

The Journal of Caribbean Ornithology

RESEARCH NOTE

Vol. 31:12–16. 2018

A rare observation of White-collared Swift (*Streptoprocne zonaris*) breeding activity on Hispaniola

Neil A. Gilbert Michelle R.A. Eshleman Amy E. Janik Kiera L. Kauffman Joshua B. LaPergola



Photo: Joshua B. LaPergola

A rare observation of White-collared Swift (*Streptoprocne zonaris*) breeding activity on Hispaniola

Neil A. Gilbert^{1,2}, Michelle R.A. Eshleman^{1,3}, Amy E. Janik^{1,4}, Kiera L. Kauffman^{1,5}, and Joshua B. LaPergola^{1,6}

Abstract The White-collared Swift (*Streptoprocne zonaris*) has long been considered a common resident of Hispaniola. However, its breeding status on the island is poorly documented, and we are aware of only three previously described nesting sites on the island. Here, we describe an observation of apparent breeding activity of the White-collared Swift from La Reserva Científica Ébano Verde in the Dominican Republic and provide recommendations for improving our knowledge of this species in Hispaniola and throughout the Caribbean.

Keywords aerial insectivore, Apodidae, Caribbean, conservation, Ébano Verde

Resumen Rara observación de actividad de cría del Vencejo de Collar (*Streptoprocne zonaris*) en La Española—El Vencejo de Collar (*Streptoprocne zonaris*) ha sido considerado, durante largo tiempo, un residente común de La Española. Sin embargo, su estatus reproductivo en la isla no está bien documentado, y sólo sabemos de tres sitios de cría descritos previamente en la isla. En este artículo describimos la observación de una aparente actividad de cría del Vencejo de Collar en La Reserva Científica Ébano Verde en la República Dominicana y brindamos recomendaciones para incrementar nuestro conocimiento sobre esta especie en La Española y el Caribe.

Palabras clave Apodidae, Caribe, conservación, Ébano Verde, insectívoro aéreo

Résumé Une observation rare de l'activité de reproduction du Martinet à collier blanc (*Streptoprocne zonaris*) à Hispaniola—Le Martinet à collier blanc (*Streptoprocne zonaris*) a longtemps été considéré comme une espèce sédentaire commune à Hispaniola. Cependant, son statut de reproduction sur l'île est peu documenté et seuls trois sites de nidification y ont été précédemment décrits. Nous décrivons ici l'observation d'une probable activité de reproduction du Martinet à collier blanc sur La Reserva Científica Ébano Verde en République dominicaine, et formulons des recommandations pour l'amélioration des connaissances sur cette espèce à Hispaniola et dans les Caraïbes.

Mots clés Apodidae, Caraïbes, conservation, Ébano Verde, insectivore aérien

In contrast to avian species breeding in temperate latitudes, basic natural history information is lacking for many Neotropical birds (Collen *et al.* 2008, Latta 2012, Martin *et al.* 2012). This deficiency is especially true for Neotropical swifts (family Apodidae); for example, the wintering grounds of northern Black Swifts (*Cypseloides niger borealis*) were not determined until 2010 (Beason *et al.* 2012). Here, we describe an observation of apparent breeding activity of the White-collared Swift (*Streptoprocne zonaris*) in the Dominican Republic, which, to the best of our knowledge, represents only the second known nesting site for the Dominican Republic and the fourth for Hispaniola (Lack 1956, Turner

1981, Keith *et al.* 2003, Roper 2011).

