

THE ETHNOBOTANICAL USE OF NATIVE PRAIRIE PLANTS AS FOOD

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ABSTRACT

Prairie plants have been used as food sources by prehistoric Indians since the end of the Pleistocene about ten thousand years ago when the climate warmed, the glaciers retreated, and these plants became established throughout the region. It is impossible to know exactly how important plant food resources were to those and to more recent Indian people, but it is generally agreed that they were a major source of food. Not only were prairie plants readily available; they relieved a monotonous meat diet; they were available in the spring when other food (game, stored foods, and any crops--if they were horticulturalists) were scarce; and they helped to avert starvation when hunting failed. Documentation for the use of 121 species of plants native to the Prairie Bioregion, has been found. Plant use information in ethnobotanical reports and historical accounts was found for the following seventeen tribes: Comanche, Apache, Cheyenne, Kansa, Osage, Pawnee, Omaha, Ponca, Sioux (Dakota and Lakota), Crow, Arikara, Hidatsa, Mandan, Blackfeet, Assiniboine, and Plains Cree.

INTRODUCTION

Since the end of the Pleistocene, about ten thousand years ago, when the climate began to warm, prairie plants have been used as food sources by the Indians of the prairies. It is impossible to know how important plant food resources were to these indigenous people, but it is generally agreed that they were a major food source, and perhaps even more important than meat.

It is difficult to estimate how many prairie plants were actually eaten by Indians. In my research, I have found ethnobotanical, archeological, or historical evidence for the use of 121 native prairie species (1). However, there were certainly many other plants that were used as minor sources of food and it has been said that in times of scarcity, probably almost anything that could be eaten, was eaten. This was the opinion of Dr. V. Havard of the United States Army, who made the following statement in 1895, with perhaps a racist tone:

The maxim that "Necessity knows no law" is well exemplified in the diet of the North American Indians who, when driven by stress of hunger, eat whatever the animal and vegetable kingdoms bring within reach, so that it may truly be said of some tribes that they reject nothing which their teeth can chew or their stomachs digest, however tasteless, unclean and repulsive. (2)

1. NUMBER OF EDIBLE PRAIRIE PLANTS

Elias Yanovsky in his "Food Plants of the North American Indians," lists 1,112 species of plants that were used as food sources (3). Melvin Gilmore reported over 150 species that were used for medicine (the largest use), food and other purposes in his Uses of Plants by the Indians of the Missouri River Region

(4). Edible prairie plants can be divided into three general categories--forbs (such as the prairie turnip), woody shrubs (chokecherry), and grasses (Eastern gama grass). Introduced weed species (dandelion) and native tree species (black walnut) are not included because they are not true components of prairie vegetation.

Considering that the grasses are the dominant vegetation of the prairie and that all of them have edible seeds--although most of the seeds are quite small and are tightly enclosed in a tough hull--it could be stated that the majority of plants found on the prairie are edible. However, there is very little archeological or ethnographic evidence concerning the use of grass seeds and they were probably not an important source of food.

2. ARCHEOLOGICAL STUDIES

The archeological studies in the region, particularly the archeo-botanical analysis of the plant remains have given us some information on the plant materials that Native people used. From these scattered remains it can be inferred what foods were eaten. However, many plant materials do not preserve well in the open and exposed prairie environment, especially if they are fleshy and perishable such as greens or tubers. Since the Prairie Bioregion contains few caves or rock shelters, the analysis of the remains found in sheltered environments in the Ozarks and the desert Southwest (which are adjacent to the Prairie Bioregion) give further clues to possible prehistoric food uses in the Prairie Bioregion. Human coprolites (preserved human feces) can often be found in these protected environments, and the food remains and food pollen in them are direct proof of foods people ate.

3. HISTORICAL USE

Plant use information in ethnobotanical reports and historical accounts was found for the following seventeen tribes: Comanche, Apache, Cheyenne, Kansa, Osage, Pawnee, Omaha, Ponca, Sioux (Lakota and Dakota), Crow, Arikara, Hidatsa, Mandan, Blackfeet, Assiniboine, and Plains Cree (1).

The Indians had a division of labor in which the women were the primary gatherers of wild food plants; only on rare occasions did the men, who were the hunters, help in this activity. The European explorers and early settlers brought with them their dominant cultural and economic perspectives, and the majority of the early interactions with the Indians were made by men who viewed the Indian cultures as being based on the hunting activities of the Indian men. Perhaps this is why the importance of plant gathering by Plains Indian women had previously been underestimated.

