leaves look like a] knife on top of [the] water). This species is used for headaches in an unknown manner.

Order IX. Graminales
Family 12. Gramineae (Grass)
Aristida adscensiones L. Six-weeks Three-awned Grass, Dogtown Grass. Tl’oo’ pé’ejoo’ (prairie-dog brush or broom [grass]).
Aristida oligantha Michx. Prairie Three-awned Grass, Rush Grass. Tl’oo’ pé’ejoo’ (prairie-dog brush or broom [grass]).
Arundo donax L. Giant Reed, Cane Reed. Lók’aa’tshoh (reed, large). This reed has been introduced from the warmer regions of the Old World. At the public exhibitions of the Night Chant a collar of otter skin, to which
a cane reed whistle is attached, is used (24:413). Every chant requires a special pouch which contains the necessary paraphernalia for conducting the chant. For the Lightning Chant, two cane reeds with tassels, one taken from Taos, and the other from the west (usually Oraibi), are required besides the regular contents of the pouch (24:382-3). This reed is also used for prayersticks (24:396). See Bambusa sp.

Avena sativa L. Cultivated Oat, but occasionally escaped and established. 1. Lii' pitl'oh naatåa' (horse, his grass, corn). 2. Lii' pitåa' (horse, his food). Oat hay is called tl'ohnnanoółifikih (grass, hanging down or drooping).

Bambusa sp. Cultivated Bamboo. Newcomb mentions bamboo as sometimes being used for whistles in certain ceremonies (64:22), but she probably meant the giant reed (Arundo donax).

Bouteloua gracilis (H.B.K.) Lag. Chondrostium gracile H.B.K. Grama Grass, Blue Grama, Mesquite Grass. Tl'ohnástxsasih (grass, hooked, curved, or bent-over). This species of grass is one of the plants that is tied to the end of the wand carried by the girl in the Squaw Dance. See Juniperus monosperma.

Bouteloua hirsuta Lag. Bouteloua hirta Lag. Hairy Grama, Grama Grass, Black Grama, Trohndstxasih (grass, hooked, curved, or bent-over). There are many times in ceremonies, when certain surfaces, especially the bodies of patients, have to be blackened. Sacred charcoal is always used and is made of several plants, among which is this one (61:46). See Artemisia sp., Artemisia trifida, Gutierrezia sarothrae, and Juniperus monosperma.

Bouteloua spp. Grama Grasses. There are two unidentified species of grama grass: 1. Tipé pitl'onástxsasih (sheep grama). This species is supposed to be good only for sheep, while (2), Lii' pitl'onástxsasih (horse grama) is supposed to be good only for horses (50:285).

Bromus ciliatus L. Fringed Brome Grass. Cjinalshitih (summer fearing). This is a springtime plant that disappears before the summer comes, or so the Navajo say.

Cenchrus tribuloides L. Dune Sandbur. Tl'oxwocih (grass, stickery; i. e. grass [whose burs are] stickery).

Hilaria jamesii (Torr.) Benth. Pleuraphis jamesii Torr. Galleta Grass. 1. Tl'ohtsháhíh (grass, awl; i. e. grass [whose leaves are like] awl[s]). 2. To il tjóo lifkiih (grass, soft).


Muhlenbergia spp. Muhly. There are several species of this grass which are employed in making brushes and brooms (24:190).

Muhlenbergia cuspidata (Torr.) Rydb. Sporobolus cuspidatus Wood.

Vilfa cuspidata Torr. Plains Muhly, Dropseed Grass, Rush Grass,
Mountain Grass. 1. Pé’ejoo’ (broom, brush, or comb). 2. Tlòò’ pé’ejoo’ (prairie-dog brush). From this grass the Navajo make hairbrushes and brooms for sweeping out the hogan (24:341). The stems grow from six to fifteen inches high, and when dry are tied firmly so that the butt ends are flat. A twig of Rocky Mountain juniper (Juniperus scopulorum) is inserted into the hairbrush as a talisman, supposedly for protection against evil influence (24:112 & 190). See Yucca spp.

Muhlenbergia pungens Thurb. Spiny Muhly. Pé’ejoo’ (brush, comb, or broom). The stems are pulled out of their sheaths when dry, tied with a string, and used as brooms and brushes.

Oryza sativa L. Cultivated Rice. ’Alòos (corrupted from the Spanish arroz, rice).

Oryzopsis hymenoides (Roem. & Schult.) Ricker.

Eriocoma cuspidata Nutt.

Eriocoma hymenoides Rydb.

Oryzopsis cuspidata Benth.

Stipa hymenoides Roem. & Schult. Indian Millet, Sand Bunch Grass, Indian Ricegrass, Mountain Grass, Mountain Rice. Ntitritih (seed, toasted). The Navajo use the seeds of this plant for food. In collecting the seeds, a bunch of the grass is held near the fire, allowing the seeds to fall out to the base of a flat stone placed obliquely near by (13:28). The seeds are then ground and made into cakes.

Panicum capillare L. Witch Grass, Panic Grass. Tl’oh taxakhaaliiih (grass, rustling). The Navajo eat the seeds of this plant.

Phragmites communis Trin.

Arundo phragmites L.

Phragmites phragmites Karst. Common Reed, Reed Grass, Cane Grass, Carrizo. Lòk’aa’ (no meaning: the common reed). For the Mountain Chant Ceremony, reeds are gathered and made into prayersticks. They are first rubbed with a polishing stone (usually sandstone) to remove the silicious surface in order that the paint might adhere well. The reeds are then rubbed with finely powdered tobacco (Nicotiana sp.), or sometimes with Gutierrezia sarothrae (61:37). Afterwards the reed is cut into four pieces (or ten pieces for the second ceremony). When this is finished, the sticks are colored and yucca (Yucca sp.) inserted to serve as handles (78:242ff.). The sections are then filled with some kind of tobacco (Nicotiana sp.) (61:38). These must be kept in order. The section growing nearest the ground is segment number one, the next number two, and so on. It is also important that the side of the reed growing toward the east be indicated, so the painting may be done on the side having that exposure. This makes it more potent (47:29).

Fifty-two prayer sticks are made for the evening of the third day of the Night Chant. Of these, four are made of sections of reed, twelve of mountain mahogany (Cercocarpus montanus), twelve of Forestiera neo-
mexicana, twelve of Juniperus occidentalis, and twelve of cherry (Prunus demissa) (61:92).

On the last night of the Mountain Chant, the dancers carry large reed frames like the frame of a kite, put together with string and decorated with eagle down (23:226) & (56:437). The first people, according to the Navajo, were supposed to have come up to this earth on a reed (6:48). The most important use of all, however, was the use of the stems as arrow shafts (55:777). See Helianthus annuus and Rhus trilobata.

*Poa arida* Vasey.

**Phragmites andina** Auth.

*Poa andina* Nutt. Plains Bluegrass, Meadow Grass. Tshiyaat’oh (tree, under, grass; i.e. grass [that grows] under tree[s]).

*Saccharum officinarum* L. Sugar Cane. 1. ’Akhazlkháñih (stalk or stem, sweet). 2. Ta’akhzlikháñih (stems [pl.], sweet). Sugar is called ’acii’likháñih (salt, sweet).

*Sitanion hystrix* (Nutt.) J. G. Smith.

*Aegilops hystrix* Nutt. Wild Rye, Foxtail, Squirreltail. Xazée”ilwó’iih (mouth enterer). Refers to going or working down the throat.

**Sporobolus cryptandrus** (Torr.) A. Gray.

*Agrostis cryptandra* Torr. Rush Grass, Poverty Grass, Wire Grass, Sacatón Grass, Sand Dropseed. Tl’ohts’6ozih (grass, slender). The chaff is removed from the seeds which are then ground to make dumplings, rolls, griddle-cakes (13:28), and tortillas.

*Triticum aestivum* L.

*Triticum sativum* Lam. Cultivated Wheat, Trigo. Tl’ohnat4a’ (grass, corn). The different parts of the wheat plant are called: Tl’ohnat4a’ pîtc’il (grass, corn, its stalk; i.e. wheat stalk); tû’ohnat4a’ pîjool (grass, corn, its chaff; i.e. wheat chaff); tû’ohnat4a’ pîts’óoz (grass, corn, its sheaf; i.e. wheat sheaf); tû’ohnat4a’ ’ak’şan (wheat flour).

*Zea mays* L. Indian Corn, Maize, Maíz. Naat4a’ (alien food; i.e. corn). The corn plant, the corn ear, or the shelled corn. Also called merely tâ’s alone as a shortcut. The name Naaláníh (aliens, many), the Comanche Indians, has important bearing on naat4a’, these two words containing the same prephound, it being likely that the Navajo got corn from quite northern aliens such as the Naaláníh. Corn figures prominently in practically all of the Navajo ceremonies, either as corn itself or as corn pollen. (See *Typha latifolia*). The ceremonial uses of corn pollen are innumerable: it is scattered on the dancing grounds, along the trails of ceremonial processions, on prayer sticks when deposited, on the masks and sacred properties in the various rites, and on sandpaintings (61:41). It is the task of the shaman, when the sandpainting is completed, to put corn pollen, the emblem of fertility, on the breast of each divine form and set up prayersticks around the picture. When the patient has departed, many
of the spectators pick up the pollen, which is now doubly sacred, and put it in their medicine bags (54:933).

Cornmeal, although considered less sacred than corn pollen, is used in much the same manner, but in larger quantities (61:43). Cornmeal, when taken on journeys, was called ts’aalpáh (———, grey), a general term for provisions. To prepare this provision green corn is first roasted, shelled, ground, and then dried. It is taken on the journey wrapped in corn husks, tamale-fashion. It is also called tsh’ést’eh (no meaning, except perhaps rock, cooked; i.e. cooked [on a] rock). The nuptial dish is usually a cornmeal porridge, txaahnk’áh (water, corn, ground up). This is a thick corn porridge such as is served in wedding baskets. It is made with juniper ashes. The syllable -náa- apparently stands for naatáa’, corn, which is usually shortcut to -tąa’-, not to -náa-. Cornmeal mush made without juniper (Juniperus sp.) ashes is called txaanhílkaítitin (water, mixed, juniper, without; i.e. porridge without juniper [ashes]). Hominy, xaniikaih (boils, white; i.e. [gets] white [when one] boils [it]), is made of corn and meat which is allowed to boil all night (25:108). One part of the Night Chant medicine consists of a mixture of “blue pollen” (Delphinium scaposum), wild plants, and tobacco (Nicotiana sp.) to which is added the leaves from corn plants gathered in the east, south, west, and north corners of the field, squash (Cucurbita sp.) from the southeast side, bean (Phaseolus vulgaris) leaves from the southwest, watermelon (Citrullus vulgaris) leaves from the northwest, and muskmelon (Cucumis melo) leaves from the northeast (28:44). In the dance of the Yé’ii’s one of the dancers represents corn, one pollen, one soft grain, and the fourth vegetation (5:191). Farming songs are sung about the turkey who shakes corn seeds, beans, muskmelons seeds, and then tobacco out of his wings (61:187). In a Navajo ceremony for the cure of a sore throat, the medicine man uses certain herbs, liquids, and corn mush. The corn mush is passed in a bowl, taken to the mouth, and pressed to the throat with the fingers (70:7). Cornhusks are used for cigarette papers (22:283). Corn cobs are used to beat leather when dyeing it (5:35). Corn cob pith is used as punk (24:395). Corn stalks are sometimes used as thatching (45:38). Corn pollen is used for the motion-in-hand ceremony, but if a Gila monster can be obtained, it is placed on a buckskin and the pollen sprinkled over it, and then gathered. This then constitutes a “live pollen” and is considered more effective (84:239). Blood sausage is made by the Navajo from the blood of goats or sheep, and is sometimes poured into corn husks and tied, instead of into the four stomachs. If the corn husks are dry they are first soaked. The sausages are then baked in ashes (85:2). A corn beverage is prepared from juniper (Juniperus sp.) ashes which have been boiled previously. To this boiling juniper water is added cornmeal until the mixture becomes thickened. This is then served as a beverage with mutton. It was used, in olden times, in place of coffee. It is sometimes allowed to get even thicker and is then used as mush (85:10). Navajo
bread is made of Indian corn to which is added a little juniper ash. Dumplings also are made in the same manner, but instead of being moulded into loaves, they are moulded into little flat balls (85:11). When corn is not fully matured, it is pounded and mixed with pumpkin (Cucurbita sp.), wrapped in a corn husk, and baked in ashes (50:290). Corn is differentiated according to color:

- Naatáa”altxsásáiíh (corn, varicolored).
- Naatáa”astł’íníkííh (corn, freckled), a second term for varicolored corn.
- Naatáa’cjiiin (corn, black).
- Naatáa’ilka’ih (corn, white).
- Naatáa’lpáííh (corn, grey).
- Naatáa’iltsóoh (corn, yellow).
- Naatáa’tootł’iitíkííh (corn, blue).

Other kinds are called:

- Naatáa’lkiij (corn, spotted).
- Naatáa’nootsooziih (corn, striped).
- Tsíidgáa’i pitáa (White River Apache, his corn).

The ear of corn and its parts are called:

- Naatáa’ pitjool (corn, round). A very chubby deformed ear.
- Naatáa’ pitshiin (corn, its bone; i. e. corn cob).
- Naatáa’tshoh (corn, big). A big ear of corn or big corn plant.
- Táa’t’aa’ (corn, leaf or husk). Both meanings are used indiscriminately.

The corn plant is called naatáa’tc’il and its parts are called:

- Naatáa”astshiica’ (corn, head, hair; i. e. corn silk).
- Naatáa’khaz (corn stalk).
- Naatáa’ pik’a’ (corn, its arrow). An arrow-like corn stalk about three feet high. Many corn kernels are planted in a hill, and after the plants come up, several of the plants are pulled out, leaving two or three. The remaining half-grown stalks or the ones taken are called indifferently naatáa’ pik’a’.
- Naatáa’ pikhétzal (corn, its foot). The base of the plant.
- Naatáa’ pilatxah (corn, its tip or top).
- Naatáa’ pizool (corn, its inflorescence).
- Naatáa’tshoh (corn, big). A big plant or ear of corn.
- Táa’t’əa’ (corn, leaf). A corn plant leaf or a corn ear husk. Both meanings are used indiscriminately.

Raw, uncooked corn is called naatáa’st’éh and after it is cooked is called in various ways:

- Naatáa’sit’éh, corn that has been roasted on the open fire, not in an oven.
Łeccipéeji (earth, roasted). Roast corn on the ear. Formerly used to speak of corn roasted in the ground, but now also used of oven-roasted corn.

The sacred name for corn is la'atl'ée'nt'ih (whole, night, matured; i.e. corn plant which is made to mature [in one] whole night [by the medicine man]); a plant of corn (or yucca, Yucca sp.) which is magically grown in a single night (or in five nights). A small corn plant about three inches high is called tahtic't'il (aloft, curled, plant), and its leaves are eaten as we eat lettuce (25:61). An ear of corn, in which the kernels are lined in straight rows, is used ceremonially, and such ears are wrapped in buckskin or calico (originally cotton—Gossypium sp.) and the edge of this decorated with feathers, while the butt is wrapped with grass tassels studded with beads and stones. Wrapped and decorated in this manner it is called tooxonoot'iniih (invisible). This is said of anything, and especially of an ear of corn in which the rows of grain are invisible. Such a malformed ear was also called a female ear, evidently because the female genitals are inside: naatá'a'astzá'an (corn, female) and was wrapped ceremonially. See Cucurbita spp., Nicotiana tabacum, Oenothera sp., Typha latifolia, and Yucca sp.

Zea mays L. var. everta Bailey.

Zea mays L. var. rugosa Bonaf. Sugar Corn, Sweet Corn. Naatáa'-neeectjahitshoh (corn, carried, big; i.e. big corn [which was] carried [about with one]). It was highly prized. In the Bead Chant, an image of a wildcat is made of sweet corn; in the Mountain Chant, an image of the bear is made of sweet corn; and in the Coyote Chant, effigies of a coyote and a kit fox are made in sweet corn; other images such as the dog, chicken, cat, and pig are also reproduced in sweet corn. To make these animals, a stiff mush is made of corn, which is kneaded to the desired shape, omitting the extremities such as tail, ears, and feet. White shell, turquoise, and sometimes red-white stones are inserted into the bodies of the images, and cannel coal used for the eyes (25:111). On the fourth evening of the Night Chant, a pit is lined with green corn leaves and in it is baked a sweet corn cake made of meal to which is sometimes added the roots of herbs (61:47).

Unidentified Gramineae:

'Atshá p'ejoo' (eagle, broom [grass]).
Ntictchiiyaa p'ejoo' (pine tree, under, brush or broom; i.e. brush or broom [grass that grows] under pine tree[s]).
Ntictchiiyaat'oh (pine tree, under, grass; i.e. grass [that grows] under pine tree[s]).
P'ejóocaajíh (broom, knotted or noded; i.e. broom [grass that is] noded). Perhaps a species of Sporobolus.
T'liic p'ejoo' (snake broom [grass]).
Trohaciihih (grass, salty). It is so called because it has a salty taste (24:191).
Trohjijiiht'o'ojikiih (grass, horse, graze). Under this heading all forage grasses and shrubs are classified (24:190).
Trohjitshohiih (grass, yellow).
Trohpits'os xolónikiih (grass, feathers, having).
Trohta'asts'ính (grass, hard).
Trohtite'izikiih (grass, rough).
Trohtshoh (grass, big).
Trooléh (no meaning). A grass having long leaves.
Tshétáa' pé'ejoo' (rock, among, broom; i.e., mountain sheep broom [grass]). The same species of grass as 'atshá pe'ejoo'.

Family 13. CYPERACEAE (Sedge)

Scirpus acutus Muhl.
Scirpus lacustris L. var. occidentalis S. Wats.
Scirpus occidentalis (S. Wats.) Chase. Western Tule, Common Tule,
Western Flag, Western Bulrush, Western Club Rush. Txéel lánikiih (wide, its leaf, many; i.e. [plant whose] leaves [are both] wide [and] many). See Achillea millefolium lanulosa.

Order X. PALMALES
Family 14. PALMACEAE (Palm)

Phoenix dactylifera L. Date Palm. Xack'áan (syrup, molasses).

Order XI. ARALES
Family 15. LEMNACEAE (Duckweed)

2. Txáltlahtc'oh (water, bottom, spruce).

Order XII. LILIALES
Family 16. JUNCACEAE (Rush)

Juncus sp. Bog Rush. 'Altxjí'tjik'acích (bow grinder, smoother, sharpener, or whetter). This unidentified species of rush was probably used as a sandpaper for smoothing bows.

Family 17. LILIACEAE (Lily)

Allium cepa L. Cultivated Onion. Tl'ohtchintshoh (grass, smelly, big).
Allium cernuum Roth.
Allium recurvatum Rydb. Nodding Onion, Cebolla. 1. Kâakii pit’öh-
chtchin (crow's onion). 2. Tl'ohtchinnitchiin (onion, red).

Allium deserticola (Jones) W. & S.
Allium geyeri S. Wats.
Allium reticulatum Don. var. deserticola M. E. Jones. Desert Onion,
Wild Onion. 1. Xachtchts'ósíh (smelling, slender). 2. Tl'ohtchin (grass, smelly). This species of desert onion is eaten by the Navajo, who think that the mountain species is poisonous. They rub the bulbs in hot ashes to singe them, as well as to remove some of the strong taste from them.
After this, they are either eaten immediately or dried and stored for winter use. When they are taken out for winter use, they are soaked with or without wild celery (*Phellopterus montanus*) before eating (13:15). See *Cleome serrulata*.

*Allium palmeri* S. Wats.

*Allium bisceptrum* S. Wats. Palmer Onion. T'ohchin (the onion).

*Allium sativum* L. Garlic. T'ohchintshoh (grass, smelly, big; i.e. big onion).

*Allium* sp. Wild Onion. T'ohchin (the onion). An unidentified species of wild onion is used for a green dye (17:2). Another species resembling the wild onion, and which may or may not be the wild onion is called takhkaal.


*Calochortus luteus* Dougl. Yellow Mariposa, Yellow Mariposa Lily, Yellow Mariposa Tulip, Yellow Sego Lily, Yellow Butterfly Tulip, Yellow Butterfly Lily. 1. 'filtshénnih (no meaning: the mariposa lily). 2. 'Aaltshénnih (no meaning: a variation of no. 1). The bulbs are eaten similarly to those of *Calochortus aureus* (13:19).


*Calochortus* sp. Mariposa Lily, Mariposa Tulip, Sego Lily, Butterfly Tulip, Butterfly Lily. K'iltshiniih yil t'aa'ih (K'iltshiniih, resembling, leaf; i.e. [plant] resembling [in] leaf [the] k'iltshiniih [plant]).

*Yucca baccata* Torr. Soapweed, Spanish Dagger, Spanish Bayonet, Broad-leafed Yucca, Wide-leafed Yucca, Thick-leafed Yucca, Mountain Yucca, Wild Date, Amole, Datil, Palmilla Ancha. 1. Tshá'aszi'ntxyeelih (yucca, wide). 2. Xack'áan (syrup, molasses). A stunted form is called tshá'aszi' pítee'ih (yucca, its horn). The Navajo use the fruit of *Yucca baccata* very extensively. The ripe fruits are either eaten when picked, cooked, or cut in half and dried and stored for winter use. The fruits are sometimes baked on hot coals or stones or dried on a flat stone by the fire if they are ripe enough for the seeds to fall out. After this they are ground and made into small cakes and roasted again. Small pieces are then broken off and allowed to dry in the sun, after which they are sprinkled with water and shaped into cakes and perforated so that they will not sour. They are then stored for winter use. When the Indian wishes to eat the cakes, they are broken into small bits and mixed with water, making a thick syrup which is eaten with meat, bread, and other dishes (24:210) & (75:452). Sometimes the pieces are boiled with cornmeal to make a gruel (13:54).
The yucca fruit, when cleaned of its seeds, is called pixa’ootc’it. The fruit is also made into a jelly (59:228). In former times, when the Navajo were at war, they carried only a limited amount of food which usually consisted of dried yucca fruit, grass seeds, and jerked venison (30:8-9).

In one of the Navajo legends it is told how the yuccas were created. The Slayer of Alien Gods, a culture hero of the Navajo, upon slaying the Tracking Bear Monster, told him that, as he had been bad all of his life, upon death must furnish sweet food to eat, foam for cleansing, and thread for clothing. The Slayer then threw a piece of the Bear’s head to the west where it became *Yucca baccata*, whose fruit is edible. Another piece he threw to the south, and it grew into maguey (*Agave utahensis*), which is used for fiber (7:118). All species of yucca (*Yucca* spp.) are used for cleansing purposes (59:228).

On the sixth day of the Mountain Chant Ceremony, before the couriers are sent on their way, a basin of water containing soap root is brought in, and after the medicine man has daubed the couriers with a little of the suds, they wash themselves from head to foot, and clean their hair as well (56:424). The Lashing God in the Night Chant carries a ring of yucca leaves on his back, and suspended from this by its roots is a complete plant of *Yucca baccata*. He holds in his hand yucca scourges which are made from the leaves taken from the east and west sides of the plant. For the yucca that hangs at his back, a specimen is selected whose roots stick well out of the ground and is kicked out with the foot (15:459) & (61:15). Masks made of the leaves of this plant are also used in the Night Chant (59:214). In one of the dances of the last night of the Mountain Chant, this species of yucca is made to grow from the root through buds and flowers to the ripe fruit (56:439).

A remedy for vomiting is made of the pulverized leaves added to water. The lather of this species is also said to relieve heartburn (24:115). See *Rhus trilobata*.

**Yucca elata** Engelm.

*Yucca angustifolia* Pursh. var. *elata* Engelm.

*Yucca angustifolia* Pursh. var. *radiosa* Engelm.

*Yucca radiosa* Trel. Palmilla. Yé’íi pitshá’aszi’ (God, his yucca). Scourges used in the Night Chant are made of the leaves of this plant. A leaf is taken from the east side of the plant and one from the west. The leaves are then split in two and the interchanged halves bound together to form the scourge. These scourges are carried by the different personators in the Night Chant (61:26). The 102 counting sticks used in the moccasin game are made of this species of yucca or of *Yucca glauca* (15:346) & (59:228). Its root also is used as soap (44:109).

**Yucca glauca** Nutt.

*Yucca angustifolia* Pursh. Narrow-leaved Yucca, Narrow-leaved Soapweed, Narrow-leaved Soaproot, Mesa Yucca, “Bear Grass,” Indian Cabbage, Pamilla. Tshá’aszi’ts’óoz (yucca, narrow). The yucca stalk when
it first comes out of the ground is a very dark green color and is called ntees-
tjiin (stalk, black); the stalk when it grows a little taller and begins to
look whitish is called nteeskaíih (stalk, white); the roots are called
txáalągwoc (water suds); and the green yucca fruit is called ntootłóghih (no
meaning). The fruits of this plant are either eaten as they are found,
baked in ashes, or they are sliced and dried for winter use. They are not
as palatable as the fruits of *Yucca baccata* (13:56). They taste similar to
a banana. The counters used in the moccasin game are sometimes made of
this species of yucca (59:228). The roots are used as soap by the Navajo.
They like, especially, to wash their hair in the suds.

In addition to the above practical uses, it has an important ceremonial
usage. The water in which the ceremonial baths are taken is first stirred
with this plant (24:417). See *Yucca elata*.

**Yucca whipplei** Torr. Our Lord's Candle. *Yé'ii pitshá'aszi'*(God, his
yucca).

**Yucca spp.** Soaproot, Soapweed, Bare Grass, Amole, Spanish Bayonet.
The uses for yucca in ceremonies is varied. Following are some of the
uses: in the third ceremony on the fourth day of the Mountain Chant, an
Apache basket containing yucca roots and water is placed in a circle before
the patient. While the song-priest and the chorus chants, the attendant
makes suds of the yucca and water. When the basket is a mass of froth,
the song-priest comes forward and draws crosses over the suds with corn
(*Zea mays*) pollen. A circle of pollen is then made around the edge of the
suds. The attendant who prepared the suds then touches the four points
of the pollen and the center, before touching the patient's head. The basket
is then placed near the patient who bathes his head thoroughly. The
assistant then helps the patient wash his entire body (78:251). The first
ceremony of the fifth day also begins by placing a handful of the suds on the
patient's head (78:257). On the eighth morning of the Shooting Chant,
the patients go through a type of purification which consists of a shampoo
and a bath made of soaproot (72:199). In the War Dance Ceremony, the
patient's whole body is kneaded with yucca strips (71:125). For the
Blackening Ceremony of the War Dance, fifteen points of yucca are
softened and four knots tied in each, and then five loops, which can be
pulled out, are tied to them (71:1244). Four bracelets, made by the
medicine man to apply to the ailing gods, are made of plaited yucca leaves.
*Juniper (Juniperus sp.)* needles and an unidentified plant are made into a
cold infusion which is drunk by all, and the patient washes part of his body
with it. Charcoal is then rubbed on the ailing gods and the yucca bracelets
tied on (60:22-23). The personator of the Humpback in the Night Chant
wears, on the crown of his mask, a pair of dressed bighorn skin horns
sewed with yucca fiber (61:14). A face mask of braided yucca is worn
by the female patient at the Night Chant (61:82). Ceremonial stars are
made of four intertwined yucca leaves (24:415). Sometimes ceremonial
paints may be put on little trays or palettes of concave yucca leaves (61:39).
A splinter of fresh yucca leaf is inserted so as to protrude at both ends while painting ceremonial prayersticks (78:242). The Lashing or Whipping God is represented with a whip or lash made of yucca strips (61:15). In early times, dance shoes for the Snake or Wind Chant were made of an entire bunch of yucca for each foot, the stems bound together at the sharp tips and braided in the center with cross-strands (76:134). In one of the Navajo legends it is told how the ancestors of the Navajo, when they came into this country, were supposed to have worn blankets made of juniper (Juniperus sp.) bark and yucca fiber (24:457). In initiating boys and girls in the Night Chant, pollen is first sprinkled on them and then they are struck with two long yucca leaves (61:117). In one part of the Night Chant, a chain of (cactus) leaves is hung over the left shoulder of the patient. A small forked stick also is wound with the leaf of the (cactus) plant, and then covered with a piece of deerskin, colored with red grease. Braids of three (cactus) leaves are then made, and the ends of the braids tied together and placed side by side, making a double braided bracelet. A chain was next made by tying the long slender leaves end to end, and finally, the ends of the chain were tied together. Fifteen bowknots were made in as many other leaves, and these placed in a line before the shaman. Finally, a bowl of juniper (Juniperus sp.) twigs and water was made, and the rite began. As the shaman chants, he takes up a knotted (cactus) leaf and presses it along the right leg and over the foot of the patient and unties it over the big toe. The knots are then untied over several parts of the body. A portion of the contents of a gourd (Lagenaria vulgaris) is then given the patient to drink in three potions. After the patient chews up the herbs in the drink, he presses them to the same parts of the body as before and bathes his entire body in the remaining liquid (24:417) & (80:340). In a minor ceremony for the cure of a sore throat, both the patient and the shaman wear yucca bands about their heads (70:8).