The limited data available for the White-collared Swift suggest a breeding biology similar to other *Streptoprocne* swifts. Its nest sites include river caves (Whitacre 1989), waterfalls (Turner 1981, Biancalana 2014), and sea caves (Lack 1956, Roper 2011). In some locations, it breeds in colonies of up to several dozen pairs (Whitacre 1989). Nests are constructed with mud, moss, rootlets, insect chitin, and bits of leaves, but birds will lay eggs on bare substrate in sites with sufficient horizontal surfaces (Whitacre 1989, Biancalana 2014). Moreover, swifts exhibit high nest site fidelity, frequently returning to the same site—even the same nest structure—year after year (Whitacre 1989, Rajchard *et al.* 2006, Pichorim *et al.* 2009). Clutch size varies from one to three eggs, though many eggs and nestlings perish after falling from the nest (Whitacre 1989, Passeggi 2011, Biancalana 2014). Incubation lasts ~22 days, and young birds remain in the nest for ~44 days (Passeggi 2011, Biancalana 2014).

On Hispaniola, the White-collared Swift has long been con-

¹Cornell Lab of Ornithology, Bird Population Studies, Cornell University, Ithaca, NY 14853, USA; ²Department of Biological Sciences, University of Alabama, Tuscaloosa, AL 35487, USA; e-mail: n.a.gilbert92@gmail.com. Full list of author information is available at the end of the article.

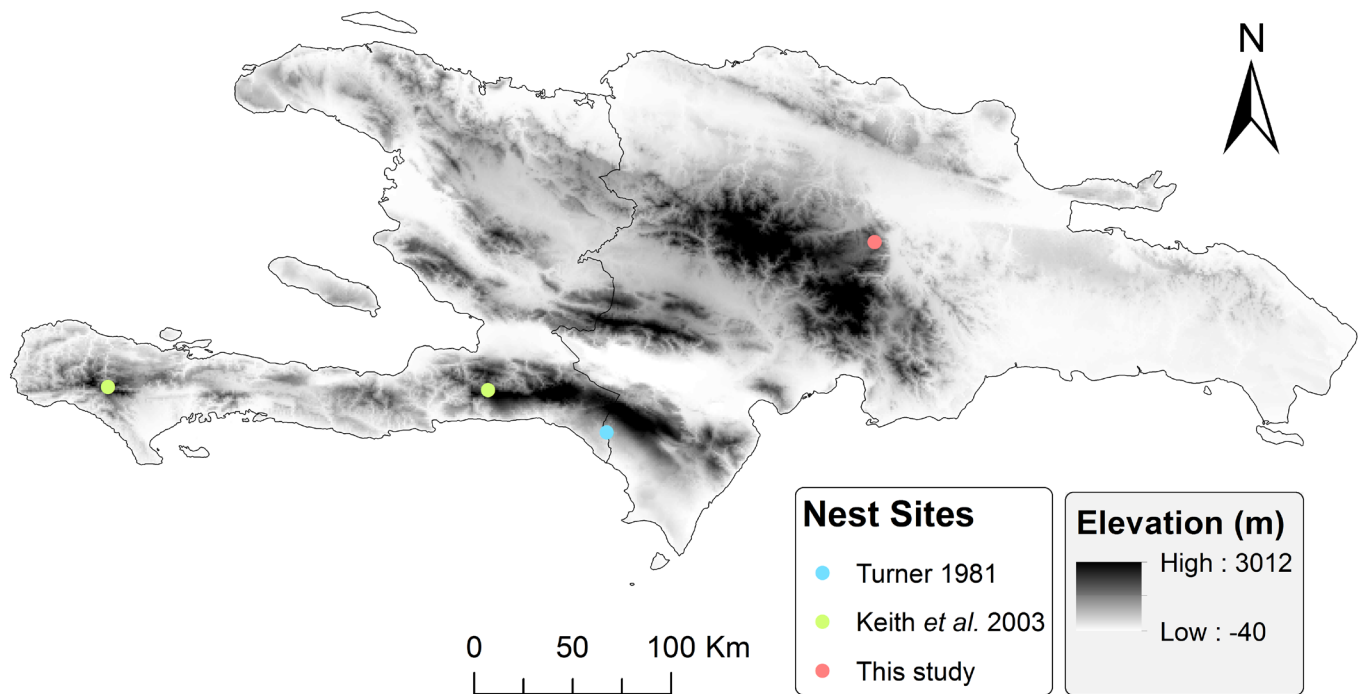


Fig. 1. Hispaniola, showing the locations of White-collared Swift nests reported in Keith *et al.* (2003) from Haiti (green) and Turner (1981) from Río Mulito near Pedernales, Dominican Republic (blue), and our observation from La Reserva Científica Ébano Verde, Dominican Republic (red). Note that all locations are at mid- to high-elevation sites on the edges of high mountain ranges.

