

Notes on the Behavior of *Ramphotrigo*n Flycatchers

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Virtually nothing has been written about the biology of the three South American flycatchers of the genus *Ramphotrigo*n, the Dusky-tailed Flatbill (*R. fuscicauda*), the Rufous-tailed Flatbill (*R. ruficauda*), and the Large-headed Flatbill (*R. megacephala*). Particularly lacking is information on their nesting behavior, a character that has proven useful in tyrannid systematics at the generic level (Traylor 1977, Lanxon and Fitzpatrick 1983). In this paper I briefly describe nests of the three *Ramphotrigo*n and present information on their general behavior and habitat.

Most observations were made from 1977 to 1982 on the Tambopata Reserve (250 m), a government-protected area of 5,000 ha along the south bank of the Río Tambopata, about 30 km southwest of Puerto Maldonado, Department of Madre de Dios, southeastern Peru. This area is characterized by generally flat, forested land of two types: low-lying, seasonally flooded forest bordering rivers and oxbow lakes, and upland, well-drained *terra firme* forest. The canopy in both types averages 20–30 m in height, and a well-developed understory of short trees and palms occurs throughout the area. Bamboo thickets are scattered through the low-lying, poorly-drained forest. Relevant to the nesting of the resident birdlife of the region is the markedly seasonal distribution of rainfall. Frequent heavy rains fall from mid-October to mid-May, while the rest of the year is normally quite dry, with only occasional light to heavy showers of short duration. This pattern holds from central Peru to southern Brazil.

The Dusky-tailed Flatbill (*Ramphotrigo*n *fuscicauda*) is known from a few widely scattered localities in the upper Amazon basin, from southeastern Colombia (Fitzpatrick and Willard 1982) to northern Bolivia (Traylor 1979); fewer than 25 specimens exist in museums. On the Tambopata Reserve this species is uncommon and restricted to low-lying forest, where it prefers bamboo thickets and adjacent dense, tangled undergrowth near forest borders. O'Neill (1969) reported it from undergrowth of "floodplain forest" at Balta, on the Río Curanja (300 m), Department of Loreto, Peru. At Cocha Cashu (380 m), in Manu National Park, Department of Madre de Dios, Peru, the species is an uncommon resident of vine tangles in forest understory and old, overgrown marshes (Fitzpatrick pers. comm., Terborgh et al. in press). In late September 1982 I observed four *R. fuscicauda* together (a family group?) in and near bamboo undergrowth in hill forest at 900 m near Pilcopata, Department of Cuzco, Peru. In June 1981 J. V. Remsen, Jr. (pers. comm.) found this species to be a low-density inhabitant of hill-forest undergrowth, especially bamboo,

along the Río Beni about 20 km by river north of Puerto Linares (600 m), Department of La Paz, Bolivia. Although more observations are needed, *R. fuscicauda* seems to be one of several bird species confined to floodplain forest in the lowlands but found away from riverine habitats in hilly country along the base of the Andes (Remsen and Parker in press). In some areas, the species may be dependent on bamboo thickets, a habitat to which a surprising number of bird species are restricted (Parker 1982, Parker and Remsen, MS).

The Dusky-tailed Flatbill is normally encountered singly or in pairs, perching from about 2 to 6 m above ground and making short forward and upward flights to snap insects from foliage and branches. It often remains motionless for long periods and is thus quite inconspicuous. I have not seen *R. fuscicauda* associate with the mixed-species flocks that regularly pass through its habitat. Its vocalizations include a mellow, down-slurred whistle that ends with a distinct upward inflection (*péeyooowhée*) and a rapidly uttered *péoooo-ehheh hew-hew-hew-hew* that tapers off in volume at the end. Tape-recordings of these and other vocalizations described in this paper have been deposited in the Library of Natural Sounds, Cornell University.

On 26 October 1981, with Norman Hill, Rose Ann Rowlett, and several members of a natural history tour group, I found a nest of *Ramphotrigo*n *fuscicauda*. It was placed in the bottom of a natural cavity, about 18 cm deep and 0.5 m above the ground, in a broken-off, half-rotten limb protruding upwards from a fallen trunk. After flushing an adult from the nest site, we examined the contents with the aid of a flashlight. The nest consisted entirely of shiny black and blonde mammal hairs. It held two eggs, slightly elliptical in shape and whitish in overall coloration, with indistinct brownish flecks over the large end. While we were near the nest, the adults remained quietly nearby, perching 3–6 m up in bamboo. When we moved 30 m away and were largely obscured by undergrowth, one parent quickly returned to the cavity and entered it after a long, downward swoop of about 3 m. The birds and the nest were then left undisturbed. Unfortunately, we were unable to return to the spot and make additional observations.

