

All Aflutter

*Small in stature,
but full of energy,
hummingbirds are
a garden favorite*

By Debby Schoeningh

A flash of iridescent color, a soft hum and a dazzling aerial display are enough to set the pint-sized hummingbird apart in the feathered animal kingdom, but what has perplexed scientists for decades is the bird's ability to hover for extended periods.

In 2005, scientists at Oregon State and George Fox universities and the University of Portland developed a way to better understand a hummingbird's aerodynamics of flight.

Using a sophisticated digital imaging system originally developed for engineers, researchers documented the air movement around a hummingbird's wings.

They discovered hummingbirds support 75 percent of their weight during their wings' downstroke and 25 percent on the upstroke. Insects produce equal amounts of lift during their up and downstrokes, but most other birds support 100 percent of their flying lift during the downstroke.

In other words, hummingbirds make use of what is, in other birds, an aerodynamically wasted upstroke.

This evolutionary advantage gives hummingbirds their ability to hover while feeding on plant nectar with their long, narrow beaks and thread-thin tongues.

Hummingbirds can flap their wings 15 to 80 beats per second, depending on the species, and are the

only known birds capable of deliberately flying backwards.

Flight, however, is a hummingbird's only mode of transportation, even if it wants to move an inch. Its feet are strong enough for only perching, not walking.

Although hummingbirds eat small insects, consuming more than their own weight in food each day, they have an incredibly high metabolism and require nectar as fuel. Much like bees, in gathering nectar, they pollinate hundreds of flowers daily.

They have the ability to drop their heart rate from 500 beats per minute during the day to 40 beats per minute at night. This lowering of metabolic rate, known as torpor, reduces their need for food and enables them to survive when food is not readily available.

The species' list of unique traits goes on, but one reason hummingbirds are so adored is their colorful antics.

"I just love to watch them flutter around from flower to flower and, at times, they will come right up to you," says Sherrie Kvamme who lives in Baker County.

Sometimes they come a little too close.

One time, while Sherrie was cleaning and refilling a neighbor's hummingbird feeders while she was away, the birds got a little aggressive about wanting their food.

"While I was working on her feeders, about five or six hummers kept diving at my head and wouldn't let me work," Sherrie says. "Finally, I took the feeders in the house, and they would hardly let me in the door, and I feared they were coming in. Being dive-bombed by that many hummers without a break made me feel like Alfred Hitchcock's 'The

Birds,' only on a miniature scale."

Joan Miller of Baker City says that while hummingbirds are somewhat aggressive about their food, they apparently do have different tastes.

"When I was visiting my son, who lives south of Oregon City, I noticed that he put red food coloring in his hummingbird feeder and the birds seemed to love it," Joan says. "We had been using just plain old sugar water for them, so I had to try the food coloring. Amazingly, they didn't like it at all.

"We came to the conclusion that Willamette Valley hummingbirds like red sugar water, and Baker County hummingbirds like their sugar water plain. However, this myth has never been tested in laboratory conditions that we know of."

As Joan suspected, experts say the best type of artificial nectar for hummingbird feeders is plain sugar and water.

The recommended recipe calls for one part white, granulated table sugar to four parts water. The water can be boiled (before measuring and adding the sugar, to ensure the proper ratio) to allow the sugar to dissolve easier. That will keep the homemade nectar fresher longer. The nectar should be cooled before pouring it into the feeder.

Those who choose to make homemade nectar should never use honey because of the potential for dangerous bacteria to form. Artificial sweeteners also should be avoided because the birds will be starved of the calories they need to sustain their metabolism. Dyes and preservatives are unnecessary as long as the feeder is bright red, which appears to be a hummer's favorite color.

Clair Button and his wife, Kata, say quite a few hummingbirds come



Above, a male rufous hummingbird, left, hovers near a feeder as a female rufous approaches a feeding station unnoticed. Below, a female rufous sips sugar water from a backyard feeder.

into their Baker City yard even without feeders because of the variety of flowers there.

“Hummers love bell- or trumpet-shaped flowers, like the penstemons, gilia, honeysuckle and Agastache,” says Clair, an author and retired botanist. “They also check out the colorful flowers in the sunflower group, like asters, blanket flowers and Echinacea. The trick is to have something blooming from spring until frost, so variety is the key.”

More than 325 documented species of hummingbirds are found only in the Americas—from southern Alaska and Canada to Tierra del Fuego—and the Caribbean.

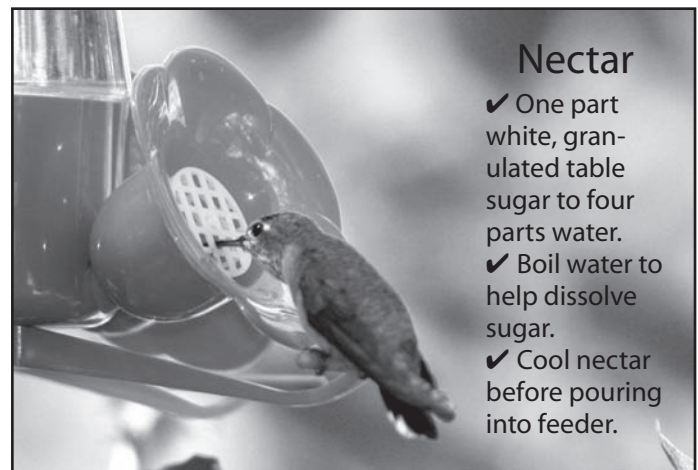
Most hummingbirds native to the United States and Canada migrate to warmer climates in the winter, though some remain in the warmer coastal regions.

Male hummingbirds characteristically take no part in nesting.

Most species make a neatly woven nest in a tree. Females usually lay two white eggs—the smallest of all bird eggs, but rather large compared with the hummingbird’s size. Incubation is 14 to 19 days.

Rufous, calliope and black-chinned species migrate to Oregon, but Anna’s can be seen year-round.

The Grande Ronde Bird Club in La Grande includes the broad-tailed hummingbird on its list



Nectar

- ✓ One part white, granulated table sugar to four parts water.
- ✓ Boil water to help dissolve sugar.
- ✓ Cool nectar before pouring into feeder.

of birds found in northeastern Oregon.

Hummingbirds usually migrate to Oregon as winter ebbs, arriving in late February or March. They leave for warmer climes in early September. ■