Could Captain John Smith's Mattoume Have Been Wild Rice?

Germain LaRoche

Research

Abstract

An early English explorer of North America, Captain John Smith reported use of a wild food called **mattoume** by native inhabitants of Virginia. Botanical identification of mattoume has been a mystery. In an attempt to solve the mystery of which plant species Captain Smith observed, I compare the botanical descriptions of wild rice and several other possible species that were mentioned either in scholarly journals or in ethnobotanical literature as likely identifications of **mattoume**. It seems most likely that **mattoume** is maygrass, *Phalaris caroliniana* Walter, as the facts do not support an identification as wild rice.

Introduction

In scholarly journals (Bendremer 1999, Stout 1914 & Willoughby 1907), on the internet (Anacostia Park 2006), and in casual conversations with amateur anthropologists, it is often mentioned that Native Americans used wild rice as a food without being very specific about when, where and by which tribes. If asked to be more specific, the answer is often that Captain John Smith mentioned the use of **mattoume** by the native Virginia inhabitants thus equating **mattoume** to wild rice. A botanical and ecological description of wild rice (*Zizania aquatica* L.), a review of ethnobotanical literature and geographical distributions of possible candidates are presented.

The Writings of Early European Explorers of the Atlantic Coast

Of the early explorers of the Atlantic East Coast of North America (John Cabot, Jacques Cartier, Samuel de Champlain, Henry Hudson John Smith and Giovanni Verrazano) only Samuel de Champlain and John Smith wrote extensively about the conditions and habits of the Native Americans (Barbour 1986, Bonfanti 1968, Champlain 1907, Dunan 1992, Morison 1972). While Champlain made three voyages along the northeastern coast, it was only on the third voyage, which lasted from September 9 to November 12, 1606, that he explored the coast from present-day Maine to and including Cape Cod, Massachusetts (Biggar 1922, Duncan 1992). He always found the Indians to be friendly which enabled him to actually visit their villages and observe first hand their ways of life. From the Saco River in Maine to and including Cape Cod, Champlain was shown many cultivated and non-cultivated plants and the only member of the grass family (Poaceae) he mentions is corn (*Zea maize* L.) (Duncan 1992). Because wild rice matures from late August to mid-September in present day Maine (personal observation) it seems reasonable that Champlain would have been shown some wild rice or noticed it being parched, threshed and winnowed if the natives utilized it as food.

Smith produced three volumes describing his adventures in present day Virginia and the Chesapeake Bay area from 1607-1609 (Barbour 1986). Smith gives a detailed account of how the local natives divide the year into five seasons, e.g.,

Correspondence

Germain LaRoche, 64 Barrows Drive, Topsham, ME 04086 U.S.A.
Laroche32@verizon.net

Ethnobotany Research & Applications 5:179-184 (2007)

> "From September until the midst of November as the chiefe feasts and sacrifice. Then they have plenty of fruits as well planted as naturall, as corn greene and ripe fish, fowle and wilde beastes exceeding fat." (Barbour 1986)

Smith also describes the food items eaten during feasts at various other times of the year. He mentions only once that:

> "**Mattoume** is growth as our bents do in medows. The seede is not much unlike to rie, though much smaller, this they use for a dainty bread buttered with deare suet." (Barbour 1986)

In his often quoted Book on Wild Rice and the Ojibway, Vennum (1988) follows these statements with

> "Similarly in the Great Lakes region the French likened wild rice to rye and the Ojibway pulverized wild rice to make a sort of bread and customarily flavored rice with animal fat."

It is not clear that Vennum implied that Smith was describing wild rice but a casual reading of Vennum may have lead people to make that assumption. Smith could not have known of the Ojibway's use of wild rice as the French Jesuits and fur traders did not encounter the various tribes occupying the Western Great Lakes region until the middle to the late 1600s (Morgan 1962, Thwaites 1903). According to Medsger (1966),

> "the Ojibway were the principal harvesters of wild rice for nearly three centuries, the food played a minimal role in their culture before contact with Europeans. In the mid-17th Century the Objibway lived in small disperse bands at the end of Lake Superior, mostly outside the natural range of wild rice. They would have known of wild rice only through trade with Indians to the West and South."