Twelve Louisiana State University Museum of Zoology (LSUMZ) specimens of *R. fuscicauda* with fully pneumatized crania (3 from the Río Curanja, Peru and 9 from the Río Beni, Bolivia) ranged in weight from 16.5 to 20.5 g (\bar{x} = 18.6 g). Typical soft-part colors of these specimens were brown iris, black bill, orange mouth lining, and gray tarsi and feet.

The Rufous-tailed Flatbill (*Ramphotrigon ruficauda*) is fairly common in relatively open undergrowth of seasonally flooded forest and, especially, *terra firme* forest on the Tambopata Reserve and in numerous other lowland localities in eastern Peru (pers. obs.). "In Brazil it occurs locally in varzea or other woodland where there is an open understory but fairly continuous canopy of small trees, about 10 m up" (E. O. Willis, in litt.). The species is very similar in behavior and morphology to the Dusky-tailed Flatbill, which prefers denser undergrowth dominated by bamboo and vine tangles; both species occur in close proximity at Tambopata. The Rufous-tailed Flatbill perches from 3 to 10 m above ground and makes upward sallies to the foliage and occasional aerial sallies. It utters a long, mournful whistle that slides up and then down the scale before ending with a slight upward inflection (*whееееurr-ееur*). In quality this call is reminiscent of the whistle of the widespread Dusky-capped Flycatcher (*Myiarchus tuberculifer*). A dawn song heard by E. Willis (in litt.) at Tres Esquinas, Colombia on 22 April 1962 was "an alternating mournful *toooo, reer; whееее-oooh*, the last two notes being like the normal daytime song."

On 8 August 1980, in the middle of the dry season at Tambopata, Arnoud van den Berg discovered a nest of *Ramphotrigon ruficauda* along the main trail on the reserve in *terra firme* forest about 2 m from a small stream. It contained three eggs. Paul Donahue (in litt.) supplied excellent details of the nest and its contents (paraphrased below). The nest was at the bottom of a 15-cm-deep cavity in the end of a moss-covered, broken-off, partially rotten stump that leaned over the edge of the trail at a 45° angle from the ground. The cavity entrance was about 105 mm in diameter and 40 cm above the ground. The nest was composed of "silky milkweed-like material" that overlaid a basal structure of slender twigs a few centimeters long. The eggs were cream-colored "with perhaps a very slight olive cast"; a fragment of one egg recovered from the nest was "heavily covered with smallish alizarin crimson spots." The eggs hatched between 0600 and 1200 on 17 August, 14 days after discovery (Arnoud van den Berg pers. comm.). The hatchlings were covered with long, fluffy, slate-gray down; their gapes were pale yellow, and the basal half of their mandibles was pinkish. Both parents shared in their feeding. Donahue carefully noted the manner in which the adults approached the nest site. Rather than drop directly into the nest from a nearby perch, they descended in stages. Beginning "at about 20 ft up and a bit back from the nest," they would suddenly dart several feet up into the air, as if to hawk an insect, and then drop down to a lower perch closer to the nest. Following a brief pause, they repeated a "mock aerial hawk" and then either descended to yet a closer perch or dropped into the nest itself. Upon leaving the cavity, they occasionally repeated an aerial sally before

continuing to a perch in the undergrowth. Unfortunately, the young disappeared from the nest on 23 August, apparently victims of a predator.

Five LSUMZ specimens of *R. ruficauda* from Peru, all with fully pneumatized crania, ranged in weight from 17.0 to 20.0 g (\bar{x} = 18.6 g). Typical soft part colors were brown iris; black bill, the basal one-third of the mandible being whitish; and gray tarsi and feet.