In washing wool, the roots of the yucca plant are preferred to soap, because there is no greasy or fatty substance in it. It is also said to have a greater cleansing power (24:225). The dried and crushed roots are placed in a sack and stirred in lukewarm water until rich suds are obtained. The bag is then removed and the wool washed in several baths of the suds (82:1). Hides are also washed in a solution of yucca roots to cleanse them before tanning (87:13).

“Shooting the yucca,” was a Navajo game played with a ball made of bark and wound with yucca leaves which had been previously placed in hot ashes to make them flexible (15:385). A stick of scrub oak (Quercus pungens) was attached to this by means of a yucca cord, to give momentum to the light ball. The ball was thrown into the air and the archers dis-

5. A. M. Tozzer, in all probability, mistook the leaves of the yucca for those of a cactus because of the sharp points. The cactus has no conspicuous leaves, and yucca is used in other ceremonies in much the same manner as described by him.
charged their arrows at it as soon as it was drawn downward by the weight
of the stick (24:488).

Ordinary hunting arrows and spears were treated with a preparation
believed to make them poisonous. One of these preparations consisted of
a yucca leaf and charcoal from a tree struck by lightning. The arrows were
then painted to about six inches back up the shaft with this preparation
(30:10).

Other uses are as follows: yucca leaves are heated over a fire and the
juice wrung out of them into an earthen vessel. The juice is then mixed
with powders and applied to the shield with a pointed stick to make it live
in the power of the sun, the serpent, the bear, the lightning, and the rain-
bow (6:116); knitted leggings were made from human hair or of yucca
fiber (34:48); a rabbit-skin blanket was made by rolling all of the skins
with the fur side out, and tying them with yucca strands (6:8); the earliest
Navajo costume was made of yucca and grass fiber; the yucca pith was
twisted with mountain grass (Muhlenbergia cuspisata), and roofing, the
mat for bedding, leggings, shoes, and blankets made of it (24:457); sleeping
mats were made of yucca and grass (42:49); a yucca ring is used in a
game played by the Navajo that is similar to our “ring-toss” (15:722);
scouts wear bracelets of yucca leaves (28:304); the buds of the yucca are
eaten by sheep (7:31); in starting a Navajo basket, the butts of the
first twigs are wound around a small stick known as the bottom of the
basket and secured there with yucca (24:293); newly born babies are
washed with yucca suds in a pile of ashes (72:134); the pitch of yucca
leaves was used in early times for waterproofing baskets; baskets were for-
merly woven of braid made of the pith of the yucca leaf and dyed in the
same manner as sumac (Rhus trilobata) twigs (24:295); moccasin uppers
were made of yucca (24:295); dresses were made of yucca (9:176); bas-
et drums are beaten with drumsticks made of the folded leaves of the
yucca (24:402) and the folds wound with the same material (61:61);
bull-roarers used in some of the ceremonies are covered with yucca pitch
(24:414); the hearth of the Navajo fire set is made from a piece of yucca
stalk with shallow holes into which is inserted a drill made of a piece of
broken arrow shaft, to which a smaller piece of yucca wood is tied (37:19);
formerly, when the Navajo made pottery, it was decorated with colored
clays applied with a yucca brush (24:289); corn (Zea mays) husks, filled
with dough and tied at the butt and tip with yucca, are lined up in a heated
trench and covered with dirt and hot coals and thoroughly baked (24:207);
the cakes which are baked for the Fire God are strung on yucca and
attached to his right arm on the ninth day of the Night Chant (24:208);
and necklaces and wristbands are also made of strips of yucca leaves
intertwined at intervals with sprigs of Douglas fir (Pseudotsuga taxifolia),
for certain ceremonies (72:202). See Juniperus sp., Opuntia polyacantha,
Phragmites communis, Picéa sp., Populus sp., Rhus trilobata, and Yucca
baccata.
Zygadenus venenosus S. Wats. Poison Camas, Meadow Death Camass, Hogs' Potato. 'tíiltšééni’í'tshoh (the mariposa lily, big).

Family 18. AMARYLLIDACEAE (Amaryllis)

Agave utahensis Engelm. Century Plant, Maguey, American Aloe, Mescal, Mezcal. Nootah (no meaning; the century plant). The tough fibers of this plant were formerly used in making blankets (41:160). See Yucca baccata.

Family 19. IRIDACEAE (Iris)

Iris spp. Broad Flag, Wild Iris. Ntxyeelníyizíih (wide, circular). The wild iris was used in making a green dye (17:2).

Iris missouriensis Nutt. Western Wild Iris, Western Blue Flag, Fleur de Lis, Flower de Luce. Ntxyeel pit’qa’ láñikíih (wide, its leaves, many; i. e. [plant that has] many wide leaves).

Sisyrinchium mucronatum Michx. Blue-eyed Grass. 'Azee’tłōih (medicine grass). For nose and throat troubles, dried and pulverized herbs are used, such as blue-eyed grass, zinnia (Zinnia grandiflora), aster (Aster canescens), silkweed (Asclepias verticillata), Aplopappus lanuginosus, and Solanum elaeagnifolium (24:112).

CLASS VII. DICOTYLEDONAE

Order XIII. PIPERALES

Family 20. PIPERACEAE (Pepper)

Piper nigrum L. Commercial Pepper. 1. 'Azee’tlítc’ii’lijinikíih (medicine, peppery, black) 2. 'Azee’tlítc’ii’ lipAhikíih (medicine, peppery, grey).

Order XIV. SALICALES

Family 21. SALICACEAE (Willow)

Populus spp. Cottonwood. T’iis (no meaning; the cottonwood). Cottonwood has many uses; prayersticks are made of cottonwood; the frame of the loom is made of four cottonwood (6:3) or juniper (Juniperus sp.) poles; cottonwood tinder boxes (24:65) and sticks are used in making fire-by-friction, while the fiber was used as a tinder (36:586); dice of cottonwood are used by the Navajo (15:94); the Navajo summer shelter consists of a circular or oval line of boughs of the cottonwood tree with abundant leaves, set upright on the butts and inclined slightly toward the center; and the image of a duck is carved of cottonwood for the Water Chant (25:111).

Implements of the moccasin game consist of a ball of sandstone, a hundred counting sticks of yucca (Yucca sp.), and a club of cottonwood (15:346) or piñon (Pinus edulis) (15:349). The catkins are called 'atcho’, 'atchok, or pitcho’; a forked cottonwood is called t’ilisńtickiij (cottonwood, forked). See Artemisia tridentata.

Populus angulata Ait. Common Cottonwood. T’iis (no meaning; the cottonwood tree).

Populus angustifolia James. Black Cottonwood, Mountain Cottonwood, Narrow-leaved Cottonwood. T’ilists’óbz (cottonwood, slender; i. e. cotton-
wood [whose leaves are] slender). This tree is used for parts of the Navajo cradle because the wood is so soft (24:469).

**Populus fremontii** S. Wats. Frémont Poplar. T'lis (no meaning: the cottonwood tree).


**Populus tremuloides** Michx. *Populus aurea* Tidestrom. Quaking Aspen, American Aspen, Rocky Mountain Aspen. 1. riissAih (cottonwood, grey). 2. T'iispèlh (cottonwood, grey). This tree, according to legend, has the distinction of being the first tree against which the bear rubs his back in the Sun’s House Chant. The others are red willow (*Salix laevigata*), fir (*Pseudotsuga taxifolia*), and chokecherry (*Prunus demissa*) (72:194).

**Populus wislizeni** (S. Wats.) Sarg. Valley Cottonwood, Wislizenus Poplar, Palo Blanco. T'lis (no meaning: the cottonwood tree). This tree is used for firewood, fenceposts, vigas (24:464), and tinder boxes (24:65). Wooden tubes for the bellows used in silversmithing are made of cottonwood (24:272). Dolls and images of some animals are, at times, carved from the cottonwood, but are used for ceremonial purposes only (24:495). One of my informants stated that chewing gum is made from the sap that oozes from the trunk. The catkins, alone or mixed with animal fat, are also chewed as gum.

**Salix babylonica** L. Weeping Willow. K'ai'lipdhikiih (willow, grey).

**Salix exigua** Nutt. Sandbar Willow. K'ai (no meaning: the willow tree).

**Salix laevigata** Bebb. Red Willow. K'ai'ilíchíi' (willow, red). See *Mentha* sp. and *Populus tremuloides*.

**Salix spp.** Willow, Grey Willow, Osier. 1. K'ai’ (no meaning: the willow tree). 2. K'ai'ilípáh (willow, grey). For the first days’ ceremony of the Mountain Chant, willow sticks are gathered to make the emblem of the concentration of the four winds. A square was made with these sticks, leaving the ends projecting at the corners. The square is then placed over the invalid’s head (78:238). For the rite of charcoal painting in the Night Chant, a quantity of willow sticks, together with several pieces of pine (*Pinus* sp.) bark, are burned to charcoal. The ashes of two different kinds of weeds, together with the ashes of two small feathers, are then added to the fat of a goat, mountain sheep, or other animal, made into balls and daubed on the usual parts of the body (80:339).

Willow is employed in many other ways. To make bellows, a sack from ten to eighteen inches in diameter and a foot across is made from tanned buckskin. In this sack are placed three or four hoops of willow to keep it distended (59:2). Heald sticks used in weaving (24:243), prayersticks (24:298), prayerstick foundations (31:71), permanent carrying baskets

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6. The Navajo word given in the reference translates as chokecherry bark.
(24:298), cradle canopies (74:88), and plumed wands (61:57) are all made of willow, while water bottles were made or sewed with it (24:297). A braided willow strap was worn across the forehead and used to support a water bottle (6:14). Lances were formerly made of willow hardened by pounding with a stone (30:10). Arrowshafts were made of willow (51:pl. XLX). The talisman used in the Night Chant consists of four sticks of peeled willow (61:58). The catkins are called 'atcho', 'atchok, or pitcho'. See Gutierrezia sarothrae and Pinus edulis.

Order XV. JUGLANDALES
Family 22. JUGLANDACEAE (Walnut)

Juglans major (Torr.) Heller.

Juglans rupestris Engelm. var. major Torr. Native Walnut, Nogal. Xa'altshéتíih (that which is cracked: the walnut). The Navajo gather and eat these fruits on a fairly large scale, although the nuts are rather small (13:31). The hulls produce a golden-brown dye, while a lighter brown dye is made from the young twigs (73:40).

Juglans regia L. English Walnut, Persian Walnut. Walnut hulls produce a golden-brown dye (82:7).

Order XVI. FAGALES
Family 23. BETULACEAE (Birch)

Alnus incana Willd. Speckled Alder, Hoary Alder. K'ic (no meaning: the alder). The bark of this species of alder is used in the same manner as that of Alnus tenuifolia for making a dull reddish dye (52:66).

Alnus tenuifolia Nutt.

Alnus incana Willd. var. virens S. Wats. River Alder, Black Alder, Mountain Alder. 1. K'ic (no meaning: the alder). 2. K'icts'6oz (alder, slender). A dull reddish dye is made from the alder, and several other plants. The Navajo woman first burns some of the twigs of the juniper (Juniperus monosperma) (83:164), Juniperus occidentalis (24:232), Juniperus californica utahensis (66:462), or spruce (Picea sp.) (73:41), then crushes and boils the root bark of the mountain mahogany (Cercocarpus montanus) (24:232). The bark only is used because the roots themselves contain no color-bearing material (69:5). To this is added the powdered bark of the alder together with a ground lichen (Pormelia molluscusca). This is all put together and boiled until it is thought to be right, then it is strained and the wool or yarn is soaked in it overnight. This produces a dull reddish color on wool and a fine tan color on buckskin (24:232). For a brownish dye the bark and twigs are used (82:7). Twigs for basketry are also immersed in this fluid. The resulting color is a pale red which is made more lustrous by the addition of juniper (Juniperus sp.) ashes (24:293). See Ephedra trifurca and Juniperus occidentalis.

Betula fontinalis Sarg.

Betula occidentalis Hook.

Betula utahensis Britt. Rocky Mountain Birch, Streamside Birch,

Carpinus caroliniana Walt.  
*Carpinus americana* Michx. Blue Beech, American Hornbeam, Water Beech, Ironwood. K'icjiniih (no meaning, except that the last two syllables mean black).

Family 24. FAGACEAE (Beech)

*Quercus* spp. Oak. Tchetc'il (rock plant; i.e. the oak). The different species of oaks are used as follows: the acorns, tchetc'il pinaa' (oak, its seed), of the various oaks are used by the Navajo as food (83:165). They are boiled like beans, roasted over coals (13:47), or they are sometimes dried and ground into flour. A medicine, whose use is unknown, is made and placed in thirty-two acorn shells and a humming bird made to sip from each (71:110). A temporary carrying basket is made of two staves or bows of oak twigs crossed in the center and brought upwards to the hoop. This framework is then covered with sheep or goatskin. These carrying baskets are usually made in the field for carrying yucca (*Yucca* sp.) fruits (24:299). The bow, which was always carried in war, was made of oak (24:318). In warfare, clubs were used by some of the warriors. The older type consisted of a grooved stone, which was hafted by twisting a small branch from an oak twice around the grooved section of the stone, and tying the free ends together (30:10). The Navajo throwing stick, which is of oak, was made by whittling the piece down to the shape of a batten and then heating it and bending it over the knee to give it a slight curve (24:324). The batten stick used in weaving is made of oak (24:243). Lances also were made of oak (30:10). Metallic hemispheres for beads and sunflower blossoms are made in a concave hole by means of a round-pointed bolt. Iron is usually used for the die, but sometimes a piece of hard oak is used (2:459). Hoes (10:9app.) and digging sticks are also made of oak (85:637). Oak digging sticks are used in the Female Shooting Life Chant for digging medicinal roots (85:637). Little sticks of oak are tucked in at various places in blessing a new hogan, and are called tchetc'il xont'aa's'hikiih (oak, crack, which is stuck in). These are inserted in a crevice above the hogan door, one in the east, one in the south, another in the west, and a fourth in the north during the dedication and purification of the hogan (26:96) & (24:339).

A game was formerly played by the Navajo called “football.” They used a stick made either of green oak or of piñon (*Pinus edulis*), about four inches long, which they kicked out of the ground (15:668). A “J”-shaped stick or bat used in games was made of oak curved in hot ashes. This same stick is also used in playing shinny (15:789).

In the War Dance Ceremony, a piece of oak twig is curled up at the end and used as a drum stick (14:169). Because oak is so hard and has
such a great resisting power it is used in nearly all of the Navajo ceremonies (15:789). See Gutierrezia sarothrae and Oenothera spp.

Quercus gambelii Nutt.

Quercus douglasii H. & A. var. gambelii A. DC.

Quercus undulata Torr. var. gambelii Engelm. Gambel Oak, Blue Oak. Tchét¢’il (rock plant: the oak). This species is very hard and is common in rocky lands (55:776). See Oenothera sp.

Quercus pungens Liebm.

Quercus undulata Torr. var. pungens Engelm. Scrub Oak, Holly Oak. Tchét¢’ilatz’izih (oak, hard). The batten used in weaving is usually made of a piece of scrub oak, three feet long, three inches wide, and one-half inch thick (68:40). The black for sandpaintings is sometimes made from the charcoal obtained from burning scrub oak (24:68). The gum that exudes from the tree is called tchét¢’il pitchih (oak, its gum) and is used for painting arrows between the feathers and also for chewing gum. There is another exudation from the bark that is called tchét¢’il pizit (oak, its liver) and is used like oak bark for tan-colored dyeing. See Prunus demissa and Yucca spp.

Quercus undulata Torr. Scrub Oak, Wavyleaf Oak, Live Oak, Evergreen Oak. Tchét¢’il (rock plant: the oak). Batten sticks and bows for the baby’s cradle are made of scrub oak (24:478). See Mentha sp.

Quercus undulata Torr. var. brevifolia Engelm. Scrub Oak. Tchét¢’il pikhâ’ih (oak, male). This species of oak is spoken of as the male of Quercus gambelii because it is more robust and spiny (55:776).

Order XVII. URTICALES

Family 25. ULMACEAE (Elm)

Celtis reticulata Torr.

Celtis mississippensis Bosc. var. reticulata Sarg. Western Hackberry, Sugarberry, Beaverwood, Bastard Elm, Oneberry, False Elm, Nettle Tree, Palo Duro, Palo Blanco. Tjil’xájih (chewing [it]). Name refers to chewing the berries. The berries are also ground and eaten. The leaves are boiled with the branches to dye wool dark brown, or red (3:34). The wood is also used for bellows tubes (24:272).

Family 26. MORACEAE (Mulberry)

Ficus carica L. Common Fig, Higo. Xack’aan (syrup, molasses).

Family 27. URTICACEAE (Nettle)


Order XVIII. SANTALALES

Family 28. LORANTHACEAE (Mistletoe)

Phoradendron sp. Mistletoe. An unidentified species of mistletoe is hung over the doorway of a hogan, together with twigs gathered from the
south, west, and north, to protect the hogan from lightning. This is also one of the plants used in the War Dance liniment (24:405). See *Helianthus annuus*.

**Phoradendron juniperinum** Engelm.

*Phoradendron juniperum* Auth.

*Phoradendron ligatum* Trel. Juniper Mistletoe. *Taa'tshaa'*(above or up, basket). The berries are eaten by the Navajo who say that they are not very palatable (13:39). The stems were used in ancient times as a tea.\(^7\)

Family 29. **SANTALACEAE** (Sandalwood)

**Comandra pallida** A. DC. Bastard Toadflax. *Tc'il'apé'*(plant, milk). See *Asclepias speciosa*.

Order XIX. **POLYGONALES**

Family 30. **POLYGONACEAE** (Buckwheat)

*Eriogonum* sp. Wild Buckwheat. *Pisntootchi'i*(adobe, standing, red). An unidentified species has red roots and is used for diarrhea. The roots have a somewhat sweetish taste when put into cold water and drunk. See *Eriogonum fasciculatum*.

*Eriogonum alatum* Torr. Wild Buckwheat. 1. 'Azee'ni'pikhá'át'ée*(medicine, ground, on top of; i. e. medicine [plant that grows] on top of [the] ground). 2. Lée'azee' (earth or ground, medicine). 3. Wolitchii'táa*(bug, red, food; i. e. red ant food). The root is eaten and also used to stop pain when a person gets hurt.\(^8\) This plant is also used in the Life or Knife Chant (24:408). It is also used in many other kinds of sings. See *Achillea millefolium lanulosa*, *Leptotenia multifida dissecta*, and *Petalostemon candidus*.

*Eriogonum fasciculatum* Benth. California Buckwheat, Flat Top. *Pisntootchi'i*(adobe, standing erect, red; the buckwheat). Medicine for ant witchcraft requires this plant, *Eriogonum microthecum*, and an unidentified species of *Eriogonum*, all of which are previously boiled (24:409).

*Eriogonum jamesii* Benth. James Eriogonum, James Buckwheat. *Pilna'at'ohiih*(with it, tobacco; i. e. [which is smoked] with tobacco). See *Amaranthus graecizans*.


*Eriogonum racemosum* Nutt.

*Eriogonum orthoclodon* Torr. Wild Buckwheat. 1. Ni'pikhá'a*ntshaakiih*(ground, on top of, big). 2. Ni'pikhá'a'tée*ntshaakiih*(ground, on top of, big). See *Achillea millefolium lanulosa*.

*Eriogonum rotundifolium* Benth. Wild Buckwheat. Wolitchii'táa*(bug, red, food; i. e. red ant food). This plant is taken when ants are swallowed to make one vomit.

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7. See note 1, p. 16.
**ETHNOBOTANY OF THE NAVAJO**

**Rumex hymenosepalus** Torr. Wild Rhubarb, Dock, Sorrel, Cañaquigra, Cañaquigre (from the Spanish caña, stem, and aigria, sour). The stem is called tjilt’oo’ih (which is sucked), and the roots are called tchąąt’iinih (hidden one). The stems of this plant are baked and eaten in much the same manner as we eat rhubarb (Rheum rhaponticum).

The fresh roots of this plant are crushed to a soft paste and native alum added. The paste is then rubbed into the wool. If the wool does not take the dye readily, a little water is added and the whole slightly warmed. The color obtained is “old gold” (57:613) & (62:194).

The roots are sometimes dried and stored indefinitely. When ready for use, the dried roots are ground (73:38). By this aging process, various shades are obtained, from a greyed yellow to a dull red (7:113). Several handfuls of the fresh roots boiled in water yield a lemon-yellow, and when more of the root is used, and boiled longer, a soft orange or orange-brown is obtained. If the mixture is boiled in an iron vessel, the reaction forms a red-brown or mahogany dye (73:38). When mixed with indigo, a green dye is produced (24:233). Although the dock contains a great amount of tannin, the Navajo do not seem to recognize its properties.

**Rumex occidentalis** S. Wats. Western Dock. 1. Tjilt’oo’ih (which is sucked). 2. Tchąąt’iinih (hidden one).

Order XX. CHENOPODIALES
Family 31. CHENOPODIACEAE (Pigweed)

**Atriplex sp.** Saltbush. Tiwójiih (bushy; i.e. bushy [plant]: the greasewood). The stings of ants, bees, and wasps are treated by chewing Atriplex and placing it on the swelling caused by the sting (24:117).

**Atriplex argentea** Nutt. Silver Orache. 1. Tik’şoj (bitter [plant]). 2. Tik’şojyitáh (bitter, edible [plant]).

**Atriplex canescens** (Pursh.) Nutt.

**Calligonum canescens** Pursh. Fourwing Saltbush, Shad Scale, Orache. Tiwójiiłbáih (greasewood, grey). This plant is used by the Navajo as forage for his cattle, sheep, and goats (13:17). It is used especially in the winter and early spring when other forage is scarce (83:204). The leaves and twigs are also used in coloring wool yellow (19:3).

**Atriplex confertifolia** (Torr. & Frém.) S. Wats. *Obione confertifolia* Torr. & Frém. Spiny Saltbush, Sheep Fat. Tá’ak’šojteeninih (saltweed, sharp). This plant is used in the winter to provide salt for the sheep.

**Atriplex expansa** S. Wats. Saltbush, Fogweed. 1. Ta’ak’şoj pitjaa’-ntxyeelih (saltweed, ear, wide; referring to the wide bracts). 2. Ta’ak’şoj sizinih (saltweed, standing-up). The Navajo pasture their sheep on this plant in the summer for the salt that it affords. They also store it for the sheep to eat in the winter when most plants are dead.

**Beta vulgaris** L. Common Beet, Garden Beet. 1. Te’illitchii’ (plant, red; i.e. plant [whose root is] red). 2. Te’illitchii’lkiih (plant, red).

**Chenopodium album** L. Quelite, Lamb’s Quarters, White Goosefoot,
White Pigweed. T'lohtee'itshoh (grass, seeded, big). The young tender plants are collected by the Navajo and boiled as herbs alone or with other foods. Large quantities are eaten in the raw state (66:419). The seeds are also used. They are spread out to dry and are treated after the manner of corn.

**Chenopodium cornutum** (Torr.) Benth. & Hook.

_Teloxys cornuta_ Torr. Pigweed, Goosefoot. Tshiyat'lohteeih (tree, under, grass, seed; i.e. pigweed [that grows] under tree[s]). Liniment for the Mountain Chant contains, among other herbs, this plant (24:405).

**Chenopodium fremontii** S. Wats. Frémont Goosefoot, Frémont Pigweed. T'lohteeih (grass seed; i.e. the pigweed). The seeds are black and small like mustard seeds and are used in much the same manner as corn (*Zea mays*). They are ground to make tortillas, bread, and almost everything for which corn is used. They were used long before flour came into use. Glucose is obtained by parching handfuls of the seed meal (24:209).

**Chenopodium leptophyllum** (Moq.) Nutt.

_Chenopodium album_ L. var. _leptophyllum_ Moq. Fine-leaf Goosefoot, Narrow-leaved Lamb's Quarters. Txo'iličhih (water, which makes black).

**Chenopodium spp.** Goosefoot, Pigweed. 1. Tc'ilpeejntleeciih (plant which is spread on). 2. T'lohteeitpáhíh (grass, seed, grey; grey-seeded grass). 3. T'lohteeint'l'izih (grass, seed, hard; hard-seeded grass). 4. T'lohteeexwocíh (grass, seed, prickly; prickly-seeded grass). The first unidentified species is chopped up finely and spread on the face and arms to keep the flies and mosquitoes from biting one. “It is just like soap when crushed up,” or so one of my informants states. The seeds of several species of pigweed are ground and used like corn. Another species is usually prepared in the form of a stiff porridge (24:209). Bread is sometimes made from the seeds (61:174). Pigweed is also used with other plants as a liniment in the Mountain Chant (7:180).

**Eurotia lanata** (Pursh.) Moq.

_Diots lanata_ Pursh. White Sage, Winter Sage, Winter Fat, Lamb’s Tail, Sweet Sage. Kahtshohtá’ (rabbit, big, food; i.e. jack rabbit food). This plant is used to relieve blood spitting by slightly boiling the leaves and eating them (24:114). It is also used as winter forage for the sheep. After the sweathouse is built for the Mountain Chant, stones are heated and placed inside, and an armful of white sage and _Chrysothamnus viscidiflorus_ is thrown on them (78:240). See _Artemisia trifida_ and _Juniperus_ sp.

**Salsola kali** L. var. _tenuifolia_ G. F. W. Mey.

_Salsola kali_ L. var. _tragus_ Am. Auth.


_Sarcobatus vermiculatus_ (Hook.) Torr.

_Batis vermiculata_ Hook. Black Greasewood, Chico. 1. Žeetchqa'iyi-
k'yéetji' (dogs defecate on it). 2. Mqjit'ee'ih (coyote's resting place). 3. Tiwójicjiiín (bushy, black; i. e. black greasewood). 4. Tiwójih (bushy: the greasewood). This plant is used as firewood by the Navajo, and in winter it is used as forage for the sheep, who eat it for the salt. Planting sticks (24:265), Navajo dice (24:240), knitting needles (24:255), heald sticks (24:243), the handle of the distaff used in weaving (24:243), and war bows (24:318) are all made of greasewood because it is so hard (24:243). The plant is sometimes chewed and applied to ant, bee, and wasp stings (24:117). An image of a snake is carved in the root of greasewood for the Lightning Chant, and for the Beauty Chant, a branch of the Mountain Chant (25:111). See Cymopterus alpinus and Helianthus annuus.

Suaeda torreyana S. Wats. Sea Blite, Seepweed. 1. Xootch'á (no meaning, but referring to female organs: the sea blite). 2. Litchir (red, referring to its berries). The seeds are boiled and served as a gruel.

**Family 32. AMARANTHACEAE (Amaranth)**

*Amaranthus blitoides* S. Wats. Prostrate Amaranth, Spreading Pigweed, Queute. Naaskhaatiih (scattered all over, spread out). The Navajo ground the seeds of this species of amaranth and used the resulting meal as food. By chewing handfuls of the meal from the parched seeds, they obtained a sugar. A stiff porridge is frequently made from the seed meal which is sometimes mixed with goat's milk to form a gruel (24:209). The plant itself is used as sheep forage. See *Amaranthus retroflexus*.

*Amaranthus graecizans* L. Arnaranthus albuis L. White Tumbleweed, White Rollingweed, White Amaranth. 1. Tcilinaamaash (plant, rollable; i. e. tumbling plant). 2. Tl'ohteenaayizih (grass, seeded, turning around; i. e. tumbling weed). The smoke for lewdness, which is performed at the Coyote Chant, consists of the following plants: white tumbleweed, Indian paint brush (*Castilleja minorus*), a pigweed (*Chenopodium* sp.), rabbitbrush (*Chrysanthemum nauseosus albicaulis*), James buckwheat (*Eriogonum jamesii*), gilia (*Gilia longiflora*), wild parsnip (*Leptotaenia dissecta multifida*), wild asparagus (*Lygodesmia rostrata*), wild four-o'clocks (*Mirabilis oxybaphoides* and *Mirabilis sp.*), loco weeds (*Oxytropis lambertii* and *Oxytropis* sp.), groundsel (*Senecio douglasii*), and several unidentified ones: 'atjaak'ôoxaltchinih (ear, seed, smelly; i. e. [plant which has] seed[s] [that are both] ear [-shaped and] smelly), pij'nát'oooh (deer tobacco), tcikhyéexaltchin (adolescent girls, smell; i. e. [plant which] smells [like] adolescent girls), tinastshoh (tinas, large), tipék'ôoxaltchin (sheep, seed, smelly; i. e. seed [which] smells [like a] sheep), and tshelkhyéexaltchin (young men, smelly; i. e. [plant which] smells [like] young men), which are crushed between the fingers and thoroughly mixed. To insure effect, the secretions of the eyes of the elk and bighorn must be added. A pipe filled with this mixture is then smoked (24:395). See *Aster* sp.
Amaranthus palmeri S. Wats. Palmer Amaranth. The seeds of this species of amaranth were probably ground and the resulting meal used as food. The parched seeds, after being ground, were chewed to obtain sugar (13:23).