By the time the prairies were being settled by European immigrants, many Indians had been removed to reservations. There was almost no interaction between Indian women, who knew the wild food plants, and women settlers, whose responsibilities included gardening and food preparation. Consequently, except for the use of wild onions and some fruits (chokecherries, plums,

serviceberries, currants), both of which the prairie settlers had some previous familiarity with in Europe, very few native plants were used by settlers as food. Few edible prairie plants are mentioned in the diaries, journals, and lore of the prairie pioneers. This is one reason for the paucity of knowledge concerning their use today.

4. CONSERVATION

Edible wild plants of the prairie are probably not going to be a major food source of the future. It is possible that some of them might be domesticated as future crops (especially Eastern gama grass and groundnuts).

The Indians were dependent upon nature for most of their needs and had extensive knowledge of which plants were edible and useful. Our culture is not directly dependent upon nature for its livelihood, and yet we are dependent upon the natural world for our health. We are beginning to look at the problems created by using large amounts of natural resources and by living in an environment that has been significantly altered by humans. Perhaps by learning more about the native plants that surround us, and about their use and history, we can begin to appreciate and develop a conservation ethic that will bring us to harmony with our natural environment.

The Plains Indians believed strongly in a conservation ethic based on the sanctity of life. Melvin Gilmore reported in 1927, based on his work with Omaha and the Dakota (Sioux), that the Indians "tell me that they were taught by their parents and elders that plants and animals must not be destroyed needlessly, that wanton destruction is wicked. (5) A precept which they frequently hear was:

Do not needlessly destroy the flowers on the prairie or in the woods. If the flowers are plucked there will be no flower babies (seeds); and if there be no flower babies then in time there will be no people of the flower nations. And if the flower nations die out of the world, then the earth will be sad. All the flower nations, and all the different nations of living things have their own proper place in the world, and the world would be incomplete and imperfect without them. (5)

5. WILD EDIBLE PRAIRIE PLANT LIST

The following table lists the major wild edible prairie plant species. When there is a number proceeding the type species, this indicates the number of closely-related species within the genus that have been found in the literature as food sources in the Prairie Bioregion. The plants are ordered in the general seasonal progression by which they were harvested.

EDIBLE PRAIRIE PLANTS

Common Name	# of species	Type Species
Ground Plum Milkvetch	1	<u>Astragalus crassicaupus</u> Nutt.
Wild Onion	4	<u>Allium canadense</u> L.
Prairie Parsley	3	<u>Lomatium foeniculaceum</u> (Nutt.) T. & G.
White Dog's Tooth Violet	1	<u>Erythronium mesochoreum</u> Knerr.
Wild Hyacinth	1	<u>Camassia scilloides</u> (Raf.) Cory.
Prairie Violet	2	<u>Viola pedatifida</u> G. Don.
Spring Beauty	1	<u>Claytonia virginica</u> L.
Violet Wood Sorrel	2	<u>Oxalis violacea</u> L.
Funnel Lily	1	<u>Androstephium coeruleum</u> (Scheele) Greene

Wild Strawberry
Lambsquarter
Prostrate Pigweed
Saltbush

Spiderwort

New Jersey Tea
Leadplant
Milkweed
Beebalm
Yucca
Prince's Plume

Bee Spiderflower
White Prairie Clover

Dewberry
Prairie Turnip
Sumac
Devil's Claw

Prickly Pear
Bastard Toadflax

Buffalo Currant
Wild Plum
Nipple Cactus

Ground Cherry
Purple Poppy Mallow
Sunflower
Marsh Elder
Giant Ragweed
Hazelnut
Serviceberry
Chokecherry
Buffalo Berry

