

Thomas Mann delighted in scavenging food. Tom was my friend and student in the early 1970s, but in another era, he would have been a “hunter-gatherer.” In the 20th century, he only gathered. From time to time, I provided Tom with information on plant edibility in exchange for a sampling of his vegetable products. His acorn bread is particularly memorable. I think I remember it because it was chocolate brown; he made it from acorns that had not been leached enough to remove the tannin. It was tasty, but left an astringent aftertaste.

Some of the American trees still producing acorns are astonishingly large, but they were larger when people from the Old World came to this continent. When Europeans from Spain, Portugal, and England arrived in the North America, they found giant trees the likes of which existed only in the memories of their elder countrymen. Since Europeans had long since cut all of the large trees that grew in those countries, no one reaching the New World had ever seen anything resembling the enormous sky-fingering lofty towers of the Americas. Those who saw those trees were delighted because they knew the wood could be used for building boats, houses, and the other items essential for daily living. Moreover, they knew that people remaining in their homelands would pay fortunes for those wood resources. Immediately, they began felling the trees and opening the land to remake it in the image of human-scarred, unforested, barren, cultivated Europe.

Although it has another meaning now, our word “desert” originally referred to anywhere people did not live. Europeans figured that they had arrived in a “desert” in the New World, and they were terrified of wild areas. Immediately, they began trying to make the “desert” into a “town” – a gathering of people in an enclosure or fortress. They knew that deserts not only contained potentially dangerous people whom they called “Indians,” but they also believed forests were inhabited by a plethora of other perils including trolls, goblins, spirits, ghosts, and similar malevolent entities. While “towns” were populated with many of those same shadowy hazards, other humans buffered the danger. Surely they were not aware of it, but their actions were the same as those of fish in schools and birds in flocks. Gatherings reduce the chances of individuals being singled out for predation.

Many of the large trees the Europeans found in the New World were in genera they knew, such as *Abies* (firs), *Acer* (maples), *Betula* (birches), *Castanea* (chestnuts), *Fagus* (beech), *Fraxinus* (ash), *Juglans* (walnuts), *Picea* (spruces), *Pinus* (pines), *Populus* (poplars), *Quercus* (oaks), and *Ulmus* (elms). Newcomers to the New World were so greedy for the wood from these trees that large specimens like those they first encountered are today difficult to imagine, much less find. A visit to the Joyce Kilmer segment of the Nantahala National Forest in western North Carolina will give an idea of the size of those old originals. Some of the remaining tulip-trees (*Liriodendron tulipifera*) there are so large that it takes three or more people linking hands to reach around their bases.

However, one of the most important genera to people then and now is *Quercus*, a Latin name applied since the days of the Roman

Empire. A glimpse of what oak trees formerly were in the southeastern United States can still be seen in the Angel Oak on the sea islands near Charleston, South Carolina. Most of the other oak trees in North America are mere seedlings, having lived no more than 200 or 300 years.

Quercus in English is the “oak,” a word that appeared by 749 AD, although spelling varied to include oke as late as the 1500s. The English name is related to Old High German *eih*, and Middle High German *eich*, a word now rendered *Eiche* in modern German. In Dutch, it is *eycken* or *eyckenboom* (oak tree). In Spanish, the trees are *encinos* (evergreen or “live” species) or *roble*s (deciduous species). In Portuguese, the generic term is *carvalho* (from the pre-Roman base word *carb* or *carv*, branched), and *roble* (from Latin *robore*, to be strong) is applied to only European *Q. robur*. To French speakers, oaks are *chêne*, related to *chesne* as it was spelled by Fuchs in his *L'histoire des plantes of 1550* (Meyer et al. 1999). Louisiana Houmas, who had lost their native language, said that *Q. virginiana* was *chêne vert* (green oak). Italians retain the Latin word only slightly modified into *quercia*.

In Hebrew, oaks are *allon* or *elon*, both derived from the base-word *el* (god) (Zohary 1982). Oaks are called by that name because the trees are considered holy places where god speaks to mortals. Biblical legend has it that Abraham was visited by the angel of Jehovah under the branches of an oak (Lehner and Lehner 1960). Classical Greeks, including Pliny (23-79 AD) and Dioscorides (fl. 40-80 AD) said *dryas*, and considered the oak the preferred tree of Zeus. Therefore, devotees of Zeus gathered under oak trees to worship, believing that, when their prayers were heard, the leaves rustled and birds began singing in the branches. That was how Zeus let the faithful know they were heard (Lehner and Lehner 1960, Austin 1998a).

