A PRELIMINARY PAWNEE ETHNOBOTANY CHECKLIST

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ABSTRACT

This document contains excerpts from a work in progress focusing on the ethnobotany of the Pawnee Native Americans. The effort being made is to consolidate research findings to provide a written record specifically addressing plant use by the Pawnee. The majority of the information gained was through literature reviews which provided a historic perspective. However, living among the Pawnee for twenty-two years has provided some insight into modern uses of some plants. A priority at the onset was to identify and describe the broad-ranging application of plants within their culture. All the ethnobotanical examples here are based on plants that have been documented in Oklahoma. Each plant is related to its currently known biogeography in Kansas and Nebraska which was regionally part of their historic homeland until their removal to Oklahoma beginning in 1875.

INTRODUCTION

Loss of land to encroaching Euro-Americans, inept government policies, disease, and warfare all contributed to the cultural degradation of the four bands or divisions of the Pawnee. The bands are known as the Chawi, Kitkahahki, Pitahawirata, and Skiri. The Pawnee belong to the Caddoan language family which also includes the Arikara, Caddo, and Wichita Tribes. Historically, the bands had linguistic differences and it is especially noted today when comparing the Skiri dialect to the often called, "south bands".

Well before the Tribe was relocated to what is now known as Pawnee, Oklahoma, cultural fragmentation had begun. For an account of the chronological history of the Pawnee see *The Pawnee Indians* by George E. Hyde (1951).

The floristic influence that enveloped and sustained the Pawnee culture in their homeland arose from prairie plant associations and riparian environments linked to major rivers including the Loup, Platte, Republican, and their tributaries. In close proximity to their villages with earth lodges were gardens where they cultivated crops such as beans, corn, squash, and tobacco. Many plants were gathered from the surrounding areas to meet a variety of needs. In addition to farming, a summer and winter bison hunt was undertaken. Their survival and religious practices were critically dependent on a deep connection to the natural world.

Their new land allocation in Oklahoma consisted of different soils, a different climate and astronomical position, and plant life that further changed their life ways as pressure of acclimation and assimilation mounted. As a result, the botanical knowledge necessary to carry out ceremonies and other life ways continued to wane. As elders passed away, some loss of plant use knowledge accompanied them with each succeeding generation.

Although information sources dating in the 1800s were found that contributed to

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the enthnobotany research, significant material was extracted from the works of James R. Murie (half Pawnee), Melvin R. Gilmore (married into the Tribe), George A. Dorsey, and others around the turn of the 20th century.

The intent of the research was not to limit the focus to plants used for food and medicine. Other relationships such as the use of plants for ceremonies, games, and materials were investigated to provide a broader representation as well as enhance an understanding of the complexity of Pawnee culture.

With each plant species listed, an attempt to document its location in Kansas, Nebraska, and Oklahoma was made primarily using the United States Department of Agriculture (USDA) and Oklahoma Vascular Plants Database (OVPD) websites. The results revealed that certain plants were documented in all three states, other plants had limited or restricted ranges in one or more states, and some were not found in Oklahoma.

The presentation here consists of only a sample of plant species that are found in Oklahoma, reported to have been used by the Pawnee.

Providing a written record of consolidation specifically addressing the use of plants by the Pawnee may contribute to educational and cultural interests of the Pawnee Nation, individual Tribal members, and others.

PAWNEE ETHNIC BOTANY PLANT LISTING

Each plant is listed by family, genus, and species; former scientific name in parenthesis; one or more common names, including the Pawnee language name and meaning (if known); distribution of the plant; and information regarding usage of the plant.

CUPRESSACEAE

Juniperus virginana L.

Eastern Redcedar or "Mother Cedar" (as referred to by the Pawnee)

Tawatsaako

Eastern redcedar grows in a variety of soil conditions and thrives in Kansas, Oklahoma, and Nebraska (USDA). True cedar, such as western redcedar, of the genus *Thuja*, is not native to Kansas, Oklahoma, and Nebraska.

