

WOODPECKERS OF NEW YORK STATE

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The woodpeckers and similar birds belong to the family *Picidae*. There are 179 species of true woodpeckers, subfamily *Picinae*, distributed throughout the world, except in Madagascar, Australia, Oceania and the polar regions. Twenty-two species are found in the United States and Canada. Of these, the following nine are native to New York State: Yellow-shafted Flicker, Pileated Woodpecker, Red-bellied Woodpecker, Red-headed Woodpecker, Yellow-bellied Sapsucker, Hairy Woodpecker, Downy Woodpecker, Black-backed Three-toed Woodpecker and Northern Three-toed Woodpecker.

Woodpeckers are birds with structures primarily adapted for specialized arboreal life and peculiar feeding habits. Their legs are short and stout and the toes with strong, sharp nails are arranged with two directed forward and two backward, (except in the three-toed species). This structure enables them to grasp the bark of trees as they creep or climb about on tree trunks in any direction by hopping, not by walking.

The sharp, chisel-like bill is used for drilling and chopping into wood and for tapping and drumming messages. The stiff, spiny tail feathers act as a brace in climbing and drilling activities. Most have fairly long, strong necks and massive skulls to absorb the vibration caused by rapid pounding of bills on wood.

The most unusual modifications of all are in the tongue and hyoid (tongue bone) apparatus. The tongue is long, extensile, and may be covered with sticky saliva. It is hard pointed and barbed on the end except for the sapsucker which has a brush tipped tongue. The branched hyoids at the back of the tongue extend in a sheath to the base of the skull and curl over the top of the skull and forehead to their attachment by muscles in the bill near the eyes. With this remarkable organ, the bird can spear or enmesh and withdraw the insect from a hole deep in the wood.

Most woodpeckers have an undulating flight pattern due to a few quick wingbeats followed by a closing of the wings. This causes the bird to sink downward before resuming its beat. When going from tree to tree they often fly to the bottom and work their way up in spirals when hunting for food.

Woodpeckers tend to be solitary with some exceptions. They are also mostly silent but all have harsh or piercing vocal calls.

All woodpeckers are hole nesters and all lay plain, glossy white eggs. The yolk usually shows pinkish through a translucent shell.

They drill nesting holes that vary in size and shape from the $1\frac{1}{4}$ inch diameter round hole of the downy to the $3\frac{1}{2}$ inch diameter, almost rectangular, hole of the pileated in dead or living limbs, trunks, stumps or even telephone poles at varying heights above ground. From the hole a tunnel leads down 8 to 26 inches where it widens into a cavity 3 to 8 inches in diameter at the bottom in the shape of a gourd. Only wood chips serve to cushion the eggs. A fresh hole is dug each year although the same tree trunk may be used year after year. Some species excavate separate holes for winter sleeping chambers.

Several bird species nest frequently in old woodpecker holes including the tree swallow, chickadee, bluebird, sparrow hawk, and wood duck. Other forms of wildlife such as white-footed mice and flying squirrels also use abandoned holes.

The young are hatched naked and blind. They remain longer in the nest than most altricial young and acquire the full juvenal plumage before leaving. In the fall they change to the first winter plumage which is almost the same as the adult plumage. Usually adults undergo a complete post-nuptial molt in the late summer or in the fall. There may be a partial pre-nuptial molt in early spring.

Both sexes help in "nest"-building, incubation and feeding the young although in some species the male seems to play the bigger part. The young in the nest are usually fed by regurgitation during the first few days but are fed whole insects later.

There are few published longevity records of known-age birds based on banding. Some approximate maximum ages available are: three years for a red-headed woodpecker, four years for the downy, six years and eleven years for the hairy, and 11½ years for a flicker.

Enemies of woodpeckers include man, several species of hawks, arboreal snakes such as the blackracer and pilot black snake and such nest robbers as the red squirrel, crow and bluejay. There is also competition for nest sites from starlings and house sparrows which are often the winners. Finally, larger species of woodpeckers may displace smaller species in a given territory by their aggression.

