Observations on a nest of Russet-winged Spadebill *Platyrinchus leucoryphus* in the Brazilian Atlantic Forest

Marco A. Pizo

Cotinga 20 (2003): 57–58

Neste trabalho eu relato observações feitas durante 12 horas de acompanhamento de um ninho de *Platyrhinchus leucoryphus* descoberto com dois filhotes em novembro de 2001 no Parque Estadual Intervales, estado de São Paulo. *Platyrhinchus leucoryphus* é uma espécie ameaçada de extinção. Além do comportamento dos ninhegos e do adulto observado nas imediações do ninho, são apresentadas informações acerca dos tipos e tamanhos de itens alimentares oferecidos pelo adulto aos ninhegos, bem como informações sobre a estrutura do ninho e o ambiente onde esta va localizado.

Russet-winged Spadebill *Platyrinchus leucoryphus* is a small tyrannid endemic to the Atlantic Forest, occurring in the understorey of primary and old secondary forests from Espírito Santo to northern Rio Grande do Sul, in Brazil, into eastern Paraguay and north-east Argentina[6]. The largest of its genus[9], it is classified as Near Threatened by BirdLife International[3]. Apparently very sensitive to habitat disturbance[1], *P. leucoryphus* suffers from the habitat destruction that pervades its range. Typically occurring at very low densities, Aleixo & Galetti[1] recorded three territories in a 50-ha plot at a study site in São Paulo state, Brazil, but the ecological requirements of *P. leucoryphus* remain poorly known[6].

Here I report observations of a nest discovered at the Saibadela Research Station, Parque Estadual Intervales (24º14'S 48º04'W; 100 m), a 49,000-ha reserve in São Paulo state. Besides providing information on the behaviour of parents and nestlings, and nestling diet, I describe the nest, apparently the only second ever discovered by an ornithologist, and its immediate environment.

Vegetation at the site predominantly comprises old-growth forest (*sensu* Clark[4]). Climate is generally humid and hot. Annual precipitation exceeds 4,000 mm, and mean annual temperature is c.24 C. Though rainfall is evenly distributed throughout the year (no month receives less than 100 mm), showers are more intense and frequent in October–March, which is also the hottest period. For more details of the study site, see Aleixo & Galetti[2] and Aleixo[1].

The nest, which held two nestlings, was discovered on 14 November 2001. It was situated 4.5 m above ground in a fork of a small (5.5 m height; 4 cm dbh) understorey tree (*Guapira opposita*, Nyctaginaceae). The cup-shaped nest measured 4 cm in height (not considering the pendant dry leaves; see Fig. 1) and 6 cm in external diameter, and its shape agreed with the 'hummingbird-like nests' typical of the genus[12]. It was constructed of fragments of dry leaves ornamented with small pieces of bark on its external wall. Loose, dry fibres of the understorey palm *Geonoma* sp. hung below the nest, forming a conspicuous 'tail' (Fig. 1). The incubation chamber, 2 cm deep, was completely lined with black fungal rhizomorphs ('vegetable horsehair'). The nest was located on flat terrain within deep shade (only 7.8% open canopy, measured with a convex densitometer[8]), with canopy 16 m high (measured with a range finder) and some distance (at least 100 m) from any watercourse. The dimensions and general situation of the nest were similar to those of the only previously reported nest, from Paraguay[5], but the outer wall of the latter was almost entirely constructed of *Chusquea* bamboo leaves (unavailable at Saibadela), with a white silk (presumably of spiders' webs) as decoration, and the inner cup was principally of fibrous lichens. Both nests were similar in general appearance and construction to the nests of White-throated Spadebill *P. mystaceus*[10] and Golden-crowned Spadebill *P. coronatus*[11].

For two consecutive days following its discovery I observed the nest from a concealed position 15 m away, for a total of 12 hours. During this period, I recorded (1) the frequency of visits by the adults to

Figure 1. Nest of Russet-winged Spadebill *Platyrinchus leucoryphus*, Parque Estadual Intervales, Sao Paulo, Brazil, November 2001 (Marco A. Pizo)

the nest, (2) the types and size of food items delivered to the nestlings, and (3) the behaviour of adults and nestlings. Food item size was visually estimated and categorised if smaller or larger than the beak length of the adult (mean ± standard deviation = 14.3±0.1 mm, based on three specimens held in the Museum of Natural Sciences, Louisiana State University [LSUMNS] collection, USA).