This evergreen tree, commonly called "cedar", was used by many Native Americans for a variety of purposes [Moerman 1998 (pp.290-291)]. In regard to the Pawnee, smoke inhaled from burned twigs is used as a remedy for colds; a decoction of fruits and leaves is used as a cough medicine and given to horses for same purpose; and boughs are put on tepee poles to ward off lightning (ibid).

Historically, juniper trees were used in ceremonies including the Skiri Doctors and Bear Dances [Murie 1981 (pp.170, 336)]. Skiri Bear Society participants used the leaves for ceremonial smudges, and if a thunderstorm should threaten, a smudge was made to protect the lodge (earth lodge) [Murie 1914 (p.604)]. Murie did not define "smudge" in the text cited. "Cedar poles" were fashioned for use as lances associated with the Two Lance Society [ibid (p.561)].

Gilmore [1919 (p.12)] noted that a smoke offering of cedar twigs was used as a remedy for nervousness and bad dreams. Based on my observations, I report that the Pawnee currently burn juniper leaves/needles as a ceremonial incense and/or prayer smoke offering, including use in the Native American Church. As I have witnessed, the smoke caused by placing juniper leaves on coals has been used to suffuse a person or object and in some situations only to allow smoke to permeate the surroundings. Prior to the practice, it is often said "going to burn some cedar" and the word "smudge" is not used. Nothing further will be added here since the focus of this paper is not to reveal ceremonial details.

According to Weltfish [1965 (p.387)], juniper was used for tepee poles by the Pawnee, but not necessarily as first choice if cottonwood was available.

Juniper also had a place in Ghost Dance hand game paraphernalia. Examples include hand game leaders Mark Rudder using a "cedar wood cross topped with a soft eagle feather and three cedar sticks topped with four red-painted crow feathers radially affixed to the top", and Barclay White having used tally or counting sticks that were made of "cedar" in a ceremony [Lesser 1933 (pp.267-268, 288)].

Also, Emmett Pierson's hand game set included a "sack of crumpled cedar leaves" that was part of the contents of a bundle. At the onset of the ceremony, a handful of the leaves were placed

on coals [Lesser 1933 (pp.274, 278)]. At one time, I was overseer of the Pierson Collection, on behalf of Skiri band member Ms. Maude Chisholm, which included a cloth bag containing juniper leaves. The collection on loan is housed in the Pawnee Bill Ranch Museum, Pawnee, Oklahoma, and also includes hand game sticks as well as other items.

AGAVACEAE

Yucca glauca Nutt.

Yucca or Soapweed Yucca

Chakida-kahtsu or Chakila-kahtsu

This perennial can be found growing in prairies and on hillsides in Kansas and Nebraska (USDA). It has been documented across Oklahoma (OVPD).

The yucca is known for the roots being used as soap, especially for washing hair, and the fibers from the leaves used by the Pawnee to make twine or cordage, with the leaf ends used as needles [Gilmore 1919 (p.19)]. I have made cordage from the leaves and found it to be quite strong, especially if primary use is for binding material.

LILIACEAE

Allium canadensis L. (=A. mutabile)

Wild Onion or Meadow Garlic

Osidawa

This perennial herb can be found growing in prairies, open woods, roadsides, and lawns. Allium can be found in Kansas and Nebraska (USDA). *A. canadensis* and other species of onion can be found throughout Oklahoma (OVPD). My personal experience of using "wild onions" as food is that a little can go a long way.

Moerman [1998 (p.57)] cited at least thirty species of *Allium* used by different Native American tribes, with reference to the above named species associated with the Pawnee for use as a spice, sauce, and relish. It is a species cited by Gilmore [1919 (p.19)], but under the older name, *A. mutabile*. Reportedly, the plant was eaten raw, cooked to flavor meat and soup, and also fried (ibid).

POACEAE

Arundinaria gigantea (Walter) Muhl.

River Cane or Giant Cane

USDA database lists the plant in Kansas, but not in Nebraska. More than 20 counties in eastern Oklahoma host the plant (OVPD).

