

Jewels in the Garden

By Virgene Link-New
September 14, 2018



Hummingbirds provide unique presence

Who among us doesn't "start" with pleasure at the sound of the whiz past our ear in the garden? Our bodies swivel and our eyes instantly gaze in the direction of the projectile's departing figure. These mighty gems' brilliance and antics bring life to our surroundings and joy to our lives.

Here on the West Coast of Washington State we have two species of hummingbird. The Anna's hummingbird is a year round resident. The name honors Anna de Belle Massena, wife of Prince Francois Victor Massena, a French nobleman greatly interested in natural history. The hummingbird in the prince's collection was named by another French naturalist, Rene P. Lesson. The type specimen was purchased in 1846 by the Academy of Natural Sciences in Philadelphia with the entirety of the prince's collection.

The Anna's is one of the earliest breeding birds in all North America. In some cases, eggs are laid before the first of the year when two species of gooseberry are in bloom (first *Ribes malvaceum*, and later *R. speciosum*). Scientists believe the Anna's and gooseberries may have co-evolved. Breeding season is December through June.

The male Anna's has a more complex song than all the other species in North America. He is four inches long. The female collects nectar in the morning to feed her young. This gives the young instant energy to keep them warm while she goes out in search of food. Later she collects more and more insects as the day warms and they become more active, even though nectar is still available. Insects are the main food she brings back in the afternoon. Protein late in the day will help the young get through the cooler nights. The Anna's range is expanding north and east to British Columbia, Alaska and Montana.

The rufous is our second coastal hummingbird and is the most northern. It is the only hummingbird regularly occurring in Alaska and has the longest migration of 3,000-plus miles. The rufous are also the most aggressive in defending their territory.

Rufous hummingbirds have also been seen defending sapsucker holes and sipping tree sap. Sap is similar in sugar concentration to nectar. Birds defending trees stay perched more than those defending flowers, which saves energy. Trees are important food sources during migration.

East of the Cascade Mountains you will still find the rufous and the occasional Anna's which is expanding its range. Also present are the black-chinned and calliope hummingbirds. The black-chinned has the most extensive range of our western hummingbirds, from Texas to British Columbia. The male is 3-¾ inches long.



An Anna's male hummingbird at the feeder. *Photo by Virgene Link-New / WSU Skagit County Extension Master Gardeners.*

Like many other North American hummers, the female may build successive nests on top of each other. She does not tend to decorate her nest with lichen as many others do however, so her nests tend to be more beige.

The calliope is North America's smallest hummer at three inches. It prefers to breed at higher elevations and avoids the coast. Its nests are often in trees adjacent to meadows and face east where they can be warmed by morning sun after a cold mountain night. Their nests are deep for more warmth and often are protected by an overhang. The males can go into torpor on cold mountain nights, but the female must keep her body temperature up to incubate the eggs. After her last feeding at night she does not feed the young but uses it for her own energy to warm the young.

Male hummingbirds leave their territories one to two weeks earlier than females and immature hummingbirds. They also arrive at breeding grounds one to two weeks earlier than the females to establish territories.



Above Left: A rufous male waits his turn at the feeder. *Photo by David New.* **Above Right:** Several hummingbirds take their turn at the feeder. *Photo by Virgene Link-New.*

Contrary to urban myth, migration will not be delayed by existing feeders. They respond to the change in light level, not food level. Leaving feeders out will help those hummingbirds migrating later and our wintering Anna's here on the "west" side.

The structure of hummingbird feathers gives them their jewel-like qualities. It is not pigment, but nanostructures within the feather that reflect iridescence. These are the most specialized of all bird feathers.

The outer third of the gorget (throat) feathers have platelets filled with air bubbles. They partially reflect light and are flat, so they only reflect light in one direction; that is why they appear black or dusky when not being struck directly by the sun. The feathers of the back are concave and reflect light from any direction, so are always iridescent. They can fly forward, backward and briefly upside down.

More fascinating details include:

- They have the largest relative heart size of all birds, or about 2.4% of body weight. Wings can beat 78 times/second during regular flight and up to 200 times/second in a display dive. A male Allen's (not found here) can fly 45 miles per hour in a dive display.
- Their hearts beat 1,260 times/minute.
- Resting hummingbirds take 250 breaths/minute.
- Hummingbird eggs are about half the size of a jellybean (less than ½ inch).
- They consume half their weight in sugar each day. It's a good thing they only weigh about three grams (1/10 the weight of a first-class letter). The average man would have to consume 285 pounds of hamburger as the equivalent.
- Their main diet is nectar and insects. We duplicate the nectar with our sugar solutions. Cane table sugar is sucrose, and nectar is sucrose, glucose and fructose. Beet sugar contains galactose and has been treated with bisulfite so has a sulfur residue which is not recommended. Red dye is not necessary as feeders have red on them anyway. (Unlike bees, hummingbirds are attracted to red.) They eat many insects and spiders for protein. They also use spider silk to hold their nests together and to decorate with lichens.

Habitat requirements include:

- Many levels—Different heights allow for choices of where to feed and where to rest or perch.
- Sun and shade—Allow for growth of a variety of plants.
- Water—Have water available for bathing, as they get almost all their liquid from nectar. They bathe by flying through sprinklers, flutter in wet foliage or dip in shallow puddles.
- Nesting—A wide variety of plants gives a choice for nesting materials. Shrub species of willow provide both downy fibers and flower nectar.
- Lots of flowers—Provide a sequence of bloom times, so there is nectar all season long. Flowers provide nectar and attract insects.

A short list of hummingbird-friendly flowers include:

- Red flowering currant (*Ribes speciosum*)
- Coralbells (*Heuchera*)
- Hardy fuchsia (*Fuchsia* sp.)
- Scarlet gilia (*Ipomopsis aggregata*)
- Cardinal flower (*Lobelia cardinalis*)
- Trumpet honeysuckle (*Lonicera sempervirens*)
- Bee balm (*Monarda*)
- Penstemon (*Penstemon* sp.)
- Scarlet sage (*Salvia coccinea*)

NECTAR FORMULA

1 part sugar, 4 parts water, boil for 1-2 minutes and cool. This concentration approximates nectar. Extra may be refrigerated.

Do not use honey; honey ferments easily and can cause a fungus that affects their tongues and can be fatal. Artificial sweeteners have no food value.

With commercial mixes you just add water.

Sugar water spoils rapidly especially in hot weather and should be replaced every 48 hours when the temperature is over 60 degrees F.

In areas with praying mantis, they have been known to wait for and target hummingbirds.

RESOURCES:

- The Hummingbird Book. Donald and Lillian Stokes. September 1989.
- National Wildlife Federation Magazine. December-January 2018. “Note to hummers: Beware the Mantis.”
- Audubon Magazine. “Ten Plants for Hummingbirds.”

Know & Grow Workshop

What:	WSU Master Gardener Know & Grow “The Four Seasons of the Hummingbird” The Skagit Audubon Society will present a program about hummingbirds and how to attract them to your garden. They will cover garden design and plants that are magnets for these beautiful birds throughout the year. Also, learn about the care and maintenance of feeders, correct feeding solution and placement in the garden from speakers Shelia Pera and Jane Brandt.
When:	Tuesday, September 18
Time:	1:00 P.M - 2:30 P.M
Where:	WSU Mount Vernon Northwestern Research and Extension Center, 16650 State Route 536 (Memorial Highway)
Cost:	Free
Questions	Call the WSU Skagit County Extension at 360-428-4270, ext. 0.