

SHORT COMMUNICATIONS

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TAXONOMY AND NATURAL HISTORY OF *NYCTIPHRYNUS ROSENBERGI* (CAPRIMULGIDAE)¹

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In 1895, Hartert described a distinctive new nightjar that had been collected earlier that year in the Dagua Valley of Valle, Colombia. He named the bird *Caprimulgus rosenbergi* in honor of the collector, W. F. Rosenberg. Chapman (1917) was the first to comment that *rosenbergi* resembled *Nyctiphrynus ocellatus*, and Cory (1918) transferred *rosenbergi* to *Nyctiphrynus* in his treatise on the Caprimulgidae. For an unexplained reason, Peters (1940) considered *rosenbergi* a subspecies of *Nyctiphrynus ocellatus*. Primarily because no new information has been obtained in the 50 years since Peters' work, *rosenbergi* has continued to be treated as conspecific with *ocellatus* (e.g., Meyer de Schauensee 1966, Hilty and Brown 1986). Here we provide new data that unequivocally indicates that those two forms are specifically distinct.

The first natural history information on *N. rosenbergi* was obtained near Alto Tambo, Prov. Esmeraldas, Ecuador at 275 m elevation (0°57'N, 78°33'W) during April and July 1990, by ornithologists of the Academy of Natural Sciences, Philadelphia (ANSP), and the Museo Ecuatoriano de Ciencias Naturales, Quito. On 12 April, two adults (female collected, ANSP 182347) and a juvenile male (ANSP 182348) were flushed several times from the ground in secondary forest (connected with primary forest) by G. Glenn. No vocal information was obtained. At this same site in July, however, Robbins obtained the first tape recordings of this nightjar's song. The song of *rosenbergi* is so different from that of nominate *ocellatus* that they should be treated as separate species.

VOCALIZATIONS AND PLUMAGE MORPHOLOGY

The song of *N. rosenbergi* (Fig. 1) is a resonant, whistled rhythmic "kwor-kwor-kwor-kweeër." The first three notes and the onset of the final note are approximately on the same frequency of about 1.6 kHz. The initial

part of the final note ascends to about 1.9 kHz, with the second part descending to about 1.6 kHz. The average duration of *rosenbergi*'s song is about 1.5 sec. The voice of *ocellatus* (Fig. 1) is a trilled note that ranges from 0.45 to 0.65 sec in duration, with a frequency range of about 1.0 to 1.5 kHz. *N. ocellatus*'s voice has been described as a mellow, trilled *preeeo* (Stiles and Skutch 1989), or *que'e'e'ro* (Hilty and Brown 1986).

The plumage differences between these two taxa are equally pronounced. Based on the material of *N. rosenbergi* that we have examined (11 of the 13 specimens known to us, 5 males, 5 females, 1 unsexed), there are no obvious plumage or morphometric differences between the sexes (Table 1). There are, however, significant plumage and morphometric differences between the sexes of *N. ocellatus*. Male *ocellatus* are conspicuously darker than the females: the males are overall sooty brown, whereas the females are a rich rufous brown. Male *ocellatus* are also significantly longer in wing and tail than females (Table 1).

Nyctiphrynus rosenbergi appears darker overall than even males of *N. ocellatus*: it is generally blackish with a suffusion of brown bands over much of the body that recalls *Caprimulgus nigrescens*. A few *N. rosenbergi* have some faint white ocellation on the abdomen, but these never approach the bold white spots found on the lower breast and abdomen in both sexes of *N. ocellatus*. The two, less frequently three, prominent white spots on the inner secondary wing coverts of *N. rosenbergi* are also diagnostic. Incidentally, Cory (1918, p. 135) stated, doubtless as a lapse, that these conspicuous spots were in the rectrices. This latter character is not present in the above mentioned Alto Tambo juvenile or an unsexed juvenile taken on 5 June 1940 at Alto del Buey, Chocó, Colombia (ANSP 146079). Apart from the absence of the wing covert spots, both juveniles appear very similar to the adult plumage. Both birds were in heavy body and flight feather molt.

