

JAMAICAN HUMMINGBIRDS INGEST CALCAREOUS GRIT

GARY R. GRAVES

*Department of Vertebrate Zoology, MRC-116, National Museum of Natural History,
Smithsonian Institution, P.O. Box 37012, Washington, D. C. 20013-7012;
e-mail: gravesg@si.edu*

Abstract: Female Vervain Hummingbirds (*Mellisuga minima*) and a Jamaican Mango (*Anthracothorax mango*) were observed to ingest calcareous grit or dust in Portland Parish, Jamaica. The clustering of observations during the last week of March suggests that calcium-rich grit was ingested to facilitate egg shell production.

Key words: *Anthracothorax mango*, calcareous grit, Jamaica, Jamaican Mango, *Mellisuga minima*, Vervain Hummingbird

Resumen: COLIBRÍES DE JAMAICA INGIEREN GASTROLITOS CALCÁREOS. Una hembra de *Mellisuga minima* y un individuo de *Anthracothorax mango* fueron observados ingiriendo gastrolitos calcáreo o polvo en Portland Parish, Jamaica. El grupo de observaciones hechas durante la última semana de marzo sugiere que fue ingerido un gastrolito rico en calcio para facilitar la producción de la cáscara del huevo.

Palabras clave: *Anthracothorax mango*, Colibrí Negro, gastrolito calcáreo, Jamaica, *Mellisuga minima*, Zumbaflo

Résumé : DES COLIBRIS JAMAICAÏNS INGÈRENT DU SABLE CALCAIRE. Des femelles de Colibri nain (*Mellisuga minima*) et un Mango de la Jamaïque (*Anthracothorax mango*) ont été observés ingérant du sable calcaire ou de la poussière à Portland Parish en Jamaïque. Le regroupement des observations pendant la dernière semaine de mars font penser sur le sable riche en calcaire est ingéré pour faciliter la formation des coquilles d'oeufs.

Mots-clés : *Anthracothorax mango*, Colibri nain, Jamaïque, Mango de la Jamaïque, *Mellisuga minima*, sable calcaire

MANY SPECIES OF INSECTIVOROUS birds use grit to aid digestion (Gionfriddo and Best 1999) but few records of grit consumption have been documented among hummingbirds (Woods 1940, Haverschmidt 1952, Verbeek 1971, des Lauriers 1994, Adam and des Lauriers 1998). Here I report three observations of grit ingestion by the Vervain Hummingbird (*Mellisuga minima*) and a single observation of the same behavior in the Jamaican Mango (*Anthracothorax mango*) in Portland Parish, Jamaica.

On 30 March 2003, I observed a female Vervain Hummingbird taking grit from the unpaved Port Antonio-Millbank road (18°04.76' N, 76°26.52' W; WGS-84) about 1.0 km south of the Alligator Church bridge in the Rio Grande Valley. The hummingbird hovered low above a depression in the road on three occasions and in a series of up-and-down hovering movements appeared to flick the dusty surface with its tongue (10-15 s), returning to a roadside perch during the intervals. I concluded that the hummingbird was taking dust or grit after a thorough inspection of the site revealed no flying or terrestrial insects. The roadbed had been treated with crushed marl mined in the nearby John Crow Mountains.

On 23 March 2006, Brian Schmidt and I saw a

female Vervain Hummingbird take dust or grit from a large dusty pothole (18°06.95' N, 76°27.29' W) in a paved section of the Port Antonio-Millbank road about 2.6 km south of Stanton Harcourt. While we were waiting for the hummingbird to return, a Jamaican Mango hovered over an adjacent pothole and dipped to the road surface at least three times to take dust or grit. Jamaican Mangos cannot be sexed in the field. A close inspection of the dusty potholes revealed no evidence of terrestrial or flying insects. As in the earlier observation, the calcareous marl bedding of the road was exposed in the potholes.

Finally, Schmidt and I observed a female Vervain Hummingbird take grit from the unpaved Port Antonio-Millbank road (18°04.07' N, 76°26.97' W) about 3.1 km south of the Alligator Church bridge on 28 March 2006. The rain-soaked substrate probed by the hummingbird was a fine granular mixture of white marl and black shale. I could not determine whether the female was licking mineral-saturated moisture from the substrate or taking fine grit. No insects were observed on or near the site.

Although grit presumably aids the digestion of insects, which are prevalent in hummingbird diets (Remsen *et al.* 1986, Stiles 1995), observations in western North America suggest that female hum-

mingbirds may preferentially take calcium-rich grit during the nesting season to facilitate egg shell production (Woods 1940, Verbeek 1971, des Lauriers 1994, Adam and des Lauriers 1998). Our observations were clustered during the last week in March when many resident avian species in Jamaica were exhibiting nesting behavior. I observed no instances of grit ingestion by hummingbirds during 52 days of fieldwork from 31 October to 22 March 2003-2006 in Portland Parish.

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LITERATURE CITED

- ADAM, M. D., AND J. R. DES LAURIERS. 1998. Observations of hummingbirds ingesting mineral-rich compounds. *Journal of Field Ornithology* 69: 257-261.
- DES LAURIERS, J. R. 1994. Hummingbirds eating ashes. *Auk* 111:755-756.
- GIONFRIDDO, J. P., AND L. B. BEST. 1999. Grit use by birds: a review. Pp. 89-148 *in* *Current Ornithology* (V. Nolan, Jr., ed.). Kluwer Academic, Plenum Publishers, New York.
- HAVERSCHMIDT, F. 1952. Notes on the life history of *Amazilia fimbriata* in Surinam. *Wilson Bulletin* 64:69-79.
- REMSEN, J. V., F. G. STILES, AND P. E. SCOTT. 1986. Frequency of arthropods in stomachs of tropical hummingbirds. *Auk* 103:436-441.
- STILES, F. G. 1995. Behavioral, ecological and morphological correlates of foraging for arthropods by the hummingbirds of a tropical wet forest. *Condor* 97:853-878.
- VERBEEK, N. A. M. 1971. Hummingbirds feeding on sand. *Condor* 73:112-113.
- WOODS, R. S. 1940. Anna's Hummingbird. Pp. 371-387 *in* *Life histories of North American cuckoos, goatsuckers, hummingbirds and their allies* (A. C. Bent, ed.). United States National Museum Bulletin 176:1-506.