

OBSERVATIONS OF AN ANTILLEAN CRESTED HUMMINGBIRD
(*ORTHORHYNCUS CRISTATUS*) ATTACKING SADDLED ANOLES
(*ANOLIS STRATULUS*)

CLINT W. BOAL

United States Geological Survey, Texas Cooperative Fish and Wildlife Research Unit, Texas Tech University,
Lubbock, TX 79409-2120; e-mail: clint.boal@ttu.edu

Abstract: I observed an Antillean Crested Hummingbird (*Orthorhyncus cristatus*) attacking saddled anoles (*Anolis stratulus*) in apparent nest defense on Guana Island, British Virgin Islands in 2006. The threat of anoles to hummingbirds in unknown, but they are apparently perceived as a threat by some hummingbirds.

Key words: Agonistic behavior, *Anolis stratulus*, Guana Island, nest defense, *Orthorhyncus cristatus*

Resumen: OBSERVACIONES DEL ATAQUES DEL COLIBRÍ *ORTHORHYNCUS CRISTATUS* ATACAR A *ANOLIS STRATULUS*. En el 2006, observé un Colibrí Crestado Antillano (*Orthorhyncus cristatus*) atacando un lagarto (*Anolis stratulus*) en aparente defensa de su nido en la isla Guana, en Islas Vírgenes Británicas. Los ataques de los lagartos de este género a colibríes son desconocidos, pero aparentemente son percibidos por estas aves como una amenaza.

Palabras clave: *Anolis stratulus*, conducta agonista, defensa del nido, Isla Guana, *Orthorhyncus cristatus*

Résumé : OBSERVATION D'UN COLIBRI HUPPÉ (*ORTHORHYNCUS CRISTATUS*) ATTAQUANT DES ANOLIS (*ANOLIS STRATULUS*). J'ai observé un Colibri huppé (*Orthorhyncus cristatus*) attaquant des Anolis (*Anolis stratulus*) dans un comportement de défense apparente du nid à Guana Island, Iles Vierges britanniques en 2006. Le danger des anolis pour les colibris n'est pas connu, mais ils sont apparemment perçus comme une menace par certains colibris.

Mots-clés : *Anolis stratulus*, comportement antagoniste, défense du nid, Guana Island, *Orthorhyncus cristatus*

AS A GROUP, hummingbirds (Trochilidae) are known to engage in aggressive behaviors toward other hummingbirds in defense of feeding areas and nest sites (e.g., Robinson *et al.* 1996, Mitchell 2000, Williamson 2000). It is unclear, however, why hummingbirds will display similar aggression toward species that do not appear to be competitors, such as Pine Siskins (*Carduelis pinus*) and Say's Phoebes (*Sayornis saya*; Williamson 2000). Perhaps more unusual and difficult to explain are the reports of hummingbirds attacking lizards (Baltosser 1978, McCoid 1994, Williamson 2000). Here I report observations of an Antillean Crested Hummingbird (*Orthorhyncus cristatus*) attacking saddled anoles (*Anolis stratulus*) and pose a possible explanation.

OBSERVATIONS

These observations took place on Guana Island (18°30' N, 64°30' W), British Virgin Islands, in 2006. On 29 September I began conducting a nest attendance observation of an Antillean Crested Hummingbird. The nest was approximately 1.25 m above the ground and situated along a vertical stem hanging approximately 10 cm below a horizontal branch of an introduced Australian pine (*Casuarina equisetifolia*) tree. My observation position was 10 m from the nest. The hummingbird had left the nest

at 1547 and returned to incubate the single egg at 1552. Within a few seconds of returning to an incubation position, the hummingbird took flight, hovering adjacent to the nest and just under the overhanging branch. It then made three rapid darting motions toward an approximately 8 cm long saddled anole that was on the overhanging branch. After each rapid movement toward the anole, the hummingbird returned to briefly hover by the nest before darting again at the anole. The darting motions were progressively farther from the nest as the hummingbird chased the anole up the branch for approximately 1 m before ending the chase and returning to the nest.

