A Summer of Bats

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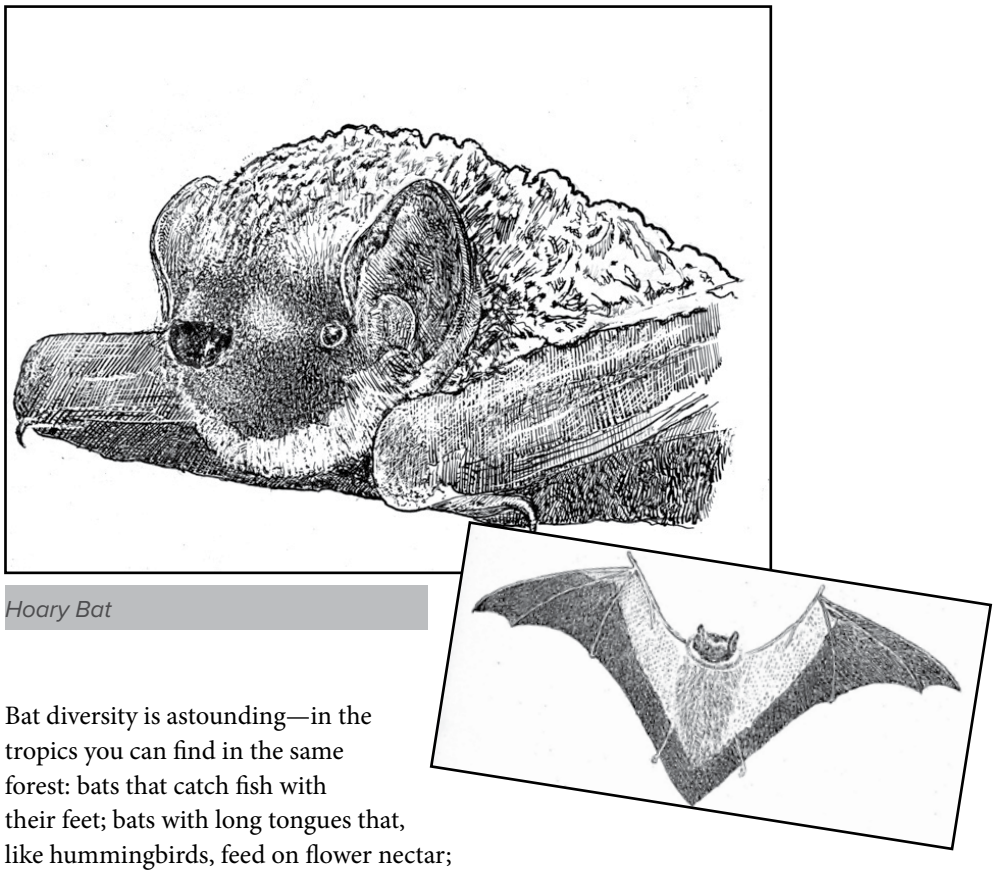
Halloween comes early to Cabin John: for the summer months the next three columns will focus on some of the most fascinating animals to inhabit our night skies.

Welcome to the world of bats. For some readers, this will be your first introduction to these remarkable creatures, among the most highly specialized of vertebrates. For the more hesitant reader, this is an opportunity to shed your bat phobia, as I did, when I morphed from a young man squeamish about bats to one who gained appreciation for these fascinating, intelligent mammals. Appreciation turned to rapture when I held in my hands the adorable Honduran white bat, which looks like a bat in a clown costume. This bat and other fruit-eaters became the focus of my Ph.D. field research in the cloud forests of Costa Rica.

Once you move past the Dracula propaganda, bats have a lot to like about them: for example, they are the only mammals that have mastered flight. Sure, there are "flying" squirrels and "flying" lemurs, but those mammals can only glide through the forest from one tree to another for a few hundred meters. Bats fly rings around them, and some migrate from here to Central America. Bats are also 1st runner-up to rodents for the title of most diverse group of mammals. There are about 4,000 species of rodents and about 1,400 species of bats. Even so, about one out of every five species of mammal is a bat. In addition, from an evolutionary perspective, the giant flying foxes and smaller fruit bats of Asia are closer to primates than they are to rodents. Think of bats as our very distant cousins.



