



# HUMMINGBIRDS

## *An Attractive Asset to Your Garden*

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► Female on wire



▼ Copper iris



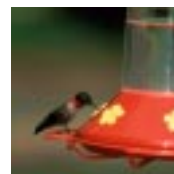
People have always liked the hummingbird, even esteemed it. The hummingbird's tiny size (male rubythroats weigh in at a whopping 3.03 grams—about the weight of 2½ paper clips!) is a big part of the fascination. But its brilliant color, dazzling aerobatics, swift flight, and personality also delight and entertain us throughout the summer.

This publication is about these fabulous “flying, flowered jewels” and how to bring them into your garden.

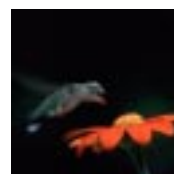
### Hummingbirds in History

Perhaps the earliest written introduction of the hummingbird to our European ancestors occurred in 1526 when Gonzalo Fernández de Oviedo y Valdés wrote “...no bigger than the end of a man's thumb... and of such swiftness in flight you cannot see the movement of their wings...The colors shine like those of the little birds artists paint to illuminate the margins of holy books.” This description makes it understandable why hummingbirds have been called “flying jewels.”

In 1770, John Lawson wrote in his diary “The hummingbird is the miracle of all our winged animals. He is feathered as a bird, but gets his living as the bees.” In 1775, George Louis Leclerc wrote



◀ Male at feeder



◀ Female nectaring on Mexican sunflower

in *L'histoire naturelle* “...of all animated beings, this is the most elegant in form and brilliant in colour. The stones and metals polished by art are not comparable to this gem of nature.”

The ruby-throated hummingbird (*Archilochus colubris*) is one of 23 species of hummers that frequent North America and the only species that breeds in the eastern United States. This species is the second most widely distributed hummingbird in North America. When most people think of hummers, they think of those in the western United States. That is where 16 different species breed in this country, but do not forget the rubythroat. It is a remarkable little bird and its beauty rivals many of its western counterparts.



◀ Trumpet creeper



▶ Spotted jewelweed

### About the Rubythroats

Here is some information that shows just how remarkable the ruby-throated hummingbird is:

- It can routinely cruise at about 27 mph, although courtship flights can reach 60 mph.
- On average, its wings beat 53 times per second, which means it can travel 1.2 millimeters with each forward stroke and 1.6 millimeters with each backstroke—the hummingbird is the only avian species that can fly both backwards and upside down.
- Ruby-throated hummingbirds have little or no song. Instead of attracting a mate by singing, the male is believed to signal to potential female mates and potential male rivals with his flashy flight and the brilliant, iridescent-red patch on his throat.
- One female bird can capture up to 2,000 insects a day.
- Hummingbirds have been reported to migrate as many as 500 miles in a single day.
- Each bird must eat 100 percent of its body weight in nectar every day to survive. Depending on air temperatures and activity levels, this means the birds feed anywhere from every five minutes to every hour. The rest of the time is spent resting and digesting the food.
- Hummingbirds cannot smell very well. Many of the ruby-throated hummingbird's preferred flowers are not fragrant, unlike flowers used by insects.

▶ Carolina pink

It is clear that the ruby-throated hummingbird is a well-engineered work of art.

### Numerous in Kentucky

The rubythroat is surprisingly numerous throughout much of Kentucky in the summertime. It generally arrives in mid-April, although it has been recorded to arrive in the state as early as March 29. The arrival of ruby-throated hummingbirds is timed to coincide with the flush of spring flowers that provide them nectar. These flowers include:

- copper or red iris (*Iris fulva*).
- fire (*Silene virginica*) pink.
- round-leafed pink (*S. rotundifolia*).
- Carolina pink (*S. caroliniana* var. *wherryi*).
- columbine (*Aquilegia canadensis*).

- various species of phlox (*Phlox* spp.), skullcap (*Scutellaria* spp.), and beardtongue (*Penstemon* spp.).

