

## Hackberry Trees and Butterflies

by Michael Pollock

Trees aren't often thought of as butterfly attracting plants, but a few butterflies feed on hackberries as caterpillars and could hang around as adults, in addition to the trees' other wildlife benefits. Hackberries are common in the Triangle, but probably aren't showy enough to be well-known. Hackberries are in the elm family, and show some resemblance, with alternating, ovate leaves, sometimes with serrated edges, and having asymmetrical bases. There are three prominent leaf veins. Hackberries can have very rough, warty bark when large. There are three species, though maybe they should be lumped together. Sugarberry, also known as Southern or lowland hackberry (*Celtis laevigata*) has elongated, mostly toothless leaves and is a tall tree that grows along waterways. Dwarf, upland, or Georgia hackberry (*C. tenuifolia*) is found on hills, and has small, usually toothless leaves without many veins. *C. occidentalis* has been called Northern or American hackberry, nettletree, and sugarberry, and has toothed leaves. All three grow in North Carolina, but only Southern and dwarf hackberries are supposed to grow here. The common name probably comes from Scottish haggberry, or marsh berry, which refers to a cherry.

Hackberries don't have striking foliage or flowers, or an elegant shape, but are nonetheless picturesque. Spreading hackberry trees shaded a long abandoned small white farmhouse on a hill overlooking Highway 54 at Meadowmont in eastern Chapel Hill. There used to be a Meadowmont dairy farm, since replaced by a mixed subdivision. I found a mummified cat placed on the farmhouse's porch as construction was beginning. A more recently built Duke medical center now overshadows the hackberries. They have interesting winter silhouettes, and are one of the first trees to blush with leaves and flowers in spring. Large hackberries surround the clubhouse at UNC's Finley Golf Course. Hackberries are uncommon in southern Durham, but a large one borders Durham's Central Park and they grow along the Eno. In Chatham County hackberries can be found at White Pines Nature Preserve and Jordan Lake's Seaforth Beach.

Hackberries produce inconspicuous wind-pollinated flowers with long stems while their leaves are still small. The flowers hang from the leaf bases, male flowers in clusters low on a branch, while female or hermaphroditic flowers are near the tips and single or paired.

The flowers give way to small, edible drupes that ripen to purplish, reddish-orange, or brown around now and are supposed to taste like dates. The style, part of female flowers, lingers on young and sometimes ripe Northern hackberry fruit. They attract many bird species and various squirrels.

Late summer is a good time to look for most of the butterflies associated with hackberries, but this article was delayed until fall. First there are the hackberry butterflies or emperors. Two species live in North Carolina, the hackberry butterfly or emperor (*Asterocampa celtis*) and the tawny emperor (*A. clyton*), both of which feed only on hackberry as caterpillars and rarely if ever visit flowers as adults, instead sucking on rotting fruit, sap, dung, and human sweat. I often see them sitting on trees near water, buildings, and cars. One stayed on my shoulder for a long time at the beginning of September. According to the Butterflies of NC database, there are three broods a year of hackberry emperors and two of tawny emperors, but their flying season is about done.



These are medium-sized, flighty warm brown butterflies with dark brown and white spots. Hackberry emperors are supposed to be much more common. Both caterpillars are green with two tails, 'necks,' and 'antlers.' Tawny emperor caterpillars live in groups when young and rest in a zigzag shape more often than their relative. Older caterpillars roll up leaves for their winter quarters.

Another butterfly whose only larval food is hackberry is the American snout (*Libytheana carinata*). These smallish butterflies are so named because they have a very long 'nose.' They have unusual angular wings, usually held closed and appearing mouse-colored, but opening to reveal smouldering red fading to sooty black with brilliant starry white spots at the tips. Fossilized snout butterflies have been found in shale 30 million years old, mingled with impressions of hackberry leaves that fell on that mud long ago. There are a handful of

species in the snout family, and our snout was once thought to be two species. Like some other butterflies, millions fly north every year from Texas, Arizona, and Mexico, but don't retreat back south. They apparently survive winter here as adults, but I only see them in summer. Snout butterflies sometimes visit flowers, but are more often seen puddling, etc. Late last summer I was shovelling sand out of a shower drain at Jordan Lake and a snout kept landing on my gloves, full of sweat and other things, and refused to move.

Some anglewing or tortoiseshell butterflies include hackberries among their larval foodplants. Around now question marks (its intuitive scientific name is *Polygonia interrogationis*) are common. Their forewings are fiery orange with dark spots. The wings of individuals hatched in the summer are outlined in neon purple. They often perch with their jagged wings closed, revealing a tiny

silvery 'question mark' on each hindwing. These flighty butterflies rarely visit flowers, and are more often seen puddling on mud; on wounded trees; or sipping at fermenting fruit under persimmons around now, sometimes becoming inebriated. Their spiny caterpillars can be found on hackberries, elms, nettles, and hops. Question marks are usually the last butterflies I see, and hibernate as adults, waking up on warm days. They sometimes aestivate around mid-June to mid-July, between their two broods.

Early spring is the best time to see a mourning cloak (*Nymphalis antiopa*), also an anglewing. These unmistakable and magnificent large butterflies have irregular blackish wings surrounded by a yellowish outline and blue spots. Like question marks there are two broods, with a summer aestivation period. Adults in the last brood hibernate and can live an exceptional 11 months. Some adults fly south in the fall. I can't remember ever seeing one at this time of year. I usually see mourning cloaks puddling along isolated gravel roads through leafless forests or males patrolling forest glade territories during leafout. This is another butterfly that does not visit flowers. There is supposed to be a clicking noise, possibly to confuse predators, when they open their wings to fly, and they are wary. Their black and crimson spiny elm caterpillars eat hackberry, elm, willow, birch, and cottonwood leaves in groups and have high mortality. When alarmed, the entire group thrashes about. In many European languages this butterfly is called mourning cloak, while in the UK, where it only occasionally wanders, it has been called the Grand Surprise or Camberwell Beauty.

Stinging flannel moths, pepper-and-salt moths (inchworms famous for microevolution and industrial melanism), large Io moths, and white-marked tussock moths are among the moth caterpillars that feed on hackberries.

Other animals also visit hackberries. Hackberry mites and a powdery mildew cause witches brooms, dense clusters of twigs. There are sucking insects, such as hackberry lace bugs and hackberry plant bugs, while hackberry psyllids cause small galls or bumps on leaves. Several beetles tunnel through the wood, including hackberry beetles and hackberry engraver beetles. Mammals don't favor hackberry, though an aquatic yellow-bellied slider turtle was once seen eating fallen leaves. At least in the case of southern hackberries, the fallen leaves release acids that hinder competitors, though they are planted ornamentally.

Hackberry has been used for furniture, plywood, athletic and farm equipment, crates, barrels, fencing, and firewood. Plants for a Future lists only walking sticks as a use for dwarf hackberry. Dye can be made with Northern hackberry roots. There are few herbal uses.

*Michael Pollock is a freelance writer living in southern Durham and founded Northeast Creek Stream Watch (www.northeastcreek.org). He studied biology and anthropology at UNC.*



*For the times they are a-changin'* —Bob Dylan

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