Another significant plumage distinction between these two taxa is the pattern of white tail banding. All ten rectrices of *N. rosenbergi* are narrowly tipped white (ca. 2-3 mm in width), whereas the white tips are found on only the outer three or four tail feathers in *N. ocellatus*. The white tail bands of *N. ocellatus* are consid-

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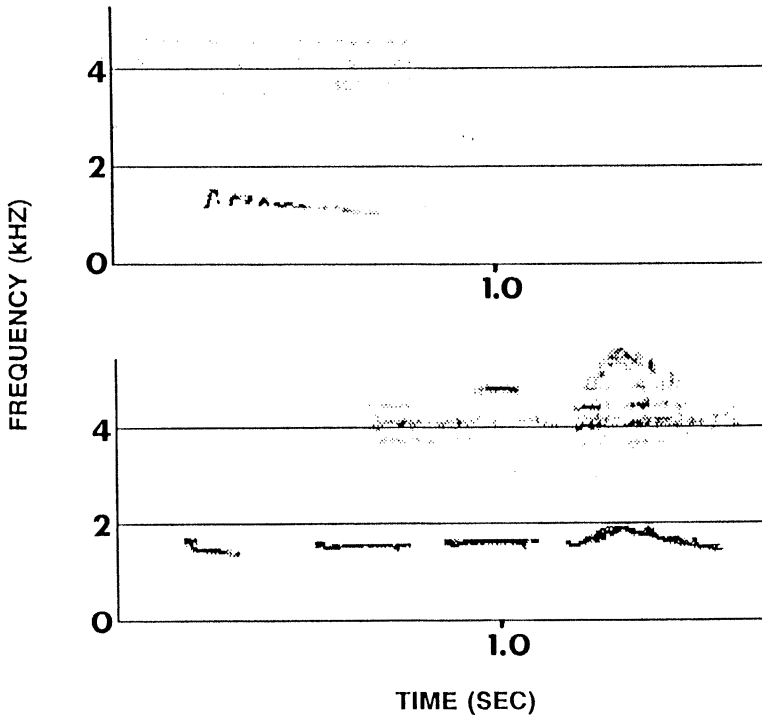


FIGURE 1. Song spectrograms of *Nyctiphrynus ocellatus* (above), under natural conditions, August 1990, Prov. Morona-Santiago, Ecuador, and *Nyctiphrynus rosenbergi* (below), after playback, July 1990, Alto Tambo, Prov. Esmeraldas, Ecuador. Both recordings by M. B. Robbins.

erably greater in size (ranging from 7–14 mm in width) than those found in *N. rosenbergi*.

The sole adult *N. rosenbergi* with known mass was the above mentioned April female, which weighed 52 g. There is no significant difference in mass between sexes of *N. ocellatus*; the average pooled mass is 39.6 g (SD = 4.5, 9 males, 6 females).

NATURAL HISTORY

Based on the number of vocalizing birds, *N. rosenbergi* was fairly common at Alto Tambo within primary forest. For example, on the rainless predawn of 24 July, near 06:00, Robbins heard no fewer than seven singing individuals from a small ridge just above camp. One male sang on several rainless evenings just across a stream from our camp. At about 18:00 on 16 July, the bird was recorded and in response to playback, it approached, repeatedly landed on exposed perches about 0.5–1.5 m above the ground, and sang. Niels Krabbe and associates (pers. comm.) also heard two birds singing on three warm, rainless evenings between 11–22 February 1992 at the Alto Tambo site. Based on the collection dates of the two juveniles, the breeding season of *N. rosenbergi* appears to extend from at least March through June. Gonadal information from ten *N. ocellatus* specimens, taken throughout the South American range, indicate breeding occurs from at least July through September.