The age of the nestlings at the time of discovery is unknown, but they were completely covered in creamy down, indicating that they were not newly hatched and were perhaps c.1 week old. Only one adult was seen undertaking fledging care at the nest or within the immediate vicinity. Because sexes are alike, I was unable to sex this adult or be certain as to the presence or not of a second adult. Nestlings were fed at a rate of 2.9 meals per nestling per hour. Only arthropods were identified in their diet, being 26 (59%) smaller and 18 (41%) larger than the beak length of the adult, a non-significant difference (Chi-square test: P^2=1.45, P=0.22). Of the 14 items reliably identified, eight were katydids, three cockroaches, two moths and one spider. The adult removed faecal sacs at a rate of 0.7 sacs per nestling per hour. For only 5.3% of the observation time did the adult brood the nestlings, in periods lasting 2–22 minutes. For *P. coronatus* in Costa Rica, Skutch[11] observed both parents feeding two 7–8-day old nestlings at a swifter rate (6.6. meals per nestling per hour) than I recorded for *P. leucoryphus*.

The breeding event reported here accords temporally with the few other reports of reproductive behaviour available for the species: a nest with two eggs in November 1996 at San Rafael National Park, Paraguay[5], and males and females with enlarged testes and ovaries in September and October in Brazil[6]. Not previously reported for the species, and apparently unusual for tyrannids in general[11], is that the nestlings remained silent and with their eyes closed throughout the observations. I never heard begging calls or any other sounds. As begging may attract the attention of predators[7], such behaviour may be part of an anti-predator strategy worthy of future investigation.

Acknowledgements

I thank the Fundação Florestal do Estado de São Paulo for permission to work at Intervales and logistical support. Many thanks to Fábio Olmos for comments on the manuscript and Guy Kirwan for editorial assistance. Alexandre Aleixo provided bill measurements from specimens held at LSUMNS. Financial support came from FAPESP (procs. no. 92/1597-2 and 98/11185-0). Facilities provided by the Departamento de Botânica of the Universidade Estadual Paulista, Rio Claro, enabled the preparation of this paper.

References

1. Aleixo, A. (1999) Effects of selective logging on a bird community in the Brazilian Atlantic Forest. *Condor* 101: 537–548.
2. Aleixo, A. & Galetti, M. (1997) The conservation of the avifauna in a lowland Atlantic Forest in south-east Brazil. *Bird. Conserv. Intern.* 7: 235–261.
3. BirdLife International (2000) *Threatened birds of the world*. Cambridge, UK: BirdLife International & Barcelona: Lynx Edicions.
4. Clark, D. B. (1996) Abolishing virginity. *J. Trop. Ecol.* 12: 735–739.
5. Clay, R. P. & Madroño N., A. (1997) The first reported nest and eggs of the Russet-winged Spadebill *Platyrinchus leucoryphus*. *Cotinga* 8: 83–85.
6. Collar, N. J., Gonzaga, L. P., Krabbe, N., Madroño-Nieto, A., Naranjo, L. G., Parker, T. A. & D. C. Wege (1992) *Threatened birds of the Americas: the ICBP/IUCN Red Data Book*. Cambridge, UK: International Council for Bird Preservation.
7. Leech, S. M. & Leonard, M. L. (1997) Begging and the risk of predation in nestling birds. *Behav. Ecol.* 6: 644–646.
8. Lemmon, P. E. (1957) A new instrument for measuring forest overstory density. *J. Forestry* 55: 667–668.
9. Ridgely, R. S. & Tudor, G. (1994) *The birds of South America*, 2. Oxford: Oxford University Press.
10. Sick, H. (1997) *Ornitologia brasileira*. Rio de Janeiro: Ed. Nova Fronteira.
11. Skutch, A. F. (1997*) Life of the flycatcher*. Norman & London, UK: University of Oklahoma Press.
12. Traylor, M. A. & Fitzpatrick, J. W. (1982) A survey of the tyrant flycatchers. *Living Bird* 19: 7–45.

Marco A. Pizo
Departamento de Botânica, Instituto de Biociências, Universidade Estadual Paulista, Caixa Postal 199, 13506-900, Rio Claro-SP, Brazil. E-mail: pizo@rc.unesp.br.