



Woodpeckers

A drumroll at dawn, a bird in undulating flight through the forest, wood chips littering the ground at the base of a tree—all of these signal the presence of a woodpecker, a highly specialized and important member of nature's complex world.

Woodpeckers have been around for a long time, their fossil remains date back 25 million years to the Lower Miocene and they're widely distributed, with 45 species in the U.S. and more than 200 worldwide. Seven breeding species occur in Pennsylvania and one, the black-backed woodpecker (*Picoides arcticus*) of northern boreal forests, is an occasional visitor in winter. The red-headed woodpecker (*Melanerpes erythrocephalus*), red-bellied woodpecker (*Melanerpes carolinus*), yellow-bellied sapsucker (*Sphyrapicus varius*), downy woodpecker (*Picoides pubescens*), hairy woodpecker (*Picoides villosus*), northern flicker (*Colaptes auratus*) and pileated woodpecker (*Dryocopus pileatus*) are residents.

The woodpecker family, Picidae, fills a unique niche in the food-gathering chain. Woodpeckers drill into trees to uncover insect food, to create nesting shelters and to communicate with other woodpeckers. A number of body adaptations make this drilling possible.

A woodpecker has a sharp, stout bill with a chisel-like tip for chipping and digging into tree trunks and branches. In pecking out wood, the bird aims blows from alternating directions, much like a woodchopper does. Bones between the beak and the unusually thick skull are not as rigidly joined as they are in other birds. Spongy, shock-absorbing tissues connect these flexible joints; strong neck muscles provide force for drilling; and bristly feathers shield the nostrils from dust and wood chips. Eyes are also protected from flying debris by a thickened nictitating membrane which closes with each strike.

The tongue of most woodpecker species is elongated, covered in sticky saliva and rich in tactile cells. The tip is pointed and barbed. After chopping exposes a woodborer's cavity, the long, flexible tongue probes the crevice and grasps whatever insect or grub happens to be inside. The tongue is nearly twice as long as its bird's head and winds around the inside back of the skull when retracted.



**yellow-bellied
sapsucker**

To grip trees, a woodpecker has short, muscular legs and sharply clawed feet. On most species, first and fourth toes are paired facing backward and second and third toes face forward. These zygodactyl feet are excellent for clinging to and climbing trunks of trees. Stiff, pointed tail feathers catch on the rough bark to brace the hammering body. During molt, the two middle tail feathers (the strongest ones) do not fall out until the other 10 have been replaced and can support the bird's weight.

A woodpecker's flight is undulating. The bird usually launches off the side of a tree, pumps its wings four or five strokes, and folds them against its body. During this short pause, the bird loses a few feet of altitude. Then more wing beats, another pause, and so on.

Woodpeckers feed mainly on wood-boring grubs, insects, insect eggs and pupae found in dead and living trees. They also consume sap, nuts, and fruits of some trees and shrubs. Hollow sounds that echo from the woodpecker's tapping probably signal the location of a wood borer's channel and the bird can drill up to 100 strokes per minute to uncover the morsel. Even in winter they have no trouble locating insects.

Most woodpeckers “drum” on resonant limbs and hollow tree trunks. They occasionally utilize drainpipes, garbage can lids or tin roofs for drumming. Drumming designates territory and can attract a mate. Soft tapping may be a type of communication between mates, or between parents and offspring.

Courtship and nesting habits are essentially alike in all woodpeckers. Much of the rivalry between males is confined to noisy, chattering pursuit. After pair formation, both sexes excavate a nest cavity in a branch or tree trunk. The female usually lays the white, unmarked eggs directly on wood chips left in the bottom of the cavity. Both sexes incubate, with the more aggressive male often staying on the eggs overnight. Young are altricial; for two to three weeks they remain in the nest and are fed predigested food by their parents. In southeastern states, woodpeckers may raise two broods.

Woodpeckers have definite economic importance. They do punch holes in trees, but rarely in healthy ones. By stripping the bark from a dead or dying tree and cleaning up the resident wood borers or carpenter ants, they prevent these pests from spreading to nearby healthy trees. Adversely, woodpeckers sometimes damage utility and other poles.

Woodpecker holes provide many cavity nesting bird species and other wildlife with nesting sites and den sites. Animals that benefit from woodpecker excavations include screech owls, eastern bluebirds, tree swallows, nuthatches, chickadees, American kestrels, red and gray squirrels and flying squirrels.

