



Conservation Crossword Key – Redlair Spring 2008

ACROSS

2. **Sassafras** - Sassafras (*Sassafras albidum*), a member of the laurel family, is an understory tree found throughout eastern North America. It is notable for its sometimes mitten-like leaves and gorgeous soft-orange fall color. The roots and bark have a pleasant aroma and taste, which colonists believed were a cure-all.
3. **Germany** - More accurately, he was of recent German lineage (Schweinitz is a town west of Berlin). Lewis David von Schweinitz (1780-1834) was born and lived in Bethlehem, Pennsylvania, and like his father was an official of the Moravian church. He was a renowned expert on mushrooms and wrote *The Fungi of North Carolina* in 1818.
8. **Wolf** - The gray wolf (*Canis lupus*) was once found throughout North America and Eurasia. The largest of the wild dogs, it differs from the coyote in having shorter ears and a wider nose and in carrying its tail high when running. It lives in packs and, while it roamed the North Carolina Piedmont, performed the important function of controlling the numbers of large herbivores.
12. **Hickory** - The genus *Carya* are part of the Walnut family, with multiple leaves and usually large nuts, and include several species found on Redlair: Pignut (*Carya glabra*) with middle-sized nuts, Mockernut (*Carya tomentosa*), with large (edible) nuts, and Shagbark (*Carya ovata*) with shaggy bark (not so common on Redlair). Pecan is another member, but is not native here.
13. **Kudzu** - Kudzu (*Pueraria Montana*) is an incredible leguminous vine, introduced from Japan and China in the early 1900s with the foolish idea that it could control erosion. It does not do that very well, but it can completely blanket and destroy a forest within a few years. It is extraordinarily difficult to eradicate, as it sends down long roots at nodes every few feet. The lavender pea-like flowers have a deceptively sweet scent.
14. **Microstegium** - Sometimes known as Nepalese browntop or Japanese grass, *Microstegium vimineum* is an annual shade-tolerant grass first identified in the U.S. near Knoxville in 1919. It is becoming dominant in field edges and invades into forests wherever there is disturbance. It produces rampant seeds beginning in September, meaning it must not be mowed from that time. It offers little wildlife food value.
16. **Juniper** - The Eastern Red Cedar or Red Juniper (*Juniperus virginiana*), a member of the cypress family (not a cedar at all), is the most remarkable and widely distributed conifer of the United States, ranging from Ontario to Florida to the Great Plains. For the

Southern youngster who knows nothing about fir trees, it is the quintessential Christmas tree.

20. **Honeysuckle** - Japanese honeysuckle (*Lonicera japonica*) has a much longer history in the South than other invasives, having been introduced in the early 1800s. It has a lovely flower with a stunning aroma and is useful for deer browse. However, it is a dangerous invasive, even if not on the scale of kudzu.

23. **Virginia** - The more common of the two native pines on Redlair, the Virginia pine (*Pinus virginiana*) is much loathed and typically called the Scrub Pine. This limby, knotty, unhandsome pine dominated all the cotton fields when they were abandoned in the 1930's, 40's, and 50's. Very brittle, it bore the brunt of Hurricane Hugo in 1989, when thousands of them were snapped in half.

24. **Ireland** - They were originally Scots. At the behest of Queen Elizabeth and King James I, they became Protestant and were moved to Ulster in the late 1500's and early 1600's as one means of coping with the interminable Irish rebellions. In the early 1700's the English put restrictions on the Presbyterian Church and the budding industries of Belfast, which had become too great a competitor to Liverpool and Manchester. Many of these Scots-Irish then moved to the United States, where they formed the backbone of the resistance to the Crown upon declaration of independence.

25. **Maple** - The most prominent maple on Redlair, and indeed throughout eastern North America, is the Red Maple (*Acer rubrum*), a tall and handsome tree which can be a luminous red both in spring and fall, though its fall color can just as easily be yellow. Other maples found on Redlair are the rare Chalk Maple (*Acer Lencodeme*), perhaps the Southern Sugar Maple (or Florida Maple, *Acer barbatum*) – but no sugar --, perhaps the Silver Maple (*Acer saccharinum*) -- at least planted in our front yard --, and one tree very common along the river: the Boxelder (*Acer negundo*) which has compound leaves and would never be taken to be a maple by a nonexpert.

26. **France** - Andre Michaux (1746-1802) was a French botanist who was dispatched by the King (before the latter was beheaded) to collect plant specimens in North America to restock the depleted forests of France. He spent 12 years ranging far and wide over eastern North America, often under conditions of extreme discomfort and sometimes danger, and even passed through Gaston County, where he discovered the bigleaf magnolia, among many, many other plants.

27. **Opossum** - Only one species of marsupials (pouch animals), the so-called Virginia Opossum (*Didelphis virginiana*) – known in North Carolina as the 'Possum –, exists in North America north of Mexico. It is a solitary nocturnal animal, both terrestrial and arboreal, known to feign death when threatened. Carrion forms much of the opossum's diet, thus the high number of opossums killed on the highway, when they attempt to feed on roadkill.

28. **Sweetgum** - This magnificent tree (*Liquidambar styraciflua*) is almost as straight and tall and almost as numerous and widespread as its fellow "soft" hardwood the tulip poplar. When crushed, the vaguely maple-like leaves give off a superb scent, and in pioneer days a gummy substance was obtained from the trunks which was used

medicinally and for chewing gum. It is typically the first hardwood to inhabit a clearing or old field, but unlike the Virginia pine, it stays the course and is a key part of the climax forest. Some people, focused on their nice lawns, dislike this gorgeous tree because of its barbed seed balls.

