

## COMUNICACIÓN CORTA/SHORT COMMUNICATION

**The nest, egg, and nestling of Many-striped Canastero *Asthenes flammulata flammulata* (Furnariidae) in northeastern Ecuador**

Harold F. Greeney

*Yanayacu Biological Station & Center for Creative Studies, km 5, vía Las Caucheras, Cosanga, Napo, Ecuador. E-mail: antpittanest@gmail.com*Editado por/Edited by: Esteban A. Guevara  
Recibido/Received: 23 Noviembre 2018 Aceptado/Accepted: 4 Octubre 2019  
Publicado en línea/Published online: 22 Marzo 2020**Nido, huevo y pichón del Canastero Multilistado *Asthenes flammulata flammulata* (Furnariidae) en el noreste de Ecuador****Resumen**

El género *Asthenes* incluye alrededor de 27–30 especies de furnáridos predominantemente distribuidos en áreas montanas. Durante trabajo de campo en los altos Andes del noreste de Ecuador, descubrí cuatro nidos del Canastero Multilistado *Asthenes flammulata flammulata*. Todos los nidos eran estructuras musgosas, casi esféricas, con una entrada lateral y toda la cámara interior forrada con una gruesa capa de envolturas de semillas y pelaje. Todos los nidos fueron construidos en cavidades naturales formadas por vegetación densamente enredada, en o muy cerca del suelo. Dos puestas consistían en dos huevos cada una. Los huevos eran de color blanco inmaculado, de forma corta, ovalada. Los polluelos tenían piel de color naranja-rosado, con plumón de color gris en todas las áreas dorsales. Los picos de los polluelos eran de color naranja-opaco, con comisuras amarillo brillante y el interior de la boca era amarillo-anaranjado brillante. En forma general, los nidos y huevos descritos aquí son similares a otros miembros del género. Sin embargo, una revisión exhaustiva de la literatura indicó que más de la mitad de las especies de *Asthenes* actualmente reconocidas aún carecen de descripciones de sus nidos. Entre ellas se encuentran tres especies de interés para la conservación a nivel mundial.

**Palabras clave:** Andes, *Asthenes flammulata*, biología reproductiva, Canastero Multilistado, Furnariidae, historia natural, nido, pichón.

**Abstract**

The genus *Asthenes* includes around 27–30 species of slender, long-tailed furnariids, predominantly montane in distribution. During fieldwork in the high Andes of northeastern Ecuador, I discovered four nests of Many-striped Canastero *A. flammulata flammulata*. All nests were mossy, nearly spherical balls, with a centrally placed side entrance, and with the entire inner chamber lined with a thick layer of seed down and fur. All were built into natural cavities formed by densely tangled vegetation, on or very near the ground. Two clutches consisted of two eggs each. Eggs were immaculate white, oval to short-oval in shape. Nestlings had orange to pinkish skin at hatch, with sparse gray down plumes on all dorsal feather tracts. Their bills were dull orange with bright yellow rictal flanges, and their mouth linings were bright orange-yellow. In general form, the nests and eggs described here are similar to other members of the genus. A thorough review of the literature, however, indicates that half of the currently-recognized *Asthenes* species have yet to have their nests described. Among these, three species of global conservation concern.

**Keywords:** Andes, *Asthenes flammulata*, breeding biology, life history, Many-striped Canastero, natural history, paramo, reproduction.

Members of the genus *Asthenes*, as currently defined, have been historically placed in numerous other genera including *Siptornis*, *Schizoeca*, *Thripophaga*, and *Synallaxis* (Cory & Hellmayr, 1925; Peters, 1951). Recently, several additional genera have been merged with *Asthenes* (e.g., *Schizoeca*, *Oreophylax*), and several species have been placed in the newly-erected genus *Pseudoasthenes* (Irestedt *et al.*, 2006, 2009; Moyle *et al.*, 2009; Derryberry *et al.*, 2010, 2011; Remsen *et al.*, 2018). Thus, there are currently 27–30 species in the genus

(Dickinson & Christidis, 2014; del Hoyo & Collar, 2016; Remsen *et al.*, 2018). Many-striped Canastero *Asthenes flammulata* lives at elevations above 2800 m a.s.l., in the high Andes from northern Colombia to southern Peru (Remsen, 2003; Ridgely & Tudor, 2009). In Ecuador, it occurs at 3200–4500 m a.s.l., and is fairly common where it occurs (Ridgely & Greenfield, 2001; Freile & Restall, 2018). Despite this, its nesting biology remains completely unstudied, apart from a single report of an active nest in Ancash, Peru (Fjeldså & Krabbe, 1990). Here I provide a description of the nest, eggs, and nestlings of this species based on four nests found in northeast Ecuador, and include a thorough review of the literature on *Asthenes* nesting biology.

