

PREDATION OF A GOLDEN SWALLOW (*TACHYGINETA EUCHRYSEA*) NEST  
BY THE INDIAN MONGOOSE (*HERPESTES JAVANICUS*) IN THE  
SIERRA DE BAHORUCO, DOMINICAN REPUBLIC

JASON TOWNSEND

*Department of Environmental and Forest Biology, College of Environmental Science and Forestry,  
State University of New York, Syracuse, NY 13210-2778; e-mail: jastown11@yahoo.com*

*Abstract:* Golden Swallows (*Tachycineta euchrysea*) have recently been observed nesting on or near the ground. In May 2004 I observed an introduced Indian mongoose (*Herpestes javanicus*) enter a recently depredated Golden Swallow nest cavity located 2 m above the ground in the Sierra de Bahoruco, Dominican Republic. Deforestation of high elevation pine forests may force the Golden Swallow to nest in sub-optimal habitat where it is more vulnerable to mongoose predation.

*Key words:* Dominican Republic, Golden Swallow, *Herpestes javanicus*, Indian mongoose, predation, *Tachycineta euchrysea*

*Resumen:* DEPREDACIÓN DE UN NIDO DE LA GOLONDRINA VERDE (*TACHYGINETA EUCHRYSEA*) POR UNA MANGOSTA (*HERPESTES JAVANICUS*) EN LA SIERRA DE BAHORUCO, REPÚBLICA DOMINICANA. Las golondrinas doradas (*Tachycineta euchrysea*) han sido observadas recientemente nidificando en o cerca del suelo. En mayo del 2004 observé una mangosta introducida (*Herpestes javanicus*) entrando a una cavidad de nidificación de Golondrina Dorada recientemente depredada, que estaba localizada a una altura de 2 m en la Sierra de Bahoruco, República Dominicana. La deforestación de los pinares ubicados a grandes alturas pueden forzar a la Golondrina Dorada a nidificar en hábitat sub-óptimos donde es más vulnerable a la depredación por mangostas.

*Palabras clave:* depredación, Golondrina Verde, *Herpestes javanicus*, mangosta, República Dominicana, *Tachycineta euchrysea*

*Résumé :* PRÉDATION D'UN NID D' HIRONDELLE DORÉE (*TACHYGINETA EUCHRYSEA*) PAR LA PETITE MANGOUSTE INDIENNE (*HERPESTES JAVANICUS*) À LA SIERRA DE BAHORUCO, RÉPUBLIQUE DOMINICAINE. Des Hirondelles dorées (*Tachycineta euchrysea*) ont été observées récemment nichant au sol ou à proximité. J'ai observé en mai 2004 une Petite Mangouste indienne (*Herpestes javanicus*), espèce introduite, pénétrant une cavité de nidification récemment prédatée d'Hirondelle dorée située 2 m au dessus du sol dans la Sierra de Bahoruco, République Dominicaine. La déforestation de la forêt d'altitude de pins pourrait obliger l'Hirondelle dorée à nicher dans un habitat sub-optimal ou elle devient plus vulnérable à la prédation par la mangouste.

*Mots-clés :* *Herpestes javanicus*, Hirondelle dorée, Petite Mangouste indienne, prédation, République Dominicaine, *Tachycineta euchrysea*

DURING THE PAST HALF CENTURY the Golden Swallow (*Tachycineta euchrysea*) has experienced serious population declines across its small range of Jamaica and Hispaniola, leading to its placement on the IUCN red list of threatened species (Bird Life International 2000). The last confirmed report of the Golden Swallow on Jamaica was in 1989, and since then the species has likely been extirpated (Raffaele *et al.* 1998). On Hispaniola the species persists as a locally common but increasingly rare resident, and is considered to be steadily declining (Dod 1992, Keith *et al.* 2003).

The causes of this species's decline are poorly documented. Several authors have implicated habitat destruction, specifically the cutting of high elevation pine forests (Raffaele *et al.* 1998, Keith *et al.* 2003). An additional contributing factor may be the intro-

duction of mammalian nest predators. Golden Swallows have recently been observed utilizing abandoned bauxite mines where nests have been built on and within 5 m of the ground (pers. obs., Fernandez and Keith 2003). Such placement leaves Golden Swallow nests particularly vulnerable to predation by rats (*Rattus* sp.) and the introduced Indian mongoose (*Herpestes javanicus*).