Amaranthus retroflexus L. Green Amaranth, Rough Pigweed, Quelte (Greens), Alegría. 1. Tl'óhtéesk'ítíh (grass, seeded, humped; i. e. amaranth [whose] seeds [are] humped [ridged]). 2. Tl'óhtéexóchí (grass, seeded, prickly; i. e. amaranth [whose] seeds [are] prickly). The seeds of this species, as well as of *Amaranthus blitoides*, are commonly used as food by the Navajo. The plants are eaten after being boiled, much as we boil and eat spinach (*Spinacia oleracea*). Sometimes they are boiled and fried in lard, or just boiled and canned (13:15). The leaves and seeds are mixed with grease and eaten (24:181).

Family 33. NYCTAGINACEAE (Four-o’clock)


*Abronia* fragrans Nutt. Fragrant Sand Verbena, Fragrant Sand Puff. 1. K’ineetlicii’tá’ (spurts, urine, food; i. e. stinkbug food). 2. Na’actjé’i-’azee’ (spider medicine). The effects of swallowing a spider are supposed to be removed by taking a medicine prepared from this plant (24:116).

*Allionia* comata Small.

*Oxybaphus nyctagineus* Sweet var. *pilosus* A. Gray. Hairy Umbrella Wort. 1. Tšéhét’ehéeh (rock, works into; i. e. [plant which] works [itself] into [the] rock). 2. Xazéitsho’azee’ (chipmunk, big, medicine; i. e. squirrel medicine).

*Mirabilis* sp. Four-o’clock. Tšéhét’ehéeh (rock, works into; i. e. [plant which] works [itself] into [the] rock). A dye is made from the petals of the four-o’clock which are boiled for about fifteen minutes. At first the dye is a light red, but after it boils longer, it loses this shade and takes on a muddy yellowish color. Wool becomes a peculiar shade of light brown or sometimes purple when immersed in it (72:267). Tšéhét’ehéeh is also said to mean purple, or the color of the four-o’clock. See *Amaranthus graecizans*.

*Mirabilis multiflora* A. Gray.


*Mirabilis oxybaphoides* A. Gray.

*Quamocliton oxybaphoides* A. Gray. Four-o’clock. Tl’iicnát’ooh (snake tobacco). See *Amaranthus graecizans* and *Aster* sp.
ETHNOBOTANY OF THE NAVAJO

Order XXI. CARYOPHYLLALES
Family 34. PORTULACACEAE (Purslane)

Portulaca oleracea L. Common Purslane, Pussley, Verdolaga. Tshii-gánîtc’iih (head-hair, red). The seeds of this species are eaten by the Navajo (75:458). To cure a sick person, a small hole is dug in the middle of the hogan and wood is burned to charcoal, and the live coals placed in the small hole. Dried sagebrush (Artemisia tridentata) is then burned and the seeds of this plant are put on the hot charcoal and mixed with buffalo hair and buffalo penis. The sick person sits on the hole and is covered with a blanket or coat. This is supposed to clean out the whole body. The plant itself is eaten for stomach-ache.

Portulaca retusa Engelm. Common Purslane, Pussley, Verdolaga. Tshii-Gânîtc’iih (head-hair, red). The seeds of this species are eaten by the Navajo (75:458). The plant itself is a good sheep forage.

Family 35. CARYOPHYLLACEAE (Pink)

Arenaria aculeata S. Wats. Sandwort. ‘Azee’tl’ohih (medicine, grassy).

Cerastium arvense L. Field Mouse Ear, Mouse Ear Chickweed, Field Chickweed, Powder Horn, Starry Glasswort. Txalkhda’sikhaat (water, on top of, standing erect; i. e. [plant] standing erect on top of [the] water). See Phlox caespitosa.


Silene laciniata Cav. Mexican Catchfly, Mexican Campion. Taxitxî-hihtág’ (hummingbird food).

Order XXII. RANUNCULALES
Family 36. RANUNCULACEAE (Crowfoot)

Clematis ligusticifolia Nutt. Western Virgin’s Bower, Traveler’s Joy, Yerba de Chivato. 1. Pila’astlaq’ (fingers, five; referring to the five-parted leaves). 2. Tc’ilha’atl’óits’6oz (plant, twining, slender). The root is used for medicine when someone gets hurt or as a tonic after deliverance.


Delphinium menziesii DC. Delphinium nelsonii Greene. Nelson Larkspur. Txatitij’toot’ij (pollen, blue). The powdered petals of this species are sometimes used by the medicine man instead of the petals of Delphinium scaposum (85:643).

Delphinium scaposum Greene. Larkspur. 1. K’ixwootxyeelih (covers it, wide; i. e. covers [the ground] wide[ly]). 2. Txatitij’toot’ij (pollen blue). Since blue is the color sacred to the south, the powdered petals of this plant, and of Delphinium bicolor are used by the medicine men as a sacrifice to the south in Navajo rites (55:770). The pollen is used exten-
sively in many ceremonies (24:197). It is said that a blue dye is obtained from the petals of this larkspur (73:44). See Zea mays.

Ranunculus cymbalaria Pursh. var. saximontanus Fern. Rocky Mountain Buttercup, Desert Crowfoot, Trailing Buttercup. Le'etshoh il tja’a’ih (nest, big, like, ear; i. e. [plant with leaves] like [the] ear[s] [of a] rat). See Cordylanthus ramosus.

Thalictrum fendleri Engelm. Fendler Meadow Rue, Maid-of-the-Mist. Txaa’jinitchiin (turkey, smelly; i. e. [plant which has the] smell [of a] turkey). On the fifth night after the blackening ceremony of the War Dance the men and their wives bathe in, and drink a tea of meadow rue (71:130). See Achillea millefolium lanulosa and Hedeoma nana.

Family 37. BERBERIDACEAE (Barberry)

Berberis fremontii Torr.
Odostemon fremontii (Torr.) Rydb. Desert Barberry, Frémont Holly-grape. 1. K’i’l’ilitsho’itshoh (twig, yellow, big; i. e. [plant whose] twig[s] [are both] big [and] yellow). 2. Tchët’i’l’il’i’lí’zi’ yílt’á’á’ih (rock, plant, hard, like, leaf; i. e. [plant which has] leaves like [the] scrub oak). The roots and bark of this plant are used in dyeing buckskin yellow (55:770).

Berberis repens Lindl.
Berberis aquifolium of Fl. Colorado and Western reports.
Odostemon repens (Lindl.) Cockerell. Creeping Barberry, Oregon Grape. 1. K’i’l’ilitsho’itshoh (twig, yellow; i. e. [plant which has] yellow twig[s]). 2. Tshinyaatchetc’i’il (tree, under, rock, plant; i. e. [plant which grows] under [the] oak tree). Rheumatic stiffness is said to be cured by a tonic boiled from the leaves and twigs of this plant (83:259) or of the leaves and branchlets of Corydalis montana (24:114).

Order XXIII. PAPAVERALES
Family 38. FUMARIACEAE (Fumitory)

Corydalis montana Engelm.
Capnoides montanum (Engelm.) Britt.
Corydalis aurea Willd. var. occidentalis Engelm. Mountain Corydalis.
Xaspitit’a’ (turtledove food). See Berberis repens.

Family 39. CRUCIFERAE (Mustard)


Arabis holboellii Hornem.
Arabis holboellii Hornem. var. retrofracta (Grah.) Rydb.
Arabis retrofracta Graham. Holboell Rockcress, Holboell Candytuft. 'Azee’laatilt’íih (medicine, lone or scattered; i. e. medicine [plant which grows] [a] lone or scattered). This is one of the plants used in the Night Chant Ceremony (24:408). It is so named because it does not grow in clusters, but singly (24:187).

Brassica campestris L. Common Yellow Mustard, Rutabaga, Rape,
Swedish Turnips, Mustard. Tshęyaaxatxaal (rock, under, sings; i.e. [plant which] sings under [the] rock). So called because of the noise produced when it is shaken (24:188).

*Brassica oleracea* L. var. *botrytis* L. Cauliflower, Broccoli. Tc'illikąakiih (plant, white).

*Brassica oleracea* L. var. *capitata* L. Cabbage, Col. Tc'illikąakiih (plant, white).

*Brassica rapa* L. Turnip, Nabo. Tc'illikąakiih (plant, white).

*Dithyrea wislizeni* Engelm. Spectacle Pod. 1. Naxast'éé'íittáa' (field rat food). 2. Tc'ilxwooltc'iihih (plant, smarting). Navajo sheep use this plant as a forage.

*Draba montana* S. Wats. Whitlow Grass. Lizpeeyiitzol (urine, it spurts; i.e. [plant which makes the] urine spurt). Diuretic troubles are supposed to be removed by a beverage prepared from plants such as this (24:113).


*Lepidium montanum* Nutt. Pepper Grass. Tshaaxalts'aa' (interior stomach, shaped, basket or receptacle; i.e. [plant which has pods] shaped [like the] interior stomach).


*Vesicaria stenophylla* A. Gray. Fendler Bladder Pod. 1. Na'actjé'íii-táa'íipahíkiih (spider, food, grey). 2. Xaactc'éé yiitshíih (God, like, head-hair; i.e. [plant which is] like [the] head-hair [of the] god[s]). A tea is made of this plant which is supposed to counteract the effects of a spider bite (24:116).

*Physaria* sp. Double Bladderpod, Twinpod. Ts'záahpiih (preventative of sneezing). See *Helianthus annuus*.

*Physaria newberryi* A. Gray. Newberry Double Bladderpod, Newberry Twinpod. Tc'iic'azee' (sneeze medicine). This plant is used as a snuff for catarrh (55:770).

*Radicula* sp. Water Cress. Txált'aa'péec (water, under, knife).


*Nasturtium obtusum* Nutt. var. *alpinum* S. Wats. Alpine Water Cress, Alpine Nasturtium, Berro. Txakháa'taxikhal (water, on top of, spread out; i.e. [plant which] spread[s] out on top of [the] water). This species of water cress is used as a tonic after deliverance (24:116).
Radicula obtusa (Nutt.) Greene.

*Nasturtium obtusum* Nutt.

*Rorippa obtusa* (Nutt.) Britt. Water Cress, Berro. 'Azee’toot'lij (medicine, blue). See *Achillea millefolium lanulosa* and *Artemisia* sp.


*Sisymbrium altissimum* L.

*Norta altissima* (L.) Britt. Tumble Mustard. 'Ostshe' (no meaning: the tumble mustard). The *Old Folks* ate the seeds like corn mush, with goat's milk, or so one informant stated.

*Sisymbrium incisum* Engelm.

*Sophia incisa* (Engelm.) Greene. Hedge Mustard. 'Ostshe' (no meaning: the hedge mustard).

*Sisymbrium officinale* (L.) Scop.

*Erysimum officinale* L. Hedge Mustard, Tansy Mustard. 'Ostshe' (no meaning: the hedge mustard). The seeds, before they can be used, have to be parched in a pan or skillet over live coals. Formerly they were placed in a basket with live coals and shaken until they were parched. After this they were ground and a soup or stew was made of them (24:209). Horses also forage on it.

Stanleya pinnata (Pursh.) Britt.

*Stanleya pinnatifida* Nutt.

*Cleome serrulata* Pursh. Prince's Plume. 1. 'Azee'xaakaih (medicine, white). 2. Tshéto'oc'azee' (rock, worm, medicine). 3. Tshéyaaxatxaalli-páhíkiíh (rock, under, sings, grey). This plant is used as a medicine for glandular swellings (55:770). See *Achillea millefolium lanulosa*.

*Thelypodium wrightii* A. Gray. Wright Pennycress. Nantecha'azee' (swelling medicine). Swellings were supposed to be removed by applying this plant (24:113).

*Thlaspi* sp. Pennycress. Náa'noot'o'oziih (seeds, striped).

*Thlaspi alpestre* L. Alpine Pennycress, Wild Candytuft, Alpine Candy-tuft. 'Azee'ts'6oz'alts'iisíkiíh (medicine, slender, small). See *Achillea millefolium lanulosa*.

Unidentified *Cruciferae*: 'Azee'tl6o'iih (medicine, prairie-dog). The leaves of this unidentified species of *Cruciferae* are pounded into a paste and applied to the cavity of an aching tooth. It is said to stop ordinary toothache very quickly (33:20).

Family 40. **CAPPARIDACEAE** (Caper)

*Cleome serrulata* Pursh.

*Cleome integrifolia* T. & G.

*Peritoma serrulatum* DC. Rocky Mountain Bee Weed, Blue Colorado Bee Plant, Spider Plant, Clammy Weed, Stink Flower, Stinkweed, Cleome, Guaco. Waa' (no meaning: the bee weed). When the plants get about four inches high they are picked and boiled as we do spinach. The plants are also made into a stew with wild onion (*Allium deserticola*), wild celery
(Cymopterus glomeratus), and a little tallow or bits of meat. Morsels of bread are then dipped into the stew and eaten. When any of the plants are left over they are sometimes allowed to dry and are cooked in the form of dumplings with meat or tallow. The young plants are boiled and pressed out three times, after which they are rolled into balls and eaten, or dried and stored for the winter. When these balls are to be used, they are soaked and boiled with or without tallow. The Navajo say that guaco has saved them from starvation on several occasions (13:24 & (24:209). The pods also are eaten.

Standley states that it is almost incredible to anyone familiar with the bee weed that it could ever be eaten. Its stems and leaves give off a most offensive odor, but this is said to disappear when cooked (75:458).

**Cleome sonorae** A. Gray.

*Peritoma sonorae* (A. Gray) Rydb. Sonora Bee Weed, Sonora Stink Flower, Skunk Weed, Stinking Clover. Waa' (no meaning: the bee weed). It is a very simple matter for the Navajo to make fire-by-friction with the common bee weed. The brittle stalks, about an inch in diameter are used for the drills which are whirled between the palms of the hands, and are made to revolve on the edge of a larger stalk into which a notch has been cut. A pinch of sand is sometimes placed under the point of the drill which causes the wood to become a fine powder. This powder then runs down the notch and forms a little pile on the ground. Smoke is produced in less than a minute, and in about two minutes tiny sparks drop onto the pile of dry powder which takes fire from them. By carefully feeding the fire with bits of dried bark and grass, and with much blowing, a blaze is produced (63:501). The plant itself is used for greens as well as for making a watery stew or gravy (61:47).

When the masks for the Night Chant are finished, a general feast is given in which tea made from the bee weed is drunk (24:389).

**Cleome spinosa** L.

**Cleome gigantea** Hort.

**Cleome pungens** Willd. Giant Spider Plant. Waa' (no meaning: the bee weed).

**Fendlera rupicola** A. Gray. Tshíínt’ízh (wood, hard). The wood is not very hard when green, but is said to become so when seasoned (55:772). It is used for arrow shafts (24:318), weaving forks (55:772), planting sticks (58:187), knitting needles (24:255), and other articles requiring hard wood (55:772). It is capable of taking a high polish (24:255).

A louse killer was formerly made of five pieces of this shrub, which were laced together and passed under the hair. The string was then drawn, killing the lice that got between (24:170).

When ants are swallowed, a medicine is prepared from the inner bark
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of this plant, which is pounded into a pulp, mixed with water, and taken internally (24:116).

A notched stick made of this shrub is used in the Mountain Chant Ceremony, where it is placed on a small basket and the notches rubbed with a smooth stick instead of beating a drum (26:164). This shrub is also used by the Home God in the Mountain Chant Ceremony (58:187).

Heuchera bracteata (Torr.) Ser. Alum Root, Navajo Tea, Kalispell.

1. Tc'ilkoxwéihíh (plant, coffee) . 2. Woot's'ini'azee' (tooth flesh, medicine). Toothache medicine consists of a mush prepared from the crushed leaves of this plant, and the crushed leaves of Aploppus lanuginosus, which are mixed with water. The resulting mass is held to the aching tooth with a heated stone. It is sometimes chewed to relieve sore gums (24:113). To this mixture is sometimes added sugar, and then it is thought to be a good remedy for indigestion. The stems of this plant also make a pinkish-tan dye (73:41).

Lithophragma tenella Nutt.

Tellima tenella (Nutt.) Walp. Woodland Star, Star Flower. Tshétásíikhaat (rock, among, several standing; i.e. clustered among [the] rocks). See Phlox caespitosa.

Philadelphus microphyllus A. Gray. Mock Orange, Syringa. Tshétszhok'ji' (rock, big, twig; i.e. twig [plant which grows among the boulder[s]]).


Ribes inebrians Lindl. Wild Currant, Wild Gooseberry, Grosella, "Manzanita." K'intjil'ahih (no meaning: the currant). The fruits are eaten by the Navajo. Arrow shafts (24:318), and the distaff used in spinning (24:226) are usually made of currant wood because it is very hard.

Family 42. ROSACEAE (Rose)

Amelanchier alnifolia Nutt.

Aronia alnifolia Nutt. Western Serviceberry, Alder-leaved Serviceberry, Shad Blow. 1. Titxétít'óti (berry, soft; i.e. [plant which has] soft berries). 2. Tshé'esksiziih (stone, twisted; i.e. [plant whose fruit] stone [is] twisted). The Navajo regard this as a variety of cherry, or closely allied to it (55:772). The fruits are eaten (24:211).

Amelanchier prunifolia Greene. Prune-leaved Serviceberry, Prune-leaved Shadbearv, Prune-leaved Juneberry. The fruits of the native serviceberries are eaten fresh (24:211) or they are dried and preserved for winter use. They are tasteless in all species (83:322). See Spirogyra sp.

Cerasus crenulata Greene. Wild Plum. The roots are used in coloring wool purple (10:3).
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Cercocarpus montanus Raf.

Cercocarpus porvifolius Nutt. Mountain Mahogany, Palo Duro.

Tshé'estaazih (stone, heavy; i.e. [plant whose wood is as] heavy [as] stone). The root bark is called tshé'estaazih pexet'ool pikhaaz (mountain mahogany, its root, its bark). The handle of the distaff used in weaving (24:407), Navajo dice (24:479), and the sweathouse for the Mountain Chant Ceremony are all made of mountain mahogany (56:389). Mountain mahogany is probably used in making the prayerstick of the east because its seed styles are white, the color of the east (44:63).

The root and bark are used for stomachic troubles, while the whole plant is browsed by sheep. See Alnus tenuifolia, Cowania stansburiana, Juniperus occidentalis, and Phragmites communis.

Cowania stansburiana Torr.

Cowania mexicana Don. Cliff Rose, Cliff Rosewood, Quinine Bush, Buck Brush. 1. 'Atšah’aste’il (bedding, curly; i.e. [plant whose inner] curly [bark is used for] bedding). 2. 'Awée’ts’dal (baby cradle; i.e. [plant whose bark is used in making backing for the] baby[’s] cradle). The cliff rose serves a variety of purposes. The bark is stripped from the shrub, softened by plying between the hands, and used as backing for cradle boards and as stuffing for pillows. It is spread out in the sun every day to take the odor off. It is also used to stuff the Navajo baseball, which is covered with the hide of any animal that can be eaten with impunity, such as horsehide, buckskin, or goatskin (5:789) & (24:485). The pounded leaves and stems serve to make a yellow-brown or tan dye when mixed with pounded juniper (Juniperus sp.) branches (73:40).

In the myth of He Who Teaches Himself, in the Night Chant, the mountain mahogany (Cercocarpus montanus) is said to be used for the male prayersticks and the cliff rose for the female prayersticks. The prayersticks are also described as being made of the coarse sunflower for the male prayerstick and made of Verbesina encelioides exauriculata for the female prayersticks. In the myth of the prophet, Reared Within the Mountains, in the Mountain Chant, the cliff rose and the mountain mahogany are also associated with the male and female (59:235). Another use for this plant is found in the Mountain Chant Ceremony, during which it is made into arrows which are supposedly swallowed (56:409).

Fragaria bracteata Heller. Wood Strawberry. The fruits of this species have a very good flavor, although they are somewhat small. They are considered a delicacy by the Navajo (13:29).

Potentilla sp. Five Fingers, Cinquefoil. Lee’ezee’ (earth medicine).

Potentilla gracilis Dougl. Slender Goosegrass, Slender Five Fingers, Slender Cinquefoil. 'Azee’xokháníih (medicine, terraced; i.e. medicine [plant whose stems] rise in tiers).

Potentilla strigosa (Pursh.) Pall.

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9. See note 1, p. 16.
Potentilla pennsylvanica L. var. strigosa Pursh. Hairy Five Fingers, Hairy Cinquefoil. 'Azee'ntli'ini'tshoh (medicine, sticky, big; i.e. big medicine [plant which is] sticky). See Achillea millefolium lanulosa.

Prunus spp. Wild Cherry, Wild Plum, Capulin. The fruits of these shrubs are usually eaten as soon as they are picked (24:211). Prayersticks are made of the wild cherry (24:396). The Humpback in the Night Chant carries a staff made of the wild cherry (61:14). A green dye is made of the wild cherry (3:34), while the roots make a purple dye (82:6). The roots of the wild plum are also used to obtain a reddish-purple dye (82:6). See Prunus demissa.

Prunus americana Marsh. American Plum, Yellow Plum, Red Plum, River Plum, Thorn Plum, August Plum, Goose Plum, Hog Plum, Sloe. The roots are used in dyeing wool red (19:3).

Prunus armeniaca L. 
Armeniaca vulgaris Lam. Common Apricot, Cultivated Apricot, Albaricoque. Titzétik'ójiih (berry, bitter; i.e. [plant whose] berry [fruit is] bitter).

Prunus demissa (Nutt.) Walp.
Cerasus demissa Nutt.

Prunus virginiana L. var. demissa (Nutt.) Sarg. Western Chokecherry. 1. Ki'içiijnih (Ki'ic, black). 2. Ma'jitáa' (coyote food). 3. Titzéh (berry). The chokecherry is a sacred tree to the Navajo. Its wood is used for making implements of the dance and prayersticks, and is often mentioned in the sings (56:450). It is used in making prayersticks of the north probably because its fruits ripen black, the color of the north (44:63). A conventionalized chokecherry branch in blossom is represented in the third day dry painting of the Mountain Chant (56:450). Five square hoops for use in unraveling ceremonial objects on four successive days are made of sumac (Rhus trilobata), chokecherry, wild cherry (Prunus sp.), spruce (Picea sp.), and scrub oak (Quercus pungens) (24:416). See Leptotaeonia dissecta multifida, Mentha sp., Oenothera sp., Phragmites communis, Populus tremuloides, and footnote no. 6, p. 38.

Prunus domestica L. Cultivated Plum, European Plum, Ciruela. Tc'ilna'atl'ófitshoh (plant, winding, big; i.e. big grape). The Navajo know only the fruit. Its name is derived from its resemblance to the grape (24:197).

Prunus persica Sieb. & Zucc.
Amygdalus persica L.

Persica vulgaris Mill. Cultivated Peach. Titzétshoh (berry, big; i.e. [plant which has a] big fruit). The Navajo trade for most of their peaches with the Hopi Indians, because Canyon de Chelly is about the only place where the Navajo themselves are able to raise them. The medicine men use large quantities of the dried fruit for purgatives (35:438). A yellow dye is obtained from the leaves (48:13) & (81:3).

Purshia tridentata (Pursh.) DC.

Pyrus communis L. Cultivated Pear, Perai. Pilisànahaa pitshee' xólónih (apple, tail, having; i. e. apple having [a] tail).

Pyrus malus L.

Malus communis DC.


Rosa fendleri Crép. Wild Rose, Fendler Rose. 1. Tc'q (no meaning: the rose). 2. Tc'o (no meaning: the rose). Medicine made from this plant is used in the Sun's House Chant (72:187). The fruits are also eaten as picked without special preparation (24:211). Wooden needles used in leather work are sometimes made of the rosebush (24:309).

Rubus arizonicus (Greene) Rydb.

Batidea arizonica Greene. Arizona Red Raspberry, Arizona Bramble. The fruits of this plant are eaten by the Navajo (24:211).

Rubus strigosus Michx. Wild Red Raspberry, American Raspberry. Taxw00j (spiny, fruit: referring to the fruit and to the spines of the plant).

Unidentified Rosaceae: Pilxaxistc'il (adobe, curled, plant).

Family 43. LEGUMINOSAE (Pea)

Amorpha microphyllus Pursh.

Amorpha nana Nutt.

Hosackia microphylla Nutt.

Hosackia nana S. Wats. Small-leaved Bird's Foot, Small-leaved Deerweed, False Indigo, Shoe-strings, Indigo Bush, Lead Plant. 1. Nipitsjah (ground, lying flat; i. e. [plant which is] lying flat [on the] ground). 2. Tc'lic'azes (cold medicine). This plant is used as a snuff for catarrh (55:770-1).


Astragalus spp. Locoweed, Rattlepod. Four unidentified species of locoweed are noted: 1. Ta'acalii (rattling; i. e. [plant that has] rattling [pods]). 2. Ta'ilacani (plant, deadly; i. e. plant [which is] deadly). 3. Tiltc'ilii (it pops; i. e. [plant which has pods that] pop). 4. Naatin (eyes, none). The second plant mentioned is supposed to kill flies and even human beings, if they are unlucky enough to eat it. The fourth plant mentioned is supposed to cause blindness when eaten.

Astragalus allochrous A. Gray. Many-colored Rattleweed, Many-colored Rattlepod. Txàa'ilitchóci (forehead, popped; i. e. [plant which has pods that can be] popped [on the] forehead). This is one of the plants that has an unknown use in the Night Chant.
Astragalus matthewsii S. Wats. Matthew Locoweed, Matthew Rattleweed. 1. 'Azee'pi'äatiitshoh (medicine, female, big; i.e. big female medicine [plant]). 2. 'Azee'pikha'itshoh (medicine, male, big; i.e. big male medicine [plant]). This plant is used by the male and female shooters in the Lightning Chant (26:44).

Astragalus mortoni Nutt.

Astragalus canadensis L. var. mortoni S. Wats. Morton Milk Vetch. 'Azee'tilxyilih (medicine, darkish; i.e. darkish medicine [plant]). See Achillea millefolium lanulosa.

Astragalus thompsonae S. Wats. Thompson Locoweed. Ta'aGalits'éoz (rattling, slender; i.e. slender [plant which has] rattling [pods]).

Astragalus triflorus A. Gray.

Astragalus geyeri, A. Gray. Locoweed, Rattlepod. Txda'iiltch6ciih (forehead, popped; i.e. [plant which has pods that can be] popped [on the] forehead).

Cercis occidentalis Torr. Western Red Bud, Judas Tree. Pit'âa' nasp4s pexetshiin (its leaves, round, its base; i.e. [which has] round leaves [at the] base [of the plant]). The Navajo roast the pods of this plant in ashes and eat the seeds, although it is not native to their immediate country (24:21). Anyone for whom the Mountain Chant has been given cannot eat this plant, for its leaves are used as an incense in the Chant (27:92).


Glycyrrhiza lepidota (Nutt.) Pursh. Glycyrrhiza glutinosa Nutt. Wild Licorice, Wild Liquorice. 1. 'Altxannts'éliiits'6oz (adhering, slender; i.e. slender [plant which adheres as a burr does]). 2. Txa'niits'éliiits'eloz (adhering, slender).

Kentrophyta montana Nutt. Spur Plant, Prickle Plant. Ma'jianooltjirazee' (coyote, craziness, medicine; i.e. medicine [plant which is good for] coyote rabies). It is a reputed remedy for rabies (55:772).

Lathyrus decaphyllus Pursh.

Lathyrus polymorphus Nutt. Everlasting Pea, Vetchling. Naa'oli yil t'qa'ih (bean, like, leaved; i.e. [plant which is] leaved like [the] bean).

Lotus wrightii (A. Gray) Greene.

Anisolotus wrightii (A. Gray) Rydb.

Hosackia wrightii A. Gray. Wright Lotus, Wright Deerweed, Wright Birdsfoot Trefoil. 1. 'Azee'pitóotchít (medicine, releasing; i.e. medicine [plant which] releases [something]). 2. Te'ilnaneestízh (plant, winding).

Lupinus sp. Lupine. 'Azee'pikha'ih (medicine, male). This unidentified species of lupine is used in the Male Shooting Chant (24:192).

Lupinus brevicaulis S. Wats. Short-stem Lupine. 'Azee'pi'äatiih (medicine, female). This plant is used in the female shooters branch of the Lightning Chant (24:409). The name and use were probably suggested
by the peculiar appearance of the pods. It is supposed to be a remedy for sterility and to especially favor the production of female offspring (55:771).