29. **Beaver** - The American Beaver (*Castor Canadensis*) long ago disappeared from the southern piedmont but is making a strong recovery. Beaver pelts were one of the most valuable commodities in much of North America for many decades, and unregulated trapping continued well into the 20th century. Beavers have reappeared on Redlair in force within the last ten years, killing numerous trees (including large trees, especially sweetgums) along the South Fork and creating a major large shallow pond. Their diet consists of tree buds and bark. They build dams, not in order to eat fish, but for defense of their lodge – although here, curiously, the lodge is in the already existing wetland below the beaver dam.

DOWN

1. **Dogwood** - Flowering dogwood (*Cornus florida*) is one of the most important small trees of Redlair's forest (and throughout eastern North America) but is dying off due to drought and disease. It is found in all habitats, from moist to dry. Its wood is the hardest in the forest and is ideal for slingshots. The other member of the dogwood family found in our forest is the black gum (tupelo).

2. **Sunflower** - Yes, the endangered flower is a species (*Helianthus schweinitzii*) within one of the largest of all the plant families, the sunflower or daisy family, containing 19,000 species. This rare species (found in only a few counties around Charlotte) is tall and the flowers, which bloom in September and October, are yellow – but they are medium-sized to small, unlike the famous giant sunflowers. It thrives on savannahs created when the Native Americans burned large swathes of the forest.

4. **Beech** - The American Beech (*Fagus grandifolia*), a close relative of the European beech, is one of the large trees of Redlair and it is a prominent member of uplands throughout eastern North America. Unlike most trees, beeches retain smooth bark in age. Never carve on a beech, as the damage is permanent. The beech family includes oaks and chestnuts.

5. **Pink** - Pink Lady's Slipper (*Cypripedium acaule*) is one of the largest native orchids of eastern North America, found on Redlair in a few dry piney woods. It propagates poorly, is very difficult to grow in wildflower gardens, and must never be picked.

6. **Schweinitz** - Lewis David von Schweinitz (1780-1834) was born and lived in Bethlehem, Pennsylvania, and like his father was an official of the Moravian church. He was a renowned expert on mushrooms and wrote *The Fungi of North Carolina* in 1818.

7. **Coyote** - Also known as prairie wolf, the coyote (*Canis latrans*) is native to North American plains and is the size of a medium-sized dog. Its name comes from Aztec. It feeds especially on rodents and rabbits. An intelligent animal, it has been persecuted by man because of damage, greatly overrated, done to domestic animals.

9. **Shortleaf** - The shortleaf pine (*Pinus echinata*) is not as common as the Virginia pine, but it is in contrast a noble tree. It stands tall and relatively limbless along its trunk, which has a handsome bark made up of large scaly plates. It is found occasionally even in a mature hardwood forest, where an opening made by a fallen tree will afford enough sunlight. Like the Virginia pine, it has only two needles per bundle.

10. **Horned** - The Great Horned Owl (*Bubo virginianus*) is the largest of the American "horned" owls (owl species come with or without "horn" or feather tufts) and it ranges through North America all the way to Alaska. Other local owls are the barred, eastern screech, and barn owls.

11. **Hummingbird** - The Ruby-throated hummingbird (*Archilochus clubris*) is the only member of the strictly New-World family of hummingbirds to range east of the Mississippi river during its summer migration (wintering mainly in the tropics). These are the only birds known to fly backward, they do not perch while feeding, and they weigh about as much as a paperclip. They are particularly attracted to tubular red flowers.

15. **Copperhead** - Redlair's single venomous snake (*Agkistrodon contortrix*), unlike most snakes, is quite easy to identify, with its light-brown hour-glass crossbands. It is tolerant of human development and, in fact, at Redlair is more commonly found near houses or barns than out in the fields or forest. The vaguely copperhead- or cottonmouth-like snake in the ponds is neither (the cottonmouth is only native to the coastal plain), but is instead the non-venomous Northern Watersnake.

17. **Trillium** - Large-flowered Trillium (*Trillium grandiflorum*), a member of the lily family, produces a large waxy white flower which turns pink with age, above a whorl of three broad leaves. Catesby's Trillium is similar but the flowers do not turn pink.

18. **Hepatica** - Round-lobed Hepatica (*Hepatica Americana*), a member of the buttercup family, is a low plant with three-lobed round leaves and hairy stalks bearing typically lavender-blue flowers in the early spring. The leaf supposedly bears a resemblance to the liver and early herbalists therefore believed the plant to be effective in treating liver ailments.

19. **Tuliptree** - The tuliptree or tulip-poplar (*Liriodendron tulipifera*) is a member of the magnolia family and not a poplar. It is the king of our forest. It is very tall and straight, grows in all habitats, and has no diseases. At the time of European settlement specimens 20 feet in diameter were said not to be uncommon. The tulip-like flowers, with six rounded green petals (orange at base), are usually hard to see, being high up in the tree, unless blown to the ground by wind.

21. **Raccoon** - The common raccoon (*Procyon lotor*) is native to the Americas and is found in virtually every part of the continental United States. Only primates, elephants,

and dolphins are more intelligent. It is an extraordinary climber, able to descend a tree headfirst by rotating its hindfeet 180 degrees. Omnivorous, it eats nuts, fruits, insects, small mammals, and eggs. Like most of our animals, it is nocturnal. Its nimble fingers, almost as deft as a monkey's, can easily turn doorknobs and open refrigerators.

22. **Pinkster** - The Pinkster, or Pinxter (Rhododendron nudiflorum), is a spindly, nondescript little shrub or tree (not higher than six feet) found throughout our forest which produces the most breathtaking azalea flowers, a splash of incredible pink before the forest has greened out fully. From one year to the next, you never know which of these shrubs will bloom when April roles around – they always come as a surprise.