Once they have arrived in the spring, the males go through an elaborate courtship display. (Observers have noticed that as part of the mating ritual, females hang upside down on a branch mesmerized while the male hovers above.) One male will try to mate with several different females.

Mating occurs by June. Some early clutches of offspring may be produced by late May, but they are probably the exception to the rule. After mating, the females begin the task of nest building, while the males typically find favored feeding areas. The males do not participate in nesting building or chick rearing.





◀ *Columbine*

the egg. Protein, in the form of insect material, is important for the young chicks to grow and develop feathers, and at this time to feed the chicks, the female brings back to the nest a portion of nectar and protein.

The chicks grow rapidly, and by the age of 2½ weeks, they are fully feathered, have elongated beaks, and are ready to fly. By three weeks after hatching, the youngsters usually are on their own. At times, the females will produce a second clutch of offspring in July.

### Hummingbird Nests

Hummingbird nests are a work of art. John Lawson wrote of the hummingbird: “His nest is one of the greatest pieces of workmanship the whole tribe of winged animals can show.” About the size of half an English walnut shell, the tiny nest is made of plant down and bud scales covered with lichens. It is bound by spider’s silk.

The nest usually is located 10 to 20 feet aboveground in a nearly horizontal branch and often is located above a spring or pond. Most nest sites in Kentucky are located in deciduous trees, often sycamores or elms. Contrary to popular belief, hummingbirds generally are not backyard nesters but prefer isolated or semi-isolated environments or undisturbed forest for their nesting sites. Most hummers will return to the same nest site each year and either build upon the existing nest or build a new nest if the old one was destroyed.

Once the nest has been constructed, two paper-thin shelled eggs, each about the size of a pinto bean, are laid. The hen incubates the eggs for 14 days, at which time the blind, almost featherless chicks emerge from



### Migration

By late July the birds begin their migration southward to their wintering grounds in southern Mexico, Panama, the Bahamas, Haiti, and the Dominican Republic, making use of another large flush of hummingbird flowers in bloom at this time. These flowers include:

- royal catchfly (*Silene regia*).
- false dragonhead (*Physostegia virginiana*).
- cardinal flower (*Lobelia cardinalis*).



◀ *Passionflower*



◀ *Cardinal flower*

- monkey flower (*Mimulus ringens*).
- foxglove (*Agalinas* spp.).
- gayfeather or blazingstar (*Liatris* spp).

◀ *Red buckeye*

Males typically live 2½ years, and females typically live 3½ years. More than 50 percent of each year’s young never make the trip south and die for a variety of reasons, including succumbing to predators and the weather.

### Feed Them to Attract Them

Begin to attract the birds by feeding them. Hummingbirds love artificial feeders, because one feeder can provide the daily



▶ *Flame azalea*

▶▶ *Indian pink*



nectar equivalent of 2,000 to 5,000 flowers. (Why visit a flower when you can get that much nectar from a bottle?) Male birds usually are the first to arrive at a feeder and will establish a territory.

The time to set the feeder out is by mid-April, hopefully several days before the first bird arrives in the spring. Hummingbirds are highly territorial, so you may wish to put out more than one feeder. A single male will be able to effectively keep all other comers away from one feeder. Females will come to feeders because they are attracted to the male and his territory. When putting out feeders, make sure that feeders are not visible (at least initially) from other feeders and are in an open area at least 15 feet apart. Hummers, sensing confinement, apparently do not like feeders close to houses, windows, or eaves.

▶ *Fire pink*

▶▶ *Blue phlox*

You can increase hummingbird acceptance of a feeder by placing ripe fruit next to it. It will attract gnats and other insects that the birds relish.

### **Make Your Own Feeding Solution**

Make your own sugar-water solution for the hummingbird feeder. Commercial mixes can cost more than homemade sugar-water solutions, and many of them also contain preservatives that might harm the birds. Here is how to make your own:

1. Mix up a solution of about four parts water to one part sugar. This is the best ratio, because it is about the average amount of sucrose produced in typical flowers that attract hummingbirds. Do not make the solution any stronger. You

could attract butterflies and bees instead—most flowers butterflies and bees pollinate have an average nectar content of 42 percent.