_Lupinus lyallii_ A. Gray. Lyall Lupine. Yiiltc’oj’azee’ (boil medicine; i.e. medicine [for] boils). A remedy for boils, which is applied in the form of a liniment, is made of this plant (24:115).

_Medicago sativa_ L. Cultivated Alfalfa, Lucerne, Medick. 1. Li’ pitl’oh waa’likiih (horse, his hay, beep plant; i.e. horse hay [which looks like the] beep plant). 2. T’owaa’ih (grass or hay, beewe; i.e. hay [which looks like the] beeweed). Any blue flower may be used for a blue dye, but nowadays alfalfa is the favorite. The plant is also used to produce a green dye (17.2). See _Trifolium repens_.


_Oxytropis_ spp. Loco Weed. There are several unidentified species of this plant which are used as follows:
1. Tipéta’ (sheep food).
2. Tipépit’ (sheep, his food).
3. Tipéxaits’tiitiih (sheep, scratch out). The sheep scratch this species out of the ground in the spring to eat. See _Amaranthus gracizans_.
4. Tipéxaits’tiintshálíik (sheep, scratch out, large; i.e. [the] large [of] [one of those plants which the] sheep scratch out [for food]). Medicine for bronchial troubles and troubles of the esophagus is found in a tea made of the crushed and boiled leaves of this plant (24:114).
5. T’ax’iítchóch’ít’óoz (forehead, popped, slender; i.e. slender [plant which has pods that can be] popped [on the] forehead).
6. Mq’jina’oóltj’il’azee’ (coyote, craziness, medicine; i.e. medicine [plant which is good for] coyote rabies). This plant is supposed to cure the rabies.

_Oxytropis lambertii_ Pursh. _Aragallus lambertii_ (Pursh.) Greene. Lambert Loco Weed. Tipénát’oooh (sheep tobacco). This plant is offered to the bighorn at the Night Chant (24:394).

_Petalostemon candidus_ Michx.

_Petalostemon candidum_ Michx. Prairie Clover. 1. Xastxiin pitshiyéel (man, his queue; i.e. [plant whose flower cluster looks like a] man[’s] queue). 2. Ni’ts’oqsiítchshoh (earth, veins, big; i.e. [plant whose roots look like] big veins [in the] earth). 2. Ni’ts’oqsiíih (earth, veins; i.e. [plant whose roots look like] veins [in the] earth). The roots of this species are eaten as a delicacy by little children and by sheepherders. The roots are also eaten as a medicine when one gets hurt. The plant itself, when mixed with ’íaayá’ih (standing upright), an unidentified herb, was used to remove pain in the abdomen caused by colds, loose bowels, or lifting heavy weights (24:114). It is also used as toothache medicine.

In the Wind Chant, it is dried and ground up with the plants of _Eriogonum alatum, Lithospermum angustifolium_, and pollen from the
juniper (*Juniperus* spp.), piñon (*Pinus edulis*), pine (*Pinus* spp.), and from other trees. This is mixed with water and given the patient to drink. See *Phlox caespitosa*.

**Phaseolus limensis** Macf. Lima Bean. Naa'ólí peexekot (bean, hoe; i. e. bean [which is shaped like a] hoe [blade]).

**Phaseolus vulgaris** L.


**Pisum sativum** L. Cultivated Pea, Garden Pea, Guisante, Chicharo. Naa'ólínimaazíkiih (bean, spherical).

**Prosopis chilensis** (Molina) Stuntz. *Ceratonia chilensis* Molina.

**Prosopis glandulosa** Torr.

**Prosopis juliflora** (Swartz) DC.

**Prosopis juliflora** (Swartz) (DC.) var. *glandulosa* (Torr.) Cockerell. Honey Mesquite, Mesquite, Algarroba. Mesquite wood is used in making the Navajo bow (51:pl. LXXIX).

**Psoralea tenuiflora** Pursh. Few-flowered *Psoralea*, Indian Turnip, Bread Root, Leather Root, Pomme de Prairie, Pomme Blanche. 1. Natoohwaa'íh (tobacco, beeweed; i. e. [plant which is used for] tobacco [and looks like the] beeweed). 2. Líí' pit'ág ts'ós (horse food, slender; i. e. slender [plant which the] horse [uses for] food). This plant is smoked by the maskers after the feast celebrating the completion of the masks for the Night Chant (24:389). See *Aster* sp.

**Robinia neomexicana** A. Gray. New Mexican Locust, Cat’s Claw, Uña de Gato. Catcátá’ (bear food).

**Schrankia uncinata** Willd.

**Leptogliottis microphylla** (Dryand) B. & R. *Morongia uncinata* (Willd.) Britt. Sensitive Brier. 1. ‘Azee’ts’óoz-lipáhíkiih (medicine, slender, grey; i. e. slender grey [plant which is used as] medicine). 2. ‘Azee’ts’óozntshaahíkiih (medicine, slender, big; i. e. big slender [plant which is used as] medicine). See *Achillea millefolium lanulosa*.

**Sophora sericea** Nutt. Silky Sophora. Tipéxáitc’íitiíh (sheep, scratch out; i. e. [plant which the] sheep scratch out [for food]). It is said that the sheep scratch it out of the ground for food (55:771).

**Trifolium eriocephalum** Nutt. Woolly-headed Clover. Naa’asts’qosí yil tjaa’íh (mouse, like, ear; i. e. [plant that has leaves] like [a] mouse ear).

**Trifolium involucratum** Ort. Cow Clover. Tjaa’nts’iliih (ear, transparent; i. e. [plant which has leaves that look like] transparent ear[s]).

**Trifolium repens** L. Common White Clover. Tl’owaa’íhnaxalíníkiih (alfalfa, resembling). This plant and *Medicago sativa* are of recent intro-
duction, and their names are taken from resemblance of their leaves to those of the Rocky Mountain bee weed (*Cleome serrulata*) (24:193).

**Vicia americana** Muhl. American Vetch, American Tare. Tc'iiiats'6oz (Tc'ii, food, slender; i.e. slender [plant which is] food [for] tc'ii).

**Vicia faba** L.


Unidentified *Leguminosae*:

'Azee'pini' (medicine, mind, i.e. [plant which is bad] medicine [for the] mind). This is a very poisonous herb, and is said to poison people, first causing insanity. It is related to the loco weed (26:44). See *Datura* sp.

'Azee'tiiltc'iliih (medicine, curly; i.e. curly [plant which is used as] medicine). It is also called lji'ta (horse food).

Lji'ta (horse food). Same plant as 'azee'tiiltc'iliih.

Ma'jit'ee'i (coyote, resting-place; i.e. [plant on which the] coyote rests). This plant is used in the Coyote Chant for medicine.

Tinastshoh (Tinas, large). A plant supposed to resemble the mesquite, or perhaps the mesquite itself (26:82). This unidentified plant is crushed and mixed with tobacco and smoked. See *Amaranthus graecizans*.

Tinastso'oz (Tinas, slender). A smaller species than tinastshoh, but related.

Tipék'oxaltchin (sheep, seed, smelly; i.e. seed [which] smells [like a] sheep). See *Amaranthus graecizans*.

Order XXV. **GERANIALES**

**Family 44. GERANIACEAE** (Geranium)

*Erodium cicutarium* (L.) L'Her.

*Geranium cicutarium* L. Crane's Bill, Heron's Bill, Stork's Bill, Pin Grass, Red-stem, Pin Clover, Filaree, Alfilaria. Tzil pilackaan (chicken-hawk, its claw).

*Geranium incisum* Nutt. Wild Geranium. Tc'o iltchiin yilt'a'ih (spruce, like, odor, like, leaved; i.e. [plant which is] leaved like [the] phlox).

**Family 45. LINACEAE** (Flax)

*Linum lewisii* Pursh. Blue Flax, Prairie Flax, Lewis Flax. Tin-te'il'ats'6ozikiih (Navajo, plant, slender).

*Linum rigidum* Pursh. Yellow Flax. Látxahtitjóooliki (top rounded; i.e. [plant whose] top [is] rounded).

**Family 46. ZYGOPHYLLACEAE** (Caltrop)


**Family 47. RUTACEAE** (Rue)

*Citrus limonia* Osbeck.
Citrus limonium Risso. Cultivated Lemon, Limón. Tcó'ilhtshóítí-k'ójikííih (plant, yellow, sour; i.e. plant [whose fruits are both] yellow [and] sour).

Citrus sinensis Osbeck.

Citrus aurantium L. var. sinensis L. Cultivated Orange, Naranja. Tcó'ilhtshóítíkháníkkííih (plant, yellow, sweet; i.e. plant [whose fruits are both] yellow [and] sweet).

Family 48. EUPHORBIACEAE (Spurge)

Croton texensis (Klotzsch) Muell.

Euphorbia montana Engelm. Mountain Spurge, Mountain Euphorbia, Mountain Carpet Weed, Golondrina. 1. Naaltc'íih'azee' (pimple medicine; i.e. [plant which is used as a] pimple medicine). 2. Naaltc'íih'izii' (a variant spelling of number one). 3. Tc'il'apé'éts'oózikííih (plant, milk, slender; i.e. slender plant [which exudes a] milk[y] [juice when crushed]).

A remedy for boils and pimples is made from this plant by chewing it and spreading it over the sores in the form of a liniment (24:115). Medicines for confinement consist of beverages prepared from the following plants: spurge, 'awée'pildi ilpéej (baby, afterbirth, boils it; i.e. [plant which] boils [the] baby's afterbirth, and 'ayán pilij xaltchin (buffalo, urine, smelly; i.e. [plant which] smells [like] buffalo urine). These are also used for purging (24:115-6).

Euphorbia pringlei Engelm. Pringle Spurge, Pringle Euphorbia. Khyets'íltc'íih (base, red; i.e. [plant which is] red [at its] base). A liniment prepared from this plant is a remedy for boils (24:115).

Ricinus communis L. Castor Bean, Castor-oil Plant, Palma Cristi. This plant is used in an unknown manner as a protection from the spirit of the bear. A woman using it is supposed to become sterile.

Order XXVI. SAPINDALES
Family 49. ANACARDIACEAE (Cashew)

Rhus rydbergii Small.

Rhus radicans L.

Rhus toxicodendron L.

Rhus toxicodendron L. var. radicans Auth.

Toxicodendron radicans (L.) Kuntze.

Toxicodendron rydbergii (Small) Greene. Poison Oak, Poison Ivy.

K'ic'ictjic (no meaning: the poison oak).

Rhus trilobata Nutt.

Rhus aromatica Aiton var. trilobata (Nutt.) A. Gray.

Rhus conadeneis Marsh var. trilobata (Nutt.) A. Gray.

1. K'įį' (twig: the sumac). 2. Tchiiltchin (—red; refers to the red fruits). One of my informants stated that the fruits are ground with sugar in a little water and eaten, or they are eaten just as they come off the bush. The fruits are also ground into a meal and eaten, or cooked with cornmeal in the form of a gruel (13:49). Another informant stated that the Old Navajos used the stems to make baskets by splitting them three times. His mother used to make old baskets, and occasionally makes them now.10

A small stick or twig of sumac is sharpened and driven into the reed (Phragmites communis) shaft of an arrow, and fastened there with sinew. The arrowpoint is then secured to this stick (24:182). Bows were also made of sumac (24:318).

The masks used by the Fringe Mouths in the Night Chant are decorated on the crown with several objects, among them a tripod of sumac twigs painted white (61:12). The Hunchback in the Night Chant carries a bag which appears to be full, but is only distended with a light frame of aromatic sumac twigs (61:14). On the last night of the Mountain Chant the dancers carry sumac wands with eagle down attached, which is ignited from the fire (23:222).

The Navajo sacred baskets, used in their rites to hold sacred meal, are made of sumac (40:35), which is used for the rods, and Yucca baccata which is used for the bundle (81:257). Black for basketry dyes (24:293) and leather dyes (24:303) was made from the leaves. The basketry dyes must be stirred with a sumac stick. When sumac is cut in preparation for making a basket, it must be tied with yucca (Yucca sp.), and never with a string or anything else. When a woman is making a basket she must never allow a child to place the sumac on its head else it would stunt its growth (81:259). Water bottles are made or sewed with it (24:303), and carrying baskets are made of it (25:51).

Sumac is also used in many other ways: the pollen is used in some ceremonies (25:400); circle prayersticks are made of it and tied with yucca (Yucca sp.) fiber (61:67); insubordinate children were formerly scolded by bugaboos made of it (24:495); the ashes are used in setting ayes (17:3); and a native blue dye was formerly made of sumac boiled with a kind of pulverized blue clay (14:97). See Helianthus annuus, Leptotaenia dissecta multifida, Pinus edulis, and Prunus demissa.

Family 50. ACERACEAE (Maple)

Acer glabrum Torr.
Acer diffusum Greene.
Acer tripartitum Nutt. Rocky Mountain Maple. Sooltite'įįh (box elder, rough).

10. This statement was made to the author in 1935. In 1939, this informant was again questioned and he said that his mother had not made a basket for several years.
Acer negundo L.
*Negundo aceroides* Moench.
*Negundo negundo* (L.) Karst. Box Elder, Ash-leaved Maple. Sool (no meaning: the box elder). The wooden tubes for bellows are made of two pieces of box elder wood, hollowed out and placed together (24:272).

Order XXVII. RHAMNALES
Family 51. RHAMNACEAE (Buckthorn)

Ceanothus fendleri A. Gray. Fendler Ceanothus, New Jersey Tea.
1. Pji'h pit'á'a (deer, his food). 2. Fjít'á'a (deer food). 3. Tc'ít'á'a (Tc'ii food; i.e. food [for] tc'ii). 4. Tínétc'il (Navajo plant). A remedy for alarm and nervousness is made with this plant and *Swertia radiata* applied externally and taken internally (24:116). The deer also eat it for food.

Family 52. VITACEAE (Grape)

Parthenocissus vitacea (Knerr.) Hitch.
*Ampelopsis quinquefolia* (L.) Michx.
*Ampelopsis quinquefolia* (L.) Planch. var. *vitacea* Knerr.
*Hedera quinquefolia* L. Virginia Creeper, Thicket Creeper, American Ivy, Woodbine, False Grapes. 1. Tc'ilna'at'l'ó'ih (plant, vine-like). 2. Tc'ilna'at'l'ó'íts'óoz (plant, grape-like, slender). 3. Píla'astlaqh (five-fingered). When these vines grow large down by the river, they are gathered and put on ramadas for shade. This plant, among others, is also used as part of the medicine which the patient drinks in the Mountain Chant Ceremony (24:408).

*Vitis arizonica* Engelm. Arizona Wild Grape, Canyon Grape, Uva. Tc'ilna'at'l'ó'ih (plant, winding; i.e. the grape). The fruit of this species is not very edible, but is used by the Navajo (13:53). A cross of this vine is put on top of the basket of cornmeal and paper bread offered in courtship (5:112).

*Vitis vinifera* L. Cultivated Grape. Tc'ilna'at'l'ó'ítshoh (plant, winding, big; i.e. big grape).

Order XXVIII. MALVALES
Family 53. MALVACEAE (Mallow)

Gossypium sp. Wild Cotton, Cultivated Cotton. Ntiil'k'aa' (something that burns: the cotton plant). Although almost any cotton string is used in many of the Navajo ceremonies, aboriginal cotton is preferred (61:58). The Navajo formerly made cotton fabrics from raw cotton brought in from Santa Fe and other places (74:106). Twisted cotton soaked in mutton tallow serves as a lampwick when soldering (24:274). The Moving Upward Chant legend records the art of weaving as taught by the Spider Woman and the Spider Man. The Spider Man drew cotton from his side and instructed the Navajo to make a loom. The cotton warp was made of spider web (24:222). See *Zea mays*.

Malvastrum coccineum (Pursh.) A. Gray.
*Cristaria coccinea* Pursh.
Sphaeralcea coccinea (Pursh.) Rydb. Scarlet False Mallow, Red False Mallow. 'Azee'nt'l'íinh (medicine, gummy; i. e. medicine [plant whose roots are] gummy). An infusion of this plant is supposed to be a remedy for diseases produced by witchcraft (55:770). In times of food shortage the roots have been chewed. It is also used to stop bleeding. See Achillea millefolium lanulosa.

Sidalcea malvaeflora (DC.) A. Gray.

Sida malvaeflora DC. False Mallow, Wild Hollyhock. Líí'táa' (horse food).

Sphaeralcea cuspidata (A. Gray) Britt.

Sphaeralcea angustifolia (Cav.) G. Don var. cuspidata A. Gray. Globe Mallow. 'Azee'nt'l'íinhíppáhkíih (medicine, gummy, grey; i. e. grey medicine [plant whose roots are] gummy).

Sphaeralcea fendleri A. Gray. Fendler False Mallow. 'Azee'nt'l'íinhítsóoh (medicine, gummy, big; i. e. big medicine [plant whose roots are] gummy).

Sphaeralcea lobata Wooton. Copper Mallow, Nigger Weed, Yerba del Negro. Ts'ahct'íil (sage plant). The seeds are probably eaten, or so one of my informants states. The roots, which are sticky like molasses, are used as ceremonial medicine for small sings, after the bark is removed.

Order XXIX. VIOLALES

Family 54. TERNSTROEMIACEAE (Tea)

Thea sinensis L.


Family 55. TAMARICACEAE (Tamarix)

Tamarix gallica L. Tamarisk, Salt Cedar. Kat yil 'axyílt'éhikíih (juniper, like, looking; i. e. [plant which] looks like [the] juniper).

Family 56. VIOLACEAE (Violet)

Viola spp. Violet. One species is called tl'éétjít'čí' (no meaning: the violet), while another is called txójítchiin (water, odor; i. e. [plant which has the] odor [of] water). See Phlox caespitosa.

Family 57. LOASACEAE (Loasa)

Mentzelia albicaulis Dougl. White-stem Blazing Star. See Mentzelia multiflora.

Mentzelia multiflora (Nutt.) A. Gray.

Bartonia multiflora Nutt. Desert Blazing Star, Sand Lily. Ilít'il'híih (tenacious; i. e. [plant whose leaves are] tenacious). One of my informants stated that the seeds of this species and of Mentzelia albicaulis were eaten. This herb is also chewed up and sprayed with the mouth on offerings before and after making prayersticks. See Achillea millefolium lanulosa.

Mentzelia nuda (Pursh.) T. & G.

Bartonia nuda Pursh. Blazing Star. Tc'ilítchin (Tc'il, odor; i. e. [plant which has the] odor [of] tc'il).

11. See note 1, p. 16.
Mentzelia pumila (Nutt.) T. & G.
Bartonia pumila Nutt. Little Blazing Star, Stick-leaf. 'Iiitt'jihji'ts'óoz (tenacious, slender; i.e. slender [plant whose leaves are] tenacious). See Achillea millefolium lanulosa.

Order XXX. OPUNTIALES
Family 58. CACTACEAE (Cactus)

Carnegiea gigantea (Engelm.) Britt. & Rose.
Cereus giganteus Engelm. Saguaro, Sahuaro, Giant Cactus. Xwoctitshahiih (cactus, awled; i.e. cactus [which has] awl[-like spines]).

Echinocereus sp. Hedgehog Cactus, Barrel Cactus. The fruits of several species of this genus are eaten by the Navajo (13:26). One of my informants stated that they were a little bit sweet and taste something like avocado.

Echinocereus coccineus Engelm.
Cereus aggregatus Coult.
Cereus coccineus Engelm.
Cereus phoenicius Engelm.
Echinocereus aggregatus (Engelm.) Rydb. Crimson Hedgehog Cereus, Crimson Hedgehog Cactus, Crimson Barrel Cactus. 1. Tjeendyookisih (heart, twisted; i.e. [plant, which if eaten makes the] heart [feel as if it were] twisted). 2. Xwoctineespiniih (cactus, several squatting; i.e. cactus [which grows in] bunches). The Navajo eat the fresh fruits of several species of this genus (13:26), but this particular species is supposed to be poisonous (55:773). The name is probably derived from the effects produced after eating it, since the Navajo say that it makes your heart feel as if it were twisted (24:183). This species is used in medicine as a heart stimulant.

Echinocereus conoideus (Engelm. & Bigel.) Rümpl.
Cereus conoideus Engelm. & Bigel.
Cereus roemeri Muhlenpf.
Echinocereus roemeri (Muhlenpf.) Engelm. & Bigel. Xwocsitáhih (cactus, singular squatting; i.e. cactus [which grows] singular).

Mammiliaria sp. Ball Cactus, Pincushion Cactus, Fishhook Cactus. The flesh is eaten as a food.12
Neomammillaria sp. Fishhook Cactus. K'aa'pijiih (no meaning: the fishhook cactus). The spines are removed and the plants eaten.

Opuntia spp. Cane Cactus, Candelabrum Cactus, Coyote Candles, Prickly Pear, Nopales, Cholla, Velas de Coyotes. The general term for all cacti is xwoc (spine or thorn). The fruits of a number of species of prickly pears are eaten by the Navajo (13:35) & (29:115). They gather the fruits with a cactus picker made of a forked stick, and after the spines are removed, the tunas13 are split and dried in the sun and served in much

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12. Ibid.
13. Tunas are the fruits of any of the species of Opuntia.
the same manner as we serve dried fruit (13:37). In the sandpainting of the Cactus People, in the Wind Chant, four figures are fashioned after the conventionalization of the cactus plant (11:11). Cactus stalks are never used for firewood because superstition prohibits its use (45:35).

Other species of *Opuntia* have the following names:

Titchin pixwoc (hunger cactus; i.e. cactus [which does not satisfy the] hunger). It produces no edible fruit.

Xwoctínit'oo'íih (cactus, holding; i.e. cactus [whose awls are hard to extract]).

Xwock'íneečpijíih (cactus, broken braids; i.e. cactus [which resembles a food preparation called] broken braids) (24:184).

Xwoclipáhh (cactus, grey).

Xwoctítshoíh (cactus, yellow).

Xwoctnéézhahniih (cactus, rimmed).

Xwoctnééšíipáhhíh (cactus, wide, grey; i.e. grey cactus [which has wide [joints]])

Xwoctéélxóohiih (cactus, smooth).

Xwoctik'oojíijíh (cactus, sour; i.e. cactus [which is] sour [tasting]).

Xwoctís'óoz (cactus, slender).

*Opuntia arborescens* Engelm. Tree Cactus, Cane Cactus, Indian Fig, Chandelier Cactus, Candelabrum Cactus, Candelabra, Entraña, Velas de Coyotes (coyote candles). Xwoctítsháhtshoh (cactus, awled, big; i.e. big cactus [which has] awl [-like spines]).

*Opuntia camanchica* Engelm. & Bigel. Xwoctshoh (cactus, big).

*Opuntia polyacantha* Haw.

*Opuntia misouriensis* DC. Many-spined Cactus. Xwoctéélxéelíi (cactus, flat; i.e. cactus [which has] flat [joints, instead of round ones]). In making war shirts in former times, a buckskin was first laid flat and cut to pattern. On it the points of this cactus were rubbed, which left a sticky substance. Next the cuttings and trimmings of the buckskin were put on and held in position by the secretion of the cactus (30:9).

Ordinary hunting arrows and spears were treated with a preparation believed to make them poisonous. One of these poisons was prepared in the following manner: A rattlesnake was first caught and killed on a rock. Next a yucca (*Yucca* sp.) leaf was heated over a fire and the juice squeezed onto the blood of the snake. Finally charcoal made from the pith of this cactus was added. The arrows were then painted from the point to about six inches back up the shaft (30:10).

The fruit is used in coloring wool pink (19:3). To make a cardinal dye the fruits must be dead ripe. A handful of the bark or roots of the Colorado blue spruce (*Picea pungens*) is added, and the whole steeped in water (73:42).

*Opuntia rutila* Nutt. Red Cactus. Xwoc (thorn, spine: the cactus).

*Opuntia spinosior* (Engelm. & Bigel.) Toumey.

*Opuntia whipplei* Engelm. & Bigel. var. *spinosior* Engelm. & Bigel.
Thorny Cactus, Cane Cholla. Xwoctštshahiih (cactus, awld; i. e. cactus [which has] awl [-like spines]).

Order XXXI. MYRTALES
Family 59. PUNICACEAE (Pomegranate)

Punica granatum L. Pomegranate. The so-called squash blossom necklaces of the Navajo are supposed to be pomegranate blossoms. The pomegranate is the national emblem of Spain.

Family 60. ONAGRACEAE (Evening Primrose)

Epilobium adenocaulon (Hausskn.) Rydb.

Epilobium coloratum Torr.

Epilobium paniculatum Nutt. var. adenocaulon Hausskn. Fireweed, Willow Herb. Tc'illátxa'ats'ós (plant, top, feather; i. e. plant [which has] top [flowers] [that look like] feather[s]). See Achillea millefolium lanulosa.

Epilobium angustifolium L.

Epilobium origanifolium Lam. Willow Herb. Xwoctchilíts'6oz (spine, jumps at one, slender; i. e. slender spiny [plant which] jumps at one).

Gaura parviflora Dougl. Butterfly Weed, Velvet Weed. 'Azee'sik'ázìh (medicine, coldness; i. e. medicine [plant which keeps one] cool). An infusion of this plant is supposed to allay inflammation and cure burns (55:772). It is also used in the Fire Dance at the Mountain Chant. It is supposed to keep the dancers from burning themselves (46:14) or prevent them from getting too hot. See Achillea millefolium lanulosa.

Oenothera spp. Evening Primrose. There are three unidentified species which are called as follows: 1. 'Azee'laatilvihih (medicine, lone; i. e. medicine [plant which grows] [alone or scattered]). 2. Tlé'éiikahitshoh (night blooming, big; i. e. big [plant which] blooms [at] night). When an insect or snake has touched a Navajo and he has rubbed the skin until it is sore, he grinds some of these leaves with Fuller's earth, mixes them with corn (Zea mays) pollen and water, and bathes the sore (27:92). 3. Xwoctc'i'ii'tshoh (spiny, angry, big; i. e. big spiny [plant which gets] angry).

Oenothera breviflora T. & G. White Evening Primrose. Tlé'éiikahih (night bloomer; i. e. [plant which] blooms [at] night).

Oenothera caespitosa Nutt. var. marginata (Nutt.) Munz.

Oenothera caespitosa Nutt.

Oenothera marginata Nutt. Evening Primrose. Tlé'éiikahihlipahíkíih (night bloomer, grey; i. e. grey [plant which] blooms [at] night). See Achillea millefolium lanulosa.
Oenothera grandiflora S. Wats. Large-flowered Evening Primrose, 'Azeelitshoih (medicine, yellow; i.e. medicine [plant which has] yellow [flowers]).

Oenothera hookeri T. & G. Hooker Evening Primrose. 1. 'Azeelitshoih (medicine, yellow; i.e. medicine [plant which has] yellow [flowers]). 2. 'Azeelitshoikiih (medicine, yellow). 3. Tl'ee'iiikahits'óoz (night bloomer, slender; i.e. slender [plant which] blooms [at] night). See Achillea millefolium lanulosa.

Oenothera pinnatifolia Nutt. Pinnate-leaved Evening Primrose. 1. 'Azee'sisíikiíh (medicine, crampy). 2. 'Azee'xáasih (medicine, sour belching). See Achillea millefolium lanulosa.

Oenothera tanacetifolia T. & G. Tansy-leaved Evening Primrose. 'Azeelitshoikiih (medicine, yellow). It is used as a remedy for boils in the form of a liniment (24:115).

Order XXXII. UMBELLALES

Family 61. UMBELLIFERAE (Carrot)

Carum carvi L. Caraway Seed. Náa'noóotiizíih (seed, striped; i.e. [plant which has] striped seed).

Cymopterus alpinus A. Gray. Wild Mountain Celery. 'Azeelitshoikiih (medicine, crampy; i.e. medicine [plant which has] crampy). Medicine for the Coyote Chant contains several plants, among which is wild mountain celery, greasewood (Sarcobatus vermiculatus), and wild privet (Forestiera neomexicana) (24:409).

Cymopterus fendleri A. Gray. Fendler Wild Celery. The leaves are used as food.14

Cymopterus glomeratus Raf. Wild Celery. Xaza'alee' (no meaning, except perhaps appetizer: the wild celery). See Cleome serrulata.

Cymopterus purpureus S. Wats. Purple Wild Celery, Indian Parsnip. Xaza'alee'tsho' (wild celery, big). This plant is used as a potherb in seasoning mush and soup (55:773).

Daucus carota L. Cultivated Carrot. Tc'ilítsho' (plant, yellow; i.e. plant [with] yellow [roots]).

Daucus pusillus Michx. Queen Anne's Lace, Beggar's Louse, Wild Carrot, Rattlesnake Weed, Yerba de la Víbora. The roots of this species are gathered in early spring by the Navajo who eat them raw or dry them for winter use, when they are cooked with or without wild celery (Phellopterus montanus) (13:26).

Leptotaenia dissecta Nutt. var. multifida (Nutt.) Jeps.

Ferula multifida A. Gray.