sidered a common breeding resident (Danforth 1929, Latta *et al.* 2006), yet there is an almost complete lack of documented breeding activity. Indeed, only three nesting sites have been described for the island. In the Dominican Republic, the only described nesting site is a small waterfall in Río Mulito in the Pedernales province, where single nests were observed in 1975 and 1979 (Fig. 1; Turner 1981). In Haiti, two unpublished reports from the mid- to late 20th century describe nesting sites in Parc National La Visite and Parc National Pic Macaya (Fig. 1; Keith *et al.* 2003). The closely related Black Swift (*Cypseloides niger niger*) is more broadly distributed through the Caribbean and also breeds in Hispaniola (Latta *et al.* 2006, Gunn *et al.* 2013, Villard and Ferchal 2013). We know of two nesting sites of the Black Swift in Hispaniola: within La Reserva Científica Ébano Verde and near Los Arroyos in La Sierra de Bahoruco in the Pedernales province (E. Fernandez pers. comm.). Anecdotal evidence suggests that the number of nests has dwindled at the Ébano Verde site (E. Fernandez pers. comm.).

Observation

Our observation occurred on 16 March 2016 in La Reserva Científica Ébano Verde, a 30-km² protected area located on the northeast side of Cordillera Central in the La Vega and Monseñor Nouel provinces of the Dominican Republic (Holmes 2014). While hiking the Arroyazo Sendero de Nubes trail, at 1030 we reached a waterfall along the trail (19°02'15.2"N, 70°31'34.9"W), viewable from a small wooden platform. The waterfall was short and narrow (~5 m drop, ~2 m wide), shaded by broadleaf canopy, and shrouded by overhanging vegetation (Fig. 2). While standing on the platform, we heard the distinctive *cree-cree-cree* call of a nearby White-collared Swift. Within a few minutes, MRAE

witnessed a single swift fly up the ravine and land on the mossy, undercut cliff within several meters of the waterfall. This portion of the cliff was dark, damp, and partially obscured by overhanging vegetation. As we watched the bird, it began climbing the cliff face, drawing our attention to a second White-collared Swift, possibly the source of the call heard prior to the arrival of the first individual.

NAG and JBL descended into the ravine and waded upstream for a better view and to photograph the birds. Upon arriving at the pool at the base of the waterfall, an adult White-collared Swift was seen clinging to a wet mossy bank ~3 m above the pool (Fig. 3). A second bird was clinging to a nest recessed into the exposed earthen bank to the left of the waterfall. The bird's posture upon our arrival did not suggest incubation or brooding behavior. As we approached, the birds exhibited wing-raising alarm displays and crawled a short distance (< 1 m) away from the nest structure (Fig. 4). We approached within ~12 m of the birds, at which point both flushed. One flew to the cliff on the opposite side of the waterfall while the second flew weakly, barely clearing the surface of the water before joining the first bird on the cliff. After the birds had moved, we observed the nest more closely but were unable to determine its contents. The nest—approximately 2 m from flowing water—was a small, cup-like structure built primarily from moss and raised mud, set inside a dark and wet recess on an earthen bank covered with moss and seedlings (Fig. 5). We promptly returned to the trail to avoid disturbing the birds further.