Smith's brief description of **mattoume** provides only three clues to its identity: "that it groweth as our Bents do in meadows and was used as food." The Oxford English Dictionary (1989) describes 'bent' as "a word of difficult history" and it also lists 'bent grass,' especially in English botany as belonging to the genus *Agrostis*." This still leaves some doubt that Smith's bent was a grass. Smith states **mattoume**'s habitat as a meadow. The Oxford English Dictionary (1989) defines meadow as:

> "Meadow, many different spellings. Originally a piece of land permanently covered with grass which is mown for use as hay. In tales, use extended to a tract of low-level well-watered ground, usually near a stream."

The Century Dictionary (1913) states:

> "Meadows are often on the banks of a river or lake but so far above the surface as to be dry enough to produce grass and herbage of a superior quality."

Smith describes the "seede is not much unlike to rie." In this case the Oxford English Dictionary (1989) is unequivocal in stating: "rye, a food grain obtained from the plant *Secale cereale* extensively used in Northern Europe" and then quotes Smith's description of **mattoume**. *Secale cereale* L. is a member of the family Poaceae. If Smith's rie is a grass, then **mattoume** is probably also a grass as most grass seeds look similar. The important point, however, is that **mattoume** is much smaller than rie. The seeds of both *S. cereale* (rye) (USDA 2007) and *Z. aquatica* (wild rice) (USDA 2007) are 1.0 cm or longer in length. (Table 1)

While somewhat tentative, using the above information provides an expanded description of **mattoume** as follows: **mattoume** is the seed of a grass plant much smaller than 1.0 cm in length which grows along a water body, is subject to dry periods and is used as food by Native Americans.

Table 1. Seed length, primary habitat and indigenous uses of grass species possibly seen by Captain John Smith.

Taxa	Seed Length (cm)	Primary Habitat	Primary Indigenous Uses
Agrostis stolonifera L., Creeping bentgrass	0.2	Wetlands	food
Arundinaria gigantea (Walter) Muhl., Large canegrass	0.7-0.8	Wetlands	not food but other uses, e.g., medicine, fibers
Hordeum pusillum Nutt., Little barley	0.5	Wetlands/other	food
Phalaris caroliniana Walter, Maygrass or Carolina canarygrass	0.3	Wetlands	food
Phragmites australis (Cav.) Trin. ex Steud., Common reed	1.0	Wetlands	medicine
Secale cereale L., Rye	1.0	Cultivated	not native
Spartina alterniflora Loisel., Salt marsh cordgrass	1.0	Obligate aquatic	food
Zizania aquatica L., Wild rice	1.0+	Obligate aquatic	food