Leptotaenia multifida Nutt. Wild Parsnip, Indian Balsam. Xaza'alee'tsho' (wild celery, big). In the Mountain Top Chant this plant is dried and ground up with the plants of Eriogonum alatum and Lithospermum...

14. See note 1, p. 16.
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angustifolium, the finely ground berries of the chokecherry (Prunus demissa) and of the squaw bush (Rhus trilobata), together with pollen from the piñon (Pinus edulis), juniper (Juniperus spp.), pine (Pinus spp.), and other kinds of trees, and mixed with water and given the patient to drink. See Amaranthus graecizans.

**Lomatium orientale** Coul. & Rose.

*Cymopterus montanus* T. & G. Mountain Gamot, Wild Mountain Celery. Tchaalt’éjih (no meaning: the mountain gamot). The tuberous roots are peeled, baked, and ground as an occasional substitute for cornmeal (24: 210). The roots are also eaten raw. The stems are sometimes peeled and eaten. See *Allium deserticola* and *Daucus pusillus*.

**Pseudocymopterus montanus** (A. Gray) Coul. & Rose.

*Thaspium montanum* A. Gray. False Mountain Celery. T’ohitchiin (spruce, odorous; i. e. [plant which has the] odor [of] spruce).

**Zizia aurea** (L.) Koch.

*Smyrnium aureum* L. Golden Meadow Parsnip, Golden Alexanders. See *Datura* sp.

Unidentified *Umbelliferae*: 1. *Pila'stla'iih* (fingers, five; i. e. [plant whose leaves are] five[-parted like the] fingers). 2. *Zaaxwocikíih* (which contracts the lips together).

Order XXXII'. ERICALES

Family 62. ERICACEAE (Heath)

**Gaultheria humifusa** (Graham) Rydb.

*Vaccinium humifusum* Graham. Teaberry, Checkerberry, Salal, Aromatic Wintergreen, Creeping Wintergreen. This plant is used for a black dye (17:2).

Order XXXIV. GENTIANALES

Family 63. OLEACEAE (Olive)

**Forestiera neomexicana** A. Gray.

*Adelia neomexicana* (A. Gray) Kuntze. Russian Olive, Swamp Privet, Wild Privet, Ironwood. 1. K’ijícíníih (K’ijíc, black). 2. Mq'jitá’ (coyote food). This plant is used for making the prayerssticks of the south, probably because its small olive-shaped fruits are blue, the color of the south (44:63). See *Cymopterus alpinus* and *Phragmites communis*.

**Fraxinus cuspidata** Torr. Flowering Ash. Tahpá’ (high up; [referring to the tree] high up [on top of a hill]). The Navajos have succeeded in making a fair imitation of the Mexican saddle of hard ash (8:501). The stems are also used for making arrows.

**Menodora scabra** A. Gray. Yellow Menodora, Rough Menodora. Tinétc’il (Navajo plant).

15. Ibid.
Family 64. GENTIANACEAE (Gentian)

Gentiana spp. Gentian. There are two unidentified species of gentian:
1. Tcil pexet'ool litsh6ikiih (plant, its roots, yellow; i.e. plant [which has a] yellow root).
2. Tcil pexet'ool nneezikiih (plant, its roots, long; i.e. plant [which has] long roots).

Gentiana affinis Griseb. Closed Gentian. 'Iinizijtc'il (wizard plant; i.e. plant [which is used as an antidote against] wizard[s]). For headaches, a snuff prepared from the gentian is said to afford relief (24:112). It is used in cases of swooning, and is supposed to be an antidote for witchcraft (55:774).

Swertia sp.

Fraseria sp. Green Gentian. Tcil peezet'ool litsh6ikiih (plant, its roots, yellow; i.e. plant [whose] roots [are] yellow). See Achillea Swertia radiata (Kell.) Ktze. Frasera radiata Kell.

Swertia speciosa Doug. Deer's Tongue, Green Gentian, American Columbo. 1. Pjih il tjaa'ih (deer, like, ear; i.e. [plant which has leaves that look] like deer['s] ear[s]). 2. Tcil peexet'ool nneezikiih (plant, its roots, long; i.e. plant [which has] long roots). See Achillea millefolium lanulosa and Ceanothus fendleri.

Family 65. ASCLEPIADACEAE (Milkweed)

Asclepias spp. Milkweed. All milkweeds are called tc'il'ap6' (plant, milk). An unidentified species is called &lie pitee' (snake, its horn; i.e. [plant which has pods that resemble a sidewinder] snake['s] horn[s]). These plants are used for stomach troubles in general by crushing the dried leaves between the fingers and stirring the resulting powder into a bowl of water (24:114). These plants can also be eaten raw or boiled.

Asclepias hallii A. Gray. Hall Milkweed. T'6opitcT iltc'ih (negative, toward it, hurt; i.e. [plant which women drink so that birth does] not hurt). This plant is used as a tonic after deliverance (24:116).

Asclepias speciosa Torr. Showy Milkweed. 1. Tc'eel'apetshoh (plant, milk, big; i.e. big plant [which exudes] milk [when crushed]). 2. Tcil- 'apetshoh (plant, milk, big; a variation of number one).

Asclepias verticillata L. Verticillate Milkweed, Verticillate Silkweed. Tl'iic pitee'ts'6oz (snake, its horn, slender; i.e. slender [plant which has pods that are like a sidewinder] snake['s] horn[s]). See Sisyrinchium mucronatum.

Asclepiodora decumbens (Nutt.) A. Gray.

Anantherix decumbens Nutt. Antelope Horns, Spider Milkweed. Tjatiltee'ih (antelope horn; i.e. [plant which has pods that resemble] antelope horn[s]). See Achillea millefolium lanulosa.
Convolvulus arvensis L. Field Morning-glory. Marked (descending; i.e. [plant which has] descending [roots]). This species of bindweed has a fleshy tuberous root which looks like a sweet potato (26:132).

Cuscuta spp. Dodder, Bindweed, Love Vine. The Navajo use the parched seeds of these plants for food. The seeds are treated similarly to those of Sisymbrium officinale (13:22) & (83:514).

Cuscuta umbellata H.B.K. Dodder. TshiiG6,n1teiih (head-hair, red; i.e. [plant which looks like] red head-hair).


Gilia attenuata (A. Gray) A. Nels. Gilia aggregata (Pursh.) Spreng. var. attenuata A. Gray. Scarlet Gilia, Skyrocket, Scarlet Trumpet. Taxitxihhtáa’ (humming-bird food). The dried leaves crushed between the fingers and stirred in a bowl of water are used as a remedy for stomach troubles in general (24:114).

Gilia longiflora (Torr.) G. Don. Cantua longiflora Torr. Blue-flowered Gilia, Lina. 1. Pilatxa’atootl’ij (its top, blue; i.e. [plant which has] blue flowers). 2. 'Atshánát’ooh (eagle tobacco). This species of gilia is made into a drink which is taken just before breakfast to make the Navajo “bark” or sing loudly for a Squaw Dance.

When sheep drink too much muddy water, the flowers of this plant are gathered, cooked into a broth, and when the broth is fairly well done, salt and the chopped-up gullet of a sheep is added. This is then fed to the sheep, and it is said to be most effective (33:38). This species of plant is also used by the Navajo themselves. It is pounded with rocks and boiled and drunk for vomiting, and also to make the bowels move. It is also used as medicine in the Navajo Wind Chant and the Female Shooting Chant. See Amaranthus graecizans and Aster sp.

Phlox caespitosa Nutt.

Phlox douglasii Hook. var. caespitosa (Nutt.) Mason. Pink Phlox. Tc’ohltchiin (spruce, smelly; i.e. the phlox). The Night Chant liniment consists of the crushed plants of phlox, violet (Viola sp.), thoroughwort (Eupatorium occidentale), horsemint (Monarda punctata), field mouse ear (Cerastium arvense), prairie clover (Petalostemon candidus), woodland star (Lithophragma tenella), and an unidentified water plant (24:405).
Phlox douglasii Hook. Douglas Phlox. 1. 'Azee't's'óoz (medicine, slender; i.e. medicine [plant which is] slender). 2. Tshitita' (bird food).

Family 68. HYDROPHYLLACEAE (Waterleaf)

Phacelia glandulosa Nutt. Phacelia, Scorpion Weed, Waterleaf. 'Azee'ntchį'į'ilipahikiih (medicine, irritating, grey; i.e. grey medicine [plant which is] irritating [to the skin]). The plant is said to inflame the skin when it is contacted, hence the name (55:774).

Phacelia palmeri Torr.

Phacelia integrifolia Torr. var. palmeri (Torr.) A. Gray. Palmer Phacelia. 'Azee'ntchį'į'tshoh (medicine, irritating, big; i.e. big medicine [plant which is] irritating [to the skin]).

Family 69. BORAGINACEAE (Borage)

Cryptantha crassisepala (T. & G.) Greene.

Eritrichium crassisepala T. & G.

Krynitzkia crassisepala A. Gray. White Forget-me-not, Thick-sepaled Forget-me-not. 'Ilttįjehilipahikiih (sticky, grey; i.e. grey [plant whose seeds are] sticky).

Lappula occidentalis (S. Wats.) Greene.

Echinospermum redowskii Lehm.

Echinospermum redowskii Lehm. var occidentalis S. Wats.

Lappula redowskii (Hornem.) Greene.

Lappula redowskii (Hornem.) var. occidentalis (S. Wats.) Rydb. Western Stickseed. 'Fittįjihih (sticky; i.e. [plant whose seeds are] sticky).

Lithospermum angustifolium Michx.

Lithospermum linearifolium Goldie. Narrow-leaf Gromwell, Indian Paint. 'Azee'xaatjiniih (medicine, black; i.e. medicine [plant whose roots are] black). This is one of the plants used in the Life or Knife Chant. Soreness about the attachment of the umbilical cord is supposed to be healed by the use of two roots; one of these is from this plant, and the other is known as 'azee'į'į'ilikāih (medicine, white; i.e. medicine [plant whose roots are] white). It is also chewed for coughs and colds (55:774). See Leptotaenia dissecta multifida and Petalostemon candidus.

Lithospermum canescens (Michx.) Lehm. Stoneseed Gromwell, Puccoon. 'Azee'nanistiziit's'óoz (medicine, twisting, slender; i.e. slender medicine [plant which] twists [around among shrubs]). See Achillea millefolium lanulosa.

Lithospermum incisum Lehm. Stoneseed Gromwell. 'Azee'į'tchį'i' (medicine, red; i.e. medicine [plant whose roots are] red). See Achillea millefolium lanulosa.

Lithospermum multiflorum Torr. Many-flowered Gromwell. 1. 'Azee'į'į'įjįn (medicine, black; i.e. medicine [plant whose roots are] black). 2. 'Azee'ixaatjiniitlipahikiih (medicine, black, grey; i.e. black [stemmed] medicine [plant with a] grey [root]). 3. 'Azee'ixaatjiniitshoh (medicine,
black, big; i.e. black [stemmed] medicine [plant with a] big [root]). See *Achillea millefolium lanulosa.*

**Oreocarya fulvocanescens** (A. Gray) Greene.

*Krynitzkia fulvocanescens* A. Gray. 'Azee'xaatjiniih (medicine, black). It is chewed for coughs and colds. It is also used when a person is hurt, as from a fall.

**Oreocarya glomerata** (Pursh.) Greene.

*Krynitzkia glomerata* A. Gray in part. Txajjiinitchiin (turkey, smelly; i.e. [plant which] smell[s] [like a] turkey).

Family 70. **VERBENACEAE** (*Verbena*)

**Verbena canadensis** (L.) Britt.

**Verbena aubletia** Jacq.

**Verbena drummondii** Hort. Canada Verbena, Canada Vervain. 'Azee'ntchilh (medicine, irritating; i.e. medicine [plant which is] irritating [to the skin]).

**Verbena macdougalii** Heller. MacDougal Verbena, MacDougal Vervain. Tshék'ihnaa'altc'ijiih (rock, against, scratches; i.e. [plant which] scratches against [the] rock).

**Verbena stricta** Vent. Hoary Verbena, Hoary Vervain, Upright Verbena, Upright Vervain. 1. 'Azee'ntc'oyiih (medicine, ?). 2. 'Azee'xatiikaih (medicine, white).

Family 71. **LABIATAE** (*Mint*)

**Agastache urticifolia** (Benth.) Kuntze.

*Lophanthus urticifolius* Benth. Giant Hyssop, Nettle-leaf Hyssop. Tshék'ihnaa'altc'ijiih (rock, against, scratches; i.e. [plant which] scratches against [the] rock).

**Dracocephalum parviflorum** Nutt. Small-flowered Dragon's Head. 'Azee'ntchilh (medicine, irritating; i.e. medicine [plant which is] irritating). This is not a medicine plant, although it is called a medicine. One informant stated that he was afraid of it, and that if one ate it their body would swell much as one swells from a spider bite.

**Hedeoma drummondii** Benth. Drummond Pennyroyal, Lemon Verbena, Sweet Grass. T'ohntchilh (grass, smelly). In one part of the Night Chant, an assistant chews sweet grass and a quantity of black seeds. After they are thoroughly chewed, the assistant blows on his hands, and presses on the body of the patient. He then blows three times in the face of the sick man, and finally goes around the circle of spectators, blowing once in the face of each, or on a special part of the body where a pain is felt (80:341).

**Hedeoma nana** (Torr.) Greene.

**Hedeoma dentata** Rydb. var. *nana* Torr. Mock Pennyroyal, American Pennyroyal. 'At'qaat's'ooz (leaf, slender; i.e. [plant which has a] slender leaf). At noon of the third day of the War Dance, the body of the patient
is painted black. Medicine is then made of yarrow (Achillea millefolium lanulosa), red juniper (Juniperus scopulorum), pine (Pinus sp.) needles, and meadow rue (Thalictrum fendleri), which are previously pulverized, then thrown into a bowl of water and stirred. This is then dabbed all over the patient who sips the mixture before bathing his whole body in it. Foxtail grass (Hordeum jubatum) and mock pennyroyal are then chewed by the assistant and sputtered on the patient (24:371-2). See Brickellia grandiflora petiolaris.

*Marrubium vulgare* L. Common Horehound. 'Azee'ntoot'iijintsha-hikiih (medicine, tied at intervals, large; i.e. large medicine [plant which is] tied at intervals, or large medicine [plant whose flowers are in] whorls). This plant is used as a tea for sore throat. See *Brickellia grandiflora* petiolaris.

*Mentha* sp. Mint. The medicine for the Shooting Chant Ceremony is made of several species of plants which are chopped finely. One of these plants is this unidentified mint, while the others are sage (Salvia lanceolata), red penstemon (Penstemon torreyi), red willow (Salix laevigata), scrub oak (Quercus undulata), and chokecherry (Prunus demissa) (72:148).

*Mentha arvensis* L. var. glabrata (Benth.) Fern. *Mentha canadensis* L. var. glabrata Benth. Tule Mint. Txólitchiin (water, smelly; i.e. smelly [plant that grows in or near the] water). See *Brickellia grandiflora* petiolaris.

*Monarda fistulosa* L.

*Monarda canadensis* Graham. Wild Bergamot, Mintleaf Beebalm, Horsemint. 1. 'Azee'ntoot'iijih (medicine, tied at intervals; i.e. medicine [plant which is] tied at intervals, or medicine [plant whose flowers are in] whorls). 2. T'ońhitchiin (fragrant; i.e. [plant which has a] fragrance). This plant is put in cold water and applied to the head. This preparation cools the head and is supposed to relieve headache.

*Monarda pectinata* Nutt.

*Monarda nuttallii* A. Nels. Lemon Monarda, Lemon Mint, Pony Beebalm. 'Azee'ntoot'iijih (medicine, tied at intervals; i.e. medicine [plant which is] tied at intervals, or medicine [plant whose flowers are in] whorls). See *Brickellia grandiflora* petiolaris.

*Salvia lanceolata* Willd. Lance-leaf Sage. 1. 'Azee'nthichi'fh (medicine, irritating; i.e. medicine [plant which is] irritating [to the skin]). 2. Tc'ałṭaa' (frog food). See *Mentha* sp.
Datura sp. Jimson Weed, Jamestown Weed. In a ceremony for the cure of chill and fever, the raw root of the Jamestown weed is given the patient at sunrise, noon, and sunset. Each dose is about half an ounce of the dried root. This is chewed and swallowed. After three doses, the patient is given a piece of the stalk of the golden Alexander (Zizia aurea) about six inches long and about three-quarters of an inch thick. This is chewed and the saliva but not the fiber is swallowed. Infusions of herbs were also given at different times of the day and night. These were known as 'azee’pini’ (medicine, bad or dreaded talk), txootji’xwiitzoh (water, toward, line; i.e. [plant which extends] toward [the] water [in a] line), and New Mexico thistle (Cirsium neomexicanum) (77:154). Trachoma, if caught at its beginning, is said to be cured with a species of this plant (33:21). Datura is also used as a pain killer for headaches and toothaches.

Datura meteloides Dunal. Jamestown Weed, Jimson Weed, Thorn Apple, Indian Apple, Ooze Apple, Sacred Datura, Toluache, Tolguacha, Toluache. Nígiliitshoh (sunflower, large). One of my informants stated that the seeds might be eaten in ceremonies but did not know how. He further stated that the Navajo were afraid of it because of its bad effects. If sheep eat it they go crazy. When sheep are castrated, the leaves of this plant are made into an infusion and applied to the open wound.

Datura stramonium L. Jimson Weed, Stramonium. Tc’óxwotjilyáíh (spruce that one wraps around a hurt).

Lycium pallidum Miers. Rabbit Thorn, Boxthorn, Matrimony Vine, Tomatillo. Xaactc’ėt4a’ (God food). The fruits are eaten as they come off the bush, or they are boiled into a soup. They are picked in the summer and boiled to the right consistency and spread on the rocks to dry. When dry, they are stored until winter, then eaten dried or made into a soup. The flavor is rather flat (83:569). The fruit is also sacrificed to the gods (55:775).


Nicotiana spp. Wild Tobacco. There are several unidentified species of wild tobacco, some of which may be identical with some of the identified species. These are called:

1. Kāakiinitchinát’ooh (crow, smelly, tobacco; i.e. raven tobacco). This plant is supposed to cure sores on the hands or any part of the body which were caused by the handling or burning of a raven's nest. It is also used in the Raven Chant, where it is brewed and given the patient to drink in a painted turtle shell (27:92). See Phragmites communis and Zea mays.
2. K’ósnt’ooh (cloud tobacco).
3. Ni'pikháa'litshoh (earth, on top of it, yellow; i.e. [plant which is] yellow on top of [the] earth). This is supposed to be identical with raven tobacco.

4. Piinát’ooh (deer tobacco). See *Amaranthus graecizans*.

5. Ti’o’jinát’ooh (weasel tobacco).

**Nicotiana attenuata** Torr. Wild Tobacco, Mountain Tobacco, Coyote Tobacco, Punche. Tzilnát’ooh (mountain tobacco). Tobacco is used extensively in the ceremonies of the Navajo. After the feast which follows the completion of the masks for the Night Chant, the maskers smoke mountain tobacco (24:389). This tobacco is also used for filling ceremonial prayer-sticks in the Night Chant (61:308).

**Nicotiana palmeri** A. Gray. Palmer Wild Tobacco. Tipénát’ooh (sheep tobacco). This tobacco is used in filling ceremonial prayersticks (61:308).

**Nicotiana tabacum** L. Cultivated Tobacco. 1. Ndt’oohn, trizikiih (tobacco, hard; i.e. a plug of chewing tobacco). 2. Ndt’oohlijinih (tobacco, black; i.e. chewing tobacco). 3. Ndt’oohxiit’aalih (tobacco, chewing). In the first sacred painting of the Mountain Chant, the four sacred domestic plants, tobacco, beans (*Phaseolus vulgaris*), corn (*Zea mays*), and squash (*Cucurbita sp.*) are depicted as coming from the center of the world (56:448).

**Physalis longifolia** Nutt.

**Physalis lanceolata** Michx. var. *laevigata* A. Gray. Ground Cherry, Ground Tomato, Strawberry Tomato, Tomate, Tomate del Campo. Pi’ yil tee’ih (deer, like, horn; i.e. [plant which has leaves] like [a] deer[’s] horn).

**Solanum elaeagnifolium** Cav. Silver-leaved Nightshade, White Horse Nettle, Trompillo. Náa’tshoih (seed, yellow; i.e. [plant which has] yellow seed[s]). This plant is used as a remedy for sore eyes (24:112). See *Sisyrinchium mucronatum*.

**Solanum heterodoxum** Dunal.

**Solanum citrullifolium** A. Br. Nightshade. Náa’tshoih (seed, yellow; i.e. [plant which has] yellow seed[s]).

**Solanum jamesii** Torr. James Wild Potato. Námasiih (that which can be rolled; i.e. the wild potato). One of my informants stated that these potatoes are eaten raw, boiled, or baked. A pinch of alum is sometimes added to prevent vomiting (24:210). The tubers are usually dug out of the ground with almost any implement. It is often a strong smooth piece of wood with a wedge-shaped end. Sometimes the Navajo eat so much that griping pains are caused. In this case, they consume a quantity of earthy matter containing magnesia, which relieves the stomach (66:409).

**Solanum triflorum** Nutt. Wild Tomato, Three-flowered Nightshade. Ti’ictá’ (snake food).

**Solanum tuberosum** L. Cultivated Potato, Papa. Námasiitshoh (potato, big).
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Family 73. SCROPHULARIACEAE (Figwort)

**Castilleja**

*Castilleja affinis* H. & A. Scarlet Cup. Taxitxííhít'àa' (humming-bird food). This is the common pronunciation, but it is also pronounced tayítxííhít'àa' and tayítxííhít'àa'.

**Castilleja angustifolia** (Nutt.) G. Don.

*Castilleja parviflora* of authors, not Bong.

**Euchroma angustifolia** Nutt. Slender-leaf Paint Brush. Taxitxííhít'àa'lipáhikíih (humming-bird food, grey). See *Castilleja integra*.

**Castilleja integra** A. Gray. Mexican Paint Brush, Painted Cup. Taxitxííhít'àa'tshoh (humming-bird food, big). By crushing the leaves of this plant, or of *Castilleja angustifolia*, and placing them in a bowl of water, a remedy for stomach troubles is made (24:114).

**Castilleja lineata** Greene. Indian Paint Brush, Painted Cup. Taxitxííhít'à (humming-bird food). Indian paint brush is used as a delicacy by the Navajo. They pull out the flowers and suck the honey from them, much as we do with honeysuckle (*Lonicera japonica*). It is also used as a remedy for stomach troubles in general. The usual method is to crush the dried leaves between the fingers and add the resulting powder to a bowl of water (24:495).

**Castilleja minor** A. Gray.

*Castilleja affinis* H. & A. var. *minor* A. Gray. Painted Cup, Indian Paint Brush. Nát'voohnitchiin (tobacco, smelly; i.e. smelly [plant that is used for] tobacco). See *Amaranthus graecizans*.

**Cordylanthus kingii** S. Wats.

*Adenostegia kingii* (S. Wats.) Greene. King Bird Beak. Tictcó'it'azeel (itch medicine; i.e. medicine [plant which is good for the] itch).

**Cordylanthus ramosus** Nutt.

*Adenostegia ramosa* (Nutt.) Greene. Bird's Beak. 1. Pé'oottchitií pee'iik'óh (Pé'oottchitií['s]) vomit[ing] [medicine]). 2. Tchátco'oc'azeel' (syphilis medicine). Syphilis is supposed to be cured by a beverage prepared from this plant and the buttercup (*Ranunculus cymbalaria saximontanus*). Both are powdered and taken in water every morning (24:113). It is also used to make a person vomit. When a woman has a baby and someone gets their hands in the blood they are liable to break a rib or something, so this plant is boiled and drunk so that it won't bother them. It is also drunk by menstruating women to stop the blood from flowing. It will also stop a man's nosebleed.

**Cordylanthus wrightii** A. Gray.

*Adenostegia wrightii* (A. Gray) Greene. Wright Bird's Beak. A decoction of this plant is used by the Navajo to cure syphilis (88:591).

**Gratiola virginiana** L. Hedge Hyssop, Virginia Hyssop. Tshék'ihnaa'altc'ijiih (rock, against, scratches; i.e. [plant which] scratches against [the] rock[s]).

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12. Sometimes spelled *Castilleia* or *Castilleya*, but it is dedicated to Domingo Castillejo, so should be spelled *Castilleja*. 
Linaria vulgaris Mill.
Linaria linaria (L.) Karst.

Antirrhinum linaria L. Common Toadflax, Butter-and-eggs, Ramsted. Tinéts'il'alts'oizikiih (Navajo, plant, slender; i.e. slender plant [belonging to the] Navajo).

Penstemon sp. Penstemon, Beard Tongue. Tlil'ic'aááal (snake ratttle). The leaves of this unidentified species of penstemon are pounded and used as poultices on rattlesnake bites. "This treatment is apparently an absolute antidote against rattlesnake poison." It is also made into a tea and drunk (33:20).


Penstemon azureus Benth. Penstemon, Azure Beard Tongue. 'Azee'nch'i'ts'hoh (medicine, irritating, big; i.e. big medicine [plant which is] irritating [to the skin]).

Penstemon glaber Pursh. Penstemon, Beard Tongue. 'Azee'nt'l'aalih (medicine, ________).

Penstemon lacifolius Hook. & Arn. 1. 'Azee'xyináh (medicine, life). 2. 'Iináátji'izee' (life medicine). 3. Pi yil tjaa'i'h (deer, like, ear; i.e. [plant which has leaves] like [a] deer['s] ear), also pronounced pijh il tjaa'i'h.

Penstemon torreyi Benth. Torrey Beard Tongue, Scarlet Beard Tongue, Red Penstemon, Torrey Penstemon. Taxitxíhts'og (humming-bird food, slender). Diuretic troubles were removed by beverages prepared from plants such as this (24:113). See Mentha sp.

A phyllon fasciculatum (Nutt.) A. Gray.

Thalesia fasciculata (Nutt.) Britt. Cancer Root, Broom Rape. Leetool'eezih (earth footprints). It is so called from its vague resemblance to a moccasined foot partly sunk in the ground (24:196). A liniment made of the leaves and branchlets of this plant is employed in curing sores (24:113).


Order XXXVI. PLANTAGINALES
Family 75. PLANTAGINACEAE (Plantain)

Plantago purshii R. & S. A phyllon patagonica Jacq. var. gnaphaloides A. Gray. Pursh Plantain,
Pursh Ribgrass, Woolly Indian wheat. 1. 'Azee'it'el (medicine, ?). 2. Yiltiijih (it catches [hold of it]).

Order XXXVII. RUBIALES
Family 76. RUBIACEAE (Madder)

*Coffea arabica* L. Common Coffee, Arabian Coffee. K'hoxwéeh or k'hoxwéh. The Navajo name is a corruption of the Spanish word café, which is in turn corrupted from the Arabic qahwe.

Family 77. CAPRIFOLIACEAE (Honeysuckle)

*Symphoricarpos orbiculatus* Moench.
*Symphoricarpos symphoricarpus* (L.) MacMillan.
*Symphoricarpos vulgaris* Michx. Snowberry, Indian Currant, Coral-berry, Stagberry, Waxberry, Wolfberry. Tshétshohk'ii' (rock, big, twig; i.e. twig [plant which grows among the] boulder[s]).

*Viburnum* sp. Marsh Elder, High Water Shrub, Cranberry Tree, Arrowwood, Snowballs. 1. Ntástc'jin (no etymology). 2. T'hohteeih (grass, seed; i.e. [plant which has] grass [-like] seed[s]).

Family 78. DIPSACACEAE (Teasel)

*Dipsacus sylvestris* Huds. Wild Teasel. In the olden days wool was carded with teasels (44:109).

Order XXXVIII. CAMPANULALES
Family 79. CUCURBITACEAE (Gourd)

*Citrullus vulgaris* Schrad.
*Citrullus citrullus* (L.) Karst.
*Cucumis citrullus* L. Watermelon, Sandía. 1. Tçeëhtjiyâñih (raw eaten). 2. T'ëëhtjiyâñih (raw, eaten; i.e. [plant whose fruit is] eaten raw). See *Cucurbita* spp. and *Zea mays*.

*Cucumis melo* L. Muskmeleon. Tá'nesk'ánih (squarish: the muskmelon).


*Cucurbita* spp. Squashes, Pumpkins, Calabash, Calabasa, Calabacin.

There are several kinds of these plants which are designated as follows:

1. Naayizih (no meaning: the pumpkin).
2. Naayizihitchíi' (pumpkin, red; i.e. the squash).
3. Naayizihpááhi (pumpkin, grey; i.e. the squash).
4. Naayizihxyeest'ahíh (pumpkin, flat).
5. Naayizihst'éé'íih (pumpkin, tailed). A tailed or pear-shaped pumpkin.

