

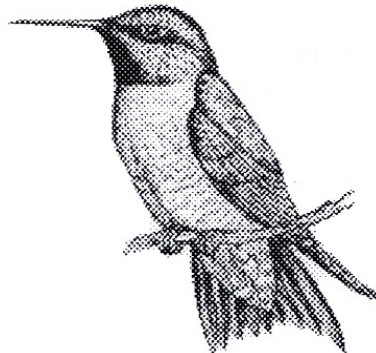
Attracting Hummingbirds to Your Yard

Conservation Corner – Department of Natural Resources at Cornell University
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Hummingbirds are unique to the Western Hemisphere. More than 300 different kinds (species) are known, mostly from Central and South America, with a few species in the Caribbean, and at least a dozen species reaching the northern limits of their ranges in the southwestern United States. There are more different kinds of hummingbirds in the Western Hemisphere than there are different kinds of breeding birds (240) in all of New York State. Southeastern Arizona is the region of the United States where the greatest variety of hummingbirds is likely to be found and at least one species, the Rufous Hummingbird, ranges as far North as southern Alaska.

Appearance. Hummingbirds sometimes are easier to hear than to see. What you first hear is the “whir” or “buzz” of their wings. Their voice can be described as a high-pitched chatter or trill, especially when they are annoyed or when they are chasing each other.

The only hummingbird to be expected regularly in New York State is the Ruby-throated Hummingbird (*Archilochus colubris*), though there have been at least two substantiated occurrences (in 1993 and 1994) of Rufous Hummingbird from New York. Male Ruby-throated Hummingbirds have a bright, iridescent, red throat (which females and immature birds do not have), and an iridescent olive-green back. The female also has an olive-green back, but with a dull white or pale gray throat and breast. The iridescent appearance of the feathers, with colors and hues changing, depending upon your angle of view, is a result of crystalline structures within the feathers.



Ruby-throated Hummingbird
(*Archilochus colubris*)

Behavior. Hummingbirds are the only birds that consistently hover in flight. The unique anatomy of the bones and muscles of the wing and its attachment at the shoulder joint allows hummingbirds to fly even backward. While hovering, a hummingbird beats its wings at a rate of around 55 times per second. That rate increases to at least 75 times per second when flying forward at full speed. Male hummingbirds are very aggressive and frequently perform aerial jousts, and the J-shaped power dive of the male displaying to a female during mating season is spectacular.

During the male’s mating flight, the female usually sits in a low bush or sometimes even on the ground, seemingly mesmerized, while the male swings to and fro in front of her like a pendulum. Male Ruby-throated Hummingbirds do not assist the female with nest building or care of young and are thought to be polygamous, with one male associating with multiple females during a breeding season.

Because of their high-energy requirements, hummingbirds can become torpid for many hours, especially during cooler weather, to conserve energy. Birds in this state have much reduced heart beats and respiration rates and may feel cold or appear dead to the casual observer. The reduced energy demands of their body while in torpid state may help humming-birds conserve energy during brief periods of unseasonably cold weather or while roosting during cool summer nights.

Like most other birds, hummingbirds bathe daily and more often in hot, dry weather. A homeowner might attract hummingbirds by running a garden hose attached to a sprinkler on a hot summer day.

Attracted to the fine mist of water, hummingbirds will fly through the spray to wet their feathers.

Migration. The Ruby-throated Hummingbird, the only common hummingbird of the eastern United States, is migratory. Its major migratory route to New York State is from its wintering quarters in southwestern Mexico, to the Yucatan Peninsula, and across the Gulf of Mexico to the United States. This is a remarkable flight for such a small bird. Its summer breeding range is from Florida to southern Canada and from the Atlantic Coast west to the Mississippi River. Males typically return in spring before the females and depart before the females and young begin to migrate South for the winter. Ruby-throated Hummingbirds typically are found from May through September in New York and are more common in rural or suburban settings.

Nest construction and location.

The Ruby-throated Hummingbird builds a small, cup-shaped nest, about the size of a large English walnut, on thin branches of understory trees. The inner cup is lined with fine plant down and the outside is camouflaged with small bits of mosses and lichens. The hummingbird uses spider web to hold the nest together and to attach it securely to supporting twigs. You should consider yourself fortunate if you are able to find an active nest. The female lays two, white, pea-sized eggs in the nest sometime in early June in New York. It takes 12 to 16 days for the eggs to hatch and the young stay in the nest from 20-22 days.

Methods of feeding. Hummingbirds have a surprisingly efficient, highly extensible, tubular tongue which reaches deep into a flower to suck up nectar. The hummingbird also uses his bill to catch small spiders and insects from within flowers for essential protein supplements to its diet. When the female feeds her young, she inserts her long bill into her fledgling's gaping mouth and regurgitates the partially digested food. Where the range of the Ruby-throated Hummingbird overlaps with that of the Yellow-bellied Sapsucker, hummingbirds sometimes are attracted to the sap that flows from the holes made by sapsuckers in their favorite feeding trees; the hummingbirds hover to feed on the sap and small insects attracted by the sap.