The Yellow-shafted Flicker, high-hole or yellow hammer, is the best known, most abundant, and most widely distributed woodpecker in the state. These noisy, conspicuous birds are found as a breeding species nearly everywhere in open or lightly wooded country.

They migrate mostly at night (in the spring) and first arrive in the state from about March 30th to April 20th. However, a few flickers remain as winter residents in central and southern areas of the state. Fall migration takes place in large loose flocks during October.

This, the most terrestrial feeder of any woodpecker, is often seen in cities and towns picking up ants with its amazing tongue from lawns and cracks in sidewalks. Most of the spring and summer food is ants, ground beetles, grasshoppers and other insects. Fall and winter foods are mainly wild fruits.

The lively and elaborate courtship and early reproductive behavior includes drumming, mutual tapping, dance displays, wing noise, bill-touching and vocalizations both for stimulation of the opposite sex and to show territoriality, according to Kilham.

Usually six to eight eggs are laid in the nest cavity in May and incubated from 12 to 16 days by both sexes. The female will continue to lay new sets of eggs indefinitely if repeatedly robbed. The young stay in the nest about four weeks.

Natural enemies include several species of hawks. Bent says its greatest enemy is the starling which competes for nesting sites and for fruits in the fall.

The Pileated, our largest Woodpecker, is a permanent resident and must have been a common bird when the state was virgin wilderness, but with the reduction of the forest areas the numbers diminished and by early 1900, the bird had nearly disappeared. About 30 years ago, an upswing became noticeable and in some unknown manner, for which man can take no credit, the Pileated has now adapted to second growth woodlands and surprisingly may be seen in very small woodlots and occasionally even in

small towns. Perhaps the best places to see the magnificent Black Cock of the Woods or Log-cock, as it was once called, are in the larger forest stands as in the Adirondacks.

Sure signs of the habitat of this bird are the large, nearly rectangular feeding holes several inches deep in both dead and living trees, and the huge chips from the excavations found at the base of the tree. Stumps and fallen logs are ripped apart by this bird which often works close to the ground. Although capable of making a great racket with its drumming and loud flicker-like calls, much of the drilling and excavating work is done silently.

Principal foods of this woodpecker are carpenter ants and wood-boring beetle larvae, and some wild fruits and acorns eaten in the fall and winter.

Early in May a nesting hole is made high up on the trunk of a large tree. The entrance is about $3\frac{1}{2}$ inches wide and the cavity is 12 to 30 inches deep. Three to six eggs are laid and incubated by both sexes for 18 days.

Few enemies, besides man, are recorded other than the pilot black snake, an arboreal species.

The Red-bellied Woodpecker, generally thought of as a southern species, reaches the northern limits of its breeding range in the counties of central and western New York State and extreme southern Ontario.

The Red-bellied Woodpecker is uncommon with a very localized and largely undefined distribution in the state. Most reports come from localities on the Lake Ontario plains, near Montezuma and the Seneca River marshes and in the Finger Lakes region from November to March. The most northern records for the state are from Oswego County at Port Ontario and Pulaski (Scheider). Although the red-bellied formerly bred on Long Island until the mid-19th century, most recent records from this area and the lower Hudson Valley probably represent migrants or accidental visitors from the south during the off-breeding season.

There is usually a southward movement in fall but there are irregular wanderings during the winter which keep many in the state throughout the season and bring them to home feeders. It is not a shy bird.

This rather noisy and conspicuous bird prefers a swampy, deciduous woods where it lays its three to eight (usually four or five) eggs in a hole in a dead tree. The eggs have a 14 day incubation period with both adults assisting in the duties including care of the young.

The animal food includes beetles, ants and grasshoppers and such small vertebrates as tree frogs and lizards. However, most of its food is grapes, berries and other wild fruits as well as acorns and nuts.

Pearson mentions that this bird has a strong, musky odor.