2. Boil the water and sugar for two minutes. Boiling it for this length of time slows fermentation, which is bad for the birds. Do not microwave the solution, because microwaving causes a breakdown in the sugar molecule that can change the nutritional value.
3. Cool the mixture and refrigerate.



► *Smooth beardtongue*



4. If you are having a problem with bees at the feeder, reduce the amount of sugar to a 5-to-1 ratio. The birds will still use it, but bees probably will not.

*Do not add red dye.* Some information suggests that red dye can actually harm the birds. Most commercial feeders have sufficient red to attract the birds.

Never add honey to the mixture. It will create mold and fungal disease problems.

Active feeders will be emptied in a hurry. If you do not get any activity at a feeder for several days, take the feeder down, empty the solution, and replace it with fresh sugar water. Every week or so feeders, even active feeders, should be taken down and cleaned with a mild soap detergent, rinsed with bleach, and then rinsed thoroughly with water.

### Buying a Feeder

There are many different types of hummingbird feeders on the market. Look for one that will be easy to disassemble for cleaning. Also, look for one with lots of red. Why? Nature works in mysterious ways. Bees can see blue, purple, and ultraviolet light, but they cannot see red well. Thus, red flowers, which are pollinated by hummingbirds, are relatively free of competition from bees, and your feeder will be, too. (There are about 150 different species of plants that have been modified over time to be pollinated primarily by hummingbirds, not bees.)

Look for feeders that have red bee guards, not yellow ones. Red bee guards, not too visible to bees, are better at reducing bee problems at a feeder.

Perches, although not a problem, are not necessary for feeders, because the birds hover while feeding. In nature, hummingbird-pollinated flowers do not offer perching platforms as many other flowers do. In fact, most insects are excluded because hummingbird-pollinated flowers point downward and have long corolla tubes. Hummingbirds will use both the perch and non-perch feeders, however.

### Insect Problems

What can you do to deal with insect problems at a feeder? First and foremost, do not use any insecticides. They will most certainly harm the birds. To repel bees, change the sugar solution to five parts water to one part sugar as mentioned above and change the bee guards from yellow to red.

Ants are a different problem. Simple solutions for repelling ants include applying shortening or a commercial “sticky” polybutene repellent to the feeder suspension wire and then using a portable vacuum cleaner



▲ *False foxglove*

to remove the ants. A better solution is to create a water “moat” above the feeder, because ants do not swim.

See Figure 1 for how to construct the moat.

### Taking Down the Feeder

There is great debate about when to take a hummingbird feeder down. Some people say the