Energy requirements. Hummingbirds use up a lot of energy for flight. Research on these birds reveals that some of them can consume half their total weight in sugar every day. For example, an adult Ruby-throated Hummingbird weighs about one-tenth ounce (3 grams, or about the weight of one U.S. penny), so it must find 0.05 ounces (1.5 grams) of sugar daily. For a hummingbird this may represent 50 to 60 full course meals a day. Homeowners can use this knowledge to attract hummingbirds to their back yards.

Predators. Because of their small size, hummingbirds can become prey for some unusual predators. There are reports in the literature by credible observers of Ruby-throated Hummingbirds becoming entangled in spider webs, being caught and pinned to the ground by large dragonflies, snatched from mid-air by frogs, and even captured by praying mantises. Because of their diminutive size and fast flight, hummingbirds rarely are taken by hawks and the more typical predators of small birds.

Attracting and feeding hummingbirds.

For attracting hummingbirds, a liquid solution of one part granulated sugar and four parts water is recommended (a weaker, less expensive solution of one part sugar to five parts water also may be acceptable). One cup of sugar mixed with four cups of water makes a good amount for starters. Bring the water to a rolling boil and add the sugar, stirring the mixture to dissolve the sugar completely. Let the sugar solution cool to room temperature and fill the hummingbird feeder. The feeder should be checked every two to three days to be refilled. At least once a week it should be washed completely with hot, soapy water, then rinsed very thoroughly to deter growth of molds and bacteria, which can grow rapidly in the sugar solution on warm summer days and may be harmful to hummingbirds. Mixtures of honey and water are *not* recommended because they can mold more rapidly and may lead to illness or death for hummingbirds eating it.

If you choose, you may add a drop or two of red food coloring to the liquid. There's no scientific evidence that the red food coloring is harmful to the birds and the red color sometimes makes it easier to see when

your feeder needs to be refilled. Whether or not to use red food coloring is a matter of your personal preference. Once they discover the feeder, hummingbirds will feed just as readily from feeders whose sugar solution is not colored in any way.

It is easy to attract hummingbirds to backyard feeders. Commercial feeders costing \$5 to \$15, or more, are advertised in many popular bird magazines and at gardening centers. Feeders with glass containers to hold the sugar water are easier to clean. Most commercial feeders have red, plastic saucers or tubes from which the hummers take the sugar solution. You also can make your own feeder from a small, plastic or glass pill bottle, if you want. Paint the bottles bright red, a color that seems to be attractive to hummingbirds, and hang the bottles in open places around your yard at heights varying from three to five feet. In this case, the red coloring of the container may help the hummingbirds to discover the feeder in the first place.

Check your feeding bottles every two or three days from early May, when hummingbirds arrive in New York, until late September, when they fly South. During unseasonable cold spells or prolonged periods of rainfall, when natural nectar supplies are diminished, hummingbirds may visit your feeders more frequently for food.

If you are lucky, other animals may visit your flowers and feeders. A variety of day-flying moths in the sphinx moth family (*Sphinxidae*) take nectar from flowers and are similar in appearance to hummingbirds. Though the sphinx moths fly much more slowly, they sometimes may be mistaken for hummingbirds. Among these moths are included hummingbird moth (*Hemaris thysbe*), five-spotted hawk moth (*Manduca quinquemaculata*), and bumblebee moth (*Hemaris diffinis*). And at night, flying squirrels may even visit your feeders if you live near a forest or wooded area.

If you want to attract hummingbirds to your yard over the long term, it is recommended that you also give serious consideration to planting perennials

that produce deep-throated, orange or red flowers that are naturally attractive to hummingbirds.

Native wild flowers, including crimson bee-balm (also called wild bergamot or Oswego tea), columbine, jewelweed, and cardinal lobelia (also called cardinal flower), are attractive to hummingbirds and available from many commercial nurseries. Other plants that produce flowers attractive to hummingbirds include daylilies, lilies, cannas, bouncing bet, spiderflower, silktree, red buckeye, morning glories, petunias, scarlet sage, and various honeysuckles. With a little care the flowers represent a long-term investment and a reasonable tradeoff in costs and time for buying, cleaning, stocking, and washing artificial hummingbird feeders, without the risks to the hummingbirds of disease that may result from poorly maintained feeders. Another plus in planting flowers to attract hummingbirds is that many of the same plants that attract hummingbirds also attract butterflies. You can get a list of Cornell Cooperative Extension publications on recommendations for choices of annual and perennial flowers and sequence of bloom from your county extension educator. Their office is listed in the telephone book under the name of the county in which you live. You can also consult Cornell University's Lab of Ornithology webpage at <http://birds.cornell.edu>.

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