Much remains to be known about this unusual and misnamed woodpecker in New York State.

RED-HEADED WOODPECKER. The Red-headed Woodpecker, probably our most beautiful woodpecker, is a migratory species but may linger where food is available until late in the winter. It was never a common bird in this state but now has become scarce because of changing habitat and competition with other species for choice nesting sites. Red heads are rare to uncommon both as migrants and nesters, and their irregularity of numbers from year to year, makes their occurrence worthy of note anywhere in the state.

They nest sparingly in the St. Lawrence and Black River watersheds, Ontario Lake Plain, Finger Lakes region, western New York, the upper Susquehanna watershed and the Mohawk watershed. They seem to be absent in the Adirondacks, Catskills and the Allegheny highlands. They are seen rarely and usually only during migration or in winter in the Lower Hudson watershed and on Long Island, but have nested infrequently there. A detailed survey of the breeding range in this state would be desirable.

Normal spring arrival dates for most localities in the state are during the first two weeks of May. They usually leave in late September, but individuals have spent the winter in widely separated places. The main population winters to the south of New York.

The habitat of the Red-headed Woodpecker is at altitudes of less than 2000 feet "in open groves, slashing and old burns and tracts of half-dead forest where the live trees are scattered and dead stubs are [abundant.]" They are often seen on telegraph poles, fence posts, dead tops of tall trees, or on dead stubs.

¹ Eaton, Elon H. 1914. Birds of New York, part 2, p. 155.

This woodpecker 'hawks' for flying insects like a fly-catcher and also flies to the ground for some insects. They are often highway victims of cars. The percentage of animal and vegetable food matter is about evenly balanced. The diet includes ants, wasps, beetles, grasshoppers, crickets, moths, caterpillars, spiders etc., but hardly any wood-boring, beetle larvae. Many wild berries, cherries and other fruits are eaten and in the winter those remaining in the northern parts of their range depend on beechnuts and acorns. They are accused of killing the young in nests of other birds.

The four to seven eggs are laid between mid-May and mid-June and are incubated by both sexes for about 14 days.

YELLOW-BELLIED SAPSUCKER. The Yellow-bellied Sapsucker is the only species of New York State woodpecker whose habits are not largely compatible with man's interests. More about that later.

An uncommon to common spring and fall migrant throughout the state, it is found during the nesting season mainly in or near the Adirondacks, Tug Hill Plateau, Catskills and to a lesser extent in the Southern Tier and in the Oneida Lake Basin. Spring arrival dates are April 1st to May 15th. Usual fall migration dates are September 20th to October 30th. It winters mainly in the southern states and Central America although there are many early winter records in the New York City area.

The name sapsucker comes from the habit of drilling rows of squarish holes through the bark on trunks and large limbs of trees from which the sap will flow. According to Bent, they use the sap as a principal article of food and not primarily as bait to attract insects. Aided by its brushy tongue-tip it drinks the sap containing sugar that may begin to ferment in the late spring as the temperature rises. Eaton and others write of seeing sapsuckers obviously intoxicated by this heady beverage. Over 250 species of trees are known to be attacked including maple, beech, elm, birch, willow, alder, mountain ash, pine and spruce. The sapsucker returns repeatedly to the same trees and if the holes are drilled deep enough and encircle the tree this may lead to the tree's death. Along with sap, the bird eats some of the phloem and cambium layers. Other foods include ants, beetles, wasps, caterpillars, etc., but almost no wood-boring larvae,

also fruits of several kinds. Like the red-headed woodpecker it catches some insects in flycatcher fashion.

It is very noisy in the spring and early breeding season but is quiet thereafter in its summer habitat of forest at higher elevations.

It does not seem to have as great an ability to hew wood as most woodpeckers. The nest hole is cut in dead or dying trees where the wood is soft and four to seven eggs are laid sometime in June.