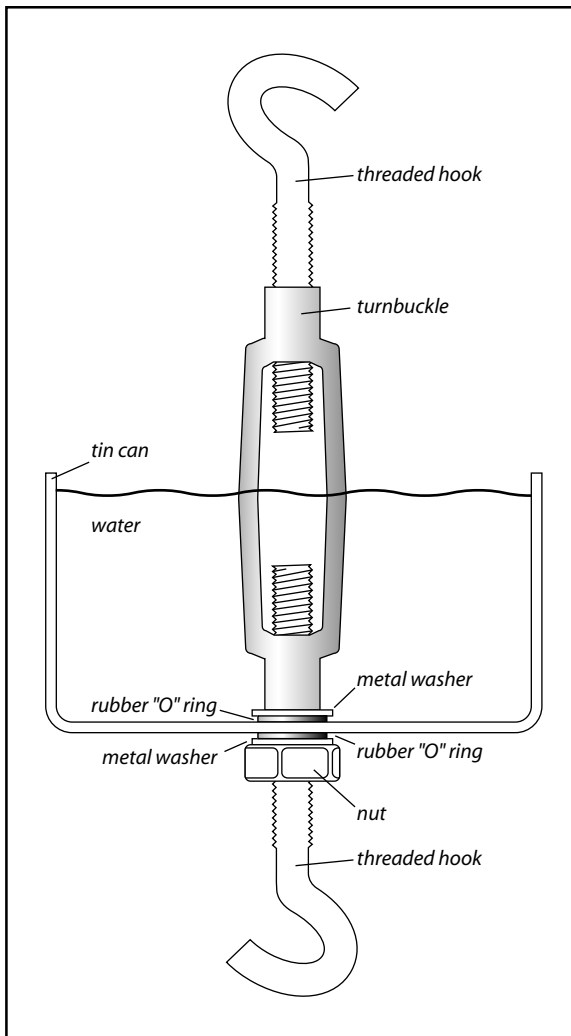
▼ *Crossvine*



► Trumpet honeysuckle



▼ Figure 1. How to construct a moat.



birds will not migrate if feed is still available, which is not true. You should leave your feeder up as long as the birds are coming to it. Migrant hummers normally show up by late July and will continue passing through until October.

If you leave a feeder up, you might help a late migrant make the journey or you might get some unusual visitors. For instance, in 1998 a black-chinned hummingbird ate a

feeder from December 12 through December 16 in McCracken County, Kentucky. Rufous hummingbirds were seen from November 23 through December 30, 1998 in Carlisle County and on January 4, 1999, in Lexington.

While feeding is the best method of bringing the birds into your yard, you can also provide natural sources of nectar by planting certain flowers and shrubs. Some suggestions follow.

### What to Plant to Attract Hummingbirds

#### Shrubs

- red, Ohio, or yellow buckeye (*Aesculus pavia*, *A. glabra*, *A. octandra*).
- sweet or mountain pepperbush (*Clethra alnifolia* and *C. acuminata*).
- rose mallow (*Hibiscus moscheutos*).
- Carolina silverbell (*Halesia carolina*).
- native deciduous azaleas (*Rhododendron nudiflorum*, *R. roseum*, *R. calendulaceum*, *R. cumberlandense*, *R. arborescens*).
- rhododendrons (*R. maximum* and *R. catawbiense*).
- weigela.

#### Native vines

- trumpet creeper (*Campsis radicans*).
- crossvine (*Bignonia capreolata*).
- coral or trumpet honeysuckle (*Lonicera sempivirens*).
- passionflower (*Passiflora incarnata*).

#### Annuals

- flowering tobacco (*Nicotiana* spp.).
- scarlet sage (*Salvia coccinea*).
- dianthus.
- zinnia.
- Mexican sunflower (*Tithonia* spp.).
- snapdragon.



▶ Royal catchfly

▶▶ Obedient plant

▶▶▶ Oswego tea



**Perennials**

Think about using native wildflowers. The very best hummingbird flower is the cardinal flower, native to Kentucky. Others include:

*Spring woodland species:*

- alumroot (*Heuchera* spp.).
- copper or red iris.
- fire pink.
- round-leafed and Carolina pink.
- columbine.
- various species of phlox, skullcap and beardtongue.

*Summer perennials:*

- Indian pink (*Spigelia marilandica*).
- wild bergamot (*Monarda fistulosa*).
- bee balm, or Oswego tea (*Monarda didyma*).
- royal catchfly.
- false dragonhead, or obedient plant.
- cardinal flower.
- monkey flower.
- foxglove.
- gayfeather or blazingstar.

One native annual that is a good self-seeder in the garden is jewelweed (*Impatiens capensis*).

Do not forget to add flowers that attract lots of insects for the hummingbirds, such as purple coneflowers.

If your local nursery does not carry these wildflowers, contact your local Extension office or the Kentucky Department of Fish and Wildlife Resources for a listing of native plant nurseries that carry trees, shrubs, vines, and wildflowers native to Kentucky.



◀ *Female on trumpet creeper. Why would a bird expose itself to potential predation like this? Because trumpet creeper provides 10 times more nectar than any other hummingbird flower.*