Hoary Bat

Bat diversity is astounding—in the tropics you can find in the same forest: bats that catch fish with their feet; bats with long tongues that, like hummingbirds, feed on flower nectar; bats that eat figs, frogs, birds, katydids, lizards, and even other bats. I won't mention vampires, three species that feed exclusively on the blood of mammals or birds, except to say that they are highly intelligent creatures with complex social lives. As flying agriculturalists, bats are essential for so many tropical fruits whose flowers they pollinate or whose fruits and seeds they disperse, such as the progenitor of the banana, the agave that gives us tequila, and delicious fruits like figs and papayas.

Bats also serve as flying pest control agents, consuming tons of flying insects that could destroy food crops, such as the corn borer moths they intercept in the air as the moths move north from Mexico to the U.S. grain belt. The bats that live near us in the Washington, D.C. area, the focus of these columns, eat only insects, from beetles to flies to gnats to mosquitos. So give bats, the most remarkable creatures in nature you may once have found frightening, a chance.

HOARY, HOARY NIGHT

Sometimes children are handicapped by awful names. It's the curse of clueless parents. The same phenomenon happens when oblivious naturalists bestow an unfortunate name on an otherwise beautiful species. A case in point: in 1796, on a collecting trip to America, the French naturalist Palisot de Beauvois dubbed a handsome bat covered in dense fur and displaying long narrow wings that he had discovered a "hoary bat" (*Atalpha cinerea*). The name stuck, and though infelicitous in truth, it is accurate. Hoary is a kind of fur where dark bands end in white tips, giving the animal that sports such pelage a hoary, or frosted appearance. A better descriptor might have been "tree bark bat," as its fur blends so perfectly against the trunk of a tree or branch that predators cannot spot it.

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SUMMER OF BATS

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Hoary bats, and their three close cousins, the red, yellow, and chestnut bats, have faces like tiny dogs, with a dog-like muzzle and pointed ears. If the hoary bat's coat does not have sufficient aesthetic appeal, please Google images of the red, yellow, and chestnut bats. I have held all three of these species in my hand, and they are surely among the most beautiful of mammals. The red bat is a crimson fellow, the yellow bat is a mixture of gold and saffron, and the chestnut bat's fur is a lustrous reddish-brown.

All four of these insect-eating bats can be found in our region. Their very small eyes are a result of adaptations for echolocation (bat sonar) to navigate through the forest or pick off bugs on the wing. Imagine a Chihuahua that finds its way around or to its food bowl by sending out signals from its mouth and listening for the echo to find objects. Over time, its eyeballs would shrink, too, but maybe its ears would become more funnel-shaped and open. (If you are looking for bats that truly resemble dogs, look at the faces of the fruit bats of Africa, Asia, and the South Pacific. Bats in this group don't echolocate but instead have developed large eyes, excellent night vision, and a keen sense of smell.)

Female hoary bats weigh slightly less than an ounce (females are 40% heavier than males) and have a wingspan of about 15 inches. Remarkably, when its wings are folded under its body, it can fit in the palm of your hand. But don't let that small size fool you. These bats are long-distance migrants, here with us for the summer or traveling much further north into Canada to roost before heading back south to spend the winter in the southwestern United States or Central America. Individuals tracked with telemetry devices have been known to fly 25 miles a night. Hoary bats are widespread in North America and even occur in Hawaii, one of the few land-based mammals that reached that archipelago.

All migratory species face great risks during transit. Wind turbines and the energy from wind they harvest are essential if we are to move to 100% renewable energy. But where wind turbines occur along migration routes, which they often do, as they are located on ridges typically used by birds and bats for increased lift or navigation, collision by bats or birds can be common with tens of thousands killed each year. Hoary bats have a higher mortality rate from wind turbine accidents than any other North American bat. One theory is that exhausted migrating bats mistake wind turbines for trees upon which they can roost.

Watch for these bats as you look to the night sky. If the wings seem long and narrow it is most likely a hoary bat, or maybe its cousin the red bat, out for a night of filling its mouth with moths to prepare for the upcoming trip north to Canada or south to Costa Rica. VN