HAIRY WOODPECKER. The Hairy Woodpecker is a permanent resident throughout the state although there is a definite southward movement in fall and north in the spring. Therefore, probably most of those seen in winter are not the same ones that are seen in the summer. They are more often seen in the winter when they wander into villages and cities. The hairy is confined to the large wooded areas, especially in summer, more than its smaller relative.

It is more active and noisier than the downy as it vigorously chops into wood or pries off scales of loose bark to reach woodboring insects. It is also a shy and retiring bird which prefers the dry deciduous forest for a home. As the height of the forest crown increases to 80 feet with a corresponding mature forest having more old logs and stubs and larger dead trees, the number of hairy woodpeckers increases.

In a mature oak-hickory woods Saunders found an average of 2.7 hairys per 100 acres or 13 in 503 acres in Quaker Run Valley, Allegany State Park.

Food habit studies have shown that 78% of the diet is animal matter consisting of wood-boring beetle larvae and adults, ants, caterpillars, cocoons, aphids, spiders, and millipedes. The vegetable matter includes such fall and winter items as poison ivy, other wild fruits, seeds and nuts.

It lays its 3 to 6 eggs, (usually 4), in a nest hole in May. After an incubation period of two weeks the young hatch and stay in the nest for two more weeks. The hairy may renest if the first nest is robbed, otherwise, there is only one brood a year as is the case with all northern woodpeckers.

DOWNY WOODPECKER. The Downy Woodpecker, smallest woodpecker in the country, can be confused only with the Hairy. In addition to body size there are some other notable differences. The best distinction is the proportionately smaller bill in relation to the head. On close inspection the bars on the white outer tail feathers are also evidence in separating the two species.

The downy as a permanent resident may be found anywhere there are trees and in many areas is the commonest woodpecker. Unlike the hairy it is a familiar resident of farmland, village and city park in both summer and winter. It is not as easy to frighten and can be approached closer than the hairy.

The largest numbers of hairy woodpeckers are seen in winter but again as many downy woodpeckers may be seen at that time. Only in the most densely wooded areas or in large forested tracts such as the Adirondacks does the hairy equal or surpass the downy in numbers.

Few careful studies are available of population densities in this state but Saunders found an average of 1.9 Downy Woodpeckers per 100 acres of aspen-cherry growth or 22 pairs in 1166 acres of Quaker Run Valley, Allegany State Park. There was a lesser density, of course, in less favorable habitat.

This friendly little bird is often miscalled a sapsucker. According to Bent, approximately 76% of its diet is animal food including beetles, ants, caterpillars and insect eggs. The 24% vegetable matter is mostly wild fruit such as poison ivy. In winter you may see a downy drilling in goldenrod galls or the dead canes and stalks of pithy plants such as corn in order to extract insect larvae.

In winter the downy is usually silent and solitary but may travel in company with chickadees, nuthatches and creepers. In spring it becomes more lively and its precourtship tattoo is often heard in the woods in March and April. In May the 3 to 8 but usually 4 or 5 eggs are laid. Incubation lasts 12 days. The young remain in the nest about two weeks.

BLACK-BACKED THREE-TOED WOODPECKER. The Black-backed Three-toed Woodpecker is the most common of the two three-toed woodpecker residents of the state and also the most often seen during their infrequent invasions south of their breeding range. This species has been described as comparatively quiet, tame and unsuspicious. It has larger, stronger feet than other woodpeckers of comparable size to compensate for the loss of one toe (the hallux or first toe).

Quoting Shainin (1939), "it is fairly numerous throughout Hamilton County, and in Essex County it is most common in the southwestern part; drained by the headwaters of the AuSable, Boquet and Hudson Rivers, where it is more noticeable in the winter." This bird is resident only in the Canadian life zone of the Adirondacks at altitudes above 2000 feet in forests of spruce, balsam fir and other conifers. It nests primarily in more open windfalls, burned over clearings and swampy tracts where there are plenty of dead, standing trees in which to excavate a hole.

In May or early June, the two to six, but usually four eggs are laid and incubated for 14 days. The young stay in the nest for two weeks.