We continued to observe the two swifts for ~30 min from a distance. Initially, we thought that the first bird was an adult attending a well-developed juvenile. However, upon comparing our photographs (Figs. 3 and 4) to illustrations of juvenile swifts

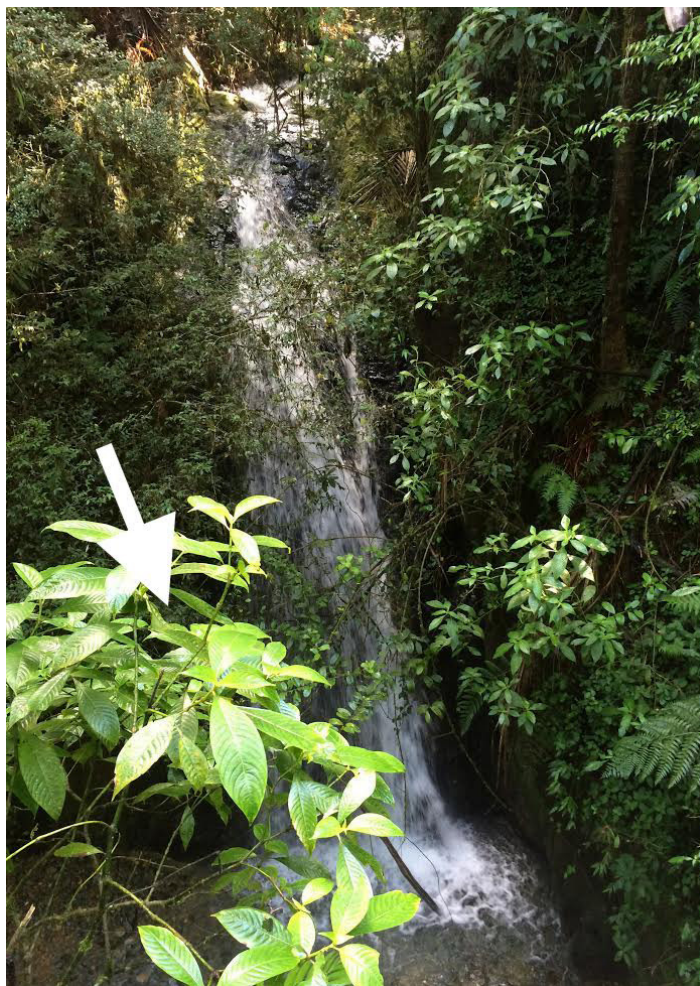


Fig. 2. The waterfall in La Reserva Científica Ébano Verde where we observed White-collared Swift breeding activity. The waterfall is easily viewable from the trail and a small wooden platform adjacent to the trail. The nest (approximate location shown with white arrow) was located behind the shrub with large lime-green leaves in the foreground of this photo, on the left side of the waterfall. Photograph by AEJ.



Fig. 3. One White-collared Swift clinging beside the waterfall after flying from the nest site. Photograph by JBL.

depicted in Biancalana (2014), we concluded that both birds were adults. We suspect the swifts were prospecting for a nest site or possibly building or repairing their nest. This interpretation of the observation aligns more closely with the breeding phenology of White-collared Swifts described in other locations in the northern hemisphere, with clutch initiation reported to begin in mid-April (Rowley and Orr 1962, Turner 1981, Whitacre 1989, Chantler *et al.* 2016).

Discussion and Future Research

To better understand the breeding status and population trends of this species, we recommend the discovery and monitoring of additional nesting sites on the island. Because swifts demonstrate such extreme fidelity to nest sites, it is imperative to protect existing sites from destruction or disturbance due to activities such as recreation and manipulation of river morphology. Although sites such as Ébano Verde enjoy protection, other landscapes in the Dominican Republic and Haiti have suffered extreme degradation, and no management plans currently exist for threatened species or habitats on the island (Latta and Fernandez 2005, Holmes 2014).

Furthermore, population trends of the White-collared Swift in Hispaniola and throughout the species' range are unknown. Many aerial insectivore species in North America are thought to be declining (Nebel *et al.* 2010, Fraser *et al.* 2012, Pomfret *et al.* 2014). Although the current population trend of the White-collared Swift is considered "stable" (BirdLife International 2016), more accurate estimates of population trends are needed to determine if this species is yet another aerial insectivore in decline. A broader understanding of the breeding habits and status of the White-collared Swift in Hispaniola will equip scientists and conservationists in the Caribbean with the knowledge necessary to ensure that this charismatic swift remains a common feature of the island's avifauna.