River cane is the "bamboo" of North America. River cane served many purposes for tribes, especially the southeastern woodland cultures, in the making of arrows, blow guns, whistles, construction materials, fishing items, and in basketry [Moerman 1998 (p.104)]. The woody grass inhabits moist bottomlands and forest understories and can reach 20 or more feet in height.

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Stewart Culin [1975 (p.99)], described Pawnee gaming sets containing four dice each that were made from split cane ranging from 8 to 16.5 inches (20.32 cm to 41.91 cm) in length, with some sets painted, and a set with a small feather tied to the end of each piece of cane.

According to Tuttle [1838 (p.41)] a type of flute was made out of cane which she noted as "sugar cane". In my opinion, the flute was more likely made out of river cane. Moerman [1998 (p.499)] only listed the Seminole as using sugar cane as a food.

A small cane whistle was included in the warrior's bundle belonging to Eagle Flying Under the Heavens [Murie 1981 (p.190)].

Hesperostipa spartea (Trin.) Barkworth (=Stipa spartea)
Porcupine or Needle Grass
Pitsuts (hair brush) or Paari pitsuts (Pawnee hairbrush)

Porcupine grass prefers dry prairies and open woods with a geographic range that includes Kansas and Nebraska. According to the USDA database and OVPD, the grass has been documented in three northern Oklahoma counties: Kay, Osage, and Washington. Pawnee County joins Osage County to the north.

The grass was prepared as a brush after the stiff awns and stalks were tightly bound into a small rounded-bundle, followed by burning off the pointed grains [Gilmore 1919 (p.14)]. Gilmore, citing Alice Fletcher, noted that the grass brush was used in the Pawnee Hako Pipe Ceremony.

Included in the publication by Fletcher [1904 (p.220)], regarding the Hako Ceremony, a section titled "Explanation by the Ku'rahus" (old man or priest) is as follows: "The grass of which the brush is made is gathered during a ceremony belonging to the Rain Shrine. It represents Toharu, the living covering of Mother Earth. The power which is in Toharu gives food to man and the animals so that they can live and become strong and able to perform the duties of life. This power represented by the brush of grass is now standing before the little child". The grass brush was also described by Weltfish [1965 (p.363)].

TYPHACEAE

Typha latifolia L.
Cat-tail or Broadleaf Cattail
Hawahawa and Kirit-tacharush (meaning "eye itch" with reference to down getting into eyes)

The plant grows in a wide-spread range and conditions of moist sites and wetland environments. It can be found in Kansas, Oklahoma, and Nebraska (USDA and OVPD).

The Pawnee used the down to make dressings for burns and scalds [Moerman 1998 (p.574)]. Gilmore [1919 (p.12)] related that the down was used on infants to prevent chafing, as we use talcum; as a filling for pillows; and as padding for cradle boards, as well as in quilting baby wrappings. A great quantity of down was gathered in advance to have readied for the placement

of a newborn infant on the down. With the lack of cotton diapers in the olden times, pads of down were used (ibid).
Cat-tail leaves were used in the making of woven mats as an alternative to bulrush [Weltfish 1965(p.404)].

ANACARDIACEAE
Rhus glabra L.
Smooth Sumac
Nuppikt, sour top

Smooth sumac is a shrub that often grows in prairies, fields, and edges of woodlands. It is common across Oklahoma (OVPD) and much of Kansas and Nebraska (USDA).

The Pawnee name is in reference to the sour-tasting red fruits that develop in summer. In the fall when the leaves turn red, they were gathered and dried for smoking [Moerman 1998 (p.472)]. Gilmore [1919 (p.47)] also noted the use of the red leaves for smoking. In relation to a Chawi doctor ceremony, sumac leaves were mixed with tobacco for smoking [Murie 1981 (p.203)].

The fruits were boiled to make a remedy for dysmenorrhea and also for bloody flux [Gilmore 1919 (p.47)]. The use of its leaves, bark, and roots to make a black dye included the application to bison hides [Moerman 1998 (p.472)].