Celtic people also believed that spirits living in trees could be influenced by actions or ceremonies. The expression “knock on wood” (originally “knock-wood”) is one of many Gaelic remnants in English. Knocking on wood, especially oaks, drew the attention of the spirits to the wish that had just been made (Panati 1987). One variant of the Celtic word for oak, *dair*, was the fourth letter of their alphabet, and an ancient holy site is the modern Irish city of Kildare (church in the oaks). In Gaulois, oak was *cassanus*, not Latin *quercus*, because as a sacred tree of the Druids, it kept its original name. Both *cassanus* and *quercus* are probably akin to Akkadian *kassu*, strong.

Many people throughout the Americas have generic names for oaks. Cherokees say *a-da:ya*. In Náhuatl, they are *ahuatl* [*aboatl*, *aoatl*]. Mexicans using that name also held the oaks in high regard, as witnessed by city names like *Abuatepec* (oak hill), *Abuachichilpa* (in the red oaks), and *Abuatlán* (near the oaks). In Oaxaca, the Zapotecs say *yaga-yoo* [*yaga-xoo*] (*yaga*, tree, oak). Muskogean speakers, the Alabama, use the generic term *baya* [*bayo*].

One measure of how important oaks were to southeastern tribes is in the Muskogean names for them. Among the Seminoles in Oklahoma, there are 10 species, each with distinctive names. Those are *cóskv* (post oak, *Q. stellata*), *kv'lv* (white oak, *Q. alba*), *kv'p'e*

(overcup oak, *Q. lyrata*), *lókcupe* (red oak, *Q. rubra*), *lókcupe-láne* (live oak, *Q. virginiana*), *lókcupe-lv̄ste* [*lakcupe-lv̄ste*] (black oak, *Q. velutina*), *méskol-vpe* (water tree oak, *Q. nigra*), *meskólwv* (chestnut oak, *Q. muehlenbergii*), *sécv* (blackjack oak, *Q. marilandica*), and *tokvmáhv* (Spanish oak, *Q. falcata*).

In Florida, the only recorded indigenous names for oaks come from Muskogean people. Some Seminoles call the live oak (*Quercus virginiana*) *lakcv cumpv* [*lakcacámpa*, *alátka chumpa*, *lakchachabá*] (*lakcv*, acorn, *cumpv*, sweet, Creek), and others say *okiciskî* [*okecheshke*] (*oki*, water, *ciskî*, oak, Mikasuki). Muskgee-speakers in Oklahoma say *lókcupe-láne* (*lokcupe*, acorn-tree, *lane*, yellow). The diminutive, but similar, *Q. pumila* is called *kiciskincó:cí* (*oki*, water, *ciskî*, oak, *inoci*, son, Mikasuki), while *Q. myrtifolia*, the myrtle oak, is *colokota:pi* (oak tree, Mikasuki) or *tohatka* (*eto*, tree, *hatka*, white, Creek). The most common tree on the Big Cypress Seminole Reservation in southern Florida is *Q. laurifolia*, the laurel oak. That wetland species is the *asaykaapi* (*asayk*, acorn, *api*, tree, Mikasuki), *asaykhiskoposkia* [*ashak heskoposhke*, *oshe huhka puske*] (*asayk*, acorn, *hiski*, leaf, *oposkia*, screech owl, Mikasuki), *asykboomi* (*asayk*, acorn, *boomi*, bitter, Mikasuki), and *mishcolabi* [*meskolwv*] (*méskolwv*, water oak, *vpe*, tree, Creek).

Oaks are cherished by people throughout the world for their woods and fruits, although some are more coveted than others. At least 30 species have been used for food and oil by people within the United States (Hodgson 2001). Live oak (*Q. virginiana*) is one of the most prized of American trees, and surely the most valued in the southeastern states. The species grows from Mobjack Bay, Virginia (southwest end of Chesapeake Bay), along the coastal plain and islands to Florida and along the shores of the Gulf of Mexico to northeastern Mexico, spreading farther inland in Texas than in other states (Diggs et al. 1999). In Texas, *Q. virginiana* introgresses with *Q. fusiformis*, formerly a variant, but now separated (Simpson 1988, Nixon 1997). Live oak is disjunct from Florida to Cuba (Sargent 1905, Leon and Alain 1946-1954).

