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# Rediscovery of the White-winged Potoo (*Nyctibius leucopterus*)

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Recognition of the White-winged Potoo (*Nyctibius leucopterus*) as distinct from the Andean Potoo (*N. maculosus*; Ridgway 1912, Schulenberg et al. 1984) highlighted the mystery surrounding the former, a Brazilian endemic. Not reported since the type description (Wied 1821:227, 1830:311–317), *N. leucopterus* was known only from two 19th-century museum specimens. Here, I report the discovery of a population of *N. leucopterus* and a specimen from near Manaus in Amazonian Brazil (2,500 km from the type locality in coastal eastern Brazil). I also offer the first description of vocalizations, behavior, and diet, as well as comment on status at Manaus, historical records, and taxonomic status.

With their recent discovery of a new antbird from lowland Amazonian Brazil, Lanyon et al. (1990) pointed out that even brief, intensive surveys in previously unexplored parts of Amazonia can yield new bird species. The rediscovery of *N. leucopterus* further emphasizes the importance of continued faunistic surveys in the Amazon, where even the most thoroughly studied areas like Manaus (Oren and Albuquerque 1991) still hold surprises.

On 4 October 1985, Jan P. Smith (pers. comm.) found a roosting potoo during the day. It was perched about 20 m above the ground in a dead tree in a reserve of the Biological Dynamics of Forest Fragments Project (BDFFP, formerly Minimum Critical Size of Ecosystems Project, 2°30′S, 60°0′W; for detailed description of the BDFFP reserves, see Bierregaard and Lovejoy 1988). He identified the bird as *N. leucopterus* on the basis of a "very white band on the wing" formed by the coverts. On 14 August 1989 at 1830, after imitating a familiar but hitherto unidentified call (described below), I saw a small potoo fly into the crown of a tall tree (ca. 30 m) at the edge of a BDFFP camp. Later that night and on subsequent visits, I observed up to two individuals. They were recognizable as *N. leucopterus* by the large, pure-white shoulder patches and smaller size relative to the Common Potoo (*N. griseus*), also present at the site.

On 19 October 1989, I visited another site about 20 km away, where I had heard the same vocalization two years earlier. This site, also a BDFFP reserve, had a canopy platform installed 35 m above the ground in an emergent tree. Using alpine climbing gear (rope and ascenders), I climbed to the platform at dusk and spent the night there, whistling periodically. Finally, at 0508 the next morning (20 October), after several minutes of distant responses to my whistling, two potoos approached close to me. One swooped directly at my head and then perched in the same tree where I stood. Locating the perched bird in the beam of my headlamp by its bright eye shine, I collected it.

The description of the specimen is as follows: one skin and partial skeleton, at Museu Paraense Emílio Goeldi (MPEG 46870) in Belém, Brazil; 78.5 g; iris yellow; mouth lining mostly pink, black distally; bill black; feet brown; male: testis 4 × 3 mm; stomach and contents (described below) in alcohol, at Louisiana State University Museum of Natural Science (LSUMNS, no. MCH 01); frozen tissue sample at Smithsonian Institution Laboratory of Molecular Systematics in Washington, D.C. (no. B00031).

I heard two vocalizations from *N. leucopterus* (recording archived at Cornell University's Library of Natural Sounds, LNS 48589, with copy at Arquivo Sonoro Neotropical of Universidade Estadual de Campinas, in Campinas, São Paulo). The principal vocalization, diagnostic of the species, is a 3- to 4-s, gradually descending, whistled glissando (Fig. 1). This is the vocalization that I imitated to attract the birds. Because it apparently serves in territorial advertisement, I call it the song. It is similar to the song of the Great Jacamar (*Jacamerops aurea*), but is lower-pitched and given at night. The song is similar to a vocalization of the Sunbittern (*Eurypyga helias*), but is longer and repeated less often (ca. 4 times/min). The song is given only by perched birds.

The other vocalization of *N. leucopterus* is a short "bweep," sometimes repeated in rapid succession, given while perched and in flight. It is similar to corresponding calls of the Rufous Potoo (*N. bracteatus*; unpubl. data) and those of various caprimulgids, especially the Short-tailed Nighthawk (*Lurocalis semitorquatus*), in the same region. This is apparently a contact call, given upon arrival or in the presence of a conspecific and was given by both individuals whenever two were present.

The following account of behavior is based on more than 25 encounters with this species near Manaus from 1987 through 1991. Like many caprimulgids (Mills 1986), *N. leucopterus* sang most frequently in bright moonlight, although I did not make a rigorous attempt to document this general observation. It was my impression that the potoo sang only on clear nights, especially within three or four days of the full moon.