The Pennsylvania Game Commission manages state game land woodlots and forests to favor woodpeckers and other wildlife species. Game Commission foresters survey tracts scheduled for timber cutting and mark and leave a proportion of food-bearing trees and shrubs, as well as “wolf” trees (older trees, often dying, which do not make good lumber). Wolf trees have many limbs and cavities that provide shelter and nesting space for wildlife.

Red-headed Woodpecker (*Melanerpes erythrocephalus*) - Length, 8 to 9 inches; wingspread, 16 to 18 inches. The red-headed woodpecker is one of the most striking birds found in Pennsylvania. The head of an adult of this species is scarlet, and that of a juvenile, brown. Body plumage is strikingly patterned black and white, with white underparts, a black tail and mostly black wings with contrasting white secondary feathers and a white rump. This white area is especially conspicuous when the bird flies. Like the flicker, the red-headed woodpecker does a lot of feeding on the ground but is an expert flycatcher, snatching insects in flight. It eats beetles, cicadas, bees, ants, grasshoppers, caterpillars and other insects. The red-headed woodpecker is highly omnivorous with about two-thirds of its diet consisting of plant matter including acorns, beech nuts, corn, seeds, wild and cultivated fruits and berries. Redheads store food in tree cavities during winter. They wedge nuts, seeds or insects, including live grasshoppers, into cracks and crevices or under bark and are known to cover their cache with wood and bark pieces. They defend these food caches against squirrels and other birds and



red-headed woodpecker

are highly dependent on a cached acorn supply during winter. Habitat is open forest and woodland with the important components of dead and dying trees and limbs, nut-producing trees and open areas to forage for flying insects. Red-headed woodpecker habitat can be found in farm woodlots, oak or beech groves, orchards, river bottoms, forest edges, beaver swamps, burned-over forests, towns, golf courses, hedgerows, and parks. This bird often perches in the open. Its habit of flying low from tree to tree may make it vulnerable to collisions with vehicles. Nest: 8 to 80 feet up, often in an oak and occasionally in a fencepost or utility pole. Eggs: 3 to 10, usually five, with a 12- to 14-day incubation period. In spring, the redhead is an uncommon migrant in late April and early May; in summer, a breeding resident; in fall, an uncommon migrant from September to early November; and a winter resident. Call is a raucous *tchur*.

The red-headed woodpecker has declined range-wide at an average of 2.7% per year between 1966 and 2010, as measured by Breeding Bird Surveys. It is designated as Vulnerable by the Pennsylvania Biological Survey and Near Threatened by the International Union for Conservation of Nature (IUCN). In Pennsylvania, there was a decline of 46% in the number of blocks recording red-headed woodpeckers between the first Breeding Bird Atlas (1983-89) and the second Atlas (2004-09). Its range contracted from the northern half of the state with the exception of the northwest counties. It is most abundant in southcentral counties near the Mason-Dixon Line.

Yellow-bellied Sapsucker (*Sphyrapicus varius*) - Length, 7 to 8 inches; wingspread, 14 inches. The plumage varies within the species, but the narrow longitudinal white wing stripes—visible when the bird is at rest—and the finely mottled back are good field marks. (The back coloration blends well with tree bark.) The belly is tinged a pale yellow, and the head has bold black and white marks with a red crown and throat; females lack the red throat. Sapsuckers drill parallel rows of holes in live trees (up to 30 holes per day) and return later to drink sap and catch small insects attracted to the sweet liquid. The bushy tongue of a sapsucker effectively soaks up sap. Other foods include beetles, ants, caterpillars, insect eggs, spiders; the cambium (layer beneath the bark) of maple, aspen, serviceberry, birch, fir, hickory, beech, pine, oak and other trees; fruits and seeds.