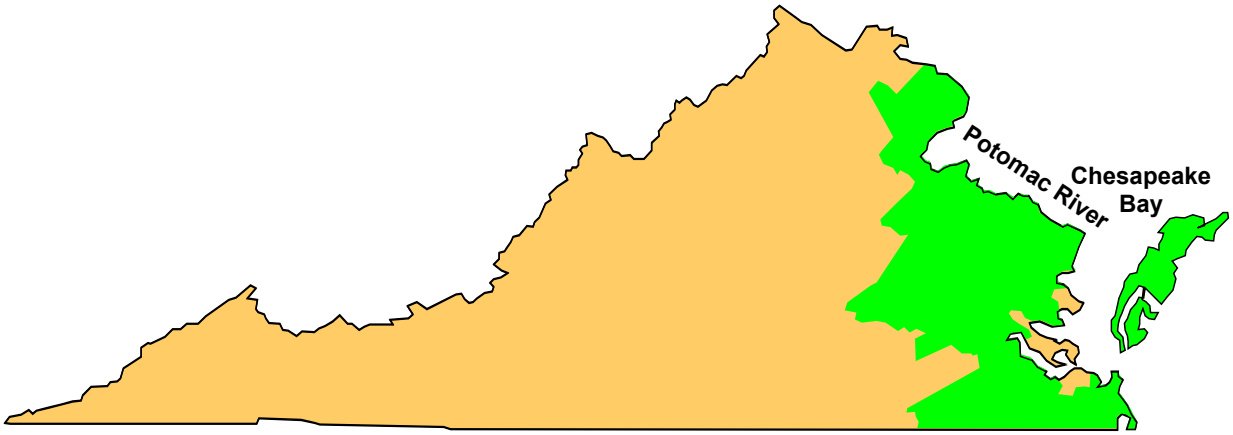

Figure 1. Distribution (green) of *Zizania aquatica* L. in counties of Virginia. (modified from USDA 2007)

Botany and Ecology of Wild Rice (*Zizania aquatica* L.)

Aiken *et al*. (1988) describes wild rice (*Z. aquatica*) as an annual grass that grows from 1-3 m in height with the pistillate flowers located above the staminate flowers. The leaves are 1.0-8.0 cm wide, the ligules are 1.0-2.0 cm long and the seeds are approximately 1.0 cm long. Wild rice requires a habitat with 0.5-2.5 m of water and cannot survive if the water level is too deep or too shallow. It is listed as an obligate fresh water species by the USDA. Accepting the above expanded definition of **mattoume**, wild rice does not match the seed size or habitat of **mattoume**. Wild rice presently occurs in Virginia in several counties near or bordering Chesapeake Bay and Potomac River. (Figure 1)

In his analysis of the writing of Captain Smith, Barbour (1986) suggests that large canegrass may have been **mattoume** and gives Medsger (1966) as a reference who states that "Large canegrass (*Arundinaria gigantea* (Walter) Muhl.) has starchy seeds and was much used by the Indians." Evidently Native Americans used large canegrass as medicine and fuel and to make burden baskets, weapons, candles and housing materials (Hamel & Chiltosky 1975, Magee & Ahles 1999, Moerman 1998, USDA GRIN 2007). Large canegrass occurs in a number of Virginia counties (Figure 2). The seeds look similar to wild rice but they are slightly shorter (USDA 2007).

In Barbour's (1969) glossary of Indian words recorded by Smith, he compares only two words to **mattoume**: Delaware '**malon**' "wheat" and Objibway '**manomin**' "rice." The first mention of an Algonquian term for wild rice is in the Jesuit Relations Documents which provide a cognate description of the ancestors of today's Menominee (Vennum 1988). In their report of the 1658 and 1661 voyages to Wisconsin, the Jesuits mention that the local Indians "reap without sowing it, a kind of rye which grows in their meadows and is considered superior to Indian corn" (Vennum 1988). The pervasiveness of words for wild rice