I studied four nests in the vicinity of the pass above Papallacta, Napo, Ecuador (-0.332756, -78.200326). Habitat in this area is mostly humid paramo interspersed with patches of elfin forest covering those areas most sheltered from the wind. For more detailed habitat descriptions see Greeney & Harms (2008) and Greeney *et al.* (2011). I found nests opportunistically, during the course of other fieldwork, and was not able to revisit them with any regularity. The first nest was located at 4200 m a.s.l. On 13 December 2004 it contained two nestlings, approximately one day after their primary pin feathers ruptured their sheaths. On 29 September 2005, at 4000 m a.s.l., a second nest contained two eggs, one that was addled and one that hatched on 1 October. At this same elevation, a third nest contained two nestlings on 1 November 2006. The primaries of both nestlings appeared to have broken their sheaths *c.* 1–2 days previously. The fourth nest contained two eggs on 18 October 2006 at 3950 m a.s.l. One of these eggs was also addled, but the second egg was pipped when I examined them on 25 October. My only other observation on breeding activity in this area was a pair of adults feeding a stub-tailed juvenile on 26 November 2011, at 3950 m a.s.l. in the same area.

All four nests (Figs. 1, 2a, 2b) were thick, mossy balls, nearly spherical and with a centrally placed side entrance. All were built into natural, above-ground cavities formed by densely tangled bunch grass (*Festuca* sp.). The height of nests above the ground was difficult to assess, but was never more than 20 cm. Most nests would likely have been categorized as being on the ground by the casual observer. Mean dimensions of three nests (cm  $\pm$  SD) were: outer diameter perpendicular to entrance, 15.8  $\pm$  1.0; outer diameter front-to-back, 15.3  $\pm$  1.5; outer height, 15.7  $\pm$  1.2; entrance width, 4.8  $\pm$  0.2; entrance height, 4.4  $\pm$  7.7; internal chamber width, 7.3  $\pm$  0.3; internal height from bottom of egg-cup, 7.5  $\pm$  0.5, egg-cup diameter, 5.8  $\pm$  0.8; and egg-cup depth, 4.3  $\pm$  0.8.

Nests were all similar in composition. Their external portions were composed of a mixture of moss, small sticks, and grass stems, with the relative proportion of moss much reduced closer to the center. Within this outer shell, the entire nesting chamber was lined with a 1–1.5 cm thick layer of *Puya* sp. seed down (Bromeliaceae) and mammal fur, thickest in the lower portions of the nest. The egg-cup was further insulated with an additional 0.5–1 m of these same materials, with the inner portion of the cup also including a few feathers and, in some cases, a few short, flexible pieces of grass stems. The feathers appeared to be those of other species, but it seems possible that the grass stems in some nests fell in accidentally or perhaps came loose from the inner wall of the nest chamber.

The four eggs I examined were immaculate white (Fig. 2c), oval to short-oval in shape (following Harrison, 1984). Mean measurements (mm) were: 23.5  $\pm$  0.8  $\times$  17.8  $\pm$  0.4. Nestlings were orange to pinkish-skinned at hatch (Fig. 2d), with sparse gray down plumes on all dorsal feather tracts. Their bills were dull orange with bright yellow rictal flanges, and their mouth linings were bright orange-yellow. The two half-grown nestlings (just prior to the emergence of primary pin feathers from their sheaths) weighed 19.4 and 17.3 g. Another two nestlings, 1–2 days after primaries broke their sheaths weighed 23.5 and 22.8 g.

As expected, the eggs of *A. f. flammulata* are immaculate white, as those of its congeners (Nehrkorn, 1899, 1910, 1914; Oates & Reid, 1903; Hartert & Venturi, 1909; Smyth, 1928; Hellmayr, 1932; Kreuger, 1967; Schönwetter, 1979; Remsen, 2003). A clutch of two eggs is also similar to the more equatorial *Asthenes* species. Previous nest descriptions within *Asthenes sensu lato* (Derryberry *et al.*, 2010, 2011; Dickinson & Christidis, 2014) are available for 20 taxa (Table 1). Nests of Hudson's Canastero *A. hudsoni*, Streak-throated Canastero *A. h. humilis*, and Cipo Canastero *A. luizae* all appear particularly similar to the nests of *A. f. flammulata* described here. Even with the description of the nest of *A. f. flammulata*, the nest architecture and placement of more than half of the recognized species of *Asthenes* remain unavailable for comparison. Furthermore, breeding biology of the 14 species lacking nest descriptions, including three species of conservation concern (BirdLife International, 2019), remains almost entirely unknown: Berlepsch's Canastero *A. berlepschi* (Near Threatened); Line-fronted Canastero *A. urubambensis*, Junín Canastero *A. virgata*, Scribble-tailed Canastero *A. maculicauda*,