Wild Rose
Thistle

American Licorice
Buffalo Gourd
Bush Morning Glory
Groundnut
Hog Peanut

Gayfeather
Tuberous Sunflower

1 Fragaria virginiana Duchn.
2 Chenopodium berlandieri Moq.
2 Amaranthus graecizens L.
3 Atriplex subspicata (Nutt.) Rydb.
2 Tradescantia occidentalis (Britt) Smyth.
2 Ceanothus americanus L.
1 Amorpha canescens Pursh.
2 Asclepius syriaca L.
1 Monarda fistulosa L.
1 Yucca glauca Nutt.
1 Stanleya pinnata (Pursh) Britt.
1 Cleome serrulata Pursh.
2 Dalea candida Michx. ex Willd.
2 Rubus flagellaris Willd.
3 Psoralea esculenta Pursh.
2 Rhus glabra L.
1 Proboscidea louisianica (Mill) Thell.
3 Opuntia macrorhiza Englem.
1 Commandra umbellata (L.) Nutt.
3 Ribes odoratum Wendl.
5 Prunus americana Marsh.
1 Coryphantha vivipara (Nutt.) B. & R.
3 Physalis heterophylla Nees.
2 Callirhoe involucrata Gray.
2 Helianthus annuus L.
1 Iva annua L.
1 Ambrosia trifida L.
1 Corylus americana Walt.
1 Amelanchier alnifolia Nutt.
1 Prunus virginiana L.
1 Shepherdia argentea (Pursh) Nutt.
1 Rosa arkansana Porter.
2 Cirsium undulatum (Nutt.) Spreng.
1 Glycyrrhiza lepidota Pursh
1 Cucurbita foetidissima H.B.K.
2 Ipomoea leptophylla Torr.
1 Apios americana Medic.
1 Amphicarpaea bracteata (L.) Fern.
3 Liatris punctata Hook.
1 Helianthus tuberosa L.

Grasses

Blue Grama	<u>Bouteloua gracilis</u> (H.B.K.) Griffiths.
Canada Wild Rye	<u>Elymus canadensis</u> L.
Fescue	2 <u>Festuca</u> species
Junegrass	<u>Coeleria pyramidata</u> (Lam.) Beauv.
Muhly	<u>Muhlenbergia</u> species
Indian Ricegrass	<u>Oryopsis hymenoides</u> (R. & S.) Ricker.
Panic Grass	3 <u>Panicum</u> species
Maygrass	<u>Phalaris caroliniana</u> Walt.
Sand Dropseed	<u>Sporobolus cryptandrus</u> (Torr.) Gray
Eastern Gama Grass	<u>Tripsicum dactyloides</u> L.
Wild Rice	<u>Zizania aquatica</u> L.

Other Lesser Edible Species

Calamus	<u>Acorus calamus</u> L.
Lavender Hyssop	<u>Agastache foeniculum</u> (Pursh) O. Ktze.
Pussy Toes	2 <u>Antennaria</u> species
Sagebrush/Wormwood	2 <u>Artemisia</u> species
Canada Milkvetch	<u>Astragalus canadensis</u> L.
Netleaf Hackberry	<u>Celtis reticulata</u> Torr.
Curly-top Gumweed	<u>Grindelia squarrosa</u> (Pursh) Dun.

Hoary Peavine	<u>Lathyrus polymorphus</u> Nutt.
Bush Clover	<u>Lespedeza capitata</u> Michx.
Mentzelia	<u>Mentzelia albicaulis</u> (Hook.) T. & G.
American Lotus	<u>Nelumbo lutea</u> (Willd.) Pers.
Common Evening Primrose	<u>Oenothera biennis</u> L.
Broomrape	<u>Orbanche ludoviciana</u> Nutt.
Knotweed	2 <u>Polygonum</u> species
Cinquefoil	<u>Potentilla</u> species
Mountain Mint	<u>Pycnathemum</u> species
Elderberry	<u>Sambucus canadensis</u> L.
Cup Plant	<u>Silphium perfoliatum</u> L.
Goldenrod	<u>Solidago</u> species
Green Thread	<u>Thlasperma megapotemicum</u> (Spreng.) O. Ktze.

REFERENCES

- (1) Kindscher, Kelly. Edible Wild Plants of the Prairie: an Ethnobotanical Guide. 1987. University Press of Kansas, Lawrence.
- (2) Havard, V. 1895. "Food Plants of the North American Indians." Bull. Torrey Botanical Club 22: 98.
- (3) Yanovsky, Elias. 1936. "Food Plants of the North American Indians." USDA, Miscellaneous Publication No. 237.
- (4) Gilmore, Melvin. 1977 (1919). Uses of Plants by the Indians of the Missouri River Region. University of Nebraska Press, Lincoln.
- (5) Gilmore, Melvin. 1927. "Indians and Conservation of Native Life." Torreya 27 (6): 97--98.

