

Hummingbirds find protection building nests under hawks

September 7 2015, by Bob Yirka



A female hummingbird (*Archilochus alexandri*) gathers spider webs to build her tiny nest. Credit: Harold F. Greeney, Yanayacu Biological Station

(Phys.org)—An international team of researchers working in a part of Arizona has found evidence of a hummingbird species benefiting by building nests in trees beneath hawk hunting grounds. In their paper

published in the journal *Science Advances*, the team describes the study they carried out and just how much safer the hummingbirds appeared to be when living in close proximity to hawks.

To learn more about black-chinned hummingbirds living in Arizona's Chiricahua Mountains, the team walked among the trees looking up, as part of a three year study of hummingbirds living beneath 12 hawk [nests](#). In so doing, they discovered that hummingbird nests beneath [hawks](#) were approximately 80 percent safer from Mexican jays eating their eggs than were unprotected nests.

There were two types of hawks involved in the study, Cooper and goshawks, both find food by looking down from their perch high in a tree—when they spot something, such as a jay, they swoop down between the branches and grab their meal. They don't generally target hummingbirds, however, the team noted, likely because they are too small and fast. That led to what the researchers call cones of protection, where nests within a certain area under a hawk's nest would be protected by the hawks. Jays, they noted, were more likely to fly higher in such areas, above the cone.

In all, the researchers studied 342 hummingbird nests, only 20 of which lay outside the cone of protection. They also found that hummingbird nests built in active cones had a daily survival rate of 31 percent compared to a rate of just 6 percent for those that built outside of the cone. Also it appeared the closer to the cone the hummingbirds built, the safer their eggs were—those that built within 984 feet had a 19 percent egg survival rate, while those that built even closer, within an approximate 560 foot radius, the survival rate shot up to 52 percent.

The researchers don't believe the hummingbirds understand that they are receiving protection from the hawks above, they think the smaller birds simply abandon nests that get targeted and return to nesting areas where

they met with earlier success.



An adult female hummingbird (*Archilochus alexandri*) dutifully warms her eggs.
Credit: Harold F. Greeney, Yanayacu Biological Station

Hawks nests aren't immune to poaching either, coatis, a raccoon-looking animal climbs trees and eats their eggs—when this happens, the hawks will abandon their nests taking with them the protection they have been affording the [hummingbirds](#) below.

More information: Trait-mediated trophic cascade creates enemy-free

space for nesting hummingbirds, *Science Advances*, Vol 1, No. 8, 04 September 2015. [DOI: 10.1126/sciadv.1500310](https://doi.org/10.1126/sciadv.1500310)

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