When the pumpkin is in blossom it is called naayiziih pitxä'itshóih (pumpkin, its top, yellow).

The squash is designated as péeck'anítshoh or péeck'anítshoh (iron,
squirish, big) in the Night Chant and other ceremonies (24:204). Another sacred name is la’tjjint’ih (day grower). See Nicotiana tabacum and Zea mays.

**Cucurbita foetidissima** H. B. K.
* Cucurbita perennis* A. Gray. Wild Squash, Wild Gourd. Ntilkhal (no meaning: the wild squash).

**Cucurbita maxima** Duch. Autumn Squash, Winter Squash. Naayízíh (it moves around a little; i.e. the squash).

**Cucurbita pepo** L. Field Pumpkin. Naayízíhítshòih (squash, yellow). The seeds are called naayízíhítshòih pik’òo’ (squash, yellow, its seeds).

**Cucurbita pepo** L. var. *condensa* Bailey. Summer Squash. Naayízíhítshòih (squash, yellow).

**Lagenaria vulgaris** Ser. **Cucurbita siceraria** Molina. **Lagenaria leucantha** (Duch.) Rusby. **Lagenaria siceraria** (Molina) Standley. Bottle Gourd, Dipper Gourd, Calabash. 'Atee' (someone's horn; i.e. a gourd, dipper, or spoon). Rattles made of the gourd are used in various ceremonies. Medicines are prepared frequently in cups made of the gourd (24:407). Dippers are also made of the gourd. See Yucca sp.

Family 80. CAMPANULACEAE (Bellflower)

**Campanula uniflora** L. One-flowered Bellflower, One-flowered Bluebell, One-flowered Harebell. Txatitifooffij'alts'iisih (pollen, blue, small; i.e. small blue [-flowered plant which is used for] pollen). Pollen for some of the sacred ceremonies is gathered from this plant (24:400).

Family 81. LOBELIACEAE (Lobelia)


Family 82. COMPOSITAE (Sunflower)

**Achillea millefolium** L. var. *lanulosa* (Nutt.) Piper. **Achillea lanulosa** Nutt. Common Milfoil, Common Yarrow, Sneezeweed. 1. 'Azee'ilitshe'e'h (medicine, dried; i.e. [plant which is] dried [and used for] medicine). 2. XazéeitltSie'eh (chipmunk tail; i.e. [plant whose leaves look like a] chipmunk['s] tail). A universal tonic or remedy known as a "life medicine" is applied in cases of "impaired vitality." A provision of this medicine is usually kept in stock and carried on journeys for eventual use. The stems and twigs of various herbs are gathered in season and dried, in which condition they are called 'azee'tshin (medicine twigs) (26:44). They are eventually pulverized, mixed with water, and applied internally as well as externally. The species are quite numerous and include such plants as yarrow, narrow-leaf rubber plant (*Actinella scaposa*), rock-
cress (*Arabis communis*), sagebrushes (*Artemisia franseroides* and *Artemisia tridentata*), antelope horns (*Asclepiodora decumbens*), aster (*Aster* sp.), milk vetch (*Astragalus mortoni*), rayless goldenrod (*Chrysothamnus nauseous*), plumed thistle (*Cirsium ochrocentrum*), willow herb (*Epilobium adenocaulon*), wild buckwheats (*Eriogonum alatum* and *Eriogonum racemosum*), western wallflower (*Erysimum asperum*), butterfly weed (*Gaura parviflora*), cudweed (*Gvaphalium chilense*), *Hymenopappus filifolius*, bladderpod (*Lesquerella alpina*), stoneseed gromwells (*Lithospermum canescens* and *Lithospermum incisum*), false mallow (*Malvavstrum coccineum*), evening primroses (*Oenothera caespitosa marginata*, *Oenothera hookeri*, and *Oenothera pinnatifolia*), penstemons (*Penstemon ambiguus* and *Penstemon laricifolius*), five fingers (*Potentilla strigosa*), water cress (*Radicula obtusa*), sensitive brier (*Schrankia uncinata*), bulrush (*Scirpus acutus*), sow thistle (*Sonchus oleraceus asper*), prince's plume (*Stanleya pinata*), green gentians (*Swertia radiata* and *Swertia sp.*), meadow rue (*Thalictrum fendleri*), pennycress (*Thlaspi coccineum*), blazing stars (*Mentzelia multiflora* and *Mentzelia pumila*), and several unidentified herbs: 'dya'a'áh (standing erect; i.e. [plant which] stands erect), 'azee'likihi (medicine, white; i.e. white [plant which is used as] medicine), 'azee'liitchii'ildih (medicine, red; i.e. red [plant which is used as] medicine), 'azee'píi'tjitchii'ih (medicine, inside, red; i.e. medicine [plant which has] a red core), and 'azee'tt'i'hikíi'ih (medicine, thick; i.e. medicine [plant which is made into a] thick [mixture]) (24:114-115 & 85:640). In an emergency two or four of these plants may be used, but it is better to have six. Any others may be added if at hand (85:640). One of my informants stated that yarrow acted just like iodine when mixed with water and applied to cuts. It is also ground up and the solution applied to saddle sores. It is interesting to note that legend ascribes the discovery of its healing virtues to Achilles, in whose honor it was named. See *Hedeoma nana*.

**Actinella richardsoni** Nutt.

*Actinea richardsoni* (Hook.) Kuntze.

*Actinella richardsoni* Nutt. var. *floribunda* A. Gray.

*Hymenoxys floribunda* (A. Gray) Cockerell.

*Hymenoxys richardsonii* (Hook.) Cockerell var. *floribunda* A. Gray.

Colorado Rubber Plant, Many-flowered Rubber Plant. 1. Pée'oottchihshóh pee'iiikhóóh (Pée'oottchihshóh, his emetic; i.e. [plant which] pé'e'oottchihshóh [uses for an] emetic). 2. Tc'iljó' (plant, flexible). The Navajo use this plant as a chewing gum (67:12).

**Actinella scaposa** Nutt. Narrow-leaf Rubber Plant. 1. 'Azee'liikhahníih (medicine, sweet; i.e. [plant that is used as a] medicine [and tastes] sweet). 2. Pé'oottchítí pé'iiikhóóh (Pé'oottchítí, his emetic; i.e. [plant which] pé'e'oottchihshóh [uses for an] emetic). See *Achillea millefolium lanulosa*.

**Aplopappus lanuginosus** A. Gray. 1. Tc'ilts'6oz (plant, slender). 2. T'Tliciitlwoó'íih (snake, swift ?). 3. T'Tíicc yil 'awóó'íih (snake, like, tooth; i.e. [plant whose leaves are sharp] like snake teeth). It is used as tooth-
ache medicine. One has to be very careful in using it, putting it only on the hurting tooth. It is said that if it gets on the good teeth it eats them up. See *Heuchera bracteata* and *Sisyrinchium mucronatum*.

**Artemisia** spp. Sagebrush, Altamisa. There are several species of unidentified sagebrushes:

1. 'Atshá'azee' (eagle medicine). A fine leaved species.
2. Ts'ah (no meaning: the sagebrush).
3. Ts'ahchtchil (sage, smell).
4. Tshé'ejiih (rock, bark).

When practicing for the Night Chant the Navajo use sagebrush instead of spruce (*Picea* sp.) wands (61:136). Bunches of sagebrush, grama grass (*Bouteloua hirsuta*), water cress (*Radicula obtusa*), and dodgeweed (*Gutierrezia sarothrae*) are tied to the corners of the hoops used in unraveling ceremonial objects (24:416). The leaves of an unidentified species of sagebrush yield a soft yellow dye (73:40 & 213). See *Aster* sp., *Chrysothamnus viscidiflorus*, and *Picea* sp.

**Artemisia filifolia** Torr. Silver Sagebrush, Silvery Wormwood. Tc'ilj6o' (plant, flexible). This plant is sometimes used as stock feed. It is also a very soft and convenient substitute for toilet paper.

**Artemisia franserioides** Greene. Sagebrush. 'Azee'ntookah (medicine, standing stalk, white; i.e. medicine [plant whose] stalk [is] white). See *Achillea millefolium lanulosa*.

**Artemisia frigida** Willd. Mountain Sagebrush, Arctic Sagebrush, Fringed Sagebrush, Estafiata. Tc'ilj6o' (plant, flexible). This plant is a very soft and convenient substitute for toilet paper.

**Artemisia ludoviciana** Nutt. Western Mugwort. This plant is used by the medicine men in some way unknown to the author.

**Artemisia tridentata** Nutt. Three-toothed Sagebrush, Basin Sagebrush, Big Sagebrush, Rocky Mountain Sagebrush, Black Sagebrush, Blue Sagebrush, Chamiso hediondo (stinking sagebrush), Estafiata, Estafiate. Kah pilikhanih (rabbit, his candy; i.e. [plant which] rabbit[s] [eat like] candy). This plant is mixed with *Artemisia trifida* as a medicine for headaches, which are supposed to be cured by the odor alone. It is also used for colds and fevers. This plant is taken before long hikes and athletic contests and is supposed to rid the body of undesirable things that are lingering in the body. A drink made from this same plant is used as an aid in deliverance of children (24:116). When this plant is boiled and drunk, it is supposed to act like epsom salts and cure stomach-ache.

In general, the Navajo are not acquainted with the fire drill, but among the medicine men it is still used. A small cylindrical piece of wood of this plant is set in the end of the drill. The hearth is usually the stalk of a large weed, while the tinder is softened juniper (*Juniperus* sp.) bark or

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19. See note 1, p. 16.
cottonwood (Populus sp.). Sand is usually put into the cavity to increase friction (36:586).

In the building of the sweathouse for the Mountain Chant, four upright poles are placed at the four cardinal points; between the uprights, smaller poles are laid; and between these poles sagebrush is placed compactly to prevent the sand from sifting through (78:239). See Achillea millefolium lanulosa and Portulaca oleracea.

Artemisia trifida Nutt.
Artemisia tridentata Nutt. var. trifida (Nutt.) Hall & Clements.
Artemisia tridentata Rydb. Three-lobed Sagebrush, Three-lobed Wormwood.
1. 'Azee'x̄áaltzít (medicine, rotten; i.e. medicine [plant whose roots look as if they were] rotten).
2. Txoo'khaal (dew, holds; i.e. [plant which] holds [the] dew). Washington Matthews states that the name is derived from the way in which it collects dew, because in the dry climates where it grows, it collects dew more readily than any other plant (55:773).

In the Mountain Chant Ceremony, a bundle of plants is burned to charcoal and given the sick Indian to blacken his legs and forearms. Included in this bundle are the following plants: sagebrush, grama grass (Bouteloua hirsuta), snakeweed (Gutierrezia sarothrae), and an unidentified plant (56:406). In the Night Chant, winter fat (Eurotia lanata) is substituted for the sagebrush (61:46). Bark of the sagebrush is also used into the necks of bottles to keep the water from spilling out (24:300). Corns are usually removed with a knife, but a liniment is sometimes used to spread over the wound (24:116). See Artemisia tridentata and Gutierrezia sarothrae.

Artemisia wrightii A. Gray. Wright Sagebrush, Wright Wormwood.
The seeds of this species of sagebrush are used for food.20

Aster sp. Aster. There are several unidentified species of aster:
1. 'Atshánitchinin (eagle, smelly; i.e. [plant which] smells [like an] eagle).
2. Te'ilinbyinikii [plant, brown; i.e. plant [which has a] brown[ish] [appearance]].
3. Niilii'ni [face, put into; i.e. [plant which you] put into [the] face [nose]].

Liniment for the Bead Chant consists of aster, tumbleweed (Amaranthus graecizans), and an unidentified species of Artemisia (24:405). The Bead Chant tobacco consists of the following plants: gilia (Gilia longiflora), four-o'clock (Mirabilis oxybaphoides), bread root (Psoralea tenuiflora), catchfly (Silene douglasii), and caltrop (Tribulus terrestris) (24:395).

Aster canescens Pursh. Hairy Aster, Hairy Starwort. Niilii'niitshoh (face, put into, big; i.e. big [plant which you] put into [the] face [nose]).

20. Ibid.
The dried and pulverized herb was used as a snuff for nose and throat troubles (24:112). See *Sisyrinchium mucronatum*.

Aster integrifolius Nutt.

*Bellis integrifolia* Michx. Western Wild Daisy. Na’a’čtéi’ilátá’lįįh (spider, food, grey; i.e. grey [plant which the] spider [uses for] food).

Aster multiflorus Ait. Many-flowered Aster.

Aster spinosus Benth. Spiny Aster, Mexican Devil Weed. The stems are chewed for gum.21


Bidens bipinnata L. Bur Marigold, Spanish Needles, Stick-tights, Tick-seed, Beggar’s Ticks. Naa’ołi yil t’aa’į́įh (bean, like, leaf; i.e. [plant which has a] leaf like [the] bean).

Brickellia grandiflora Nutt. var. petiolaris A. Gray.

*Coleosanthes petiolaris* (A. Gray) Greene. Large-flowered Brickellia.


Chrysothamnus spp. Rabbit Brush, Chamisa. K’iiltsh6iitjoolih (on top, yellow, rounded; i.e. [plant whose] top [is both] yellow [and] rounded). A number of unidentified species of *Chrysothamnus* are used as yellow dyes. See *Juniperus monosperma*.

Chrysothamnus greenei (A. Gray) Greene.

*Bigelovia greenei* A. Gray. Greene Rabbit Brush. ’Anaa’azee’ (alien medicine; i.e. medicine [plant which is used for] alien [diseases]). Some of the Navajo use this plant for chickenpox and measles. The tops of the plant are broken off and put in lukewarm water, and after the mixture has steeped for a while, the whole body of the patient is rubbed with the liquid, and then the body is covered. The eruptions are said to darken rapidly and then dry up (38:239).

Chrysothamnus latisquameus (A. Gray) Greene.

*Bigelovia graveolens* A. Gray var. latisquamea A. Gray. Broadscale Rabbit Brush. The twigs and flowers of this species of rabbit brush are used in coloring wool yellow.

Chrysothamnus nauseosus (Pall.) Britt. var. albicaulis Rydb.

*Bigelovia graveolens* A. Gray var. albicaulis A. Gray.


Chrysothamnus nauseosus (Pall.) Britt. var. *graveolens* Greene.

*Bigelovia graveolens* A. Gray.

**Chrysocoma graveolens** Nutt.

**Chrysothamnus graveolens** (Nutt.) Greene. Heavy-scented Rabbit Brush, Heavy-scented Rabbit Bush, False Goldenrod, Golden Bush, Chamisa. 1. Kahlpétc’il (rabbit, grey, weed; i.e. [the] cottontail rabbit[’s] weed). 2. K’ilitshōih (on top, yellow; i.e. [plant which is] yellow on top). 3. Tc’iltiitc’il (evil spirit, dead, or dead body plant). To produce a lemon-yellow dye, the flowering tops of the rabbit brush are boiled for about six hours. Native alum is then heated over a fire until it is reduced to a pasty consistency. These two are then mixed together and the wool put in and allowed to boil for about half an hour, or until the desired shade is obtained (53:377). Amsden states that it may seem strange that the same process should yield both a bright yellow and an “olive-green,” but if the dyer is careful to include only the mature blossoms of the shrub, a clear yellow will result; but if the immature flowers, leaves, or green bark are used, a green tint proportionate to the quantity of green used will appear (1:5). This species of rabbit brush is also used to remove evil spells in the Witch, Wind, and other Chants (26:73).

**Chrysothamnus vaseyi** (A. Gray) Greene.

*Bigelowia vaseyi* A. Gray. Vasey Rayless Goldenrod. 'Azee’woo' (medicine, teeth; i.e. medicine [plant which is good for the] teeth). See *Achillea millefolium lanulosa*.

**Chrysothamnus viscidiflorus** (Hook.) Nutt.

*Bigelowia douglasii* A. Gray.

**Chrysothamnus douglasii** (A. Gray) Greene.

**Crinitaria viscidiflora** Hook. Sticky-flowered Rabbit Brush, Sticky-flowered Rabbit Bush, Sticky-flowered Golden Bush, Sticky-flowered False Goldenrod. K’ilitshōih (on top, yellow). A yellow or light-orange dye is made by boiling the flowers with alum which is previously roasted in ashes. This, with a ground lichen (*Parmelia molliuscula*), is again boiled, and when it is thoroughly dissolved and cooled off, it is applied to leather with a wool brush (24:304). It is also used as a wool (55:773) and basketry dye (24:304).

In building the sweathouse for the Mountain Chant, four upright poles are placed at the four cardinal points; between the uprights smaller poles are laid; on these poles piñon (*Pinus edulis*) boughs, sagebrush (*Artemisia* sp.), and this plant are laid as a thatch to prevent the sand on top from sifting through (78:239). See *Eurotia lanata*.

**Chrysothamnus viscidiflorus** (Hook.) Nutt. var. *pumilus* (Nutt.) Hall and Clements.

*Bigelowia douglasii* A. Gray var. *pumila* A. Gray.

**Chrysothamnus pumilus** Nutt. Douglas Rabbit Brush. Tc’iltiilyéesii-tshoh (plant, refuge, big; i.e. big plant [which is used as a] refuge [by small animals]). It is mixed with the pollens of five different trees in the five night sings to make a sick person vomit.

**Cirsium lanceolatum** (L.) Hill.
**Carduus lanceolatus** L. Bull Thistle. Ma'jitåa' (coyote food). This plant is used to make a person vomit. It is first boiled, cooled, and then drunk.

**Carduus neomexicanus** A. Gray.

**Cirsium neomexicanum** A. Gray. New Mexico Thistle, Yellow Thistle. 'Azee'titi'oh (medicine, laughing; i.e. medicine [plant that looks as if it were] laughing [when its flowers go to seed]). See *Datura* sp.

**Cirsium ochrocentrum** A. Gray.

**Cirsium ochrocentrus** (A. Gray) Greene.

**Cnicus ochrocentrus** A. Gray.

**Ochocentrus** of the Franciscan Fathers (24:185). Plumed Thistle, Yellow-spined Thistle. 'Azee'xókháníitshoh (medicine, rising in tiers, big; i.e. big medicine [plant whose stems] rise in tiers). See *Achillea* millifolium lanulosa.

**Cirsium spp.** Thistle. 1. 'Azee'xokhdriiih (medicine, rising in tiers; i.e. medicine [plant whose stems] rise in tiers). This is a small species resembling *Cirsium ochrocentrum*. 2. Tc'ilteenínfh (plant, sharp; i.e. plant [whose leaves are] sharp). The name for any thistle.

**Dahlia pinnata** Cav. Cultivated Dahlia. A yellow-orange dye is obtained from the roots and flowers (82:3).

**Erigeron spp.** Fleabane. There are two unidentified species of fleabane: 1. 'Azee'na'oltxátiits'ooz (medicine, untying, slender; i.e. slender medicine [plant which is used for] untying [ceremonial knots]). 2. Naa-t'eejihlikaih (eyelashes, white; i.e. [plant whose] white [rays look like] eyelashes).

**Erigeron divergens** T. & G. Spreading Fleabane. 'Azee'na'oltxátiih (medicine, untying; i.e. medicine [plant which is used for] untying [ceremonial knots]). On the first night of the five night sings, this plant is chewed and blown on the ceremonial knots on the strings which are tied around the bundles of weeds. If a woman has a hard time having a baby, this plant is put in warm water and given the woman to drink as an aid to delivery.

**Erigeron flagellaris** A. Gray. Fleabane. K'aal6kiitåa' (butterfly food; i.e. [plant which the] butterfly [uses for] food).

**Eupatorium occidentale** Hook. Western Thoroughwort. Piixaajtci'iih (with it, odor, breeze; i.e. [its] odor [is carried] with [the] breeze). So called because its fragrance is carried on the breeze (24:186). See *Phlox caespitosa*.

**Eupatorium purpureum** L. Joe-pye Weed, Purple Thoroughwort, Boneset, White Snakeroot, Trumpet Weed. K'aståh peekåh (arrow-wound, its cure; i.e. [plant which is used as an] arrow-wound cure). My informant states that after a person gets shot with an arrow he drinks a decoction of this plant to get well. This genus is named after Eupator Mithridates,
King of Pontus, who used another species of this same genus as an antidote for poison.

**Gaillardia pinnatifida** Torr. Blanket Flower. Tshés’natágá’ (rock, on, food; i.e. wasp food). A gout tonic is prepared from this plant. The crushed leaves and twigs are added to lukewarm water and applied externally and internally (24:113).

**Gnaphalium chilense** Spreng.  
**Gnaphalium sprengeli** H. & A. Sprengel Cudweed, Sprengel Everlasting. 'Azee’tísos (medicine, glossy; i.e. medicine [plant whose roots are] glossy). See *Achillea millefolium lanulosa*.

**Gutierrezia sarothrae** (Pursh.) Britt. & Rusby.  
**Gutierrezia diversifolia** Greene.  
**Gutierrezia ephedrae** T. & G.  
**Gutierrezia linearis** Rydb.  
**Gutierrezia longifolia** Greene.  
**Gutierrezia tenuis** Greene.  

**Solidago sarothrae** Pursh. Snakeweed, Brownweed, Yellow-weed, Sheepweed, Dodgeweed, Matchweed, Scareweed, Yerba de la Víbora, Coyaje.  
1. Tc'ilíilyéesíih (plant, refuge; i.e. plant [which is used as a] refuge [by small animals]).  
2. Tc'ilniilyéesíih (plant, refuge). The Navajo chew this plant and place the pulp on the swelling caused by the stings of ants, bees, and wasps (24:117) & (83:656). It is also supposed to heal wounds.  

The stems are used for whirls when making fire-by-friction. The tops are made into a yellow dye. This plant is claimed also to be good for snake-bite. When a sheep is bitten by a snake, this plant is ground and boiled and placed on the wound as a poultice. The swelling is said to go down immediately and the sheep cured.

Two kinds of charcoal are used in the medicines which are applied to the ailing gods. The first is made from the bark of the pine (*Pinus* sp.) and willow (*Salix* sp.). The second is made from this plant, *Bouteloua hirsuta*, and *Artemisia trífida*, to which are added the feathers dropped from a live crow and a live buzzard (60:22). On the second day of the War Dance Ceremony, four kinds of leaves are burned to charcoal for the blackening ceremony. These are dodgeweed, grama grass (*Bouteloua hirsuta*), sagebrush (*Artemisia trífida*), and an unidentified plant, tshé'ezee' (rock medicine; i.e. [plant which grows on] rock[s] [and is used for] medicine) (71:124). It is also burned to ashes and rubbed on the body to cure headache. The bull-roarer used in the Female Shooting Life Chant is made of lightning-struck oak (*Quercus* sp.) and covered with the ashes of snakeweed and pitch (85:637). See *Artemisia* sp., *Artemisia trífida*, *Juniperus monosperma*, *Phragmites communis*, and *Pinus edulis*.

**Gymnolomia multiflora** (Nutt.) Benth. & Hook.  
**Heliotheris multiflora** Nutt.  

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22. See note 1, p. 16.

**Helenium hoopesii** A. Gray.

**Dugadla hoopesii** (A. Gray) Rydb. South American Rubber Plant, Orange Sneezeweed, Owl’s Claws. Ne’éctja’ yil khee’éh (tuft, ear, like, foot; i.e. [plant whose leaves look] like [the] foot [of the] owl). This plant is used as a remedy for vomiting (42:115). Various shades of yellow for dyeing are obtained from *Helenium*. The flowers are crushed and boiled with juniper (*Juniperus* sp.) ashes thrown in (24:293). The flowers alone make a soft yellow dye (74:39). Chewing gum is made from the roots.

**Helianthus annuus** L. Common Sunflower, Wild Sunflower, Añíl. Ntícììlitshoh (sunflower, big). Liniment for the War Dance consists of *Physaria* sp., wild sunflower, sumac (*Rhus trilobata*), and mistletoe (*Phoradendron* sp.) (42:405). In the Mountain Chant, the illusion of swallowing the arrow is made possible by the use of a hollow sunflower stalk into which the shaft and arrow point are gradually and slowly hidden (24:419). There is also an ancient custom of timing the grinding of the corn at the War Dance by a flute made of the stalk of the sunflower. The flutes were provided with only four keys (24:511). The Navajo formerly cultivated the sunflower and mixed the seeds with corn. This mixture was then ground into a meal and made into cakes (12:41).

Bird snares are made of sunflower stalks in which are drilled two small holes. In one of these holes is inserted a twig of greasewood (*Sarcobatus vermiculatus*) and at the end of this is fastened a sliding loop of horsehair. The greasewood twig is then bent in a bow and the loop passed through the upper hole, across which is laid a small piece of reed (*Phragmites communis*). The small stick below the loop is placed so that one end rests on the rim of the stalk and the other end on the reed. When a bird alights on this, the small piece of reed is disturbed and the greasewood twig straightens, drawing the horsehair loop with the bird’s foot in it into the stalk (24:323).

The outer seed coatings of the sunflower are boiled to obtain a dull, dark-red dye.²³

**Helianthus nuttallii** T. & G. Nuttall Sunflower. Ntícììlitchinitshoh (sunflower, smelly, big). The dried leaves are crushed between the fingers and stirred in a bowl of water and used as a remedy for stomach troubles (24:114).

**Helianthus** sp. Sunflower. An unidentified species of sunflower is called ntíćiilipáíih (sunflower, grey).

**Hymenopappus**²⁴ *filifolius* Hook. ’Azee’xáaltzit (medicine, rotten; i.e. medicine [plant whose roots look as if they were] rotten). See *Achillea millefolium lanulosa*.

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²³. From legend on exhibit of the Kirk Brothers Trading Company, at the Inter-Tribal Indian Ceremonial held in Gallup, New Mexico, August, 1936.

²⁴. Sometimes written *Xymenopappus*.
Hymenopappus nudatus W. & S. K’astáh peekáh (arrow-wound, its cure; i.e. [plant which is used as an] arrow-wound cure). This plant is supposed to take away blood poisoning. The whole plant is boiled and drunk.

Hymenoxys metcalfei Cockerell. Metcalfe Rubber Plant. The flowers are used for coloring wool yellow (19:3).

Lactuca scariola L. Prickly Lettuce. ’Azee’xókháníil’lipáhíkíih (medicine, rising in tiers, grey; i.e. grey medicine [plant whose stems] rise in tiers).


Lygodesmia rostrata A. Gray. Wild Asparagus, Skeleton Weed, Prairie Pink. 1. Tjáféñát’ooh (antelope tobacco). 2. Tinéñát’ooh (Navajo tobacco). 3. Tinétc’il (Navajo plant). 4. Tinézóncilñát’ooh (Navajo, alarmed, tobacco; i.e. tobacco [plant which is smoked when a] Navajo [becomes] alarmed). By smoking this plant, the nerves of a person who has been suddenly scared are quieted. This plant is also offered to the antelope at the Corral Chant (24:395). See Amaranthus graecizans.

Machaeranthera alta A. Nels. Purple Aster, Tansy Aster, Viscid Aster. Ne’etshah’azee’ (pimple medicine; i.e. medicine [plant which is used in removing] pimple[s]). Pimples are removed by rubbing them with the leaves of this plant (24:113).

Pectis angustifolia Torr. Lemon Scent, Chinch Weed, Limoncillo. TshéGdannItc’iih (rock, through, breeze; i.e. [a plant, the odor of which the] breeze [is able to blow] through rock). The Navajo name is derived from the fact that the odor of this plant is said to penetrate sandstone two feet or more in thickness (55:769). The leaves when crushed and a little salt added are supposed to cure stomach-ache. It is also used as a carminative (24:769). The liniment for the Chiricahua Apache Wind Chant also requires this plant (24:405).

Sanvitalia aberti A. Gray. ’Azee’xótshe’iih (medicine, numbing; i.e. medicine [plant which will] numb [the mouth if eaten]). This plant is chewed to cure sores in the mouth. When it is chewed it has a salty pungent taste, which is followed by a sense of numbness in the mouth. It is also said to produce increased perspiration (55:773). One of my informants stated that it was “hot” like chili.

Senecio douglasii DC. Douglas Groundsel, Douglas Ragwort, Douglas Squaw Weed, Creek Senecio, Old Man. Xwócpilt’íih (thorns, for brushing off; i.e. [plant with which cactus] thorns [are] brushed off). Also pronounced xwócpilt’íhikíih. To get a good voice for the Night Chant, this plant is boiled and drunk before the person goes into the sweathouse. The tops are used as brooms to brush the spines from cactus fruit (55:774). See Amaranthus graecizans.

Tixitii'áh (point of; e.g. a stick is stuck in the fire and the end which does not burn is spoken of as tixitii'áh). This plant is used as an incense (26:76).

Solidago pumila T. & G.

Petradoria pumila (T. & G.) Greene.

Solidago petradoria Blake nom. nov. Rock Goldenrod. Tc'ililitshóih (plant, yellow; i.e. plant which has yellow blossoms). The flowering tops are mixed with Rumex hymenosepalus to obtain a yellow dye.