It was not clear if this observation was of an anomalous event or common behavior. To evaluate this, on 5 October I captured and placed an 8 cm long saddled anole on the branch 20 cm above the nest while the female hummingbird was away from the nest. The female returned at 1052 to brood the now 4-day old nestling. The anole remained motionless until 1113. However, once the anole moved it drew the immediate attention and aggression of the brooding hummingbird. The hummingbird flew from the nest and made repeated darting motions at the anole, which fled up the branch toward the tree trunk. Similar to the first observation, once the anole was approximately 1m from the nest the hum-

mingbird returned to her nest and resumed brooding the nestling.

DISCUSSION

Some researchers have suggested hummingbird aggression toward lizard species may be due to competition for food. Saddled anoles, grass anoles (*A. pulchellus*), and crested anoles (*A. cristatellus*) have also been reported engaging in nectivory, frugivory, and/or herbivory (Lazell and Perry 1997, Lazell and Mitchell 1998, Perry and Lazell 2006). Black-chinned Hummingbird (*Archilocus alexandri*) will chase away green anoles (*A. carolinensis*) (McCoid 1994) and Green-throated Carib (*Eulampis holosericeus*) will chase away crested anoles (Boal unpubl. data) away from flowers they are feeding on.

Food competition, however, does not appear to explain the observations reported here. Rather, it appears the hummingbird was engaging in nest defense in which it evidently perceived the anoles as a threat. The perceived threat could be a risk to the stability of the nest; conceivably, a climbing anole could destabilize a hummingbird nest such that the contents are dumped. Alternatively, anoles may be perceived as potential predators of eggs and nestlings. Some researchers have suggested spiny lizards (*Sceloporus* spp.) as possible predators of hummingbird eggs and nestlings (Baltosser 1978, Baltosser 1986, Williamson 2000). However, actual predation by lizards on hummingbird eggs or young has not been documented. Furthermore, to my knowledge the observations reported here are the first of a hummingbird leaving its nest to chase anoles, and the first indication that anoles may be perceived as a threat to hummingbird nests.

ACKNOWLEDGMENTS

I thank M. Losos for directing me to the nest. This research was supported by The Conservation Agency through a grant from the Falconwood Foundation. I thank G. Graves, J. Lazell, G. Perry, and an

anonymous reviewer for providing helpful suggestions for the improvement of this manuscript.

LITERATURE CITED

- BALTOSSER, W. H. 1978. Ecological relationships among nesting hummingbirds in southwestern New Mexico and southeastern Arizona. M.S. Thesis, New Mexico State University, Las Cruces, NM.
- BALTOSSER, W. H. 1986. Nectar availability and habitat selection by hummingbirds in Guadalupe Canyon. *Wilson Bulletin* 101:559-578.
- LAZELL, J., AND N. C. MITCHELL. 1998. *Anolis cristatellus wileyae* (Virgin Islands crested anole). Herbivory. *Herpetological Review* 29:237.
- LAZELL, J., AND G. PERRY. 1997. *Anolis cristatellus wileyae* (Virgin Islands crested anole). Frugivory. *Herpetological Review* 28:150.
- MCCOID, M. J. 1994. *Anolis carolinensis* (green anole). Interspecific behavior. *Herpetological Review* 25:65.
- MITCHELL, D. E. 2000. Allen's Hummingbird (*Selasphorus sasin*). In *The Birds of North America*, no. 501 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.
- PERRY, G., AND J. LAZELL. 1997. *Anolis stratulus* (saddled anole). Nectivory. *Herpetological Review* 28:150-151.
- PERRY, G., AND J. LAZELL. 2006. *Anolis pulchellus* (grass anole). Nectivory. *Herpetological Review* 31:218-219.
- ROBINSON, T. R., R. R. SARGENT, AND M. B. SARGENT. 1996. Ruby-throated hummingbird (*Archilochus colubiers*). In *The Birds of North America*, No. 204 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.
- WILLAMSON, S. L. 2000. Blue-throated Hummingbird (*Lampornis clemenciae*). In *The Birds of North America*, no. 531 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.