Acknowledgments

We thank the following individuals for sharing their insights on the status of White-collared Swifts in Hispaniola: Steven Latta,



Fig. 4. The two White-collared Swifts clinging to the cliff adjacent to the waterfall. The nest is just outside the frame to the left. Photograph by JBL.



Fig. 5. White-collared Swift nest structure observed to the left of the waterfall. We observed at least one of the two individuals on the nest and in the recess. The white arrows indicate the mossy cluster (upper arrow) atop a raised platform of mud (lower arrow). Photograph by JBL.

Chris Rimmer, James Goetz, Eladio M. Fernández, and C. Justin Proctor. We thank Steven Latta, Pascal Villard, and an anonymous reviewer for providing valuable feedback that improved the manuscript. JBL was supported by an Eleanore Stuart Graduate Fellowship from the Cornell Lab of Ornithology. JBL sincerely thanks the Cornell Lab of Ornithology Athena Fund for funding his research and the travel expenses of NAG, MRAE, AEJ, and KLK.

Author Information

¹Cornell Lab of Ornithology, Bird Population Studies, Cornell University, Ithaca, NY 14853, USA; ²Department of Biological Sciences, University of Alabama, Tuscaloosa, AL 35487, USA; e-mail: n.a.gilbert92@gmail.com; ³e-mail: angelucci18@gmail.com; ⁴e-mail: amyejanik@gmail.com; ⁵e-mail: kiera.kauffman@gmail.com; ⁶Department of Neurobiology and Behavior, Cornell University, Ithaca, NY 14853, USA; e-mail: jbl96@cornell.edu

Literature Cited

- Beason, J.P., C. Gunn, K.M. Potter, R.A. Sparks, and J.W. Fox. 2012. The Northern Black Swift: migration path and wintering area revealed. *Wilson Journal of Ornithology* 124:1–8.
- Biancalana, R.N. 2014. Breeding biology of the White-collared Swift *Streptoprocne zonaris* in southeastern Brazil. *Revista Brasileira de Ornitologia* 22:341–346.
- BirdLife International. 2016. *Streptoprocne zonaris*. The IUCN Red List of Threatened Species 2016:e.T22686476A93113414.
- Chantler, P., G.M. Kirwan, E. de Juana, P. Boesman, and E.F.J. Garcia. 2016. White-collared Swift (*Streptoprocne zonaris*). In *Handbook of the Birds of the World Alive* (J. del Hoyo, A. Elliott, J. Sargatal, D.A. Christie, and E. de Juana, eds.). Lynx Edicions, Barcelona, Spain. www.hbw.com/node/55260.
- Collen, B., M. Ram, T. Zamin, and L. McRae. 2008. The tropical biodiversity data gap: addressing disparity in global monitoring. *Tropical Conservation Science* 1:75–88.
- Danforth, S.T. 1929. Notes on the birds of Hispaniola. *Auk* 46:358–375.
- Fraser, K.C., B.J.M. Stutchbury, C. Silverio, P.M. Kramer, J. Barrow, D. Newstead, N. Mickle, B.F. Cousens, J.C. Lee, D.M. Morrison, T. Shaheen, P. Mammenga, K. Applegate, and J. Tautin. 2012. Continent-wide tracking to determine migratory connectivity and tropical habitat associations of a declining aerial insectivore. *Proceedings of the Royal Society B* 279: 4901–4906.
- Gunn, C., J.B. Beason, K. Potter, and M. Webb. 2013. Black Swift (*Cypseloides niger*). In *Neotropical Birds Online* (T.S. Schulenberg, ed.). Cornell Lab of Ornithology, Ithaca, NY. doi: [10.2173/nb.blkswi.01](https://doi.org/10.2173/nb.blkswi.01).
- Holmes, G. 2014. Defining the forest, defending the forest: political ecology, territoriality, and resistance to a protected area in the Dominican Republic. *Geoforum* 53:1–10.
- Keith, A.R., J.W. Wiley, S.C. Latta, and J.A. Ottenwalder. 2003. The Birds of Hispaniola: Haiti and the Dominican Republic. *British Ornithologists' Union Checklist Series* 21.
- Lack, D. 1956. A review of the genera and nesting habits of swifts. *Auk* 73:1–32.
- Latta, S.C. 2012. Avian research in the Caribbean: past contri-