Sonchus oleraceus L. var. asper L.

Sonchus asper (L.) Hill. Prickly Sow Thistle, Spiny-leaved Sow Thistle. 'Azee'xokháníilíipáhikíih (medicine, rising in tiers, grey; i.e. grey medicine [plant whose stems] rise in tiers). See Achillea millefolium lanulosa.

Tagetes micrantha Cav. Bitter Ball. The entire plant is used in coloring wool yellow (19:3). It is also used for colds, fevers, summer complaints, and stomach troubles.25

Thelesperma gracile (Torr.) A. Gray.

Bidens gracilis Torr. Navajo Tea, Slender Bur Marigold, Slender Beggar's Ticks, Slender Pitchforks, Té de los Navajoses, Té silvestre, Cota. 1. Tc'ilikoxwéhih (plant, coffee). 2. Téeh (tea, a corruption of the Spanish té). 3. Woots'in'azzee' (tooth-flesh medicine; i.e. [plant which is used as a] medicine [for the] gums). A substitute for tea is made from this plant by boiling the leaves and stems. It is supposed to be a nervous stimulant. It is also said to be good for the teeth (55:773).

Thelesperma longipes A. Gray. Cota. This plant is used as a substitute for tea by the Navajo. When boiled it gives the water a deep red tinge. The same material may be boiled several times before losing its strength (83:703).

Thelesperma subnudum A. Gray. The leaves, stems, and blossoms of this plant are used in coloring wool orange (19:2).

Townsendia spp. 1. 'Azee'na'oltxátiíalt'sísíkíih (medicine, untying, slender; i.e. slender medicine [plant which is used in] untying [ceremonial knots]). 2. 'Azee'na'oltxátiits'óoz (medicine, untying, slender). Several species of this plant help to accelerate deliverance (24:116).

Townsendia exscapa (Rich.) Porter.

Aster exscapus Richards.

Townsendia sericea Hook. 'Azee'na'oltxátiíih (medicine, untying; i.e. medicine [plant which is used for] untying [ceremonial knots]). It is called “untying medicine” because it is chewed and spit upon ceremonial knots, which are then unraveled (26:45).

Townsendia strigosa Nutt. Aster. 1. 'Azee'na'oltxátiíih (medicine, untying). 2. Ni'il'níits'óoz (face, put into, slender; i.e. slender [plant which you] put into [the] face [nose] [as a snuff]). 3. Tc'iic'azzee' (sneeze medi-

25. See note 1, p. 16.
cine). This plant is used for stomach troubles by drinking a decoction made by crushing the dried leaves between the fingers and stirring the powder into a bowl of water (24:114). A beverage prepared from this plant helps to accelerate deliverance (24:116). It is chewed by the chanter in the Night Chant and spit upon prayersticks. This is supposed to facilitate the disentanglement of the string. The same juice is also spit upon the wand used in the Night Chant (61:68). The use of the dried and pulverized herb as a snuff for nose and throat troubles suggests a reason for one of the names of the plant (26:141).

**Verbesina encelioides** A. Gray var. **exauriculata** Rob. & Greenm.

*Ximenesia encelioides* Cav.

*Ximenesia exauriculata* (Rob. & Greenm.) Rydb. Crownbeard.

**Ntigiliiinlichiniih** (sunflower, smelly). One of my informants stated that it was possible that the Navajo ate the seeds. It is drunk for stomach troubles after the dried leaves are crushed and stirred in a bowl of water (24:114). See *Cowania stansburiana*.

**Xanthium canadense** Mill.

*Xanthium strumarium* L. var. **canadense** T. & G. Common Cocklebur, Burdock, Sheepbur, Buttonbur, Clotbur, Ditchbur. 'Altxa'niits'éhiih (adhering; i.e. [plant whose burs] adhere[to one]). A liniment made of the cocklebur is held under the armpit to remove excessive perspiration (24:116).

**Zinnia grandiflora** Nutt. Large-flowered Zinnia. Nii'ilii'nihtshahikihih (snuff, big). See *Sisyrinchium mucronatum*.

**Unidentified Compositae:**

'Azee'tágaa'ii' (medicine, beard). It is drunk as a medicine in certain ceremonials.

**Zaaxwocikih** (which contracts the lips).
Appendixes

APPENDIX A

UNIDENTIFIED PLANTS

'At'aa'tshoh (leaf, large; i.e. [plant which has a] large leaf).

'Atjaak'ñooxaltchinih (ear, seed, smelly; i.e. [plant which has] seed[s] [that are both] ear[-shaped and] smelly). See Amaranthus graecizans.

'Awée'pilái ilpéej (baby, afterbirth, boils it; i.e. [plant which] boils [the] baby['s] afterbirth). A decoction is made of this plant which the woman drinks to make the baby come out quickly and easily. It also makes the afterbirth come out. It is also used as a purgative (26:41) and as a beverage for confinement (24:116). See Euphorbia montana.

'Awée'pilái ilpéej alts'iisikiih (baby, afterbirth, boils it, slender; i.e. [plant which] boils [the] baby['s] afterbirth). This plant is used the same way as 'awée'pilái ilpéej.

'Awée' pila ilpéej xwóloni'kíih (baby, afterbirth, boils it, its fuzz, having; i.e. [plant] having bark [and which] boils [the] baby['s] afterbirth). This plant is used the same way as 'awée'pilái ilpéej.

'Áyaa'áíih (standing erect; i.e. [plant which] stands erect). See Achillea millefolium lanulosa and Petalostemon candidus.

'Áyán pilij xalchin (buffalo, urine, smelly; i.e. [plant which is] smelly [like] buffalo urine). Same plant as 'awée'pilái ilpéej. See Euphorbia montana.

'Azee'likaih (medicine, white; i.e. white [plant which is used as] medicine). See Achillea millefolium lanulosa and Lithospermum lineari-folium.

'Azee'lit'čii'ih (medicine, red; i.e. red [plant which is used as] medicine). See Achillea millefolium lanulosa.

'Ázee' pii'tjitchii'ih (medicine, inside, red; i.e. medicine [plant which has a] red core). It is used at childbirth (24:115). See Achillea millefolium lanulosa.

'Azee'tic6okiih (medicine, velvety; i.e. medicine [plant whose leaves have] velvety [surfaces]). A foot ease was prepared from this plant and applied to the foot or placed in the moccasin to remove the odor (24:116). 'Azee'tićihkíih (medicine, thick; i.e. medicine [plant which is made into a] thick [mixture]). See Achillea millefolium lanulosa.

Cilatshoh (my finger, big; my thumb). A poison, but the medicine men use it.

'Ee'nii'nitjítc'il (thunder plant). Same as 'ee'nii'tc'il.

'Ee'nii'tc'il (thunder plant). This plant is applied internally and externally in cases of lightning stroke or snake bite (24:117). This cure is applied to both man and animals with good results, but is known only to a few, who apply it without any ceremony (24:155).
"Ee'niitjitc'il (thunder plant). Same as 'ee'niit'tc'il, but a varying pronunciation.

'Ma'ji pilij xaltchin (coyote, his urine, smelly; i.e. [plant which is] smelly [like] coyote urine). This plant grows in sandy places and is a favorite of the burro who will go to any extent to find it.

"Ee'niltjitcil (thunder plant). Same as 'ee'nii'tc'il, but a variant pronunciation.

Md'ii pilij xaltchin (coyote, his urine, smelly; i.e. [plant which is] smelly [like] coyote urine). This plant grows in sandy places and is a favorite of the burro who will go to any extent to find it.

Mdlii'ajii'petc'iil (coyote, ear, scab; i.e. [plant which is good for] coyote ear scab[s]). This unidentified plant is made into a paste and used for the treatment of skin diseases and dandruff (33:20).

Nák'yicpijiih (two of them roll together?).

Naapiihtshoh (no meaning). The dried leaves of this plant are crushed and mixed with tobacco and smoked to cure colds. It is also used to cure sores behind the ears of babies. Snakes are afraid of it, so it is made into an incense and sprinkled about the hogan. It is said to kill the snakes instantly. As a blood purifier it is mixed with pollen from three other unidentified herbs and steeped into a tea (33:21).

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Siлатshoh (my finger, big; i.e. my thumb). A variant pronunciation of cilatshoh.

Ta'aciih'ait'daikh (salt, thin; i.e. [plant with] thin [leaves that have a] salt[y] [taste]). This herb is pounded into a paste with mutton tallow and used as a remedy for burns. The first application is said to be almost unendurable, but the pain suddenly ceases, and the effect is very soothing (33:20).

Te'alan'toooh (frog tobacco). This plant is taken in the form of a tea after a person has been rescued from drowning (33:21).

Tchiltchin yil t'a'ikiih (plant, odorous, like, leaves; i.e. [plant with] leaves like the sumac).

Tchiltchin yil t'ëxikiih (plant, odorous, like, leaves; i.e. [plant with] leaves like the sumac). A variant pronunciation of tchiltchin yil t'a'ikiih.

T'c'il'ahjiih (plant, deadly). A plant, which if insects or persons eat,
they will get "skinny" and after a time die. Diuretic troubles were also removed by beverages made of this plant (24:113).

Te'ilnaaskaatikihih (plant, spread out).

Te'il pit'aa' lipahihiih (plant, leaf, grey; i.e. plant [with] grey leaves).

Tshé'ezee' (rock medicine; i.e. medicine [plant that grows on] rocks).

This is one of the plants which is burned to charcoal and given the patient in the Mountain Chant to blacken his legs and forearms (56:406). See Gutierrezia sarothrae.

Tshelikhaniih (rock, sweet; i.e. [plant whose wood is both] sweet [and hard as a] rock). This is a very hard wood which was formerly used for making war bows (24:318).

Tshelkhyéexaltchin (young men, smelly; i.e. [plant which] smells [like] young men). See Amaranthus graecizans.

Tshéts'aa' (stone basket ?). On the ninth day of the Night Chant, when the masks are completed, an assistant chews the fruits of this plant and spits the juice on the masks (61:136).

Tshiyantchi (tree, under, smelly; i.e. smelly [plant which grows under trees]). This plant is used in the same manner as Portulaca oleracea.

Txootji'xwiitzoh (water, toward, line; i.e. [plant which extends] toward [the] water [in a] line). See Datura sp.

Wolitchii' pik4h (red ant, antidote; i.e. red ant [bite] antidote). This unidentified plant is chewed to a pulp and placed on the stings of ants, bees, and wasps for relief (24:117).

Xatchjiitiniih'azee' (nose, hurt, medicine; i.e. [plant which is used as a] medicine [for] nose troubles). This unidentified plant is used as a snuff for headaches and nose troubles (24:112).

Yáxaltshôih (standing, yellow; i.e. yellow [plant which is] standing [up]). This plant is steeped into a tea and taken internally to counteract insect poison injected into the blood stream. The bites are also bathed in it (33:20). This plant is given the scientific name of Peritenia arevellerum in (33), but is not a correct one. Perhaps a typographical error.
ETHNOBOTANY OF THE NAVAJO

APPENDIX B

PLANT PRODUCTS AND BY-PRODUCTS

Leectc'ih, ashes.
Naactc'i'i', the piñon nut; a variant pronunciation of neectc'i'i'.
Neectc'i'i', the piñon nut.
Pinest'ã', its fruit.
Pit'jееh, its gum or pitch.
Tchá'ol, green piñon wood, which, if dry would be called teestshiin.
Tchíc, wood, fuel, firewood.
T'éec, charcoal. The charcoal of various plants is used extensively in many ceremonies to produce black for sandpaintings and body paint.
Teestshiin, dry piñon log, which, if green would be called tchá'ol.
Tilk'ýis, dry juniper wood.
Títlhée', green, unburnable wood.
Tshin, stick of wood, a stick, pole, log, or tree.
Tshinixeestjii', a board.

APPENDIX C

GENERAL TERMS FOR PLANTS

Nánsé', vegetation, from nooséel, it is growing.
Tc'il, plant, grass, weed.
Tc'ilnaaskhaatiih (plant, spreading). Any vine.
Tc'il pínáa' (plant, its seeds). A seed-bearing plant.
Tc'il sikhha, a clump of weeds, a bush, or tuft of grass.
T'oh, any kind of grass, or hay.
T'ótec'il, any kind of a plant.
Tshin, a tree, log, pole, stick, or wood.

APPENDIX D

ANNOTATED LIST OF PLANT PARTS

'Ajíih, fuzz. This is the inner fiber of a plant, between the bark and the bast, especially when dry. Only juniper (Juniperus sp.) and cliffrose (Cowania stansburiana) have it.
'Atcho' (hanging down), a catkin, of the walnut, cottonwood, willow, and the like.
'Atchok, a catkin. A variation in pronunciation of 'atcho'.
Naactc'i'i', the piñon nut. A variation in pronunciation of neectc'i'i'.
Neectc'i'i', the piñon nut.
Nteeckyic, it is single-forked. Said of a tree branch.
Pexet'óol, its strings. The roots of a plant, tree, or grass.
Pexetshiin, its base. The base of a tree where it meets the ground.
Also said of the feet of a man.
Pi'iil, its needles. Said of pine, spruce, juniper, and all coniferous trees.

Pi'jiih, its fuzz. The inner fiber of juniper (*Juniperus* sp.) or cliffrose (*Cowania stansburiana*), especially when dry.

Pikáan, its arm. Used of tree boughs.

Pikháájóoj, its bark.

Pikháákiih, its inner rind.

Pik'ío', its seed. Seeds of any fruits, especially pumpkins and squashes. See pilastshii'.

Pilastshii', its seeds. Said mostly of small seeds.

Pilátshah, its tip or top. Said of a flower.

Pilátshah'alkaïkiih (its top, white; i.e. a white flower).

Pilátshah'altchii (its top, red; i.e. a red flower).

Pilátshah'altshoïkiih (its top, yellow; i.e. a yellow flower).

Pilátshaxhotool't'ijikiih (its top, blue; i.e. a blue flower).

Pináa', its seed. The seed of any plant.

Pinest'á', its pod. A fruit.

Pit'aa', its leaf.

Pitaa'tiyah, turning the corner on its edge. Can be said of the branch- ing periphery of a tree.

Pitjeeh, its gum or pitch, especially of a pine or piñon tree.

Pit'iól, its string. A tendril of any vine.

Pits'aooz'á', its bough or limb.

Pitshin, its wood. The pith or pulp of a plant stalk, or the stalk itself.

Pitxáat'ahih, its bast.

Pizit, its liver. The pith or the inside of a tree.

Taxalkyic, several forks. The several forks of a stick, or the cracks between the fingers.

Taxastxal, a crack. Any crack, in the bark of a tree, or even a chapped crack in the finger.

Té'llátshah, plant tip or top. A flower.

Tilk'yiis, dry juniper wood.

Tilk'yiis pi'jiih, dry juniper bark.

Tjee'ilil't'hjih (gum, sticky). Gum or pitch.

T'ohuoool, a grass tassel.

T'o pexét't'ol (grass, its strings; i.e. grass roots).

Tshin, a log, pole, or stick of wood.

Txátítjìn, pollen.

Xalkyic, one fork (of a stick).
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<td>Eupatorium pyre pureum</td>
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<td>Lupinus brevicaulis</td>
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</tr>
<tr>
<td>Lygodium crispa</td>
<td>As a remedy for alarm and nervous disposition</td>
</tr>
<tr>
<td>Marrubium vulgare</td>
<td>As a tea for sore throat</td>
</tr>
<tr>
<td>Oreocarya fulvo canescens</td>
<td>For coughs and colds</td>
</tr>
<tr>
<td>Oxytropis sp.</td>
<td>As a remedy for bronchial and esophageal troubles</td>
</tr>
<tr>
<td>Pectis angustifolia</td>
<td>For stomach-ache and as a carminative</td>
</tr>
<tr>
<td>Penstemon sp.</td>
<td>For rattlesnake bites</td>
</tr>
<tr>
<td>Penstemon torreyi</td>
<td>As a remedy for diuretic troubles</td>
</tr>
<tr>
<td>Petalostemon candidus</td>
<td>To remove pains in the abdomen</td>
</tr>
<tr>
<td>Physaria newberryi</td>
<td>As a snuff for catarrh</td>
</tr>
<tr>
<td>Prunus persica</td>
<td>As a purgative</td>
</tr>
<tr>
<td>Radicula alpina</td>
<td>As a tonic after deliverance</td>
</tr>
<tr>
<td>Ranunculus cymbalaria</td>
<td>As a remedy for syphilis</td>
</tr>
</tbody>
</table>
ETHNOBOTANY OF THE NAVAJO

**For nose troubles**
- *Sisyrinchium mucronatum*
- *Solanum elaeagnifolium*
- *Swertia radiata*
- *Theleperma gracile*
- Townsendia spp. 

**For nose and throat troubles**
- *Solanum elaeagnifolium*
- *Swertia radiata*
- *Theleperma gracile*
- Townsendia spp.

**As a remedy for alarm and nervousness**
- *Sisyrinchium mucronatum*
- *Swertia radiata*

**As a nervous stimulant**
- Townsendia spp.

**To accelerate deliverance**
- *Swertia radiata*
- *Yucca baccata*
- *Zea mays*

**APPLIED EXTERNALLY**

- *Aplopappus lanuginosus* 
  For aching teeth and sore gums
- *Artemisia tridentata* 
  For headache
- *Artemisia tridentata var. trifida* 
  For headaches
- *Ceanothus fendleri* 
  As a remedy for alarm and nervousness
- *Chrysothamnus greenei* 
  As a remedy for chickenpox and measles
- *Datura sp.* 
  For trachoma
- *Ephedra trifurca* 
  For venereal disease
- *Euphorbia montana* 
  As a remedy for boils and pimples
- *Euphorbia riginosa* 
  As a remedy for boils
- *Gaillardia pinnatifida* 
  For the relief of gout
- *Gutierrezia sarothrae* 
  For relief of headaches
- *Heuchera bracteata* 
  For aching teeth and sore gums
- *Lupinus lyallii* 
  As a remedy for boils
- *Machaeranthera alta* 
  To remove pimples
- *Monarda fistulosa* 
  To relieve headaches
- *Oenothera tanacetifolia* 
  As a remedy for boils
- *Penstemon sp.* 
  For rattlesnake bites
- *Portulaca oleracea* 
  For hurts
- *Swertia radiata* 
  As a remedy for alarm and nervousness
- *Thelypodium wrightii* 
  For relief of swellings
- *Zea mays* 
  To cure sore throat

**FOR EXTERNAL DISORDERS**

**APPLIED EXTERNALLY**

- *Achillea millefolium lanulosa* 
  For saddle sores and cuts
- *Artemisia tridentata var. trifida* 
  As a corn liniment
- *Atriplex sp.* 
  For the relief of insect bites
- *Datura meteloides* 
  To heal wound made from castrating sheep
- *Gaussia parviflora* 
  To allay inflammation and cure burns
- *Gutierrezia sarothrae* 
  For the relief of insect bites, to heal wounds, and for snake bite
- *Juniperus scopulorum* 
  As a remedy for dandruff
- *Lithospermum angustifolium* 
  For soreness of umbilical cord
- *Nicotiana sp.* 
  To cure sores on hands
- *Oenothera sp.* 
  For sores
- *Orobanche fasciculata* 
  For curing sores
- *Pinus edulis* 
  For cuts and sores
- *Sauviala aberti* 
  For mouth sores
- *Sarcobatus vermiculatus* 
  For relief of insect bites
- *Xanthium canadense* 
  To remove excess perspiration
- *Zea mays* 
  For sores

**FOR WITCHCRAFT**

**FOR ANT WITCHCRAFT**

- *Eriogonum sp.*
- *Eriogonum fasciculatum*
ETHNOBOTANY OF THE NAVAJO

For Other Witchcraft

Gentiana affinis

For "Accidents"

Taken Internally

Abronia fragrans
  For the swallowing of a spider

Eriogonum rotundifolium
  For the swallowing of ants

As Ingredients of the "Life Medicine"

Use Both Internally and Externally

Achillea millefolium lanulosa
  Lithospermum multiflorum

Actinella escapos
  Malvastrum coccineum

Arabia communis
  Mentzelia multiflora

Artemisia franserioides
  Mentzelia pumila

Artemisia tridentata
  Oenothera caespitosa marginata

Asclepiodora decumbens
  Oenothera hookeri

Aster sp.
  Oenothera pinnatifolia

Astragalus mortoni
  Penstemon ambiguus

Chrysothamnus vaseyi
  Penstemon laricifolius

Circaea ochoecentrum
  Potentilla tririgosa

Epilobium adenocaulon
  Rudicula obtusa

Eriogonum alatum
  Schrankia uncinata

Eriogonum racemosum
  Scirpus acutus

Erysisum asperum
  Sonchus asper

Gaura parviflora
  Stanleya pinnata

Gnaphalium sprengelii
  Swertia sp.

Hymenopappus filifolius
  Swertia radiata

Lesquerella alpina
  Thalictrum fendleri

Lithospermum canescens
  Thlaspi alpestre

Lithospermum incisum

Miscellaneous Uses as Medicines

Artemisia ludoviciana
  Parmelia mollisscula
  By the shaman
  For impetigo

Artemisia tridentata
  Portulaca oleracea
  For colds and fevers
  Sagittaria arifolia
  For stomach-ache

Clematis ligusticifolia
  For headaches

Eriogonum alatum
  Solidan elaeagnifolium
  For hurts

Erysisum asperum
  As a remedy for sore eyes

Gentiana affinis
  Sphaeralcea lobata
  For sowing
  As a ceremonial medicine

Kentrophyta montana
  Stanleya pinnata
  As a reputed remedy for rabies

Malvastrum coccineum
  For glandular swellings
  To stop bleeding

Oxycarya fulvocanescens
  Tagetes micrantha
  For hurts
  For colds, fevers, summer complaints, and stomach troubles

1. It is not known how these plants are used.
TABLE II

**CEREMONIAL PLANTS**

**BEAD CHANT**
- *Amaranthus graecizans*
- *Artemisia sp.*
- *Aster sp.*
- *Gilia longiflora*
- *Mirabilis oxybaphoides*
- *Psoralea tenuiflora*
- *Silene douglasii*
- *Tribulus terrestris*
- *Zea mays rugosa*

**CHIRICAHUA APACHE WIND CHANT**
- *Pectis angustifolia*

**CORRAL CHANT (Part of Mountain Chant)**
- *Lygodesmia rostrata*

**COYOTE CHANT**
- *Amaranthus graecizans*
- *Castilleja minor*
- *Chenopodium sp.*
- *Chrysothamnus nauseosus albicaulis*
- *Cymopterus alpinus*
- *Eriogonum jamesii*
- *Forestiera neomexicana*
- *Gilia longiflora*
- *Leptotaenia dissecta multifida*
- *Lygodesmia rostrata*
- *Mirabilis oxybaphoides*
- *Mirabilis sp.*
- *Oxytropis lambertii*
- *Oxytropis sp.*
- *Senecio douglasii*
- *Zea mays rugosa*

**LIFE OR KNIFE CHANT**
- *Eriogonum alatum*
- *Lithospermum angustifolium*

**LIGHTNING CHANT**
- *Arundo donax*
- *Astragalus matthewsii*
- *Lupinus brevicaulis*
- *Picea sp.*
- *Sarcobatus vermiculatus*

**MOTION-IN-HAND CEREMONY**
- *Zea mays*

**MOUNTAIN CHANT**
- *Artemisia sp.*
- *Artemisia tridentata*
- *Artemisia trifida*
- *Bouteloua hirsuta*
- *Cercis occidentalis*
- *Cercocarpus montanus*
- *Chenopodium cornutum*
- *Chenopodium spp.*
- *Chrysothamnus viscidiflorus*
- *Cowania stansburiana*
- *Cucurbita sp.*
- *Eurotia lanata*
- *Fendlera rupicola*
- *Gaura parviflora—Fire Dance*
- *Gutierrezia sarothrae*
- *Helianthus annuus*
- *Juniperus sp.—Fire Dance and elsewhere*
- *Nicotiana sp.*
- *Nicotiana tabacum*
- *Parthenocissus vitacea*
- *Phaseolus vulgaris*
- *Phragmites communis*
- *Picea sp.—Fire Dance*
- *Pinus edulis*
- *Pinus sp.—Fire Dance*
- *Prunus demissa*
- *Rhus trilobata*
- *Salix sp.*
- *Sarcobatus vermiculatus*
- *Yucca baccata*
- *Yucca sp.*
- *Zea mays*
- *Zea mays rugosa*
ETHNOBOTANY OF THE NAVAJO

MOUNTAIN TOP CHANT

Eriogonum alatum
Juniperus spp.
Leptotenia dissecta multifida
Lithospermum lineartofolium
Oenothera spp.

Pinus edulis
Pinus spp.
Prunus demissa
Quercus spp.
Rhus trilobata

MOVING UPWARD CHANT

Gossypium sp.

NIGHT CHANT

Arabis holboellii
Artemisia sp.
Artemisia trisafa
Arundo donax
Astragalus allochrous
Bouteloua hirsuta
Cerastium arvense
Cercocarpus montanus
Covania stansburiana
Citrullus vulgaris
Cleome sonoraes
Cucumis melo
Cucurbita sp.
Delphinium scaposum
Eupatorium occidentale
Euotia lanata
Forestiera neomexicana
Gutierrezia sarothrae
Hedeoma drummondii
Juniperus occidentalis
Juniperus sp.
Juniperus virginiana
Lagenaria vulgaris
Lithophragma tenella
Monarda punctata

Nicotiana attenuata
Nicotiana sp.
Ocymops lambertii
Petalostemon candidus
Phlox caespitosa
Phaseolus vulgaris
Phragmites communis
Picea sp.
Pinus edulis
Pinus ponderosa
Prunus demissa
Prunus sp.
Peoralea tenuiflora
Rhus trilobata
Salix sp.
Senecio douglasii
Townsendia striogosa
Verbesina encelioides
Vicia sp.
Yucca baccata
Yucca elata
Yucca sp.
Zea mays rugosa

RAVEN CHANT

Nicotiana sp.

SHOOTING CHANTS (Male and Female)

Gilia longiflora
Lupinus sp.
Mentha sp.
Penstemon torreyi
Picea sp.
Prunus flexilis
Prunus demissa

Pseudotsuga taxifolia
Quercus sp.
Quercus undulata
Salix laevigata
Salix lanceolata
Typha latifolia
Yucca sp.

SHOOTING LIFE CHANT (Female)

Brickellia grandiflora petiolaris
Gutierrezia sarothrae
Hedeoma nana
Marrubium vulgare

Mentha arvensis glabrata
Monarda pectinata
Quercus sp.