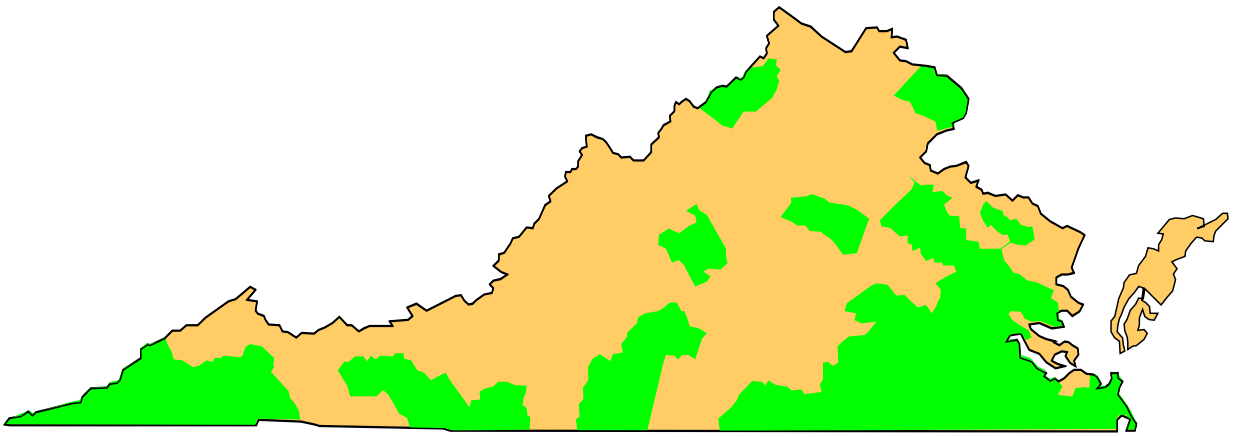

Figure 2. Distribution (green) of *Arundinaria gigantea* (Walter) Muhl. in counties of Virginia. (modified from USDA 2007)

among Algonquian groups, including those along the Eastern Seaboard, suggests that many of these natives were familiar with some species of this food (Vennum 1988). In his 1993 article, Yarnell states that "wild rice has never been definitively identified from a pre-historic archeological context to my knowledge."

The above analysis does not prove that **mattoume** could have been wild rice. Neither does the analysis of Indian words that may refer to wild rice prove the **mattoume** is a Powhatan word for wild rice.

Ethnobotany and Archaeology

The above-mentioned plant species do not match Smith's description of **mattoume**, therefore, it would seem that the most likely candidates would be herbaceous plants whose remains have been found in archaeological sites in the region and thus would tend to indicate their use by Native Americans. In a 1993 article on prehistoric crops and probable crops in Eastern North America, Yarnell (1993) listed six species in the small grain category. Four of the species are dicots with round seeds and not likely to be mistaken by Smith for rye's elliptic seeds. The two grass species mentioned are maygrass and little barley which look similar to rye. Little barley seeds are only 0.5 cm long (USDA 2007) and maygrass seeds look similar to rye seeds but are only 0.3 cm long. This difference in length 0.3-0.5 cm is certainly enough for Smith to state that "**mattoume** is not much unlike to rie though much smaller."

However, Yarnell (1993) states that we still lack an adequate base for determining the degree of maygrass domestication, but its early importance as a crop plant seems affirmed by its abundant remains in Tennessee, Kentucky and Ozarks. We have no clear evidence of domestication or that little barley and maygrass were important grains from Middle Woodland to Mississippi times. *Chenopodium* is sometimes the most abundant crop found but maygrass, knotweed and little barley are numerous and ubiquitous in flotation samples. Their importance as a food is debated. Johannessen (1993) agrees that in the Central area of Eastern Woodlands, maygrass and little barley were grown but further states that "extensive analyses of plant remains are revealing regional variations in the pattern of Late Woodland plant husbandry." Native seed crops such as maygrass and little barley, while lacking morphological changes that signal domesticated status, are nevertheless understood to have been cultivated in pre-historic times (Dunavan 1993).

Scarry (2003) does not devote specific attention to the Mid-Atlantic Seaboard region for which there are few archaeobotanical data, but for other portions of the Eastern Woodlands she lists only two grass species, *Z aquatica* and *P. caroliniana* as being wild harvested foods. Scarry and Scarry (2005) state that while maygrass and little barley were grown in the Prehistoric Period they never seem to have had the importance they did in parts of the Midwest or Midsouth.

Grass Species Native to Virginia

The Flora of Virginia (2007) lists some four hundred species of grasses for the State. Moerman (1998), lists 140 grass species utilized in some way by Native Americans. Of these, ten occur naturally in Virginia: six have been used as food by the Indians--*Agrostis stolinifera*, *Hordeum. pusillum*, *Phalaris caroliniana*, *Phragmites australis*, *Spartina alterniflora* and *Zizania aquatica* (Table 1) The seeds *S. alterniflora* and *Z. aquatica* are each about 1.0 cm in length and, therefore, are too long to be **mattoume**. *Agrostis stolonifera* is a facultative wetland species and its seeds (USDA 2007) are only 0.2 cm long but Shaffer (1992), Scarry (2003), Yarnell (1993) do not list this species as being associated with archeological sites. *Hordeum pusillum* seeds are 0.5 cm long and *P. caroliniana* seeds are 0.3 cm long. These are the two remaining species which are much shorter than *Z. aquatica*.