This species eats almost no plant food material but three-fourths of its diet consists of wood-boring larvae of beetles and moths and one-fourth is adult beetles, ants and spiders. It works quietly for long periods as it flakes off the bark on dead white pines and other trees.

During the late fall and winter some birds wander distances up to several hundred miles from their normal habitat. The most recent spectacular irruption occurred in southeastern Canada and the northeastern United States during which thirty-eight were reported from all over New York State between Oct. 11, 1956 and April 27, 1957. The black-backed is particularly attracted to infested elm trees. Downstate records including Long Island are usually from October through February and especially in November and December.

The Adirondack population has apparently declined from what it was a half century ago when Eaton (1914) called it common. More recent writers to note the downward trend are Saunders (1929) and Shainin (1939).

NORTHERN THREE-TOED WOODPECKER. The Northern Three toed Woodpecker is less common than the black-backed and like that species, it is generally restricted during the nesting season to parts of Essex and Hamilton counties in spruce, balsam and tamarack forested mountains and swamps from 2000 to 4000 foot altitudes.

Although more retiring and quieter than the black-backed, this rarest of our woodpeckers has almost the same behavior and food habits.

Shainin compiled the only known summer records of this species up to 1939 in order to highlight the paucity of numbers since Eaton found it common in 1905. These are as follows: 1.—Rogers saw two at Raquette Lake, Hamilton County, summer 1921; 2.—Saunders none 1925-6 in Essex County; 3.—Carleton one at Mt. Ampersand, Franklin County, July 17, 1931; 4.—Darrow one at Mt. Marcy, Essex County, July 23, 1933; 5.—Darrow one at Whiteface Mt., Essex County, Aug. 4, 1936; 6.—Shainin one on Johns Brook Trail, Essex County, July 20, 1937. Few have been reported since. Spofford reported a nesting near Raquette Lake, Hamilton County, June 9, 1957. There are several winter records from Hamilton and Essex Counties.

During the irregular winter movements of three-toed woodpeckers outside their breeding range, the northern does not travel as far and is not seen as often as the black-backed.

In the 1956-57 invasion, only five were seen in the state between Oct 11, 1956 and June 10, 1957. All were seen near Lake Ontario or near the Adirondacks.

Overall, woodpeckers are definitely useful to man because they eat tremendous quantities of injurious insects, especially wood borers. They are, therefore, beneficial to the forests. Their borings are usually in dead wood or in unsound trees where unseen damage has already been done by the insects. It is not the woodpeckers' holes that kill trees. How do the woodpeckers know where to drill? Some insects undoubtedly give themselves away by sounds. However, vibrations received through the woodpecker's beak and the repeated testing or 'sounding' of the wood enables the bird to sometimes drill, for example, directly into a colony of carpenter ants.

During heavy infestations of timber-destroying insects, woodpeckers of several species may concentrate in an area as a natural control such as with the Engelmann spruce beetle outbreak in the Rocky Mountains and the elm bark beetle in the east.

Indians used the crest of the pileated for decorations. The flicker was once shot for food as the partridge or pigeon. All woodpeckers are now protected by law.

On the debit side, sapsuckers do drill in live wood which hurts but seldom kills orchard and ornamental trees. This practice is also said to reduce the value of trees for lumber. Saunders said "All the Sapsuckers of the Adirondacks cannot do as much damage to a forest as one careless man with a cigarette."²

² Saunders, Aretas A. 1929. The Summer Birds of the Northern Adirondack Mountains, p. 450.

Flickers, hairy and downy woodpeckers, all have caused some damage to shingle roofs and sidings of buildings, mostly in winter, when they are after insects underneath. These species may also use parts of a house for a drumming post which is an annoyance.

The Pileated Woodpecker has done great damage in some states to electric utility poles. It also has been known to damage houses, barns and church steeples.



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In summary, we find that woodpeckers have a great influence on forests and other wildlife and they help to create interest for nature lovers in the woods, especially in winter when there are few other birds around.

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