All three Alto Tambo *N. rosenbergi* specimens had

beetles (Scarabaeidae) in their stomachs. Both adults also had weevils (Curculionidae) and the adult female's stomach contained a cerambycid beetle. Nocturnal Lepidoptera (moths) were identified in the adult male. An adult male *N. ocellatus* taken on 14 August 1990, near Taisha in Prov. Morona-Santiago, Ecuador had the following stomach contents: cockroach (Blattidae), katydid (Tettigoniidae), beetle (probably Melolonthinae), two moth species (Lepidoptera) and a firefly (Lampyridae).

TABLE 1. Mean (\pm SD) and sample size of wing and tail measurements (mm) of *Nyctiphrynus rosenbergi* and *N. ocellatus*. Sexes are pooled for *N. rosenbergi* as there are no significant differences in measurements between the sexes. Paired *t*-test reveal that wing ($P < 0.01$) and tail ($P < 0.005$) are significantly different between male and female *N. ocellatus*.

	Wing length (chord)	<i>n</i>	Tail length	<i>n</i>
<i>N. rosenbergi</i>	124.7 (4.2)	8	97.2 (3.0)	8
<i>N. ocellatus</i>				
male	128.6 (5.7)	19	116.5 (4.7)	18
female	123.9 (5.2)	23	111.5 (4.7)	22

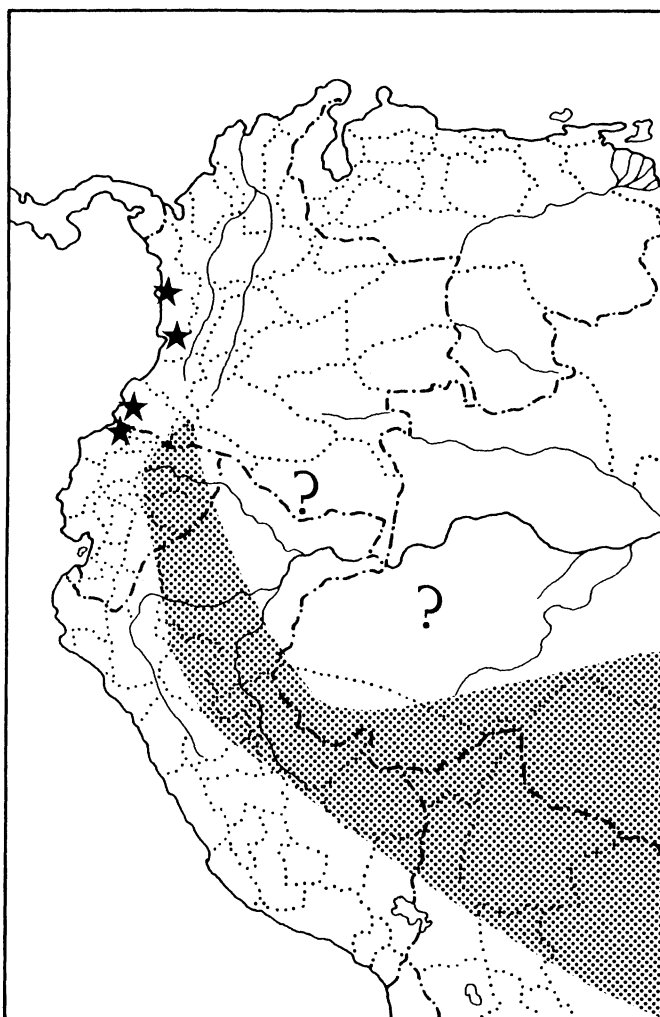


FIGURE 2. Distribution of *Nyctiphrynus rosenbergi* (stars) and the western South American portion of *N. ocellatus*' range (shading). The single star in Ecuador represents five separate localities in northern Esmeraldas. Question marks denote broad areas where the distribution of *N. ocellatus* is uncertain.