The USDA lists *H. pusillum* as occurring in 43 of the 48 continental United States and it occurs in many Virginia

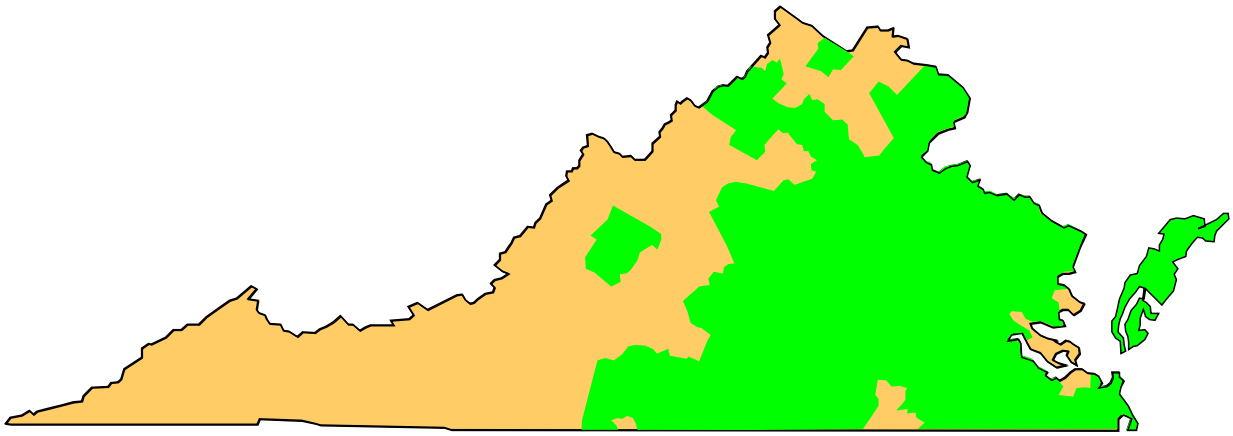

Figure 3. Distribution (green) of *Hordeum pusilum* Nutt. in counties of Virginia. (modified from USDA 2007)

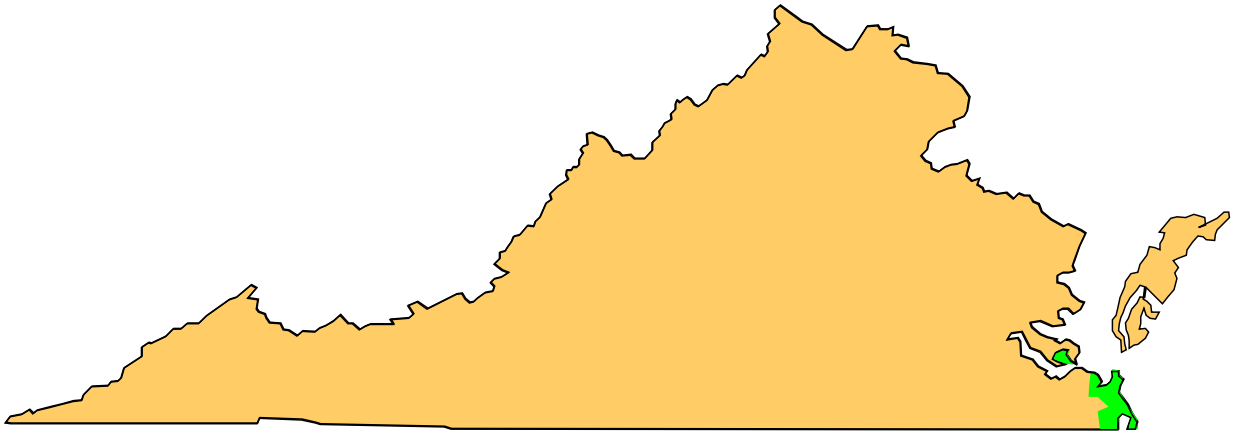

Figure 4. Distribution (green) of *Phalaris caroliniana* Walter in counties of Virginia. (modified from USDA 2007)