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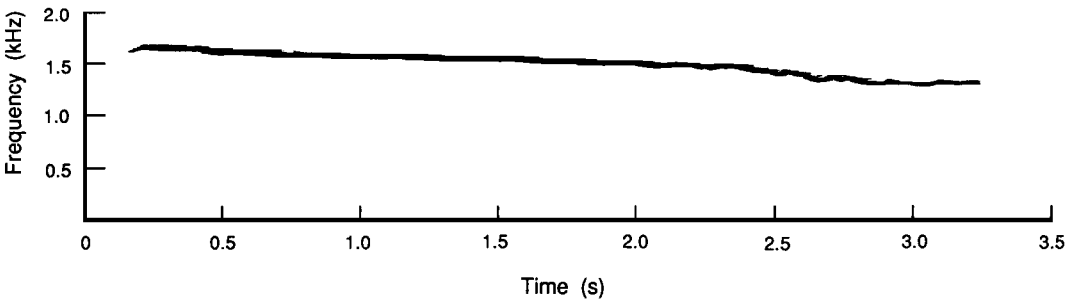


Fig. 1. Sonogram of *Nyctibius leucopterus* song (narrow-band analysis).

During this period approaching the full moon and shortly afterwards, singing activity seemed to begin progressively later each night, perhaps accompanying the ever-later-rising moon. I could not elicit singing by imitation at other lunar phases.

This species habitually perched upright on emergent snags and exposed branches in the canopy. I never saw it lower than at canopy level (ca. 30 m), despite efforts to coax birds down both in the forest and at forest edges. In all observed birds, vocal imitation elicited a strong approach response; however, when I whistled from the ground, approach was limited to the nearest canopy tree or to flying back and forth across a clearing at canopy height. By contrast, when I whistled from the canopy, birds approached in flight to within 1 to 2 m, and one perched as close as 7 m.

*Nyctibius leucopterus* may use the white wing patch in display. On several occasions, an individual that I had whistled in showed ruffed shoulder coverts, which effectively enlarged the white area. In dim light this white patch was sometimes all that was visible of the bird.

The specimen's stomach contained fragments and entire insects of Hemiptera, Lepidoptera and Coleoptera (including a cerambycid and three curculionid beetles), all less than 1 cm long. No foraging was observed.

*Nyctibius leucopterus* is probably common in the canopy of terra firme (upland) forest immediately north of Manaus. Between 1987 and 1991, I and Andrew Whittaker (pers. comm.) noted vocalizations of this species at nine sites within the BDFFP reserves, more or less along a 45-km linear transect. All observations were in primary terra firme forest. Although most observations were made from campsites (forest clearings <0.5 ha near small forested streams), this probably reflects merely the great proportion of night hours spent in camp. Jan P. Smith's (pers. comm.) sighting was at the edge of a 10-ha forest patch, surrounded by at least 1 km of 2-m-tall second growth, with no stream nearby.

I noted song from two other sites, both in contiguous terra firme forest. One location, Reserva Florestal Adolfo Ducke, lies at the northern edge of suburban Manaus, approximately 50 km south of the BDFFP sites and with a very similar avifauna (Stotz and Bierregaard 1989). My record on 24 September 1989 represents an addition to the Ducke species list (Willis 1977). The other site, near the ZF-2 road, lies between Ducke and the BDFFP reserves.

The presence of *N. leucopterus* brings the total number of potoo species resident in the terra firme forest north of Manaus to five, including *N. griseus*, *N. grandis* (Great Potoo), *N. aethereus* (Long-tailed Potoo), and *N. bracteatus* (see lists in Stotz and Bierregaard 1989, Karr et al. 1990). This is the highest number of potoos known from any site and includes all of the lowland species. Their apparent syntopy in this area, where from one spot I have heard four species calling on a single night, deserves further study.

Historically, there is one specimen of *N. leucopterus* (Academy of Natural Sciences of Philadelphia [ANSP] 22022) of unknown origin, labeled simply as from "Brazil." It was undoubtedly collected in the 1800s (M. Robbins pers. comm.). The type specimen (American Museum of Natural History [AMNH] 5867) is reported as collected in the state of Bahia, eastern Brazil, between 1816 and 1817 (Wied 1821:227, 1830: 311–317). The exact location for the type, however, is ambiguous. In his first published reference to the specimen, Wied (1821:227) stated that he encountered the species in forest just outside of Conquista, the modern city of Vitória da Conquista (Bokermann 1957), on his way northeast toward Salvador. Later, he (Wied 1830:317) stated that he found the bird twice, once near "Caravellas" and later outside of "Nazareth das Farinhas." The former location refers to the modern city of Caravelas (Bokermann 1957), which lies some 350 km south of Conquista. Nazareth, or Nazaré, is situated 300 km northeast of Conquista, just west of Salvador. Both Conquista and Caravelas are variously given as the type locality by later authors (Sclater 1866:130, Allen 1889:261, Hartert 1892:624, Ridgway 1914:587, Cory 1918:117, Pinto 1937:231, Peters 1940: 181, Greenway 1978:143).

Wied (1830:311–317) believed that he had two specimens of *N. leucopterus*. In addition to the type, he collected a male (AMNH 5868), which actually is a specimen of *N. griseus* (Chapman 1926:274, Schulen-

berg et al. 1984; pers. observ.). Considering that Wied passed through Caravelas a year before arriving at Conquista and made no mention in his travel journal (Wied 1821) of a White-winged Potoo from that region, I believe that the Caravelas bird was the *N. griseus*, which Wied decided later must be conspecific with the type *N. leucopterus*. The type itself presumably came from somewhere along the route between Conquista and Salvador, the expedition's last leg, which included Nazareth (Bokermann 1957).