- butions and current priorities. *Journal of Field Ornithology* 83:107–121.
- Latta, S.C., and E. Fernandez. 2005. Avian conservation planning in the Caribbean: experience and recommendations from the Dominican Republic. Pp. 254–257 in *Bird Conservation Implementation and Integration in the Americas: Proceedings of the Third International Partners in Flight Conference* (C.J. Ralph and T.D. Rich, eds.). USDA Forest Service General Technical Report PSW-GTR-191. Pacific Southwest Research Station, USDA Forest Service, Albany, CA.
- Latta, S.C., C. Rimmer, A. Keith, J. Wiley, H. Raffaele, K. McFarland, and E. Fernandez. 2006. *Birds of the Dominican Republic and Haiti*. Princeton University Press, Princeton, NJ.
- Martin, L.J., B. Blossey, and E. Ellis. 2012. Mapping where ecologists work: biases in the global distribution of terrestrial ecological observations. *Frontiers in Ecology and the Environment* 10:195–201.
- Nebel, S., A. Mills, J.D. McCracken, and P.D. Taylor. 2010. Declines of aerial insectivores in North America follow a geographic gradient. *Avian Conservation and Ecology* 5(2):1.
- Passeggi, J.M. 2011. First description of the breeding chronology of the White-collared Swift (*Streptoprocne zonaris*) in Argentina. *Wilson Journal of Ornithology* 123:613–618.
- Pichorim, M., J.J. Roper, and E.L.A. Monteiro Filho. 2009. Experimental study of nest-site selection in the Biscutate Swift (*Streptoprocne biscutata*, Aves: Apodidae) in Southern Brazil. *Biotropica* 41:81–84.
- Pomfret, J.K., J.J. Nocera, T.K. Kyser, and M.W. Reudink. 2014. Linking population declines with diet quality in Vaux's Swifts. *Northwest Science* 88:305–313.
- Rajchard, J., J. Procházka, and P. Kindlmann. 2006. Long-term decline in Common Swift *Apus apus* annual breeding success may be related to weather conditions. *Ornis Fennica* 83:66–72.
- Roper, E.M. 2011. White-collared Swift (*Streptoprocne zonaris*). In *Neotropical Birds Online* (T.S. Schulenberg, ed.). Cornell Lab of Ornithology, Ithaca, NY. doi.org/10.2173/nb.whcswi.01.
- Rowley, J.S., and R.T. Orr. 1962. The nesting of the White-naped Swift. *Condor* 64:361–367.
- Turner, A.G. 1981. First nest record of Collared Swift in the Greater Antilles. *American Birds* 35:912.
- Villard, P., and A. Ferchal. 2013. The Black Swift (*Cypseloides niger*) nesting in Guadeloupe. *Journal of Caribbean Ornithology* 26:44–47.
- Whitacre, D.F. 1989. Conditional use of nest structures by White-naped and White-collared Swifts. *Condor* 91:813–825.

Cite this article as:

Gilbert, N.A., M.R.A. Eshleman, A.E. Janik, K.L. Kauffman, and J.B. LaPergola. 2018. A rare observation of White-collared Swift (*Streptoprocne zonaris*) breeding activity on Hispaniola. *Journal of Caribbean Ornithology* 31:12–16.