On 8 May 2004, I discovered an active Golden Swallow nest built 2 m above the ground. The nest was located in an abandoned bauxite mine in the Sierra de Bahoruco, Dominican Republic, at 1092 m elevation, 18°12'15" N, 71°59'96" W. On this date, I observed the nest for 136 min during which time the female incubated for a total of 82 min and was away from the nest for 54 min. On 9 May, I returned to continue observations of the nest and observed a

mongoose enter the cavity for approximately 45 s, then emerge with nothing visible in its mouth. The mongoose continued investigating around the nest cavity for approximately 1 min, then left the area.

Subsequent close inspection of the nest revealed a torn nest cup, egg-shell fragments, an intact egg containing a 2-3 d old embryo, and multiple body and wing feathers, presumably of the incubating female. A solitary Golden Swallow, presumably the attending male, circled overhead as I inspected the cavity. The nest cavity was situated between boulders with a depth of 17 cm, a width of 15 cm, and a height of 8 cm. The entrance hole to the cavity was a triangular opening 3 cm on each side.

The Indian mongoose I observed on 9 May was the presumed predator of this nest. Its observed entrance into the nest cavity probably represented a return visit and an attempt to extract the final egg that remained in the deepest section of the cavity. I was later able to retrieve this egg, and the 2-3 day old embryo it contained is preserved in formalin. The female was likely killed during the initial nest predation event.

I suggest that the introduction and naturalization of the Indian mongoose on Hispaniola and Jamaica could be a significant factor contributing to local extinction and overall population declines of the Golden Swallow. The first established populations of Indian mongoose in the West Indies occurred on Jamaica in 1872 (Horst *et al.* 2001). The Jamaican population expanded rapidly and has since served as the source for introduction to 29 other islands, including Hispaniola, where mongoose populations are currently expanding in range and increasing in density (Horst *et al.* 2001). It is possible that deforestation of high elevation pine forests has pushed Golden Swallows to nest in sub-optimal habitat where they are more vulnerable to this nest predator. Further research is needed to determine population densities of the Indian Mongoose, and to de-

lineate where populations of this nest predator overlap with ground and near-ground nesting Golden Swallows.

#### ACKNOWLEDGMENTS

I am grateful for funding support from Chris Rimmer and the Vermont Institute of Natural Science. Logistical support and permission to conduct research in the Dominican Republic was generously provided by the Subsecretaria de Areas Protegidas y Biodiversidad and the Fundacion Moscoso Puello. The manuscript was reviewed by S. Latta, G. Wallace, and J. Wunderle.

#### LITERATURE CITED

- BIRDLIFE INTERNATIONAL. 2000. Threatened birds of the world. Lynx Edicions and BirdLife International, Barcelona and Cambridge, UK.
- DOD, A. S. 1992. Endangered and endemic birds of the Dominican Republic. Cypress House Press, Fort Bragg, CA.
- FERNANDEZ, E. M., AND A. R. KEITH. 2003. Three unusual bird nests from the Dominican Republic. *Journal of Caribbean Ornithology* 16:73-74.
- HORST, G. R., D. B. HOAGLAND, AND C. W. KILPATRICK. 2001. The mongoose in the West Indies: the biogeography and population biology of an introduced species. Pp. 409-424 *in* Biogeography of the West Indies: patterns and perspectives (C. A. Woods and F. E. Sergile, eds.). CRC Press, Boca Raton, FL.
- KEITH, A. R., J. W. WILEY, S. C. LATTI, AND J. A. OTTENWALDER. 2003. The birds of Hispaniola: an annotated checklist. British Ornithologists' Union and British Ornithologists' Club, Tring, Herts, UK.
- RAFFAELE, H. A., J. W. WILEY, O. H. GARRIDO, A. R. KEITH, AND J. RAFFAELE. 1998. A guide to the birds of the West Indies. Princeton University Press, Princeton, NJ.