Rapid Beak-swinging Locomotion in the Puerto Rican Spindalis

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ABSTRACT.—We observed a Puerto Rican Spindalis (Spindalis portoricensis, Thraupidae) rapidly move through an area of dense vines by grasping vines in its beak and swinging from vine-to-vine without the use of its wings or feet. This behavior appears to be unique in birds. Received 8 August 2005, accepted 24 April 2006.

The Puerto Rican Spindalis (Spindalis portoricensis, Thraupidae) is a moderate-sized (16.5 cm) tanager endemic to Puerto Rico and its eastern islands. It occurs commonly, but rather sporadically (Bunkley-Williams and Williams 2000), in forests and woodlands at all elevations throughout Puerto Rico (Raffaele 1989, American Ornithologists’ Union 1998).

At 10:00 EST on 11 April 2005, EHW observed an adult female Puerto Rican Spindalis on the outskirts of the University of Puerto Rico Campus in Mayaguez, Puerto Rico (18°12.85’N, 67°08.35’W; elevation 37 m). The bird flew into a large grove of trumpet trees (Cecropia schreberiana, Cecropiaceae) 3 m away from the observer; because the ground sloped downward steeply towards and into the grove and the bird flew from upslope, the bird entered the trees at a height of approximately 6 m without changing its altitude. It flew into an area (~1.5 × 2 m) of densely-packed (~2–10 cm apart), fine-stemmed (4–7 mm in diameter) pudding vines (Cissus verticillata, Vitaceae) hanging from a trumpet tree. The vines were denuded of leaves due to a 2-month-long drought. Without slowing, landing, or hovering, the bird grasped one of the vines in its beak, ceased flying, and its momentum swung it into the dense vines. Then it released the first vine and, dropping a few centimeters, grasped a second vine. The bird repeated this action moving to a third, and then a fourth, vine. In this manner, it passed completely through a 1.5-m-wide area of densely packed vines in less than 4 sec without flapping its wings or using its feet to grasp the vines. Without hesitating or stopping, the bird then flew further into the grove of trees.

Rapid, beak-swinging locomotion apparently has not been described for this species, or for any other species that we have been able to determine. Leck (1972) did not report this behavior while observing Puerto Rican Spindalis in trumpet trees in Puerto Rico, and Isler and Isler (1987) did not note it in any of their tanager accounts. However, Garrido et al. (1997) suggested that very little is known about the behavior of Spindalis spp.

The described behavior allowed the bird to move through densely packed vines where wings could not be used for support or locomotion. The bird did not appear to feed on anything within the vines, was not being pursued by a predator, and did not collect any nesting material. The behavior did not appear to be a mechanism of accident avoidance (i.e., crashing into the dense vines), as it was too rapid, smoothly coordinated, and complicated.

Birds will sometimes use their beaks to aid locomotion on land (e.g., Turkey Vultures: Vogel 1950; Red-tailed Tropicbirds and White-tailed Tropicbirds: Lee and Walsh-McGehee 1998). Birds are also able to support their body weight with, and swing from, their beak while grasping onto something with it (e.g., Law 1926, Brazil 2002). Birds that hang from perches (chickadees and titmice, Paridae; cockatoos, Cacatuidae; kinglets, Sylviidae; lories, Loriidae; parrots, Psittacidae) are well known to use their bill as a “third foot” to assist in climbing, but unlike what we observed, it is a relatively slow action (Zeefer and Lindhe Norberg 2002) and the feet are used. Although it has been established that birds may exhibit a rapid, swinging locomotion with the aid of their wings and feet (e.g., Potter 2003), our observation should alert oth-
ers to look for additional cases of swinging locomotion without the use of the wings and feet, in both the Puerto Rican Spindalis and in other species.

ACKNOWLEDGMENTS

We thank G. J. Breckon for identifying vegetation mentioned in this manuscript, and A. R. Lewis for reviewing this note. The comments of three anonymous reviewers also improved the paper.

LITERATURE CITED


