

12. Salaman P., Mazariegos, L., Olives, M. de M. & Renjifo L. M. (2002) *Eriocnemis mirabilis*. En: Renjifo, L. M., Franco-M., A. M., Amaya-E., J. D., Kattan, G. H. & López-Lanús, B. (eds.) *Libro rojo de aves de Colombia*. Bogotá: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt & Ministerio de Medio Ambiente.
13. Salaman, P. G. W., Coopmans, P., Donegan, T. M., Mulligan, M., Cortes, A., Hilty, S. L. & Ortega, L. A. (2003) A new species of wood-wren (Troglodytidae: *Henicorhina*) from the western Andes of Colombia. *Orn. Colombiana* 1: 4–21.
14. Ramírez-B, M.-B. (2004) Patrones de uso de recursos florales por la comunidad de Colibríes (Aves: Trochilidae) del sector Charguayaco, Parque Nacional Natural Munchique. Trabajo de Grado. Popayán: Universidad del Cauca.
15. Ramírez, M. B. & Sandoval, J. V. (en prep.) Caracterización del hábitat del Paramero de Munchique (*Eriocnemis mirabilis*) en la Reserva Natural de las Aves Mirabilis Swarovski, sur occidente de los andes colombianos.
16. Ramírez, M. B., Sandoval, J. V. & Gómez, L. G. (en prensa) Uso de recursos florales por el colibrí endémico *Eriocnemis mirabilis*, Parque Nacional Natural Munchique, Colombia. *Orn. Colombiana*.
17. Ricketts, T. H., Dinerstein, E., Boucher, T., Brooks, T. M., Butchart, S. H. M., Hoffmann, M., Lamoreux, J., Morrison, J., Parr, M., Pilgrim, J. D., Rodrigues, A. S. L., Sechrest, W., Wallace, G. E., Berlin, K., Bielby, J., Burgess, N. D., Church, D. R., Cox, N., Knox, D., Loucks, C., Luck, G. W., Master, L. L., Moore, R., Naidoo, R., Ridgely, R. S., Schatz, G. E., Shire, G., Strand, H., Wettengel, W. & Wikramanayake, E. (2005) Pinpointing and preventing

imminent extinctions. *Proc. Nat. Acad. Sci. Phil.* 51: 18497–18501.

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Received 22 August 2006; final revision accepted 2 June 2007

The nest and egg of Amazonian Umbrellabird *Cephalopterus ornatus* in the foothills of eastern Ecuador

The first reliable description of the nest and egg of Amazonian Umbrellabird *Cephalopterus ornatus* was provided by Sick^{2,3} (see Snow⁴), from a nest in Mato Grosso, Brazil in July 1949. The nest was c.12 m above ground in the crown of a tree, within a small forest patch abutting a swamp. It was a sparse platform of bare sticks, roughly 19 cm in diameter (excluding projecting twigs), and contained a single egg. The egg measured 56.0 × 35.8 mm, and was khaki-coloured with light, dark and purplish-brown spotting. Sick

mentioned that the twigs were up to 65 cm long and up to 1.5 cm thick (from translation in Snow⁴). Here we provide a detailed description of a nest and egg found at 1,400 m on 20 October 2006, by Juan Carlos Calvachi, at San Rafael Falls, Napo, Ecuador.

The discovery was made when a female umbrellabird flushed from a nest 3.8 m above ground in a 7-m *Hedyosmum* sp. (Chloranthaceae) tree, near the outer end of a horizontal branch at the point where the branch forked into three. The supporting branches measured 12, 14 and 23 mm in diameter, the supporting branch prior to the fork being 27 mm in diameter. The nest was 1.75 m below vegetation immediately overhead, and just 75 cm horizontal distance from the outer edge of the foliage. The tree grew on the side of a steep bank such that the nest was only 5 m horizontal distance from the slope. It was also beside a dirt road, with the nest suspended almost directly above passing cars. Surrounding vegetation was heavily modified, with dense, scrubby growth dominating, and only a few larger trees nearby. The nearest forest with an intact canopy was c.50 m away. The egg measured 53.3 ×

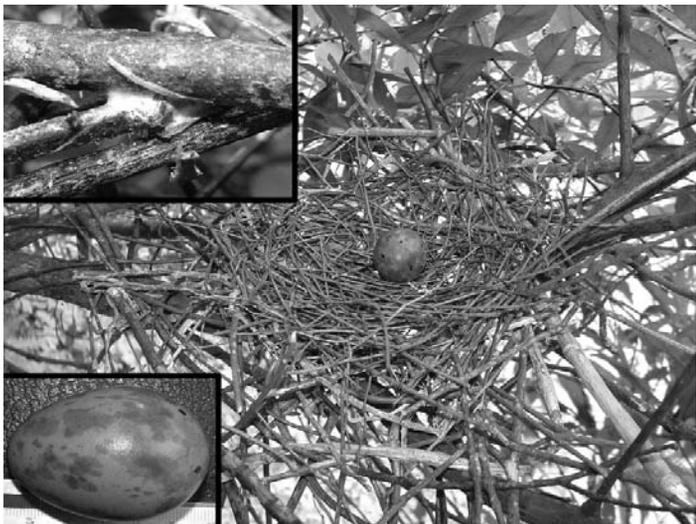


Figure 1. Nest containing complete clutch of Amazonian Umbrellabird *Cephalopterus ornatus*, San Rafael Falls, Napo, Ecuador, 22 October 2006. Upper left inset shows detail of fungus prevalent in nest; lower left inset shows egg (Harold F. Greeney)

35.8 mm and was khaki with diffuse blotches of various shades of brown and lavender (Fig. 1). At the larger end the egg was adorned with several deep black squiggles and spots. Upon our return on 22 October, the nest still contained a single egg, and the female flushed from the nest when we were more than 15 m away, flying directly from the nest, crossing the road in gliding flight. We did not observe the fluttering 'falling leaf' departure described for *C. penduliger*¹. Subsequently, park guards informed us that the egg was probably taken by locals, and we collected the nest after taking measurements.