Sapsuckers inhabit second growth deciduous (particularly northern hardwood) and mixed conifer forests. They are found in open woodland, forest edges, orchards, and woodlots. In Pennsylvania, they occur across the northern tier and in scattered mountainous areas in the southern two-thirds of the state. This species has increased dramatically throughout the last few decades and now is the most common nesting woodpecker in many northern woods of the state. Nest: a gourd-shaped cavity excavated 8 to 40 feet up a tree; aspen, red maple and other softer woods and trees afflicted with tinder fungus are often chosen as nest sites, because the

downy woodpecker



fungus creates a soft center that is easily dug out. Eggs: 4 to 7, usually five or six, with a 12- to 13-day incubation period. The sapsucker is the most migratory of Pennsylvania's woodpeckers. In spring, it is a common April migrant; in summer, a rare breeding resident (breeds mainly across the northern U.S. and southern Canada); in fall, a common migrant in September and October; and in winter a rare resident, as most individuals move further south. Immature sapsuckers are the most likely winter visitors, often found in Christmas Bird Counts or backyard surveys. Call is a jay-like mewing note. Also, sapsuckers tap in a distinctive rhythm, two or three series per minute, more of a tapping than the typical drumming of other species.

Downy Woodpecker (*Picoides pubescens*) - Length, 5 to 6 inches; wingspread, up to 11½ inches. The downy, the most common of the eastern woodpeckers and the smallest of North American woodpeckers, resembles a small hairy woodpecker, with a similar white back stripe and white breast. The male has a red patch on the back of his head, similar to that on the hairy. Bill length of the downy is less than the depth of its head, short and chisel-like, while that of the hairy is equal to or greater than the depth of its head with a much heavier appearance. The downy's outer tail feathers are barred with black (in the hairy woodpecker, these are solid white). Food: wood-boring larvae, moths, beetles, ants, aphids, spiders, poison ivy and dogwood fruits, berries, corn, apples, and acorns. The downy woodpecker forages trees and limbs but will also forage woody weeds and shrubs for insects. The habitat for this smallest of Pennsylvania's woodpeckers is open forests of mixed growth, orchards, suburbs, urban woodlots and parks. Nests are usually dug in rotting wood, 3 to 50 feet above the ground and often on the underside of an exposed limb. Eggs: 3 to 6, usually four or five, incubated 12 days. The downy woodpecker is a common resident in all seasons. In winter, it can often be found in fields with dried corn stalks or visiting suet feeders. Calls: a soft *pik* and a rattling sound that starts slowly and speeds up at the end, trailing off. The drumming sound is slower than the hairy woodpecker, slow enough to be able to count the taps.

Hairy Woodpecker (*Picoides villosus*) - Length, 7 to 10 inches; wingspread, 15 inches. The hairy woodpecker looks like a downy woodpecker on steroids, being about the size of a starling. This woodpecker has a vertical white stripe down the center of its back, black wings stippled with white on the upper sides, white feathers forming the outer edge of the tail, and white breast. Sexes are similar, but the female lacks the male's small red patch on the back of the head. Larger size and a proportionately longer, heavier bill distinguish it from the downy woodpecker. The hairy eats mostly insects and prefers wood-boring beetle larvae, ants, caterpillars, bark beetles and moth pupae. It also dines on spiders, caterpillars, bees, wasps and millipedes; also seeds and fruits and backyard suet and seed feeders. Primary habitat is forest land with a preference for large tracts of forest with mature trees, deciduous or conifer. It is more likely found in extensive mature forests than its smaller relative, the downy woodpecker. They may be found in wooded swamps and



hairy woodpecker

around beaver ponds, woodlots and wooded parks, suburbs and cemeteries. Nest: 5 to 30 feet up with an inch-and-a-half wide hole leading to an 8 to 12-inch deep cavity; the male may also dig a roosting cavity. Eggs: 3 to 6, commonly 4, with a 12-day incubation period. The hairy woodpecker is found throughout much of North America to northern Canada from Alaska to Newfoundland and south through parts of Mexico to Central America.; in Pennsylvania, it is a fairly common year-round resident. The contact call of a hairy woodpecker, a loud *keek*, is actually higher pitched than the downy woodpecker's call note, and its rattling call is a rolling series of notes on one pitch and does not trail off at the end as does the rattle call of its smaller relative.