counties (Figure 3). *Hordeum pusillum* is equally likely to occur in a wetland or a non-wetland as it is shade intolerant (USDA 2007). *Phalaris caroliniana* occurs mostly in the southern portion of the United States and only in two Virginia counties bordering Chesapeake Bay (Figure 4). Furthermore it usually occurs in wetlands, e.g., moist ditches, road sides, floodplains, stream banks, old fields and disturbed areas.

In his description of **mattoume**, Smith used words that had specific meaning for him but do no necessarily have the same meaning today, e.g. bent and meadow. Also Barbour's analysis of various Indian dialects did not accurately represent the Indian's use of these words. Thus the impreciseness of the language leaves some doubt as to which plant species Smith was referring. Despite this uncertainty, **mattoume** was probably a grass that grew in a habitat that tended to be moist. Because rye grass was an important food plant in Europe and Smith was of peasant background (Barbour 1986) he must have been quite familiar with rye. So assuming that **mattoume** was a grass of meadows and its seed size is so much smaller than wild rice, it is safe to completely rule out wild rice as being **mattoume**.

Both maygrass and little barley produce seeds that are much smaller than rye seeds and both are listed as occurring in Virginia. There does not seem to be any evidence that the natives of Eastern Virginia utilized either little barley or maygrass as food. One reason may be because any potential archaeological sites in this region that could yield such evidence have long been destroyed by the activities of Euroamericans. Apparently there is still some controversy among ethnobotanists of the importance of little barley and maygrass as a food source of Natives in many parts of the Eastern Woodlands before European contact thereby weakening the possibility that the Powhatan tribes encountered by Smith utilized either of these two grains as food.

In all of Smith's writings **mattoume** is mentioned only once but other "fruits" several times. The geographical distribution of little barley is extensive compared to maygrass, and furthermore, little barley's ecological niche does not match **mattoume**'s as well as maygrass does, therefore, I favor maygrass (*P. caroliniana*) as being **mattoume**.

Acknowledgments

I wish to thank Lorraine LaRoche, the Maine State Library for granting me access to their Minerva and Marvel programs and the interlibrary loan system and the Bowdoin College library for without these facilities I would not have been able to complete my research for this article.

Literature Cited

Aiken, S.G., P.F. Lee, D. Punter & J.M. Stewart 1988. *Wild Rice in Canada.* N.C. Press Limited, Toronto.

Anacostia Park 2006. Anacostia Park, Washington D.C., www.nps.gov/anac/

Barbour, P.L. 1969. *The Jamestown Voyages under the First Charter, 1606-1609*. 2 vols., Publications of the Hakluyt Society, Series. 2, 136-37 Cambridge University Press, Cambridge.

Barbour, P.L. 1986. Editor of *The Complete Works of Captain John Smith (1580-1631)* in Three Volumes, Vol.1 published for the Institute of Early American History and Culture, Williamsburg, Virginia. University of North Carolina Press, Chapel Hill.

Bendremer, J.C. 1999. Changing Strategies in the Pre- and Post-Contact Subsistence Systems of Southern New England. Archaeological and Ethnohistorical Evidence, Pp. 133-155 in *Current Northeast Paleoethnobotany*. edited by J.P. Hart. New York State Museum, New York.

Biggar, H.P. 1922. *The Works of Samuel de Champlain in six volumes.* Volume I, 1599-1607. Translated and edited

by H.H. Langton & W.F. Ganong. The French texts collated by J.H. Cameron. The Champlain Society, Toronto.

Bonfanti, L. 1968. *Biographies and Legends of the New England Indians.* Volume I. New England Historical Series. Pride Publications, Wakefield, Massachusetts.