The broad, shallow nest, composed predominately of dry sticks, measured 25 cm in diameter (with sticks poking out an additional 40 cm). It was only 7 cm tall outside, with a shallow (3.5 cm) internal cup, 15 cm in diameter. We returned the nest to the laboratory to dry for several weeks then examined it. The nest contained 175 sticks, plus rotting, fungus-covered scraps of bark and twigs (see below). Sticks ranged in length from 5.5 to 75 cm (mean \pm SD = 21.4 \pm 13.3 mm). The sticks varied in the number of times they forked, with 29% unforked, 46% a single fork, 19% with two forks, 6% having three forks, and a single stick with four. The diameter of each was measured c.1 cm from each end, as well as in the centre, to estimate overall thickness. Mean central diameter of each stick was 2.3 \pm 1.5 mm and the mean of all diameter measurements (including ends) was 2.0 \pm 1.2 mm. The total dry mass of the nest was 156 g, 88% of the dry sticks described above. In addition, the nest contained a few soft, rotting twigs and strips of bark (no linear measurements taken), each densely covered in a film of white fungus. The fungus had spread throughout the nest, concentrated where adjacent sticks crossed, effectively fusing the entire nest (Fig. 1). The nest rested on top of the substrate branch with no actual attachment, and we could lift the entire nest off it without

losing a single stick due to the glue-like properties of the fungus.

The description of the nest and egg closely match those of previous nests^{3,4}. Other than Sick's³ nest in July 1949, and the observations of T. A. Parker of a female building a nest in south-east Peru in October 1974⁴, ours are the only observations of the nesting ecology of this poorly known species, and are the first for Ecuador or for any population above 600 m.

Acknowledgements

We thank John V. & the late Ruth Ann Moore, the Hertzberg Family Foundation and Field Guides Inc. for their generosity. Juan Carlos Calvachi showed us the nest. The work was funded in part by a donation from Matt Kaplan through the Population Biology Foundation, and additionally supported by the PBNHS. This is publication no.124 of the Yanayacu Natural History Research Group.

References

1. Greeney, H. F., McLean, A., Bucker, A. D. L., Gelis, R. A., Cabrera, D. & Sornoza, F. (2006) Nesting biology of the Long-wattled Umbrellabird (*Cephalopterus penduliger*). Part 1: incubation. *Orn. Neotrop.* 17: 395–401.
2. Sick, H. (1951) An egg of the Umbrella Bird. *Wilson Bull.* 63: 338–339.
3. Sick, H. (1954) Zur Biologie de amazonischen Schirmvogels, *Cephalopterus ornatus*. *J. Orn.* 95: 233–244.
4. Snow, D. W. (1982) *The cotingas: bellbirds, umbrellabirds and their allies*. London, UK: Brit. Mus. (Nat. Hist.).

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Received 15 July 2007; final revision accepted 26 July 2007

Threat display and hatchling of Common Potoo *Nyctibius griseus*

The nesting biology of Common Potoo *Nyctibius griseus* is fairly well reported from localities throughout its range^{1–3}. In Trinidad & Tobago, French² briefly described the threat display of an adult but did not mention if it was at a nest or day roost. While undertaking field work in Ecuador, we photographed an adult giving a threat display whilst brooding a newly hatched nestling. As this is the first illustrated example of this striking threat behaviour, we briefly describe our observations.

On 20 June 2006 we found a nest of Common Potoo at a farm beside the Tena–Loreto road (00°43'S 77°46'W), west of Tena, prov. Napo, Ecuador, at 1,200 m. As is typical of potoos^{1,3}, the nest was a shallow depression atop a broken vertical branch and formed by a 15 cm in diameter broken trunk of a dying *Inga* sp. (Mimosaceae) tree, and was 5 m above ground. The nest was in a large patch of regenerating forest, c.200 m from a cattle pasture.

On 13 July, we approached the nest to photograph the bird, at which time it was sitting with the bill pointing upwards and eyes closed. As we approached, the adult slowly began to turn its head and open its bright yellow eyes. As we continued, the bird commenced to slightly droop and spread its wings while fluffing its contour feathers, increasing its overall size considerably. Finally, when we were only 1 m away, the potoo leaned forward, spreading its gape wide, and lowering and slightly spreading its wings (Fig. 1).

On approaching to within 0.5 m, the adult flushed, revealing a single egg in the process of hatching (Fig. 2). The egg was white to pale cream-coloured, with fairly evenly distributed, but sparse, lavender and cinnamon flecks and blotches. The nestling was uniformly dark grey to black-skinned, including the legs and most of the bill, which had a