

## **Hummingbirds Thrive on Your Sugar Water. . . Keep It Up!**

**(Published August 7, 2013)**

**By Paul Green**

**Special to the Arizona Daily Star**

Hummingbirds are amazing creatures. A rufous hummingbird beats its wings about 50 times each second, and its heart may beat 20 times a second. A hummingbird can consume up to three times its own weight in nectar each day, and yet spends just a little over one-10th of its time feeding.

Southeast Arizona is the best place in the United States to see hummingbirds (nowhere else in the U.S. can you regularly see 15 species). These dazzling birds are easily attracted to sugar water feeders, either in the backyard or at nearby world-famous birdwatching sites throughout the region.

Many people in Tucson were alarmed to read a recent Daily Star story (“Local company creating better hummingbird food,” July 24) suggesting the standard hummingbird feeder recipe of household white sugar dissolved in water was harmful to birds.

One of the owners of The Hummingbird Market that manufactures a locally made “instant nectar” product, which he recommended as a replacement for regular sugar, was quoted as saying, “Birds have a hard time metabolizing the wrong type of sugars, and it wears out their livers and kidneys.” The perception created was that regular sugar water is harmful to hummingbirds.

What was the outcome of this statement? Local birdwatchers called in to the Tucson Audubon Nature Shops with concerns (and sometimes strongly expressed rebukes) about feeding regular homemade sugar water to hummingbirds.

So we asked ourselves the question: “Is there any published work among the extensive scientific literature on hummingbird nutrition indicating that feeding a mix of white sugar in water is harmful to wild, free-living hummingbirds?” We could not find any.

We also asked ourselves, “Does the literature suggest that a solution of any instant nectar formula is more beneficial to wild, free-living hummingbirds than sugar water?” We could not find any published evidence.

The table sugar we eat and feed hummingbirds is a sugar called sucrose. The body (human or hummingbird) breaks down sucrose into its two component simple sugars of glucose and fructose. Hummingbirds digest sucrose with almost 100 percent efficiency, and hummingbird-pollinated flowers tend to produce sucrose-dominated nectar. The commercial nectar mix described in the article contains sucrose, glucose, and fructose in proportions similar to the naturally occurring nectar of hummingbird-pollinated flowers. Chemically, this is the only demonstrated difference between it and regular white sugar. To enhance your backyard habitat for birds, Tucson Audubon recommends growing a variety of native flowering (nectar-producing) plants that have evolved specifically to

attract hummingbirds. A list of these plants is available at our website:  
[www.tucsonaudubon.org](http://www.tucsonaudubon.org)

Hummingbirds consume large numbers of insects, and some spiders. The nectar we provide by planting flowers and maintaining feeders supplies energy to hummingbirds as they seek out a balanced diet that includes many other foods in their environment. As drought and excessive heat dry up the flowers and reduce the supply of insects month after month, peoples' commitment to their sugar water garden feeders is saving hummers' lives.

So if you are one of the many thousands of people in Tucson who feed hummingbirds, Tucson Audubon recommends that you mix one part white sugar with four parts water and bring the solution to a boil, then cool before filling your hummingbird feeder. It is important to empty, clean, and refill your feeders with fresh solution every couple of days.

*Paul Green has a Ph.D. in ornithology from the University of Edinburgh in Scotland, and has been executive director of Tucson Audubon since 2007. Contact him at [pgreen@tucsonaudubon.org](mailto:pgreen@tucsonaudubon.org)*