



Wildlife Note — 58
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Allegheny Woodrat

by Chuck Fergus



The Allegheny woodrat (*Neotoma magister*) lives in remote rocky habitats. In Pennsylvania, the species ranges in a broad band across the state, from the northeast to the southcentral and southwest; then southwest through West Virginia and mountainous parts of Ohio, Maryland, Virginia, Kentucky, Tennessee and North Carolina. A related species, *Neotoma floridana*, lives farther to the south, often in very different habitats, including flatlands and swamps. Until the early 1990s both of these rodents — which are nearly identical in appearance — were considered to be the same species, *Neotoma floridana*. Recent studies of their chromosomes and skull characteristics, however, have persuaded taxonomists that the two types are, indeed, separate species.

The name “woodrat” unfortunately causes some people to associate woodrats with the accidentally introduced Eurasian rat. In fact, the shy, secretive Allegheny woodrat has little in common with the aggressive Norway rat, other than the fact that both are rodents. The woodrat is as rare as the Norway rat is common; the woodrat is a lover of wilderness, while the Norway rat lives cheek-to-jowl with humans in cities, towns and farmlands. The woodrat has vegetarian food habits, while the introduced Norway rat sometimes preys on animals.

Biology

Adult woodrats are 16 to 17 inches long, including a 7- to 8-inch tail, and weigh 13 ounces to one pound. The coat is grayish-brown above and white below. The colors are darker in winter, when the coat is also softer and longer. The fully furred tail is dusky to brown above, white below. The woodrat's prominent rounded ears, long whiskers, and large and slightly bulging eyes all indicate its heightened senses of hearing, touch and sight. The animal's night vision is particularly keen.

Caves, rocky cliffs, ridge crests, overhangs and boulder fields with deep crevices and underground chambers — those are the main places where Allegheny woodrats make their homes, although occasionally they take up residence in abandoned buildings. Woodrats eat leaves; berries (including the pulp and seeds of wild grapes); nuts (acorns are a particularly important food); stalks and fruit of pokeweed; fruits of sassafras, dogwood, mountain ash, cherry, red maple and shadbush; ferns; other plants; and fungi. Woodrats don't seem to rely on insect food as much as deer mice and white-footed mice do. Woodrats are nocturnal, feeding and shifting about within their home ranges — estimated at half an acre — under cover of darkness. They will forage out to 100 feet and farther from their nest sites.

The woodrat hoards leafy twigs, seeds, nuts and mushrooms in and near its expansive nest. The creature builds — or accumulates — a nest of bark scraps, twigs, sticks, leaves and moss, situated out of the weather in a crevice between boulders, on a shelf or on the floor of a cave, or beneath a rock ledge. The nest is open at the top, like a bird nest. Most nests are around 20 inches in diameter. Often there will be two living areas, each about five inches in diameter and lined with grasses, shredded bark and fur. A woodrat uses its nest year-round and for its entire life. At times, other creatures take shelter in woodrat nests, including cottontail rabbits, opossums, white-footed mice, snakes, toads, salamanders, insects and spiders.

As well as stockpiling food, woodrats collect treasures such as old mammal skulls, feathers, bottle caps, nails, coins, shards of china, spent rifle cartridges, rags and leather scraps. These objects are hidden in the nest or heaped up outside, sometimes mingled with stored food items. The woodrat gets the name “pack rat” from its habit of packing off such items; it is also known as the “trade

rat” because, if it comes upon an intriguing object while carrying another article, it may leave its burden behind (leafy twig, mushroom or the like) and carry off the new item (a camper’s spoon or car keys, for instance).

Woodrats leave piles of oval-shaped droppings (each dropping is three to four times as large as a mouse scat) on rock surfaces at “latrine sites,” which may be used by several individuals. For most of the year woodrats are solitary and unsociable, guarding their territories and warning off other woodrats by chattering their teeth and thumping their hind feet and vibrating their tails against the ground. They fight over food and nest sites, rearing up on their back legs and jabbing at one another with their muzzles and their front feet. Most adults become scarred, with torn ears, skin wounds and, in some cases, a bitten-off tail.

In Pennsylvania, woodrats breed from midwinter or early spring until autumn, with young arriving from mid-March to early September. The gestation period is about 35 days. One to four young are born per litter, and two or three litters are produced each year. Woodrats are born naked, with their ears and eyes closed; they are about four inches long and weigh half an ounce. Their teeth have already erupted. The decurved incisors have an oval hole between them which, when the jaws close, fits around the mother’s nipples. The nursing young hold on tenaciously; when the mother wants them to let go, she will pinch them on the back, jaw or neck with her teeth and twist them off with her paws. A young woodrat’s eyes open in its third week, and it is weaned after about a month. By six or seven weeks, juveniles weigh around five ounces.

Allegheny woodrats live up to three years in the wild. They are preyed on by foxes, weasels, skunks, raccoons, bobcats, hawks, barred owls, great horned owls, black-snakes and timber rattlesnakes. Uninformed cavers sometimes harass and kill woodrats in caves.

Habitat

In Pennsylvania the woodrat seems to be restricted to rocky cliffs and outcroppings at high elevations on steep slopes, and to caves. A rocky habitat is important, because woodrats place their nests in fissures and deep crevices out of reach of most predators. Nearly all of the known historical and current woodrat sites in the state are on the Appalachian Plateau and on ridges in the state’s Ridge and Valley physiographic province.

Wildlife Notes are available from the
Pennsylvania Game Commission
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Population

Pennsylvania is near the northern limit of the Allegheny woodrat’s range, and populations on the fringe of any species’ range are often at risk. Since the late 1960s woodrats have disappeared from sites where they once occurred, particularly in eastern and northwestern Pennsylvania. During the same period *Neotoma magister* disappeared altogether from New York.

Biologists believe several factors may have contributed to the woodrat’s decline. Over the years, changes in forest composition resulted in fewer oaks and, by the 1940s, in the near eradication of the American chestnut, once a prime source of nuts for woodrats. More recently, gypsy moth caterpillars have defoliated wide areas of oak trees, causing periodic shortages of acorns, a key food item. Woodrats can contract a fatal parasite, the raccoon roundworm (*Baylisascaris procyonis*), by eating undigested seeds found in raccoon droppings. Human development near woodrat sites — land cleared for farming or homes — has spurred population increases in raccoons, and also in great horned owls, which prey on woodrats.

Since 1986 the Pennsylvania Game Commission has surveyed more than 360 sites from which woodrats have been reported. Biologists have identified 20 metapopulations, multiple colonies linked by patches of rocky habitat through which young woodrats can migrate to set up territories of their own and to find mates. Five of these metapopulation areas no longer support woodrats, and seven of them have fewer active colonies than in the past.

The Allegheny woodrat is listed as a threatened species in Pennsylvania and has been proposed as a candidate for the federal endangered species list.

Allegheny
Woodrat nest

