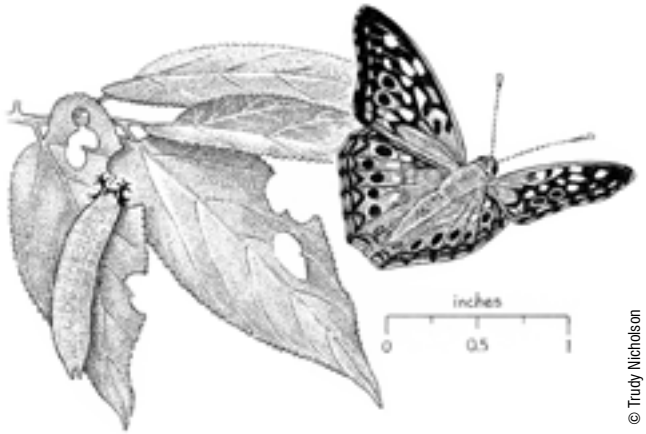
Local Nature

by Eric Dinerstein

All Hail the Hackberry Emperor!

Butterflies have no royal status but you would never know it from the common names of a few backyard varieties. Our gardens and local meadows attract bright orange-and-black Monarchs and Viceroys (co-habiting with but ignoring a winged lovely called, *ahem*, the Painted Lady). The most puzzling name of all the royal lepidopterans, however, is bestowed upon a more diminutive species, the Hackberry Emperor. A name, one might wonder, more befitting of a character in a Gilbert and Sullivan comic opera than a butterfly field guide.

One mention of its Latin name *Asterocampa celtis*, however, and we understand its namesake. *Celtis* is the genus of our common hackberry tree, a relative of the elm. Hackberries can be small in stature, like the dwarf hackberry, or grow into towering giants along the Potomac River



Hackberry Emperor butterfly (right) and caterpillar (left) on Hackberry tree leaves.

floodplain. A southern relative, known as sugarbush, or southern hackberry, is no bush at all, but one of the tallest trees south of the Mason-Dixon line. Dwarf, common, or sugarbush, the Hackberry Emperor relishes them all, and it is the only group of plants that the larvae will eat in their lifetimes.

Suitable mates for the male Emperor are not by arranged marriage of nobles: it's strictly *cherchez la femme*. Hackberry Emperor males perch high up in the vegetation in sunny areas to better locate females flapping by. The fast-flying males descend and mate, and afterwards, females lay clusters of from 1 to 20 pale green eggs on the hackberry leaves. Fortunately, the young caterpillars feed communally on the foliage and not on each other—there is none of the cannibalism we see in the common Zebra Swallowtail larvae. The caterpillars are green with yellow and chartreuse striping, and sport a crown of what look like deer antlers in velvet surrounded by a few other stubby projections.

Most local butterflies live out their lives in one short season, but the Hackberry Emperor overwinters as a half-grown larva. Now for the really interesting part of their life cycle and an amazing story in the annals of evolution by natural selection: in late fall the caterpillars make a nest by sewing hackberry leaves together and then to the parent tree itself.

The remaining caterpillars crawl into the nest of dead dried leaves and, so as not to stand out when all is withered and worn, they change color from green to brown. When the hackberry sheds its leaves in the winter, the caterpillars rest in their cozy space—technically called a *hibernaculum*—and stay there until spring, when a new crop of delectable hackberry leaves appears. The caterpillars end their period of torpor and munch away until forming a chrysalis of a bluish-green hue. How the first Hackberry caterpillars figured out how to sew, and how to put the hibernacula in the right place, and then to change color to blend in, like in many stories about evolution—you cannot make this stuff up. It seems more magic or fairy tale than science.

When adults emerge from the chrysalis, they feed on decaying fruit and sap. Royals of all stripes have strange habits and the Hackberry Emperor is no exception. It augments its diet opportunistically by feeding on fluids from dung, dead animals, and even the sweat from humans, at least those who will tolerate such close encounters to allow these charming butterflies to obtain salt.

If you want to see this summer drama unfold, I urge you to plant a hackberry in your yard. There are few plants more popular for butterflies to nibble as larvae. Besides the Hackberry Emperor, there are its relatives in the brushfoot butterfly family—Tawny Emperor, American Snout, Question Mark, and Mourning Cloak—all of whom dine on hackberry leaves as caterpillars, some in groups, others alone. Most of the egg-laying and herbivory takes place high up in the branches and out of sight from us humans below. But it is at least nice to know that by planting hackberry, we are cultivating the site of a butterfly factory in our backyards. —