ARACEAE
Arisaema triphyllum (L.) Schott
Jack-In-The Pulpit or Indian Turnip
Nikso kororik kahtsu nitawau; medicine or herb, that bears,
what resembles, an ear of corn (the ripe fruits)

It grows in moist woodlands and is known to exist in Kansas and Nebraska (USDA). It has been documented in more than 17 counties in Oklahoma (OVPD).

If you eat the un-cooked corm (root), you will certainly reap the unpleasant sensation due to the calcium oxalate crystals inherent in this poisonous plant. The corm was not reportedly used as a food source of the Pawnee, but was pulverized and used as medicine. It was used to treat headaches by dusting the top of the head and temples and applied as a counterirritant for rheumatism and similar pains. The seeds were placed in gourd shell rattles [Gilmore 1919 (p.17)].

ASTERACEAE
Grindelia squarrosa (Push) Dun.
Curly cup or Curly top Gum weed
Bakskititis, stick-head (bak, head; skitits, sticky)

Gumweed is a perennial plant that grows in fields, along roadsides, and in waste places. The plant exudes a sticky substance which is true to the Pawnee name. It is spread across the

northern half of Kansas and found across the state of Nebraska (USDA). In Oklahoma, the plant is mostly situated in western counties (OVPD).

According to a Pawnee informant, the tops and leaves were boiled to make a wash for saddle galls and sores on horses [Gilmore 1919 (p.81)]. This species has the longest listing of uses by Native Americans of the Grindelia genus [Moerman 1998 (pp.252-253)].

Helianthus annuus L.
Common Sunflower
Kirik-tara-kata, yellow eyes (kirik, eye; tara, having; kata, yellow)

The annual plant is often found in fields and along roadsides. The common sunflower is listed for every county in Kansas, and in Nebraska, it is distributed across the entire state (USDA). It has been documented in the majority of counties in Oklahoma (OVPD).

Gilmore [1919 (p.78)] noted that he could not find that the plant was ever cultivated by any of the Nebraska tribes, but there was evidence of such by some of the eastern tribes and the Arikara (linguistic neighbors to the north). A Pawnee informant of Gilmore's reported that the seeds were pounded up with certain roots (not identified or disclosed) and were taken in the dry form without further preparation, by women who became pregnant while still suckling a child for the reason that the suckling child should not become sick (ibid).

Helianthus tuberosa L.
Jerusalem Artichoke
Kisu-sit (kisu, tapering; sit, long)

The perennial plant has been reported for mainly the eastern three-quarters of Kansas and Nebraska (USDA). In Oklahoma, it is erratically distributed mostly in the eastern half of the state (OVPD). It grows in wet soils of prairies, open woods, disturbed areas, and roadsides.

The people of the Nebraska tribes say they never cultivated the plant, but used its tubers for food [Gilmore 1919 (p.79)]. The Pawnee reportedly ate them only raw, but the others, according to their own statement, ate them raw, boiled, or roasted (ibid).

In a Pawnee tale, "Coyote and the Artichoke", artichoke (presumably Jerusalem artichoke), was mentioned; whereas, coyote ate too many artichokes which caused intestinal distress [Dorsey 1906 (p.464)]. Wonder what the moral of that story part is?

FABACEAE
Apios americana Medik. (=Glycine apios)
Groundnut or Indian Potato
Its

The habitat of the perennial twining herb includes pond and stream banks, moist thickets, and wet meadows. It can be found in Kansas and Nebraska (USDA) and mostly in central, eastern, and some southwestern counties in Oklahoma (OVPD).

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Two parts of the plant were a food source for the Pawnee. The tubers were eaten raw or cooked, preferably gathered in the fall, and the seeds of summer were consumed like peas [Kindscher 1987 (pp.48-49)]. Groundnut is a common native food plant of temperate and eastern North America. It is possible that the plant was propagated by the Cheyenne and other tribes and its range extended westward (ibid). Weltfish [1965 (p.415)] noted that the tubers were an important food provision for the winter bison hunt. Gilmore [1919 (p.42)] reported that the tubers of the plant were used as a food source by all the tribes within its range and prepared by boiling or roasting.

