

A new identification feature for Long-tailed Potoo *Nyctibius aethereus*

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Little did the author of the present article realise that his first encounter with the uncommon Long-tailed Potoo would lead to the discovery of an interesting new feature that could help observers identify this poorly known species in the field (and the museum). The function of the bizarre upturned feather tips over parts of the bird's dorsal plumage remains to be elucidated, but the author speculates that the feature appears to be more prevalent in the nominate subspecies, which is confined to the Atlantic Forest.

On 6 May 2010 I observed two Long-tailed Potoos *Nyctibius a. aethereus* at the Reserva Ecológica de Guapiaçu (REGUA), a privately owned reserve (see *Neotrop. Birding* 8: 60–67) in the Serra dos Órgãos of Rio de Janeiro state, south-east Brazil, and discovered what appears to be a previously undescribed feature diagnostic of the species.

The first individual was seen at 05h15, calling from atop a tall bare tree along the Onofre Cunha trail, and although quite distant I took a few record shots before I elected to turn my attention to a calling Black-banded Owl *Strix huhula*. At 09h12 I found myself watching a second, much closer bird roosting on a low snag along the reserve's Waterfall trail, permitting me to study its plumage in detail. The bird was facing away from me and I soon noticed that many of the feathers of the scapulars, greater coverts, tertials and, to a lesser extent, the mantle were sharply upturned at their tips (Fig. 1). After taking a few photographs, I moved to get a view of the underparts, which I found had no upturned feathers. The feature was very striking, reminding me of the bark of a *Piptadenia* (Fabaceae) tree that peels upward at the edges, and it occurred to me that this might be an additional camouflage aid? However, I couldn't recall having observed upturned feather tips on any potoos I'd seen in the past, and neither had I noticed any on the Long-tailed Potoo encountered earlier the same morning. After studying this bird for c.25 minutes I continued along the trail.

The lodge at REGUA has an extensive library and later the same day I was able to consult several relevant references^{1,3,5–7}. I was surprised to find

no mention of this feature for any potoo species in these texts, and neither was it shown in the illustrations. Furthermore, the only photograph of Long-tailed Potoo in this literature (of the Amazonian form *N. a. longicaudatus*)¹ appeared to lack upturned feather tips.

Thinking I had probably observed an aberrant bird, I took a closer look at the photographs I had taken of the first bird seen that morning, and was surprised to find upturned feather tips clearly visible on the wing-coverts. By now curious to see if I had merely overlooked the feature on other potoos in the past, I checked photographs on my laptop previously taken at REGUA of several Common Potoos *N. griseus*, but failed to find any evidence of upturned feathers (Fig. 2).

Back in the UK, I felt sure that I would find some reference to upturned feather tips on Long-tailed Potoo and perhaps in relation to other potoo species, but in reviewing additional literature^{2,4} I found no mention of the feature, despite photographs of Long-tailed Potoo in one recently published book² clearly showing upturned feather tips on the upperparts. At this point I began to suspect that the feature might actually be an overlooked characteristic of Long-tailed Potoo, and I decided that further research was required.

An extensive search, both online and in print, for photographs of all seven potoo species found strong evidence to support my observations. Some 176 photographs were reviewed, including 49 of Long-tailed Potoo (16 of *N. a. aethereus* and 32 of *N. a. longicaudatus*, but unfortunately none of *N. a. chocoensis* from the Chocó in western Colombia.). Upturned feather tips were visible



Figure 1 (left). Long-tailed Potoo *Nyctibius aethereus*, REGUA, Rio de Janeiro, Brazil, 6 May 2010; note the upturned tips to the scapulars, greater coverts, tertials and, to a lesser extent, the mantle feathers (Lee Dingain)

Figure 2 (above). Common Potoo *Nyctibius griseus*, REGUA, Rio de Janeiro, Brazil, 20 October 2008; note the absence of any upturned feathers on the upperparts (Lee Dingain)



Figure 3 (above right). Long-tailed Potoo *Nyctibius aethereus longicaudatus*, Napo Wildlife Center, prov. Orellana, Ecuador, 29 January 2005; the upturned feather tips are much less conspicuous on the Amazonian subspecies (Nick Athanas)

Figure 4 (above left). Poorly preserved upturned tips to the greater coverts of specimen BMNH 88.10.3.209 of *Nyctibius a. aethereus* (Lee Dingain / © Natural History Museum, Tring)

Figure 5 (left). Close-up of an upturned tip to one of the greater coverts of specimen BMNH 88.10.3.209 of *Nyctibius a. aethereus*; note the upturned rachis and concave cross-section (Lee Dingain / © Natural History Museum, Tring)

on the upperparts in 69% of Long-tailed Potoo photographs, but not in photographs of any of the other potoos. In most photographs of Long-tailed Potoo where the feature is not evident, the image is either of very low resolution or the upperparts are obscured. However, confusingly there are some photographs where the upperparts are clearly visible, but there is no sign of the feature. The photographic review also revealed that, compared to *N. a. aethereus*, the feature is noticeably less pronounced on *N. a. longicaudatus* (Fig. 3).

Further evidence that upturned feather tips on the upperparts are unique to Long-tailed Potoo was provided by a study of specimens at the Natural History Museum, Tring, UK. The collection holds nine specimens of *N. a. aethereus* and five of *N. a. longicaudatus* (but none of *N. a. chocoensis*). Unfortunately, the feature is poorly preserved, largely because the specimens are stored lying on their upperparts, thereby flattening the feathers. Nevertheless, three specimens of *N. a. aethereus* and one of *N. a. longicaudatus* showed some evidence of upturned tips to the feathers of the upperparts (Fig. 4), and as I found in the photographs, the feature was much more obvious in *N. a. aethereus* than in *N. a. longicaudatus*. An examination of 93 specimens of five other potoo species revealed no evidence of the feature (note that the Tring collection lacks any specimens of White-winged Potoo *N. leucopterus*).

A close look at the upturned feathers of specimens revealed that the curl is produced by the rachis bending outwards and the barbs curving inwards near the tip. At this point, the cross-section of the feather changes from fairly flat to strongly concave, with the centre of the feather curling outwards to a greater extent than the edges (Fig. 5). This structure, which can also be seen clearly in some photographs of birds in the field, might help to maintain their shape? It is difficult to imagine what function these upturned feathers perform other than camouflage, and we can only speculate as to why they have evolved in one potoo species but not others.

So how did this feature remain overlooked for so long? Long-tailed Potoo remains a difficult

species to observe well in the field, with few reliable sites anywhere in its range. Significantly, *N. a. longicaudatus* appears to have been photographed, and therefore presumably seen, much more than *N. a. aethereus*, and the feature is not nearly as easy to see in this subspecies. Finally, this delicate feature is even more difficult to witness in specimens due to the way they are stored, and therefore keeping Long-tailed Potoo skins lying on their underparts is recommended to better preserve it.

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