ORNITOLOGIA NEOTROPICAL 17: 589–592, 2006

THE NEST, EGGS, AND NESTLINGS OF THE RUFOUS-HEADED PYGMY-TYRANT (*PSEUDOTRICCUS RUFICEPS*) IN SOUTHEASTERN ECUADOR

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El nido, huevos y pichones del Tirano Enano Cabecirrufo (*Pseudotriccus ruficeps*) en el sureste del Ecuador.

Key words: Egg, nest, nestling, water-loss, incubation period, Andes, cloud forest, Rufous-headed Pygmy-Tyrant, *Pseudotriccus ruficeps.*

The genus *Pseudotriccus* includes three species of in-forest tyrannids, usually associated with the undergrowth of mature cloud forest (Ridgely & Tudor 1994, Fitzpatrick 2004). Almost nothing has been reported on their breeding biology except for a recent report on the nest of the Bronze-olive Pygmy-Tyrant (*P. pelzelni*) (Greeney *et al.* 2005).

I made observations at two nests of the Rufous-headed Pygmy-Tyrant (*P. ruficeps*) at the Tapichalaca Biological Reserve (04º30S, 79º10W, 2600 m elev.), located north of Valladolid in the southeastern Zamora-Chinchipe Province of Ecuador. The first was found on 8 October at 13:30 h (EST), at which point it contained a single cold egg. The egg was slightly slimy and wet, and likely laid that morning based on similar observations for Streak-necked Flycatchers (*Mionectes striaticollis*) (Greeney unpubl.). It weighed 2.066 g and measured 19.5 by 14.0 mm. At 17:00 h the following day, the nest still contained one egg and, at 09:30 h on 10 October, I discovered the second and final egg which was slimy at this time. The first egg now weighed 2.06 g and the second weighed 2.11 g and measured 19.4 by 14.2 mm. Both eggs were weighed periodically during incubation and the rate of mass-loss was calculated between weighings. Egg weights and mass-loss (= water-loss; Ar 1991) rates are given in Figure 1. Egg # 1 lost 18% of its mass by day 23 and egg # 2 lost 13%. From the laying of the second egg, both eggs lost mass at an average rate of 0.013 ± 0.006 g per day. I discovered the second nest on 11 October, at which time it contained two partially incubated eggs. They measured 17.8 by 14.7 mm and 18.6 by 15.5 mm, respectively. All four eggs were immaculate white. The eggs at the first nest hatched on 4 November, giving an incubation period of 25 days from the laying of the last egg.

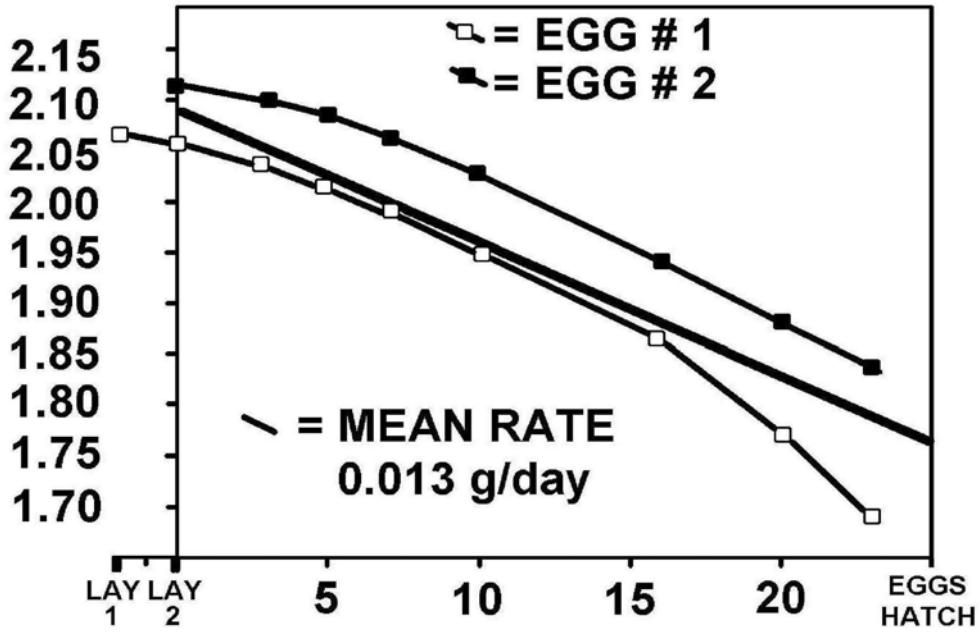

FIG 1. Rates of mass-loss for both eggs from a single clutch of Rufous-headed Pygmy-Tyrant (*Pseudotriccus ruficeps*) from southeastern Ecuador. Weight (g) shown on Y axis and day of incubation (after laying of the last egg) shown on the X axis. Average rate of mass-loss (g/day) calculated across entire period and averaged for both eggs, shown as solid line.