Northern Flicker (*Colaptes auratus*) - Length, 11 to 12 inches; wingspread up to 20 inches (about the size of a blue jay). Flickers, also known as yellow hammers, have brown backs, no white on the wings, a prominent black band high on the breast, and bright red on the nape of the neck. This often is the bird reported by people who do not realize that it is a woodpecker because it does not have a black-and-white plumage like other woodpeckers. The eastern populations of northern flicker is known as "yellow-shafted" flicker because of the color of its wing feather shafts which translate into prominent yellow underwing markings. In flight, the white

rump patch and yellow underwings are very prominent. The male has a black "mustache" mark extending from the bill back onto the throat. Flickers are often seen on the ground or on sidewalks eating ants, a preferred food. Their saliva neutralizes the formic acid which ants contain. They also eat beetles, grasshoppers, crickets, flies, moths, butterflies and snails. In fall and winter, they eat poison ivy fruits, dogwood berries, wild cherries, berries, corn, and staghorn sumac seeds. Favored habitat is open woodlands and forest edges, orchards, woodlots, and yards or fields with scattered trees. They can often be found in timbered areas where there are some snags and large trees remaining. The nest is a hole opening into a cavity, generally 6 to 15 feet up a tree, sometimes higher. The cavity takes up to two weeks to build. Flickers also will use nest boxes that are the same size those built for screech owls or wood ducks. Eggs: usually 5 to 8, with an 11- to 13-day incubation period. Aggressive European starlings (*Sturnus vulgaris*) may drive flickers out of their newly-dug cavities. According to Breeding Bird Surveys since the mid-1900s, the northern flicker is in significant decline in eastern North America including Pennsylvania. Researchers believe loss of habitat is a contributing factor for the declines, but there may be other unknown forces at play. Flickers are considered "partial migrants" because some persist in the winter and some may not migrate very far from their nesting grounds. In spring, flickers are common migrants from late March through April; in summer, breeding residents. They breed across North America from Alaska to Newfoundland south to the Gulf States and into areas of Mexico and Central America. In fall, flickers are common September or October migrants; and in winter, rare to locally common residents.



northern flicker

Flickers winter principally in the southern U.S. Call: a loud *flick* or *flicker*, 2 to 7 times per minute; also a shrill, descending *kee-oo*. The *flicker* or *wicka* call gives this woodpecker its name. Their drumming and calling can be particularly prominent because they often choose snags and trees out in the open for their displays and vocalizations.

Pileated Woodpecker (*Dryocopus pileatus*) - Length, 16 to 19 inches; wingspread, up to 29 inches; crow-size but with a long, slender neck. The pileated woodpecker is the largest American woodpecker next to the likely extinct and somewhat similar-looking ivory-billed woodpecker. It is a spectacular bird that is especially easy to notice in winter and early spring during its courtship. A pileated woodpecker has a solid black back and tail and a conspicuous red crest for which it is named (from the Latin word for cap, *pilleus*). The female is similar to the male but does not have red cheek patches and has less red in the crest. Flight is strong, with irregular wing flapping accompanied by white flashing of wing undersurfaces. Foods include primarily wood-dwelling ants and beetles, wood-boring larvae and wild nuts and fruits such as sassafras, sumac and dogwood berries, greenbriers, spicebush, blackberries and elderberries. Pileated woodpeckers inhabit mature deciduous forests or mixed deciduous-coniferous forest. Suitable forest

habitat must include large trees for nesting cavities. In recent decades, it is increasingly more likely to see a pileated woodpecker flying across an open landscape to forage in a hedgerow or woodlot distant from a large forest block. Pairs stay on and defend the same territory year round. Nest: a new hole excavated each year in the same nest area, 15 to 70 feet high in a tree (average 45 feet). The entrance hole is usually oval, and the cavity is 10 to 24 inches deep. Eggs: 3 to 5, incubated 18 days. These birds are uncommon residents in all seasons. They do not migrate but breed throughout forested areas of the eastern U.S., in regions of the Midwest and western U.S. and across southern Canada. A pileated's powerful beak can break loose fist-sized chunks of wood; the bird twists its head and beak as it strikes to add leverage. Pileateds cut large rectangular holes in standing dead trees as well as fallen logs exposing the tunnels of insect prey. They drum loudly and rapidly, then more slowly, trailing off softly at the end. Call: *cuk-cuk-cuk-cuk-cuk*, in a series; also *wuk-wuk-wuk-wuk-wuk*.

Because of their large and extensive excavations, pileated woodpeckers provide nesting and roosting cavities for a host of species including owls, ducks, swifts, kestrels, squirrels, and bats.

pileated woodpecker

