

NOTES ON BREEDING BIRDS FROM THE CUYABENO FAUNISTIC RESERVE IN NORTH EASTERN ECUADOR

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Despite the growing literature available on the natural history of the Ecuadorian avifauna (Freile 2005), even common and widely distributed species have little information available for someone wishing to initiate field studies in any given part of Ecuador. While we were able to find a significant amount of breeding information by sifting through the numerous trip reports for bird tours available on the World Wide Web and compiled by the many talented bird guides working in Ecuador, these data have not been formally published and consolidated into a form useful for researchers. Here we present brief observations on breeding birds made while guiding tours at the Cuyabeno Faunistic Reserve. The following observations were made in our spare time, with the aid of cheap video recorders, around the Laguna Grande (0° 02' N, 76° 12' W). We hope the dissemination of this small effort encourages other naturalists and guides, who spend many hours in the field, to make their own observations available in a similar manner. Nesting records are given in taxonomic order following Ridgely & Greenfield (2001).

Species accounts

STRIATED HERON

Butorides striatus

We found the first nest at 14:45 hours on 30 August 2003, at which time an adult flushed from the nest which contained two all sky-blue eggs. The eggs measured 35.9 by 28.0 and 36.2 by 28.0 mm. The nest was the typical shallow stick cup and measured 40-50 cm wide by 8-10 cm tall outside, with an inner depression 20 cm wide by 4-5 cm deep. Sticks in the nest were 20-40 cm long and *ca.* 0.5-5 mm in diameter. The nest was 70 cm above the water saddled over the intersection of multiple branches. During the few days that we observed the nest, the adult consistently flushed when an observer approached to within 10 m. On 31 August we filmed the nest for 243.5 min from 06:45 to 11:00 hours. During this time the egg was covered for 91.7% of the time, but we were unable to determine if both sexes incubated since they were never at the nest together. Mean duration of three complete on bouts (\pm SD) was $69 \pm$

55 min, and mean period the nest was left unattended ($n = 3$) was 4.7 ± 2.7 min. We did not include several brief on and off bouts caused by human disturbance near the nest towards the end of the filming period. While at the nest, the adult(s) spent 1.9% of its time engaged in activities other than motionless vigilance. Occasionally it would preen (1.3 times/h; mean duration = 10 ± 5 s). On other occasions ($n = 9$), the adult grasped a stick from the nest in its bill and vibrated its head backwards and forwards in a sewing machine-like fashion, shaking the stick and the entire nest. While at the nest, all bouts of non-vigilant movement lasted 21 ± 11 s ($n = 12$).

While we still have too little information to speculate in detail about the function of the observed vibrating motion, it is most certainly the same motion which has been termed "rapid probing" or "tremble thrusting" in other species (Haftorn 1994, Greeney 2004). It is widespread in both temperate and tropical passerines (see Haftorn 1994 and Greeney *et al.* 2006 for additional references), and several functions have been hypothesized, including egg rolling, nest cleaning, and parasite removal (e.g., Haftorn 1994, Dobbs *et al.* 2003, Greeney & Sornoza 2005). In addition, for both a large passerine (Long-wattled Umbrellabird *Cephalopterus penduliger*; Greeney *et al.* 2006) and for a guan (Sickle-winged

Guan *Chamaepetes goudotii*; Greeney & Erazo 2005), this movement is thought to aid in strengthening the nest structure by vibrating loose sticks into a tighter formation. Rapid probing in the Striated Heron observed here was not directed near the eggs, and did not function to roll them. There was little, if any, debris in the nest, and the adult never appeared to examine the nest or peck at potential parasites as described for various antpittas (e.g., Dobbs *et al.* 2003, Greeney & Martin 2005). We feel this is an interesting, widespread, but under-reported behavior which may show interesting adaptive and phylogenetic patterns, and we encourage others to publish any observations on this behavior.

We found the second nest on 31 August 2003, at which time it contained two partially grown nestlings (Fig. 1). Upon our approach, both nestlings stretched their necks upwards, pointing their bill towards the sky, in what is presumably a thread display and which we have seen performed by the adults of several heron species. The nest was 1.6 m above the water under a large *Macrolobium* (Leguminaceae) branch in a cavity-like protected area created by a mass of epiphytes hanging under the branch. Measurements were similar to the first nest. The tarsus of one nestling measured 17.6 mm and that of the other, 17.0 mm.



Figure 1. Two nestlings, one performing a presumed threat display, at a nest of *Butorides striatus* at Cuyabeno Faunistic Reserve, eastern Ecuador, 31 August 2003. Photo by H. F. Greeney.