Pediomelum esculenta (Pursh) Rydb. (=Psoralea esculenta)
Indian Breadroot or Pomme Blanche
Patsuroka

The perennial herbaceous plant prefers prairies and has a scattered occurrence in about 16 Oklahoma counties (OVPD). It is scattered through much of Kansas and across Nebraska (USDA). The French name, "Pomme Blanche", means white fruit.

The plant's root was an important substance of the vegetal diet of the Plains tribes and after being peeled was eaten fresh, cooked, or stored to dry for use during the winter. The roots were braided in long strings by the tapering ends. When the women and children went to the prairie to gather the roots, on finding a plant the mother tells the children to note the directions which the several branches point and a child is sent in the general direction of each branch to look for another plant, for they say the plants "point to each other" [Gilmore 1919 (p.40)].

NELUMBONACEAE
Nelumbo lutea Willd.
Water Lily or Water Chinquapin
Tukawiu, Skiri band word and Tut, Chawi band

The aquatic plant currently has a range in Nebraska limited to 3 counties and is scattered in more than 20 counties in Kansas. It has been documented across Oklahoma (OVPD), but only in 12 counties by the USDA.

The plant was considered to be one invested with mystic powers. It was an important food source with use of the seeds and tubers (shaped somewhat like a banana). The hard, nutlike seeds were cracked and used with meat for making soup. The peeled tubers were cut up and cooked with meat or with hominy [Gilmore 1919 (p.27)].

RANUNCULACEA
Aquilegia canadensis L.
Wild Columbine or Red Columbine
Skalikatit or Skarikatit, black seed

The plant prefers growing in moist, well-drained, shady or partly shaded sites. It has been documented in some eastern Kansas counties and some northern and eastern counties in

Nebraska (USDA). In Oklahoma, the columbine is mainly in 17 northeastern and eastern counties (OVPD).

According to an account of the seeds being used as a perfume and a love charm, seeds are pulverized and rubbed in the palms of the suitor, who then contrives to shake hands with the desired one, whose fancy it is expected will thus be captivated [Gilmore 1919 (pp.30-31)]. Also, historically, seeds were crushed in an elm mortar by a pestle made of the same wood, with the resulting powder being added to hot water and the infusion being drunk for fever and headache (ibid).

CONCLUSION

I have made an attempt to provide a checklist of plant usage as it relates to the Pawnee. Before publication, a "Preliminary Pawnee Ethnobotany Checklist" was reviewed by Mr. Stephen Bird (B.S., M.S.) and three other Pawnees.

My goal is to complete the larger paper which may include more than sixty species of plants, not including species associated with agriculture. When that is done, a Pawnee review committee will be offered the opportunity to respond to the findings of the research.

Ethnobotany has many applications. Along with the existing Pawnee endeavors involving agriculture, linked to historic corn varieties and other cultivated plants of olden times, herbaceous native plants could also be grown in an ethnobotany garden to contribute to horticultural skills development, cultural education, and the actual use of the plants. Also, information gained through the research could be applied to the arts and in the sanctioned reproduction of certain artifacts. It is like filling ones tow sack with pieces of lost earthly connections to possess in order to bring elements of the past to the present.

Lastly, I share an excerpt from "Origin of the Chaui", also written "Chawi", as told by Roaming Chief-Hereditary Chief of the Chaui (band) in about 1906 and recorded by Dorsey [1997(p.13)]:

> *The earth I give you, and you are to call her 'mother', for she gives birth to all things. The timber that shall grow upon the earth you shall make use of in many ways. Some of the trees will have fruit upon them. Shrubs will grow from the ground and they will have berries upon them. All these things I give you and you shall eat of them. Never forget to call the earth 'mother', for you are to live upon her. You must love her, you must walk upon.*

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