Nests. Both nests were neat mossy, oven shaped structures, similar to that described for the Bronze-olive Pygmy-Tyrant (Greeney *et al.* 2005) but overall neater. They had side entrances, located in the upper halves of the nest structures, which entered into chambers thinly lined with dead *Chusquea* sp. bamboo leaves. Inside these layers of leaves were neat cups of dry moss, sparsely lined with feathers of other species. Both nests included at least a few breast feathers of Barred Fruiteaters (*Pipreola arcuata*). One was attached to a small sapling and the other at the point on a woody vine where it forked (vine attached to the ground below and a tree above), but neither was actually attached to the substrate. Instead they appeared to have been built into a pre-existing clump of moss growing on the substrate. They were 1.1 and 1.3 m above the ground, and 14 and 1 m away from small (< 1 m wide) streams. Measurments of the first nest were: outside height, 16 cm; outside width, 12 cm; outside front to back, 12 cm; opening width, 4.5 cm; opening height, 5 cm; inside chamber height, 9 cm; inside chamber width, 9 cm; egg cup diameter inside, 5 cm; and egg cup depth, 4 cm.

Nestlings. Upon hatching, nestlings were pink, slightly orange-tinged, and bore long dark-grey down on the dorsum. The gape was pale yellow-white with a bright yellow mouth lining. When compared to nestlings of Bronze-olive Pygmy-Tyrant (Greeney *et al.* 2005), the down seemed slightly longer and the gape paler yellow, but they were otherwise very similar.

Other observations. While the Rufous-headed Pygmy-Tyrant is monomorphic, from careful observations at both nests I believe that only one adult incubated. Upon hatching of the first nest, however, two adults were observed feeding nestlings. One egg of the second nest hatched on 21 October, after 10 days, while the second was unhatched at 06:00 h the following day. At this time, while a video camera was recording behavior at the nest, the adult attempted to leave the nest but apparently became entangled in the lining of the egg cup. It flapped violently for a few momments, dumping the nestling and remaining egg onto the ground. When my field assistant returned at 10:00 h, there was no sign of egg, nestling, or adults. I found the first nest empty but undisturbed 12 days after hatching of the young, whom I last observed in the nest two days prior. While there were no signs of disturbance at the nest, wing pin feather sheaths were unbroken 10 days after hatching and I do not belive the nest was successful.

Conclusions. Like that of its congener, the Bronze-olive Pygmy-Tyrant (Greeney *et al.* in review), Rufous-headed Pygmy-Tyrant nests were attached to thin vertical supports and built into an existing substrate (moss). Unlike the only known nest of Bronze-olive Pygmy-Tyrant, however, the nests observed here were made of a variety of materials. While Greeney *et al.* (2005) were unable to closely examine the nest of Bronze-olive Pygmy-Tyrant, and sample sizes for both species are low, the complexity and additional lining materials seen in nests of Rufous-headed Pygmy-Tyrant may reflect its higher (and cooler) elevational distribution (Ridgely & Tudor 1994, Fitzpatrick 2004). Both described *Pseudotriccus* nests differ from the bulky oven-shaped nests on the ground of *Corythopis* antpipits (Oniki & Willis 1980, Simon & Pacheco 1996), currently considered closely related to *Pseudotriccus* (Fitzpatrick 2004). Instead, the nests of both species resemble the mossy, non-pendant nests of *Hemitriccus*, *Camptostoma*, *Zimmerius*, and *Phylloscartes* (Fitzpatrick 2004), drawing into doubt the close relationship of *Corythopis* and *Pseudotriccus* based on nesting behavior. While scant data are available for comparison, an incubation period of 25 days is considerably longer than the 14–16 day incubation periods reported for *Euscarthmus*, *Pseudelaenia*, and *Stigmatura* (Fitzpatrick 2004).

ACKNOWLEDGMENTS

I thank R. C. Dobbs, N. Krabbe, & R. S. Ridgely for their help and support. Thank you to C. Rombough for help in the field. This study was funded in part by the following: a Rufford Award, a Pamela and Alexander F. Skutch Award, the Jocotoco Foundation, and by Ruth Ann and John V. Moore. The PBNHS continues to contribute to the support of my field research. This is publication number 106 of the Yanayacu Natural History Research Group.

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Accepted 3 May 2006.