BLACK THROATED MANGO

Anthracothorax nigricollis

On 30 August 2003 we found a nest with two all-white eggs situated 2 m above the water. The nest was saddled over a 2.7 cm diameter horizontal limb of an isolated *Macrobium* tree canopy emerging from the middle of the lake. The eggs measured 15.3 by 9.5 mm and 14.7 by

9.6 mm. The nest was a small, lichen-encrusted cup, of pale brown seed down (Fig. 2). The nest measured 28 mm tall outside by 39 mm wide. Inside the egg cup was 13 mm deep and 26 mm wide. From 11:15 to 13:15 hours the eggs were covered by the female for 88% of the time in 3 bouts averaging (\pm SD) 39 \pm 9 min. The weather conditions during the observation period were extremely hot and sunny and, while sitting on the

eggs the female spent 7% of its time with its bill partially open, presumably gaping to thermo-regulate. The incubating female opened its bill 24 times during 98 min of incubation for an average (\pm SD) of 28 ± 4 sec each time. One interesting observation we made, which has, in fact, been observed in another species of *Anthracothorax* (Green-breasted Mango, *A. prevostii*; Calderón-F. 2005), was the presence of *Pseudomyrmex* ants in the nesting tree. We did not take specific notes concerning the ants, but were stung several times while examining the nest. Our observations were not as detailed as

those of Calderón-F. (2005), but the same genus of ant associated with the same genus of hummingbird certainly deserves more careful observations of further nests of this genus.

While these are the first details of the breeding of this species for Ecuador, breeding biology of the Black-throated Mango has been well studied in Trinidad (Quesnel 2002 and references therein). In Colombia, breeding condition birds have been reported nearly year-round in Colombia (Olivares 1963, Olivares & Hernandez 1962, Hilty & Brown 1986).



Figure 2. A nest of *Anthracothorax nigricollis* containing two eggs at Cuyabeno Faunistic Reserve, eastern Ecuador, 30 August 2003. Photo by H. F. Greeney.

LESSER KISKADEE

Pitangus lictor

On 30 August 2003 we discovered a nest with two partially developed eggs. The eggs were creamy white with brown and lavender flecking and blotching; both with markings heaviest at the larger end, one with the markings forming a ring. They measured 20.7 by 15.6 and 20.9 by 15.5 mm. The untidy cup nest of twigs and thick pale rootlets was slightly oblong and tipped at nearly a 45° angle such that the eggs rested precariously to one side. It measured 9.5 by 11 cm (measured at perpendicular angles) outside, with an additional 5-15 cm of stray sticks and rootlets poking in all directions. Inside, the unlined egg cup measured 8 by 5 cm wide and 3.5 cm deep. The nest was situated over the water 1.6 m up in the outer crown of a water-isolated *Macrobium* tree.

When the nest was approached, the adult flushed while

we were 3 m away (n = 2). As it left the nest it flew with a peculiar slow, floppy, dipping flight as if injured. It would then perch 5-10 m away and call repeatedly while we were in the area. The breeding of this widespread species has been fairly well documented (e.g. Haverschmidt 1968, Willis & Eisenmann 1979), and our observations are similar to those previously reported.

WHITE-WINGED SWALLOW

Tachycineta albiventer

We found a single nest of this species on 30 August 2003, which contained three young nestlings with their eyes still unopened. The nest was 30 cm inside a hollow *Macrobium* branch, tipped upwards at roughly a 30° angle. The entrance was 6 cm in diameter and 0.6 m above the water's surface. The entire end of the chamber was thickly lined with large feathers (of species other than the swallow) and sparse seed down (Fig. 3).



Figure 3. A nest of *Tachycineta albiventer* containing three young nestlings at Cuyabeno Faunistic Reserve, eastern Ecuador, 30 August 2003. Photo by H. F. Greeney.

RED-CAPPED CARDINAL

Paroaria gularis

On 30 August 2003, we found a single nest containing three eggs (Fig. 4), only 30 cm above the water, in the roots of a *Macrolobium* tree isolated by high waters. The eggs were dull olive-brown with dense dark brown flecking and splotching, heaviest around the larger end. Average measurements (\pm SD) were 21.6 ± 0.5 by 16.0 ± 0.1 mm. The nest was a thin-walled open cup, suspended between four roots at various angles. It was constructed of rootlets, thin, flexible twigs, and attached to the substrate by spider webs and seed down. Additionally, woven through the structure, and wrapped around the supports, were several live vine-like

ferns (cf. *Microgramma*, Polypodiaceae). The inner cup was sparsely lined with red-brown rootlets. Overall, the nest measured 9.5 cm wide by 7 cm tall outside, and 7 cm wide inside by 4 cm deep. The nest was videotaped from 11:15 to 13:15 on 31 August. During this time, the eggs were covered for only 34% of the time in bouts averaging 10 ± 6 min. Hilty & Brown (1986) reported breeding activity in June from Colombia and breeding in Venezuela occurs from June to September (Cherrie 1916, Thomas 1979). Apparently the only breeding information available for Ecuador is a nest with eggs in August and an adult feeding a fledgling Shiny Cowbird (*Molothrus bonariensis*), both from just south of Cuyabeno (Greeney *et al.* 2004).



Figure 4. A nest of *Paroaria gularis* containing three eggs at Cuyabeno Faunistic Reserve, eastern Ecuador, 30 August 2003. Photo by H. F. Greeney.

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