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By Ted Williams

Freshwater Jaws

Almost nowhere in the nation is freshwater as safe for swimming as you might suppose—especially if you're a tadpole, a macroinvertebrate, or a small fish, frog, or salamander. Populating nearly any aquatic habitat, including puddles, are beasts that make Jaws look puppylike. As juveniles they lie in ambush, stabbing their unfortunate victims with sicklelike jaws, pumping enzymes into their bodies, then sucking out the resulting soup. As adults they chase down their victims, grab them with sharp mandibles, then rip apart their flesh. These relentless pursuers are predacious diving beetles, of which there are more than 500 species in North America. The largest, the giant diving beetle, can attain a length of 3 inches as a larva and 1.5 inches as an adult. Most predacious diving beetles are oval, flat, dark, and shiny. Larvae, called "water tigers," don't move much and are therefore difficult to spot. Look for adults in high summer as they raise their posteriors through the surface film to replenish the air they store under their wing covers, or as they flash under docks and boats, propelled by long hind legs that move in a simultaneous, froglike motion. Adults can also fly and crawl, and they emit fluid from both ends—probably to repel potential enemies.

Honest Rat

In the deserts, arid plains, brushlands, chaparral, and piñon-juniper forests of our West and Southwest, pack rats, also known as wood rats, deal with summer heat and drought by foraging at night and feeding on succulent plants such as cacti, yucca leaves, forbs, and grasses. Frequently this diet renders drinking unnecessary. In North and Central America there are 22 pack-rat species, most with large eyes, big ears, strong feet, and furred tails. Pack-rat nests give scientists a view into the distant past because the animals' concentrated urine hardens into a gluelike preservative around such artifacts as leaves, insect parts, bones, reptile scales, seeds, nuts, and pollen. Nests have been found that were more than 50,000 years old. The pack rat gets its name from its habit of collecting nest items such as bottle caps, bullet shells, coins, and jewelry. The old miners' tale that pack rats are honest businessmen, always leaving something of equal or greater value for things they take (a gold nugget for a half-dollar, for example), isn't altogether apocryphal. These animals are apt to drop an item they're carrying when they spy something more attractive.

Meat-Eating Plant

Few natural environments are more sterile than bogs, and that's why many of the plants that grow there must find nourishment from other sources—insects, for example. Among the heartiest and most ubiquitous carnivorous bog plants are the sundews. They grow almost anywhere in the United States where there's poor, peaty soil. Look for them in summer, when their white blooms stand out like golf balls on a parched green. Bend down and admire the tentacles, each with jewellike glands that secrete a sticky fluid attractive to insects. When an insect gets stuck, its struggles trigger extremely rapid cell divisions in the leaf so that within 20 minutes it folds over the victim. Charles Darwin, who became obsessed with sundews, found they would "spit out" inorganic items such as chalk but digest soft vegetable matter. When he glutted them with raw beef, however, he gave them fatal indigestion.

Glass Snakes

"What's with that snake?" That's a question you might hear on any warm summer day if you live in the eastern half of the United States (though not the Northeast). The snake seems to be grinning, and moving at fast-forward. Unlike other snakes, it blinks and has obvious ear openings. Instead of slithering, it launches itself by pushing its sides against objects. It feels stiff and brittle because of a little bone in each of its scales, but don't pick it up or you'll break it—literally. According to ancient bestiaries, the wriggling pieces will then rejoin. What really happens, however, is that the "snake"—actually a legless lizard, a.k.a. "glass snake" or "glass lizard"—grows a new tail. It's rare to find a glass lizard with its original tail. As with other lizards that have evolved this adaptation to evade clutching predators, the replacement tail is shorter and off-color. What's more, it comes to a sharp point, which, according to the same bestiaries, serves as a stinger.

Moonlit Ghosts

On warm summer nights ghosts haunt ocean beaches from New Jersey to Texas, facing the moon when it's full. Often they're invisible until they move and they're betrayed by their moon shadows. Don't even try to catch a ghost crab, because it will usually make it to its burrow before you do; and even if you manage to block the entrance, it will dodge and veer away. The first word of its generic name— *Ocypode quadrata* —means "swift footed." This big cousin of the fiddler crab is mostly land-dwelling but keeps hydrated by burrowing through the sand to the waterline. It spawns in the ocean, and larvae drift with the plankton column, sometimes making landfall in New England, where a few live and grow before succumbing to winter cold.

Summer Songs

Birdsong diminishes in summer, but now there are new carolers. High in hardwood canopies of the East and Midwest the scarlet tanager—among the most brilliant of our neotropical migrants—hunts caterpillars, periodically breaking into song. He won't arrive until the leaves are fully formed and offer him cover, and you may not see him even then. But if you are patient and persistent, you will hear him. He sounds like a robin with a sore throat, but you can't be sure until the indisputable proof of his call note: *chick-burr.* The drabber, olive-and-yellow female sings, too, though more softly. Because the bird is something of a ventriloquist, one that sounds far away may be directly overhead. Walk past the point from which you perceive the sound to be emanating, then look up. Recalling his late-19th-century childhood, ornithologist Edward Howe Forbush wrote: "The scarlet tanager was a bird of which I dreamed, but which I never saw. However, as soon as I became familiar with its note, I found it a common woodland sound."