Century Dictionary. 1913. *An Encyclopedic Lexicon of the English Language*. Volume 6. The Century Company, New York.

Champlain, Samuel de. 1907. *Voyages of Samuel de Champlain, 1604-1618*. Edited by W.L. Grant. C. Scribner's Sons, New York.

Dore, W.G. 1969. *Wild Rice*. Publication 1393. Canadian Department of Agriculture, Ottawa.

Dunavan, S.L. 1993. Reanalyses of Seed Crops from Emge: New Implications for the Late Woodland Subsistence-Settlement Systems Pp. 98-114 in *Foraging and Farming in the Eastern Woodlands.* Edited by M.C. Scarry. University Press of Florida, Gainesville.

Duncan, R.F. 1992. *Coastal Maine: A maritime history*. The Countryman Press, Woodstock, Vermont.

Flora of Virginia. 2007. Digital Atlas of the Flora of Virginia. Virginia Botanical Associates. www.biol.vt.edu/digital_atlas/

Hamel, P.B. & M.U. Chiltosky 1975. *Cherokee Plants and Their Uses-a 400 year history*. Herald Publishing Co., Syla, North Carolina

Johannessen, S. 1993. Farmers of the Late Woodland Pp.57-77 in *Foraging and Farming in the Eastern Woodlands.* Edited by M.C. Scarry. University Press of Florida, Gainesville.

Magee, D.W. & H.E. Ahles 1999. *Flora of the Northeast. A Manual of the Vascular Flora of New England and Adjacent New York.* University of Massachusetts Press, Amherst.

Medsger, O.P. 1966. *Edible Wild Plants.* Collier Macmillan Publishers, New York.

Moerman, D.E. 1998. *Native American Ethnobotany.* Timber Press, Portland, Oregon.

Morgan, H.J. 1862. *Sketches of Celebrated Canadians*. Hunter, Rose, Toronto.

Morison, S.E. 1972. *Samuel de Champlain, Father of New France*. The Atlantic Monthly Press Book, Little, Brown and Company Boston, Toronto.

Oxford English Dictionary. 1989. *Oxford English Dictionary*. Second Edition. Prepared by J.A. Simpson & E.G.C. Weiner, Claredon Press, Oxford.

Scarry, M.C. 1993. Introduction. Pp.3-12 in *Foraging and Farming in the Eastern Woodlands.* Edited by M.C. Scarry. University Press of Florida, Gainesville.

Scarry, M. C. 2003. Patterns of Wild Plant Utilization in Prehistoric Eastern Woodlands. Pp. 50-104 in *People and Plants in Ancient Eastern North America.* Edited by P.E. Minnis. Smithsonian Books, Washington.

Scarry, M.C. & J.F. Scarry. 2005. Native American garden agriculture in Southeastern North America. *World Archaeology Garden Agriculture* 37:259-274.

Shaffer, L.N. 1992. *Native Americans Before 1492*. The Moundbuilding Centers of the Eastern Woodlands, M.E. Sharpe, Armonk, New York.

Stout, A.B. 1914. The Vegetable Foods of the American Indians. *Journal of the New York Botanical Garden* 15:50-60.

Thwaites, Reuben G. 1999. Editor of *The Jesuits Relations and Allied Documents.* Vol. 43. Burrows Brothers, Cleveland.

USDA. 2007. United States Department of Agriculture. www.plants.usda.gov

USDA.GRIN. 2007. United States Department of Agriculture. www.plants.usda.gov (GRIN, Economic Importance, view ethnobotany).

Vennum, T.Jr. 1988. *Wild Rice and the Ojibway People*. Minnesota Historical Society Press, St.Paul.

Willoughby, C.C. 1907. The Virginia Indians in the Seventeenth Century. *American Anthropologist* January 9(1):57-86.

Yarnell, R.A. 1993. The Importance of Native Crops During Late Archaic and Woodland Periods. Pp.13-26 in *Foraging and Farming in the Eastern Woodlands.* Edited by M.C. Scarry. University Press of Florida, Gainesville.