Puna Thistletail *A. helleri* (Vulnerable), Ayacucho Thistletail *A. ayacuchensis*, Vilcabamba Thistletail *A. vilcabambae*, Canyon Canastero *A. pudibunda*, Rusty-fronted Canastero *A. ottonis*, Maquis Canastero *A. heterura*, Eye-ringed Thistletail *A. palpebralis*, Ochre-browed Thistletail *A. coryi*, Perija Thistletail *A. perijana* (Endangered), and Mouse-colored Thistletail (*A. griseomurina*).



Figure 1: Nests of Many-striped Canastero *Asthenes f. flammulata* near Papallacta, Napo, Ecuador (H. F. Greeney).

Despite the ever-growing body of literature available on the biology of Neotropical birds (Freile *et al.*, 2014), our knowledge of their reproductive ecology, particularly in megadiverse countries such as Ecuador (Greeney, 2015), remains far from complete (Heming *et al.*, 2013). On the bright side, both historical and current nesting records can now be searched and acquired with increasing ease via online resources like Scopus (<https://www.scopus.com/home.uri>) and Biodiversity Heritage Library (<https://www.biodiversitylibrary.org/>). Nevertheless, the volume of available ornithological literature is vast and is expanding exponentially, making the compilation and organization of information a daunting and time-consuming task. As scientists and academic authors, we all stand upon the shoulders of those who came before us, just as future generations should rely on our own published works. Work we carry out now will be, and should be, a benefit to future authors. I therefore encourage not only the publication of breeding information on Neotropical birds, but also the inclusion of a well-researched bibliography relating to the taxa and topics covered in each publication.