SQUAW DANCE

(See War Dance)

SUN'S HOUSE CHANT

Picca pungens
Populus tremuloides
Prunus demissa

Pseudotsuga taxifolia
Rosa fendleri
Salix laevigata.
**ETHNOBOTANY OF THE NAVAJO**

**WAR (SQUAW) DANCE**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achillea millefolium lanulosa</td>
<td></td>
</tr>
<tr>
<td>Artemisia trifida</td>
<td></td>
</tr>
<tr>
<td>Bouteloua gracilis</td>
<td></td>
</tr>
<tr>
<td>Bouteloua hirsuta</td>
<td></td>
</tr>
<tr>
<td>Chrysothamnus sp.</td>
<td></td>
</tr>
<tr>
<td>Gutierrezia sarothrae</td>
<td></td>
</tr>
<tr>
<td>Hedema nana</td>
<td></td>
</tr>
<tr>
<td>Helianthus annuus</td>
<td></td>
</tr>
<tr>
<td>Hordeum jubatum</td>
<td></td>
</tr>
<tr>
<td>Juniperus monosperma</td>
<td></td>
</tr>
<tr>
<td>Juniperus scopulorum</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juniperus sp.</td>
<td></td>
</tr>
<tr>
<td>Juniperus virginiana</td>
<td></td>
</tr>
<tr>
<td>Phoradendron sp.</td>
<td></td>
</tr>
<tr>
<td>Physaria sp.</td>
<td></td>
</tr>
<tr>
<td>Picea sp.</td>
<td></td>
</tr>
<tr>
<td>Pinus edulis</td>
<td></td>
</tr>
<tr>
<td>Pinus sp.</td>
<td></td>
</tr>
<tr>
<td>Quercus sp.</td>
<td></td>
</tr>
<tr>
<td>Rhus trilobata</td>
<td></td>
</tr>
<tr>
<td>Salix sp.</td>
<td></td>
</tr>
<tr>
<td>Thalictrum fendleri</td>
<td></td>
</tr>
<tr>
<td>Yucca sp.</td>
<td></td>
</tr>
</tbody>
</table>

**WATER CHANT**

*Populus sp.*

**WIND CHANT**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chrysothamnus nauseosus</td>
<td></td>
</tr>
<tr>
<td><em>gravoelens</em></td>
<td></td>
</tr>
<tr>
<td>Eriogonum alatum</td>
<td></td>
</tr>
<tr>
<td>Gilia longiflora</td>
<td></td>
</tr>
<tr>
<td>Juniperus spp.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithospermum angustifolium</td>
<td></td>
</tr>
<tr>
<td>Opuntia sp.</td>
<td></td>
</tr>
<tr>
<td>Pinus edulis</td>
<td></td>
</tr>
<tr>
<td>Yucca sp.</td>
<td></td>
</tr>
</tbody>
</table>

**WITCH CHANT**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chrysothamnus nauseosus</td>
<td></td>
</tr>
<tr>
<td><em>gravoelens</em></td>
<td></td>
</tr>
</tbody>
</table>

**MISCELLANEOUS USES IN CEREMONIES**

**FOR APPLICATIONS (Blackening)**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artemisia trifida</td>
<td></td>
</tr>
<tr>
<td>Bouteloua hirsuta</td>
<td></td>
</tr>
<tr>
<td>Eriogonum lanata</td>
<td></td>
</tr>
<tr>
<td>Gutierrezia sarothrae</td>
<td></td>
</tr>
<tr>
<td>Pinus sp.</td>
<td></td>
</tr>
<tr>
<td>Salix sp.</td>
<td></td>
</tr>
</tbody>
</table>

**FOR ARROWS**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinus flexilis</td>
<td></td>
</tr>
</tbody>
</table>

**FOR BATHS**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yucca spp.</td>
<td></td>
</tr>
</tbody>
</table>

**FOR BOWS**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinus flexilis</td>
<td></td>
</tr>
</tbody>
</table>

**FOR BRACELETS**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yucca sp.</td>
<td></td>
</tr>
</tbody>
</table>

**FOR BULLROARERS**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quercus sp.</td>
<td></td>
</tr>
<tr>
<td>Yucca sp.</td>
<td></td>
</tr>
</tbody>
</table>

**FOR COLLARS**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picea sp.</td>
<td></td>
</tr>
</tbody>
</table>

**FOR CORRALS**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinus edulis</td>
<td></td>
</tr>
</tbody>
</table>
ETHNOBOTANY OF THE NAVAJO

**For Dance Implements**
- *Prunus demissa*

**For Digging Sticks**
- *Quercus* sp.

**For Dolls**
- *Populus wislizenii*

**For Dresses**
- *Picea* sp.

**For Drinks**
- *Cleome sonorae*
- *Erigeron divergens*
- *Juniperus monosperma*
- *Populus* sp.
- *Picea* sp.

**For Drinks (continued)**
- *Pseudotsuga taxifolia*
- *Typha latifolia*
- *Campanula uniflora*
- *Delphinium bicolor*
- *Delphinium menziesii*
- *Delphinium scaposum*

**For Hogans**
- *Pinus edulis*

**For Images**
- *Sarcobatus vermiculatus*
- *Zea mays rugosa*

**For Incense**
- *Thalictrum fendleri*

**For Medicine Containers**
- *Quercus* sp.

**For Necklaces**
- *Yucca* sp.

**For Pokers**
- *Pinus edulis*

**For Pollen**
- *Rhus trilobata*
- *Typha latifolia*
- *Zea mays*

**For Prayersticks**
- *Populus* sp.
- *Prunus demissa*
- *Prunus* sp.
- *Rhus trilobata*
- *Salix* sp.
- *Verbesina encelioides*
- *exauriculata*

**For Prayerstick Fillings**
- *Nicotiana attenuata*
- *Nicotiana palmeri*

**For Prayerstick Holders (while painting)**
- *Yucca* sp.

**For Prayerstick Rubbing**
- *Gutierrezia sarothrae*
- *Nicotiana sp.*
ETHNOBOTANY OF THE NAVAJO

FOR RATTLES
Lagenaria vulgaris

FOR SANDPAINTING COLOR (Black)
Juniperus sp.
Pinus edulis
Quercus pungens

FOR SANDPAINTING FIGURES
Amelanchier prunifolia
Spirogyra sp.

FOR SANDPAINTING TRAYS
Juniperus sp.
Pinus edulis

FOR STARS
Yucca sp.

FOR STRINGS
Gossypium sp.

FOR, OR IN, SWEATHOUSES
Artemisia sp.
Artemisia tridentata
Cercocarpus parvifolius
Chrysothamnus viscidiflorus
Eurotia lanata
Pinus edulis

FOR UNRAVELING CEREMONIAL OBJECTS
Erigeron divergens
Picea sp.
Prunus demissa
Prunus sp.
Quercus pungens
Rhus trilobata
Townsendia exscapa
Townsendia strigosa

FOR WANDS
Juniperus virginiana
Picea sp.
Pinus edulis
Rhus trilobata
Salix sp.

FOR WHISTLES
Arundo donax

FOR WRISTBANDS
Pseudotsuga taxifolia
Typha latifolia
Yucca sp.
### Table III

**FOOD PLANTS AND FOOD ACCESSORIES**

**BARK (Inner)**

*Juniperus monosperma*

<table>
<thead>
<tr>
<th>Bark</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Allium cepa</td>
<td>Calochortus aureus</td>
</tr>
<tr>
<td>Allium deserticola</td>
<td>Calochortus luteus</td>
</tr>
<tr>
<td>Allium sativum</td>
<td>Calochortus nuttallii</td>
</tr>
</tbody>
</table>

**BULBS**

<table>
<thead>
<tr>
<th>Bulb</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailium cepa</td>
<td>Calochortus aureus</td>
</tr>
<tr>
<td>Ailium deserticola</td>
<td>Calochortus luteus</td>
</tr>
<tr>
<td>Ailium sativum</td>
<td>Calochortus nuttallii</td>
</tr>
</tbody>
</table>

**FRUITS**

<table>
<thead>
<tr>
<th>Fruit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amelanchier alnifolia</td>
<td>Lycium pallidum</td>
</tr>
<tr>
<td>Amelanchier prunifolia</td>
<td>Lycojopersicum esculentum commune</td>
</tr>
<tr>
<td>Arachis hypogaea</td>
<td>Opuntia spp.</td>
</tr>
<tr>
<td>Capsicum frutescens</td>
<td>Phoenix dactylifera</td>
</tr>
<tr>
<td>Cercis occidentalis</td>
<td>Phoradendron juniperinum</td>
</tr>
<tr>
<td>Citirulus vulgaris</td>
<td>Prunus armeniaca</td>
</tr>
<tr>
<td>Citrus limonia</td>
<td>Prunus domestica</td>
</tr>
<tr>
<td>Citrus sinensis</td>
<td>Prunus persica</td>
</tr>
<tr>
<td>Cleome serrulata</td>
<td>Prunus spp.</td>
</tr>
<tr>
<td>Cucumis melo</td>
<td>Pyrus communis</td>
</tr>
<tr>
<td>Cucumis melo cantalupensis</td>
<td>Pyrus malus</td>
</tr>
<tr>
<td>Cucurbita maxima</td>
<td>Quercus spp.</td>
</tr>
<tr>
<td>Cucurbita pepo</td>
<td>Rhus trilobata</td>
</tr>
<tr>
<td>Cucurbita pepo condensae</td>
<td>Ribes inebrians</td>
</tr>
<tr>
<td>Cucurbita spp.</td>
<td>Rosa fendleri</td>
</tr>
<tr>
<td>Echinocereus spp.</td>
<td>Rubus arizonicus</td>
</tr>
<tr>
<td>Ficus carica</td>
<td>Vitis arizonica</td>
</tr>
<tr>
<td>Fragaria bracteata</td>
<td>Vitis vinifera</td>
</tr>
<tr>
<td>Juglans major</td>
<td>Yucca baccata</td>
</tr>
<tr>
<td>Juniperus monosperma</td>
<td>Yucca glauca</td>
</tr>
</tbody>
</table>

**LEAVES AND WHOLE PLANTS**

<table>
<thead>
<tr>
<th>Leaf</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amaranthus blitoides</td>
<td>Cleome serrulata</td>
</tr>
<tr>
<td>Amaranthus retroflexus</td>
<td>Cleome sonora</td>
</tr>
<tr>
<td>Asclepias spp.</td>
<td>Cymopterus fendleri</td>
</tr>
<tr>
<td>Brassica oleracea botrytis</td>
<td>Cymopterus glomeratus</td>
</tr>
<tr>
<td>Brassica oleracea capitata</td>
<td>Humulus lupulus neomexicanus</td>
</tr>
<tr>
<td>Chenopodium album</td>
<td>Zea mays</td>
</tr>
</tbody>
</table>

**ROOTS**

<table>
<thead>
<tr>
<th>Root</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta vulgaris</td>
<td>Lomatium orientale</td>
</tr>
<tr>
<td>Brassica rapa</td>
<td>Malvastrum coccineum</td>
</tr>
<tr>
<td>Daucus carota</td>
<td>Petaloostemon candicans</td>
</tr>
<tr>
<td>Daucus pusillus</td>
<td>Phelopterus montanus</td>
</tr>
<tr>
<td>Eriogonum alatum</td>
<td>Raphanus sativus</td>
</tr>
<tr>
<td>Ipomea batatas</td>
<td></td>
</tr>
</tbody>
</table>
### SEEDS

<table>
<thead>
<tr>
<th>Plant</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Amaranthus blitoides</em></td>
<td>Phasolus limensis</td>
</tr>
<tr>
<td><em>Amaranthus palmeri</em></td>
<td>Phasolus vulgaris</td>
</tr>
<tr>
<td><em>Amaranthus retroflexus</em></td>
<td>Pinus edulis</td>
</tr>
<tr>
<td><em>Artemisia wrightii</em></td>
<td>Piper nigrum</td>
</tr>
<tr>
<td><em>Carum carvi</em></td>
<td>Pisum sativum</td>
</tr>
<tr>
<td><em>Cercis occidentalis</em></td>
<td>Portulaca oleracea</td>
</tr>
<tr>
<td><em>Chenopodium album</em></td>
<td>Portulaca retusa</td>
</tr>
<tr>
<td><em>Chenopodium fremontii</em></td>
<td>Sisymbrium altissimum</td>
</tr>
<tr>
<td><em>Chenopodium spp.</em></td>
<td>Sisymbrium officinale</td>
</tr>
<tr>
<td><em>Cuscuta sp.</em></td>
<td>Sphaeralcea lobata</td>
</tr>
<tr>
<td><em>Helianthus annuus</em></td>
<td>Sperobolus cryptandrus</td>
</tr>
<tr>
<td><em>Cymopterus multiflora</em></td>
<td>Verbesina encelioides</td>
</tr>
<tr>
<td><em>Chenopodium fremontii</em></td>
<td>exauriculata</td>
</tr>
<tr>
<td><em>Cuscuta sp.</em></td>
<td>Vicia faba</td>
</tr>
<tr>
<td><em>Panicum capillare</em></td>
<td>Zea mays</td>
</tr>
</tbody>
</table>

### STEM S

- *Mammillaria sp.*
- *Neomammillaria sp.*
- *Solanum janesii*

### TUBERS

- *Solanum tuberosum*

### PLANTS USED AS FOOD ACCESSORIES

<table>
<thead>
<tr>
<th>Plant</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Amaranthus blitoides</em></td>
<td>Chenopodium fremontii</td>
</tr>
<tr>
<td><em>Amaranthus palmeri</em></td>
<td>For glucose</td>
</tr>
<tr>
<td><em>Amaranthus palmeri</em></td>
<td>Cymopterus purpureus</td>
</tr>
<tr>
<td><em>As sugar</em></td>
<td>For seasoning</td>
</tr>
<tr>
<td><em>Castilleja lineata</em></td>
<td>Pinus edulis</td>
</tr>
<tr>
<td><em>For honey</em></td>
<td>For butter</td>
</tr>
</tbody>
</table>
## Table IV

**WOOD PLANTS**

### ARROWSHAFTS

| Cowania stansburiana (ceremonial) | Pinus sp. (ceremonial) |
| Fendlera rupicola | Rhus trilobata |
| Phragmites communis | Ribes inebrians |
| Picea sp. (ceremonial) | Salix sp. |
| Pinus flexilis (ceremonial) |
| Acer negundo | Populus wislizeni |
| Celtis reticulata | Salix sp. |

### BELLOWS

| Helianthus annuus | Sarcobatus vermiculatus |
| Phragmites communis |
| Juniperus monosperma | Quercus sp. |
| Picea sp. (ceremonial) | Rhus trilobata |
| Pinus flexilis (ceremonial) | Sarcobatus vermiculatus |
| Prosopis chilensis glandulosa |

### BELLOWS

| Juniperus monosperma |
| Quercus sp. |

### BIRD SNARES

| Populus angustifolia | Populus wislizeni |
| Salix sp. |

### BOWS

| Juniperus monosperma |
| Quercus sp. |
| Sarcobatus vermiculatus |
| Pinus flexilis |

### CHARCOAL

| Juniperus monosperma |
| Sarcobatus vermiculatus |

### CLUB HANDLES

| Juniperus sp. |
| Quercus sp. |

### CRADLES, LININGS, AND CANOPIES

| Populus angustifolia | Populus wislizeni |
| Salix sp. |
| Juniperus monosperma |
| Quercus undulata |
| Pinus edulis |
| Pinus sp. |

### CRADLES, LININGS, AND CANOPIES

| Cercocarpus montanus |
| Populus sp. |
| Juniperus sp. |

### CLUB HANDLES

| Populus angustifolia |
| Populus wislizeni |
| Salix sp. |

### DICE

| Cercocarpus montanus |
| Populus sp. |
| Sarcobatus vermiculatus |

### DIES

| Quercus sp. |
| Sarcobatus vermiculatus |

### DIGGING STICKS

| Quercus sp. |
| Sarcobatus vermiculatus |

### FIRE DRILLS, WHIRLS, AND HEARTHS

| Juniperus monosperma |
| Populus wislizeni |
| Pinus edulis |
| Pinus sp. |

### FIRE DRILLS, WHIRLS, AND HEARTHS

| Juniperus sp. |
| Populus sp. |
| Yucca sp. |

### FIREWOOD

| Juniperus monosperma |
| Populus wislizeni |
| Sarcobatus vermiculatus |

### FLUTES

| Helianthus annuus |
| Sarcobatus vermiculatus |

### HOES

| Quercus sp. |
| Sarcobatus vermiculatus |

### HOGANS

| Juniperus monosperma |
| Pinus edulis |
| Juniperus sp. |
ETHNOBOTANY OF THE NAVAJO

KNITTING NEEDLES
Fendlera rupicola
Sarcobatus vermiculatus

LANCES
Quercus sp.
Salix sp.

LOUSE KILLER
Fendlera rupicola

MEDICINE SPOONS
Cercocarpus montanus

NEEDLES
Rosa fendleri

PLANTING STICKS
Fendlera rupicola
Sarcobatus vermiculatus

PRAYERSTICKS
Arundo donax
Cercocarpus montanus
Cowania stansburiana
Forestiera neomexicana
Juniperus monosperma
Juniperus occidentalis
Juniperus sp.
Phragmites communis
Populus sp.
Prunus demissa
Prunus sp.
Rhus trilobata
Salix sp.
Verbesina encelioides exaueniculata

RUBBING STICKS
Fendlera rupicola

SADDLES
Fraxinus cuspidata

SHINNY BALLS
Pinus sp.

SUMMER SHELTERS
Pinus sp.
Populus sp.

THROWING STICKS
Quercus sp.

TINDER BOXES
Pinus sp.
Populus wislizeni

VIGAS
Populus wislizeni

WEAVING ACCESSORIES
Cercocarpus montanus
Distaff handle
Fendlera rupicola
Weaving forks
Juniperus sp.
Loom frames
Pinus edulis
Loom poles, beams, and uprights
Populus sp.
Loom frame
Quercus pungens
Batten sticks
Quercus undulata
Batten sticks
Ribes inebrians
Stick of the distaff
Salix sp.
Heald sticks
Sarcobatus vermiculatus
Distaff handle and heald sticks
### Table V

#### Dye Plants and Dye Accessories

<table>
<thead>
<tr>
<th>Color</th>
<th>Plants and Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Black:</strong></td>
<td>Gaultheria humifusa, Pinus edulis, Rhus trilobata</td>
</tr>
<tr>
<td><strong>Blue:</strong></td>
<td>Delphinium scaposum, Medicago sativa, Rhus trilobata</td>
</tr>
<tr>
<td><strong>Brownish:</strong></td>
<td>Alnus incana, Alnus tenuifolia, Cercocarpus parvifolius, Juglans major, Juniperus californica utahensis, Juniperus monosperma, Juniperus occidentalis, Mirabilis sp., Parmelia molliscula</td>
</tr>
<tr>
<td><strong>Cardinal:</strong></td>
<td>Opuntia polyacantha, Picea pungens</td>
</tr>
<tr>
<td><strong>Golden-brown:</strong></td>
<td>Juglans regia</td>
</tr>
<tr>
<td><strong>Green or greenish:</strong></td>
<td>Allium sp., Chrysothamnus nauseosus, graveolens, Iris sp., Juniperus monosperma, Medicago sativa, Prunus sp., Rumex hymenosepalus</td>
</tr>
<tr>
<td><strong>Pinkish:</strong></td>
<td>Heuchera bracteata, Opuntia polyacantha</td>
</tr>
<tr>
<td><strong>Purple:</strong></td>
<td>Cerasus crenulata, Mirabilis sp., Prunus sp.</td>
</tr>
<tr>
<td><strong>Red or reddish:</strong></td>
<td>Alnus incana, Alnus tenuifolia, Celtis reticulata</td>
</tr>
<tr>
<td><strong>“Olive-green”:</strong></td>
<td>Chrysothamnus nauseosus, graveolens</td>
</tr>
<tr>
<td><strong>Orange:</strong></td>
<td>(See yellow)</td>
</tr>
<tr>
<td><strong>Yellow and orange:</strong></td>
<td>Artemisia sp., Atriplex canescens, Berberis fremontii, Chrysothamnus latistaurameus, Chrysothamnus nauseosus, graveolens, Chrysothamnus spp., Dahlia pinnata, Helianthus hopennei, Hymenoxys metcalfei, Juniperus sp., Petrastoria stansburiana, Phoradendron juniperinum, Prunus pereis, Rumex hymenosepalus, Tagetes micranthae, Thelesperma subnudum</td>
</tr>
<tr>
<td><strong>Yellow-brown:</strong></td>
<td>Cowania stansburiana, Juniperus sp.</td>
</tr>
</tbody>
</table>

#### Dye Accessories

<table>
<thead>
<tr>
<th><strong>Mordants</strong></th>
<th>Rhus trilobata</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parmelia molliscula</td>
<td></td>
</tr>
<tr>
<td>Picea pungens</td>
<td></td>
</tr>
</tbody>
</table>
**ETHNOBOTANY OF THE NAVAJO**

**TABLE VI**

**BASKETRY PLANTS**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alnus incana</td>
<td>For dye</td>
</tr>
<tr>
<td>Alnus tenuifolia</td>
<td>For dye</td>
</tr>
<tr>
<td>Cercocarpus montanus</td>
<td>For dye</td>
</tr>
<tr>
<td>Chrysanthemus viscidiflorus</td>
<td>For dye</td>
</tr>
<tr>
<td>Ephedra trifurca</td>
<td>For dye</td>
</tr>
<tr>
<td>Juniperus californica utahensis</td>
<td>For dye and dye</td>
</tr>
<tr>
<td>Juniperus monosperma</td>
<td>For dye</td>
</tr>
<tr>
<td>Juniperus sp.</td>
<td>For dye</td>
</tr>
<tr>
<td>Pinus edulis</td>
<td>For waterproofing</td>
</tr>
<tr>
<td>Pinus sp.</td>
<td>For waterproofing</td>
</tr>
<tr>
<td>Quercus sp.</td>
<td>For construction of baskets, water bottles, and for dye</td>
</tr>
<tr>
<td>Salix sp.</td>
<td>For carrying baskets and water bottles</td>
</tr>
<tr>
<td>Yucca sp.</td>
<td>For pitch, basket bottoms, and baskets</td>
</tr>
</tbody>
</table>

**TABLE VII**

**FORAGE AND BROWSE PLANTS**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amaranthus blitoides</td>
<td></td>
</tr>
<tr>
<td>Artemisia filifolia</td>
<td></td>
</tr>
<tr>
<td>Atriplex canescens</td>
<td></td>
</tr>
<tr>
<td>Atriplex confertifolia</td>
<td></td>
</tr>
<tr>
<td>Atriplex expansa</td>
<td></td>
</tr>
<tr>
<td>Avena sativa</td>
<td></td>
</tr>
<tr>
<td>Bouteloua spp.</td>
<td></td>
</tr>
<tr>
<td>Ceanothus fendleri</td>
<td></td>
</tr>
<tr>
<td>Cercocarpus montanus</td>
<td></td>
</tr>
<tr>
<td>Dithyreus wislizeni</td>
<td></td>
</tr>
<tr>
<td>Eurotia lanata</td>
<td></td>
</tr>
<tr>
<td>Juniperus monosperma</td>
<td></td>
</tr>
<tr>
<td>Juniperus sp.</td>
<td></td>
</tr>
<tr>
<td>Medicago sativa</td>
<td></td>
</tr>
<tr>
<td>Oxytropis sp.</td>
<td></td>
</tr>
<tr>
<td>Portulaca retusa</td>
<td></td>
</tr>
<tr>
<td>Sarcobatus vermiculatus</td>
<td></td>
</tr>
<tr>
<td>Sieyembrium officinale</td>
<td></td>
</tr>
<tr>
<td>Sophora sericea</td>
<td></td>
</tr>
<tr>
<td>Yucca sp.</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE VIII**

**GAMING PLANTS**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betula fontinalis</td>
<td>For the pole in the “hoop and pole” game</td>
</tr>
<tr>
<td>Cowania stansburiana</td>
<td>To stuff baseballs</td>
</tr>
<tr>
<td>Pinus edulis</td>
<td>For the club used in the moccasin game, and the stick used in “football”</td>
</tr>
<tr>
<td>Pinus sp.</td>
<td>For the ball used in shinny</td>
</tr>
<tr>
<td>Populus sp.</td>
<td>For the club used in the moccasin game, and the dice used in the “crossed stick” game</td>
</tr>
<tr>
<td>Quercus pungens</td>
<td>For the stick attached to the ball in “shooting the yucca” game</td>
</tr>
<tr>
<td>Quercus sp.</td>
<td>For the stick used in “football,” for the stick or bat used in “baseball,” and for a shiny stick</td>
</tr>
<tr>
<td>Yucca elata</td>
<td>For the counting sticks used in the moccasin game</td>
</tr>
<tr>
<td>Yucca glauca</td>
<td>For the counting sticks used in the moccasin game</td>
</tr>
<tr>
<td>Yucca sp.</td>
<td>For the game of “shooting the yucca,” for “ring-toss,” and for the counting sticks used in the moccasin game</td>
</tr>
</tbody>
</table>
**ETHNOBOTANY OF THE NAVAJO**

**TABLE IX**

**BEVERAGE PLANTS**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Coffea arabica</em></td>
<td></td>
</tr>
<tr>
<td><em>Ephedra torreyana</em></td>
<td></td>
</tr>
<tr>
<td><em>Phoradendron juniperinum</em></td>
<td></td>
</tr>
<tr>
<td><em>Thea sinensis</em></td>
<td></td>
</tr>
<tr>
<td><em>Thelesperma gracile</em></td>
<td></td>
</tr>
<tr>
<td><em>Thelesperma longipes</em></td>
<td></td>
</tr>
<tr>
<td><em>Zea mays</em></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE X**

**MISCELLANEOUS PLANT USES**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Actinella richardsoni</em></td>
<td>As chewing gum</td>
</tr>
<tr>
<td><em>Agave utahensis</em></td>
<td>As fiber</td>
</tr>
<tr>
<td><em>Amelanchier prunifolia</em></td>
<td>To drive the evil spirit of the bear from the body</td>
</tr>
<tr>
<td><em>Artemisia filifolia</em></td>
<td>As a toilet paper substitute</td>
</tr>
<tr>
<td><em>Artemisia frigida</em></td>
<td>As a toilet paper substitute</td>
</tr>
<tr>
<td><em>Artemisia sp.</em></td>
<td>For practice wands, and for tying to corners of hoops used in unraveling ceremonial objects</td>
</tr>
<tr>
<td><em>Artemisia tridentata</em></td>
<td>To rid body of undesirable things</td>
</tr>
<tr>
<td><em>Artemisia trifida</em></td>
<td>As a cork</td>
</tr>
<tr>
<td><em>Aster spinosus</em></td>
<td>For chewing gum</td>
</tr>
<tr>
<td><em>Bouteloua hirsuta</em></td>
<td>For tying to corners of hoops used in unraveling ceremonial objects</td>
</tr>
<tr>
<td><em>Chenopodium sp.</em></td>
<td>As a spread to keep insects from biting</td>
</tr>
<tr>
<td><em>Cowania stansburiana</em></td>
<td>For pillow and cradle board stuffing</td>
</tr>
<tr>
<td><em>Datura meteloides</em></td>
<td>For carding wool</td>
</tr>
<tr>
<td><em>Dipsacus sylvestris</em></td>
<td>For carding wool</td>
</tr>
<tr>
<td><em>Eupatorium purpureum</em></td>
<td>For arrow poison antidote</td>
</tr>
<tr>
<td><em>Gilia longiflora</em></td>
<td>To make the Navajo “bark” at the squaw dance</td>
</tr>
<tr>
<td><em>Gossypium sp.</em></td>
<td>For fabrics and lampwicks</td>
</tr>
<tr>
<td><em>Gutierrezia sarothrae</em></td>
<td>For tying to corners of hoops used in unraveling ceremonial objects, and for prayerstick depository</td>
</tr>
<tr>
<td><em>Helenium hoopesii</em></td>
<td>For chewing gum</td>
</tr>
<tr>
<td><em>Juniceus sp.</em></td>
<td>For smoothing bows (?)</td>
</tr>
<tr>
<td><em>Juniperus monosperma</em></td>
<td>For luck and as design for basket rim</td>
</tr>
<tr>
<td><em>Juniperus scopulorum</em></td>
<td>As a talisman</td>
</tr>
<tr>
<td><em>Juniperus sp.</em></td>
<td>For tinder, clothing, necklaces, anklets, wristlets, bracelets, sandals, curtains, and blankets</td>
</tr>
<tr>
<td><em>Lagenaria vulgaris</em></td>
<td>For drinking vessels</td>
</tr>
<tr>
<td><em>Lupinus brevicaulis</em></td>
<td>As a remedy for sterility</td>
</tr>
<tr>
<td><em>Lycium pallidium</em></td>
<td>For sacrifice</td>
</tr>
<tr>
<td><em>Mentzelia multiflora</em></td>
<td>For spraying on offerings and prayersticks</td>
</tr>
<tr>
<td><em>Monarda punctata</em></td>
<td>For its odor</td>
</tr>
<tr>
<td><em>Muhlenbergia cuspidata</em></td>
<td>For brooms and brushes, roofing, bedding, leggings, shoes, and blankets</td>
</tr>
<tr>
<td><em>Muhlenbergia pungens</em></td>
<td>For brooms and brushes</td>
</tr>
<tr>
<td><em>Muhlenbergia spp.</em></td>
<td>For brooms and brushes</td>
</tr>
</tbody>
</table>
Opuntia polyacantha
For glue and poison
Parthenocissus vitacea
For ramada roofing
Phoradendron sp.
For protection
Phragmites communis
For first people to ascend into this world
Picea sp.
As a beater
Pinus edulis
As a salve, for chewing gum, for waterproofing, for mourning, for necklaces, bracelets, anklets, and wristlets
Pinus sp.
For summer shelter coverings, and for waterproofing
Polyporus sp.
For drinking vessels
Populus sp.
For tinder
Populus wislizeni
For chewing gum
Quercus sp.
For blessing a new hogan, and acorns as medicine containers
Radicula obtusa
For tying to corners of hoops used in unraveling ceremonial objects
Rhus trilobata
For “bugaboos” and the stick to which the arrowpoint is fastened
Ricinus communis
As protection from spirit of the bear
Salix sp.
As a water bottle support
Sanvitalia aberti
To produce increased perspiration
Senecio douglasii
As brooms to brush the spines from cactus fruit, and for good voice at Night Chant
Spirogyra sp.
To drive the evil spirit of the bear from the body
Thelesperma gracile
Said to be good for the teeth
Vitis arizonica
For the cross on the courtship basket
Xanthium canadense
To remove excess perspiration
Yucca baccata
For soap and jelly
Yucca elata
As soap and scourges
Yucca glauca
For soap and ceremonial baths
Yucca spp.
For uses see Yucca spp. in text
Zea mays
For cigarette papers, leather beaters, punks, thatching, and food wrappings
Zea mays rugosa
For lining baking pits
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### SUMMARY OF PLANT FAMILIES, WITH NUMBER OF GENERA AND SPECIES OF EACH

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