The Large-headed Flatbill (*Ramphotrigon megacephala*) is spottily distributed through Amazonia, the coastal mountains of southeastern Brazil, and the forests of eastern Paraguay and northeastern Argentina. It is apparently restricted to dense thickets of bamboo (pers. obs.) in all three regions. In winter in southeastern São Paulo, Brazil (Serra do Paranapiacabo), it descends from bamboo zones to dense forest edges without bamboo at the bases of the serras (E. O. Willis pers. comm.). The flatbill is common in bamboo thickets in seasonally inundated forest on the Tambopata Reserve. It shares this habitat to some degree with *R. fuscicauda*, but *R. megacephala* is more confined to bamboo, where it perches 3–8 m up in the open crowns or well-shaded interior of thickets. The species is almost always encountered singly, but it occasionally follows mixed-species flocks that contain antwrens (*Myrmotherula ornata*, *M. leucophthalma*, and *M. iheringi*) and furnariids (*Automolus melanopezus*, *A. ochrolaemus*, and *Simoxenops ucayalae*). The flatbill makes short upward sallies to bamboo foliage and stems and at times sallies for flying insects in openings below the crowns of thickets. Despite these habits, *R. megacephala* is difficult to observe, probably because it perches motionless for long periods. Its call, a two-note, whistled *whu-hoo* (the second syllable being lower than the first) repeated at short intervals, is given almost continuously during the first 3 h of daylight and again late in the afternoon. The dawn song consists of a continuous, rapidly uttered series of these phrases (*whu hu-hoowhip*, *whu hu-hoo-whip* etc.). This song is given during the first 15–20 min of daylight and also late in the afternoon, perhaps just before going to roost (J. W. Fitzpatrick pers. comm.). Both types of *megacephala* vocalizations have a ventriloquial quality.

On 5 November 1979, T. S. Schulenberg discovered a nest of *Ramphotrigon megacephala* at the bottom of a 10-cm-deep cavity in a broken-off, 1-m-high stump of a *Euterpe* palm in the understory of forest near a bamboo thicket on the Tambopata Reserve. The cavity, which opened at the top of the erect stump, was 6.5 cm wide at the mouth. Little if any nest material was noted in the bottom of the hole. It contained two fully feathered nestlings that disappeared on 8 November. "Single grown young birds, calling *whiesp* repeatedly, were fed by single adults on 26 November 1977 and 4 December 1982 in Itatiaia National Park, Rio de Janeiro, Brazil" (E. O. Willis in litt.).

Five *R. megacephala* LSUMZ specimens (from Peru

and Bolivia) ranged in weight from 13.0 to 17.0 g (\bar{x} = 15.3 g). Typical soft part colors of the above specimens were brown iris; black bill, with the basal one-third of the mandible being flesh-colored; and gray tarsi and feet. *Ramphotrigo megalcephala* was previously known from only one locality in Peru (O'Neill 1969), but it has recently been reported from the Alto Río Madre de Dios, Department of Madre de Dios (Terborgh et al. in press).

The only reference that I found to the nesting of any member of *Ramphotrigo* is that of Schönwetter (1968: 109), who gave measurements of two *megalcephala* eggs but did not describe the nest from which they were secured.

The cavity-nesting behavior of *Ramphotrigo* flycatchers may shed light on the taxonomic position of this tyrannid genus. Other "flatbills" (*Rhynchoicyclus* spp.) and flycatchers that are probably related to them (*Tolmomyias* spp.) build hanging, pendant-shaped nests with entrance-ways low on their sides. The habit of laying eggs in natural cavities lined with mammal hair (as in the case of *Ramphotrigo fuscicauda*) resembles that of *Myiarchus* flycatchers. Furthermore, the whistled calls (and dawn song of *R. megalcephala*) are *Myiarchus*-like in quality and pattern. Skeletal and syringeal similarities also support a *Ramphotrigo*-*Myiarchus* relationship (W. E. Lanyon MS).

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The Dwarf Tinamou (*Taoniscus nanus*) of Central Brazil

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In the last 5 yr, we have obtained some information on the Dwarf Tinamou (*Taoniscus nanus*) at the "Reserva Biológica do Roncador" of the Instituto Brasileiro de Geografia e Estatística (IBGE) (approx. 15°55'S, 47°52'W), Federal District central Brazil. Except for Azara (1805), the Dwarf Tinamou has not been studied in the field; Silveira (1967, 1968) reported only on five collected or captive birds from Cristalina (Goiás) and near Brasília.

At the study area, *Taoniscus* is more common in "campos sujos" than in the "cerrado" or bushy savanna. These "campos sujos" are grasslands, with scattered bushes less than 2 m in height and a dense

grass, composed mainly by Graminae (*Axonopus*, *Echinolaena*, *Paspalum*, *Panicum*, *Schizachyrium*, etc.). In this habitat live four other tinamous: *Rhynchotus rufescens*, *Nothura maculosa*, *Nothura minor*, and *Crypturellus parvirostris*. Another species (*Crypturellus undulatus*) occurs nearby, in dry forest.

The Dwarf Tinamou is very small and very difficult to locate, even in open burned-over vegetation and along trails, which are the best places to observe it. We saw only isolated individuals and pairs, never flocks of "a dozen birds" (fide Silveira, 1967). This tinamou seems to be more active in the early morning or in the afternoon, especially after or during drizzles, when individuals come into the open to