Live oak wood is heavy, hard, strong, and tough — traits many believe were passed to its worshipers and users. The wood is also close-grained, light brown or yellow, and retains thin nearly white sapwood. *Quercus virginiana* was so valuable during the time of sailing vessels that the United States Navy obtained large holdings of live oak forests for exclusive use in the government's shipyards (Harrar and Harrar 1946). The large, massive, and arching limbs were highly sought after for making ship "ribs and knees." The wood was also used for construction and in manufacturing hubs, wooden cogs, furniture, and flooring. This was one of the most important trees to early European settlers in the southeastern United States, and wood from live oaks still is considered the best quality available for many items.

Dyes and paints were made by indigenous people from oak bark. Bushnell (1909) found that the Choctaw were using oaks only to make a red paint. They mixed bark from three or more oaks, including *Q. laurifolia* and *Q. virginiana*, and boiled them until the liquid thickened. The bark was then removed and the liquid boiled again until it was thicker. Just before removing the hot mixture from the fire, a piece of pine pitch (*P. palustris*) was added, melted, and thoroughly mixed with the other liquid. This paint was then ready for use. Houmas made a similar preparation, but also used it to stain baskets (Speck 1941). Bark was used sparingly by settlers in the tanning industry (Harrar and Harrar 1946).

Fruits of oak trees are acorns (*ak*, oak, and corn, seed, Anglo-

Saxon). In Spanish, they are *bellota*, in French *gland*, in Italian *glanda*, and in Portuguese *glande*. All but the Spanish name are derived from the Latin *gland* (acorn). Some oaks produce tasty acorns, eaten either raw or roasted, while others have so much tannin that they must be ground and leached before people can eat them.

The seed crop from oaks is called "mast," from Old English *maest*, akin to Old High German *mast*, and Old English *mete*, meaning food. The word is related to "meat" (from Middle English *mete*, and related to Italian *madère*, and Greek *madaros*, to be wet) in the sense of food for humans and swine. A scribe of the seventeenth century wrote, "Acorns ... (before the use of Wheat-Corn was found out) were heretofore the Food of Men, nay of Jupiter himself ... till their Luxurious Palats were debauched ... And Men had indeed Hearts of Oak; I mean, not so hard, but health, and strength, and liv'd naturally, and with things easily parable and plain" (from Fernald et al. 1958).

Indigenous Americans also had names for acorns. The Mixé of Oaxaca and Chiapas call the acorns *kook* [*shokiup*], the Otomí in Hidalgo say *mêtza* [*ndezâ*], the Zoque in Chiapas *camay-cuy*, and in Tarascan of Michoacan use *taraquen*. Cherokees called acorns *gule*.

Five Muskogean tribes have left their names for acorns; the Creek said *lakcv* [*lokcha*, *sockcha*] (Simmons 1822, Martin and Mauldin 2000), the Miccosukee *asayk* (Sturtevant 1955), the Chickasaw *nasi* (Munro and Willmond 1994), the Choctaw *hane* (Crawford 1988) or *nusi* (Haag and Willis 2001), and the Alabama *bayathli* (Sylestine et al. 1993). In Florida, acorn in Timucua was *aba* or *aja*.

Indeed, there is a river in northern Florida the Timucua called *ajano hibita chirico* (river of little acorns). The Seminoles also named places after the oaks, calling one *lokcha apopka* (*lokcha*, acorn, *apopka*, place for eating, Creek). The first of these places we now call the Hillsboro River near Tampa, and the other is the Houston River in the Ten Thousand Islands of Collier County south of Naples. Live oak seeds were eaten by all tribes within its range (cf. Harper 1958). Probably, it is live oak acorns in Timucua baskets that Frenchman Jacques Le Moyne drew from his visit to northeastern Florida in 1564-1565 (cf. Melanich and Milbrath 1989).

The first record of indigenous people using acorns to produce oil came from the DeSoto expedition. The chroniclers reported people in the town of Chiaha (a Yemasee town) on the upper Tennessee River with "calabashes" (*Cucurbita*) filled with oil from nuts and acorns (Swanton 1939). Later, Capt. John Smith wrote that, "the Acornes of one kind, whose barke is more white than the other, is somewhat sweetish; which being boyled halfe a day in severall waters, at last affords a sweete oyle, which they keep in goards to annoint their heads and joints. The fruit they eate, made in bread or otherwise."