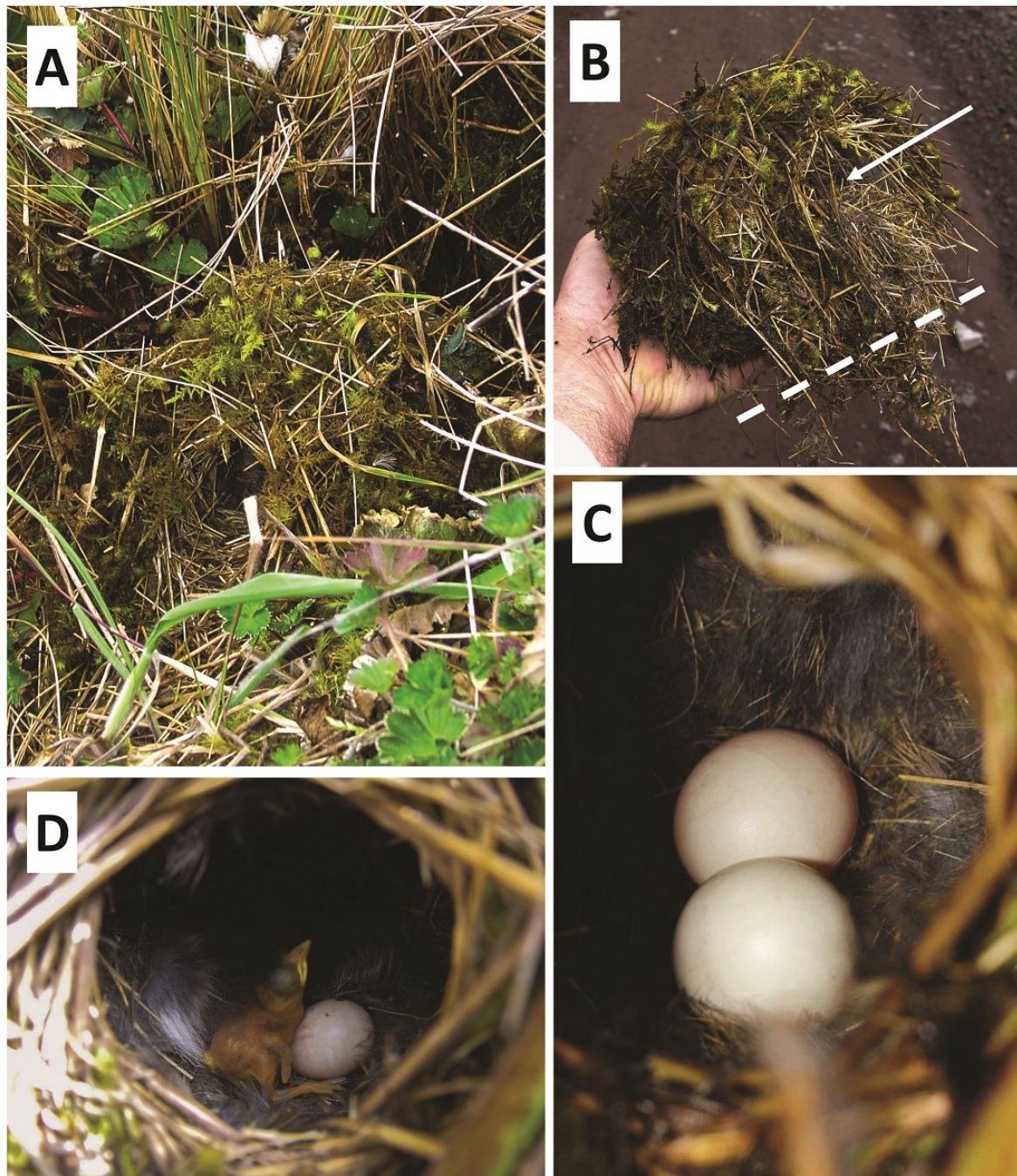


Figure 2: Breeding biology of Many-striped Canastero *Asthenes f. flammulata* near Papallacta, Napo, Ecuador. A) Nest, *in situ*, with surrounding vegetation removed; B) lateral view of a nest (held at an upward-tilted angle), *ex situ*. The white arrow indicates location of entrance and dashed white line shows the orientation of the ground below the nest; C) complete clutch of two immaculate white eggs. Note the thick layer of mammalian fur within the nest chamber; D) egg and newly-hatched nestling inside nest.

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Table 1: Published nest descriptions for the genus *Asthenes* (Furnariidae).

English name	Latin name	Source
Creamy-breasted Canastero	<i>A. dorbignyi dorbignyi</i>	Lönnberg, 1903; Narosky <i>et al.</i> , 1983; Salvador, 2015.
Dark-winged (Arequipa) Canastero	<i>A. dorbignyi arequipae</i>	Dorst 1956, 1957; Fjeldså & Krabbe, 1990; Lüthi 2011.
Pale-tailed (Huancavelica) Canastero	<i>A. dorbignyi huancavelicae</i>	Morrison, 1939.
White-tailed Canastero	<i>A. dorbignyi usheri</i>	Fjeldså & Krabbe, 1990.
Short-billed Canastero	<i>A. baeri baeri</i>	Hartert & Venturi, 1909; Pereyra, 1937; de la Peña, 1987; Mezquida, 2000, 2001.
Cipo Canastero	<i>A. luizae</i>	Studer & Teixiera, 1993; Gomes & Rodriguez, 2010.
Hudson's Canastero	<i>A. hudsoni</i>	Dalgleish, 1881; Sclater & Hudson, 1888; Hartert & Venturi, 1909; Grant, 1911; Hudson, 1920; Wetmore, 1926; Wilson, 1926.
Austral Canastero	<i>A. anthoides</i>	Pässler, 1922; Hellmayr, 1932; Philippi <i>et al.</i> , 1954; Narosky <i>et al.</i> , 1983.
Many-striped Canastero	<i>A. f. flammulata</i>	This study.
Streak-backed Canastero	<i>A. wyatti graminicola</i>	Dorst, 1963.
	<i>A. w. aequatorialis</i>	Phelps, 1977.
Puna Canastero	<i>A. s. sclateri</i>	Narosky <i>et al.</i> , 1983; de la Peña, 1987.
	<i>A. sclateri punensis</i>	Höy, 1975.
Streak-throated Canastero	<i>A. h. humilis</i>	Vaurie, 1980.
Cordilleran Canastero	<i>A. m. modesta</i>	Goodall <i>et al.</i> , 1957; Johnson & Goodall, 1967; de la Peña, 1987.
	<i>A. m. australis</i>	Goodall <i>et al.</i> , 1957; Johnson & Goodall, 1967; Narosky <i>et al.</i> , 1983.
Itatiaia Spinetail	<i>A. moreirae</i>	Sick, 1970, 1993.
Sharp-billed Canastero	<i>A. p. pyrrholeuca</i>	Wetmore, 1926; Pereyra, 1937; Nores & Yzurieta, 1975; Narosky <i>et al.</i> , 1983.
Sharp-billed Canastero	<i>A. p. sordida</i>	Goodall <i>et al.</i> , 1957; Johnson & Goodall, 1967.
Black-throated Thistletail	<i>A. harterti bejaranoi</i>	Vuilleumier, 1969.
White-chinned Thistletail	<i>A. f. fuliginosa</i>	Hilty & Brown, 1986.

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