DISTRIBUTION

Nyctiphrynus rosenbergi is restricted to the Chocó faunal region, from Alto del Buey, Baudó Mountains, Chocó, Colombia south to Esmeraldas (and undoubtedly Carchi) in extreme northwestern Ecuador (Fig. 2). It is known to occur from sea level to ca. 900 m in elevation (ANSP 146079). In Figure 2, we have indicated only the western portion of *N. ocellatus*' South American range. Note that the single Colombian locality as it represents the first published occurrence of *ocellatus* for that country. This specimen, a female (FMNH 286775), was taken by K. von Sneidern at about 400 m at San Antonio, Putumayo, Colombia on 21 October 1969. In addition to the range depicted in the figure, *N. ocellatus* has been recorded from much of the tropical Brazil, eastern Paraguay and northeast-

ern Argentina (Peters 1940). Outside South America, *N. ocellatus* is known from one old specimen from Nicaragua and has recently been discovered in the Caribbean lowlands of northwestern Costa Rica (Stiles and Skutch 1989). Within *N. ocellatus*' South American range it has been recorded from near sea level to 1,350 m (LSUMZ 95625, 116444).

CONCLUSIONS

The above information indicates that *N. rosenbergi* should be treated as a full species. Moreover, the rather dramatic differences in voice and plumage between *N. rosenbergi* and *N. ocellatus* suggests that even treating them as sister taxa is equivocal. The voice and plumage of *N. ocellatus* is more similar to the other two *Nyctiphrynus* species (*N. mcleodii* of western Mexico and

N. yucatanicus of the Yucatán region) than to *N. rosenbergi*. In fact, both sexes of *N. mcleodii* are strikingly similar in plumage, especially ventrally, to female *N. ocellatus*. Based on plumage, *N. mcleodii* and *N. yucatanicus* are closely related (Ridgway 1912, Peters 1940). Recent clarification of *N. yucatanicus*' voice (Hardy et al. 1989) provides further evidence that it and *N. mcleodii* are probably each other's closest living relative. Given present knowledge, we recommend that *N. rosenbergi* be placed after *N. ocellatus* in a linear arrangement. Finally, because *N. rosenbergi* is endemic to the Chocó faunal region, we suggest Choco Poorwill as an appropriate English name.

CONSERVATION

Based on our extensive fieldwork throughout much of western Ecuador over the past decade, it appears that the pluvial forest of northwestern Ecuador and the avifauna dependent on it, remains relatively intact. It is the less wet forests to the south which have been severely affected by deforestation. Dodson and Gentry (1991) document that about 95% of the lowland (below 900 m) forest in western Ecuador has been greatly affected by human activity. Because *N. rosenbergi* is apparently restricted to the very wet forest, we suspect that its present status gives no cause for special concern—especially when compared to the highly threatened taxa found elsewhere in western Ecuador. Nonetheless, given this poorwill's limited total range, its population status should be monitored.

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LITERATURE CITED

- CHAPMAN, F. M. 1917. The distribution of bird-life in Colombia. *Bull. Am. Mus. Nat. Hist.* 36:1–729.
- CORY, C. B. 1918. Catalogue of birds of the Americas. Pt. 2. *Publ. Field Mus. Nat. Hist., Zool. Ser. No.* 197.
- DODSON, C. H., AND A. H. GENTRY. 1991. Biological extinction in Western Ecuador. *Ann. MO Bot. Gard.* 78:273–295.
- HARDY, J. W., G. B. REYNARD, AND B. B. COFFEY. 1989. Voices of the New World nightjars and their allies. Audio cassette. ARA Records, Gainesville, FL.
- HARTERT, E. 1895. [New descriptions of birds]. *Bull. Br. Ornithol. Club*, No. 31.
- HILTY, S. L., AND W. L. BROWN. 1986. A guide to the birds of Colombia. Princeton Univ. Press, Princeton, NJ.
- MEYER DE SCHAUENSEE, R. 1966. The species of birds of South America and their distribution. Livingstone Publ., Nabeth, PA.
- PETERS, J. L. 1940. Check-list of birds of the world. Vol. 4. Harvard Univ. Press, Cambridge, MA.
- RIDGWAY, R. 1912. Diagnoses of some new genera of American birds. *Proc. Biol. Soc. Wash.* 25:97–102.
- STILES, F. G., AND A. F. SKUTCH. 1989. A guide to the birds of Costa Rica. Cornell Univ. Press, Ithaca, NY.