There is reason to suspect that Wied himself never observed the species in the wild and that the skin may have been brought to him by an unidentified party. Wied (1830:317) did not state that he collected the bird himself, but rather that he "obtained" or "acquired" (*erhielt*) it. Describing its behavior, he wrote that it "flies at dusk, often perching on the ground on forest trails, and glides gracefully over clearings" (Wied 1830:317). In my experience with caprimulgiforms, including *N. leucopterus* near Manaus, this is not the behavior of potoos, which always perch upright on branches from which they make brief upward sallies and never land on the ground. Rather, it resembles the behavior of a caprimulgid, most probably the Pauraque (*Nyctidromus albicollis*), the male of which also has conspicuous patches of white in the wings. In the absence of any further evidence, however, we must assume that the type came from forest in the state of Bahia, probably between Conquista and Salvador. All three localities mentioned by Wied (1821, 1830), and most of the route between Conquista and Salvador were probably in Atlantic coast rainforest (Anon. 1988).

In this paper, I treat *N. leucopterus* as monotypic. Peters (1940:181) and other authors have listed *N. maculosus* (Ridgway 1912) as a subspecies of *N. leucopterus*, apparently based on a misinterpretation of Chapman (1926:273). Schulenberg et al. (1984) listed a variety of reasons to consider the two specifically distinct, including the much smaller size of *N. leucopterus* and several plumage differences. Manaus *N. leucopterus* is even smaller than the other specimens, which it otherwise resembles closely in plumage. The song of *N. maculosus* is a "loud 'raa-áa'" lasting one-half second (Schulenberg et al. 1984). This differs dramatically from the song of *N. leucopterus* and is conclusive evidence of the specific distinction between the two.

The Manaus male is noticeably smaller than the other two specimens (females) of *N. leucopterus* (Table 1). This difference probably is not sexual dimorphism, because no other species of potoo (analyzed by subspecies) shows significant sexual dimorphism in wing chord or tail length (unpubl. data). The size difference between the Manaus bird and the other two specimens of *N. leucopterus* is greater than the individual variation within any other subspecies of potoo (unpubl. data). This suggests that Manaus *N. leucopterus* represents an undescribed taxon.

TABLE 1. Comparative sizes (mm) of the three specimens of *Nyctibius leucopterus*.

| Specimen | Sex | Wing chord (unflattened) | Tail |
|---|---|---|---|
| AMNH 5867 (type) | Female | 210 | 140 |
| ANSP 22022 | Female | 211 | 121 |
| MPEG 46870 (Manaus) | Male | 182 | 114 |

If *N. leucopterus* inhabits the Atlantic forest (or did so until the recent decimation of that habitat), then it is reasonable to expect that the Manaus bird represents a distinct taxon. Considering the discontinuity of forest habitat between Amazonia and the Atlantic coast and that Manaus *N. leucopterus* is apparently strictly a forest bird, it is unlikely that the species' distribution is continuous over this entire region. Disjunct distributions including Amazonia and the Atlantic forest of coastal Brazil are known for a variety of forest bird taxa (Haffer 1974, 1985). Populations of the same species from the two regions are usually considered taxonomically distinct at the subspecies level.

A total sample of three specimens, two of uncertain origin, is insufficient to determine the taxonomic position of the Manaus population of *N. leucopterus*. Measurements of a series of individuals from Manaus could strengthen the case for a genuine size difference between this population and the older specimens. It is my hope that the information contained here and the voice recordings will help observers to find *Nyctibius leucopterus* throughout its current distribution. Being a nocturnal canopy species with an easily confused voice, it probably has been much overlooked.

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*Resumo.*—Uma população de *Nyctibius leucopterus* foi descoberta e um espécimen coletado na região de Manaus, Amazonas, 2,500 km do lugar tipo na costa atlântica. A espécie, distinta da espécie andina, *N. maculosus*, era anteriormente conhecida somente de dois espécimens do século passado. A espécie é comum na floresta de terra firme ao norte de Manaus, habitando o dossel. Incluindo *N. leucopterus*, esta floresta contém cinco espécies de nictibídeo, a maior diversidade conhecida em um só lugar. As duas vocalizações, incluindo um assobio descendente de 3 a 4 segundos, são descritas pela primeira vez; a gravação está depositada no Arquivo Sonoro Neotropical da Universidade Estadual de Campinas no estado de São Paulo. O espécimen de Manaus, depositado no Museu Paraense Emílio Goeldi em Belém, é menor do que os dois espécimens antigos, sugerindo que este representa um novo taxon. No entanto, o pequeno tamanho da amostra não permite afirmação sobre sua posição taxonômica. Esta descoberta realça a falta de conhecimento da fauna da Amazônia, até em áreas mais estudadas como a de Manaus.

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