Harriot (1590) was the first to record oil being made from acorns by North Carolina Algonquians. He wrote that there are, "severall kindes of Berries in the forme of Oke akornes, which also by their experience and vse of the inhabitantes, wee finde to yeelde very good and sweete oule." He selected out one called *mangúmme-nauk*, "the which beeing dried after the maner of the first sortes [chestnuts, walnuts, hickories], and afterwards watered they boyle them, & their servants or sometimes the chiefe themselues either for variety or for want of bread, doe eate them with their fish or



Runner oak (*Quercus minima*) is our smallest oak in Florida, often no more than 1-2 feet tall.

flesh.” That word does not seem to be cognate with the Virginia Powhatan word, *anaskomins* (acorn), recorded by William Strachey in 1612, and another species may have been meant. Presumably, the Powhatan acorns came from the oak Strachey called *poawamindg* (Harrington 1955).

John Lawson, writing of the early 1700s in the Carolinas, found much the same. He remembered that, “The Indians beat them [acorns] into meal and thicken their venison broth with them, and oftentimes make a palatable soup. They are used instead of bread, boiling them till the oil swims on the top of the water, which they preserve for use, eating the acorns with flesh meat” (Swanton 1946). Later Lawson paid special attention to live oak acorns (*Q. virginiana*) in the coastal zone. He found, “The acorns thereof are as sweet as chestnuts, and the Indians draw an oil from them, as sweet as that from the olive, though of an amber color ... I knew two trees of this wood among the Indians, which were planted from the acorns, and grew in the freshies, and never saw anything more beautiful of that kind.”

John Josselyn reported in 1672 that the Pilgrims in Massachusetts discovered baskets of *Q. alba* acorns hidden in the ground by the local Massachuset tribe in December of 1620. The New England settlers appropriated those seeds and prepared a palatable and nutritious dish of boiled sweet acorns. Rosengarten (1984) noted that acorns (*Q. alba*, which he emphasizes) contain 50.4% carbohydrates, 34.7% water, 4.7% fat, 4.4% protein, 4.2% crude fiber, and 1.6% ash. A pound of acorns is said to provide 1265 calories. Not only did native Americans eat acorns, they used their oil for cooking and flavoring other foods such as hominy. We put butter on grits; they used acorn oil.

Heavy crops of mast, or “mast years,” are irregular, and this aids the spread of the species. There are so many seeds during those seasons that, by simple chance, more are able to escape insects, birds, squirrels, and other animals that consume them. Many animals eat acorns; Acorn weevils (CURCULIONIDAE) specialize on them. Gall wasps (CYNIPIDAE) deform leaves, stems, and flower clusters with imitation plant hormones to secure their eggs and larvae. For many

seasons I watched blue jays (*Cyanocitta cristata*) and boat-tailed grackles (*Quiscalus major*) gorge themselves on live oak acorns in southern Florida.

In England, the rural economy was formerly measured in terms of the number of swine that local oaks could support. One entry in the Domesday Book, compiled on the orders of William the Conqueror about 1086 AD, says of a certain village, "There is wood for forty swine," and the village was taxed accordingly (Edlin and Mitchell 1985). In Europe, *Q. robur* was the species most prized for its acorns, and the American *Q. alba* is its New World equivalent (Fernald et al. 1958, Rosengarten 1984). The live oak runs a close second in palatability.

Oak bark and galls have been used to prepare permanent ink and medicines since antiquity (Meyer et al. 1999). Fuchs in 1542 recorded both uses and illustrated many galls on the leaves of *Q. robur*. Culpeper (1653) and other herbalists continued attributing medical properties to various parts of the oak. Florida and Oklahoma Seminoles came to the same conclusions (Sturtevant 1955, Howard 1984). Tannin is the known active chemical in oak medicines, and it has been shown experimentally to be antiviral, antiseptic, and antitumor, but also may be carcinogenic (See Simpson 1991 and Foster and Duke 1990 for divergent opinions).

Celtic and other people considered the oaks symbolic of strength. We still use that symbolism in the United States Army by presenting an Oak Leaf cluster for exceptional bravery. Our practice actually mimics the times of Greek author Pliny (23-79 AD), when the oak symbolized bravery and a crown of oak leaves was a reward for outstanding military valor. Another European remnant is a Gaelic belief that oak leaves repel witches (Beith 1995, Vickery 1995). I wore a belt with oak leaves embossed on it for years and did not encounter a single witch. So, the charm obviously works.

ABOUT THE AUTHOR: A member of FNPS since 1981, Dan now lives in Tucson, Arizona, where he works in the Conservation & Science Dept. of the Arizona-Sonora Desert Museum and serves as the Book Review Editor for ECONOMIC BOTANY. FNPS Conference attendees, watch for announcements and ordering information for Dan's new Florida ethnobotany book coming this fall from CRC Press!

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