

# The nest and nestlings of the Black-tailed Flycatcher, *Myiobius atricaudus snethlagei* (Passeriformes: Onychorhynchidae)

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**ABSTRACT:** The Black-tailed Flycatcher, *Myiobius atricaudus*, is a Neotropical insectivorous bird species with seven recognized subspecies. This contribution focuses on *M. a. snethlagei*, a subspecies from northeastern Brazil that can be identified based on plumage characters. To our knowledge, information on the breeding of the Black-tailed Flycatcher is scarce and is restricted to the other two subspecies, *M. a. atricaudus* and *M. a. ridgwayi*. We describe an active nest observed on 15 February 2017 in the northeastern slope of the Araripe Plateau, Ceará state, Brazil. The nest containing two nestlings was a long and closed pensile structure, attached from the tip to a slender branch and suspended 89 cm over a small stream inside the forest. The nest was mainly composed of long rootlets, strips of dried leaves, tendrils and some fine sticks. It was found in the Brazilian Caatinga Dry Forest during the rainy season, which does not correspond to the breeding period of birds in other localities of northeastern Brazil. Despite several similarities among the nests of *M. a. atricaudus*, *M. a. ridgwayi* and *M. a. snethlagei*, leaves and spider web were not observed among the materials used to build the nest of *M. a. snethlagei*. This might be a useful feature to differentiate between the nests of this species and the other subspecies. Furthermore, the nest description is consistent with the pattern of nest architecture known for the members of Family Onychorhynchidae.

**KEY-WORDS:** Araripe Plateau, Caatinga, Neotropical bird, northeastern Brazil, rainy season.

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The genus *Myiobius* Gray, 1839 comprises three or four species of Neotropical insectivorous birds with large eyes and long rictal bristles (Clements *et al.* 2016, Farnsworth & Lebbin 2017, Remsen *et al.* 2017). The genus used to be classified in the family Tyrannidae, until more recent phylogenetic studies suggesting that it is closely related to *Onychorhynchus* Fischer von Waldheim, 1810 and *Terenotriccus* Ridgway, 1905, which belong to the family Onychorhynchidae (Ohlson *et al.* 2013).

The Black-tailed Flycatcher *Myiobius atricaudus* Lawrence, 1863 is a medium-sized bird (12–12.7 cm) with dark olive-green crown and back, grey face, long rounded black tail, dark wings and yellow coronal patch, rump and belly (Farnsworth & Lebbin 2017). It includes seven recognized subspecies, occurring from southwestern Costa Rica to southern and western Colombia. This contribution focuses on the subspecies *M. a. snethlagei*, from northeastern Brazil (including the states of Maranhão, Piauí, Ceará, west Bahia and southeast Goiás) (Clements *et al.* 2016, Farnsworth & Lebbin 2017). There, *M. a. snethlagei* inhabits mainly the understory of

both humid and dry forests, and vegetation of Cerrado domain (Nascimento *et al.* 2000). This subspecies can be distinguished from the others by its plumage on the throat and breast, which is brighter yellow, and rump with some orange-buff tinge (Farnsworth & Lebbin 2017).

To our knowledge, information on the breeding of the Black-tailed Flycatcher is scarce and is restricted to only two subspecies, with few dimensions provided (Table 1). Description of the nest architecture, measurements, and characteristics of the eggs and nestlings of *M. a. atricaudus* were provided by various authors (Stone 1918, Skutch 1960, Gross 1964, Wetmore *et al.* 1972, Willis & Eisenmann 1979). Information on *M. a. ridgwayi* is even scarcer. A female was recorded with incubation patch, and a brief description of the nest was given (Davis 1945, Kirwan 2009). In this short communication we aim to describe the nest and nestlings of *M. a. snethlagei* from northeastern Brazil.

An active nest of the Black-tailed Flycatcher was observed on 15 February 2017 (7°19'59.6"S; 39°24'40.9"W, 733 m a.s.l.) near Nascente do Farias, on

**Table 1.** Measurements of the nests and nest characteristics (in mm) of *Myiobius atricaudus* subspecies (in mm) Caatinga Biome, northeast Brazil.

Subspecies	High above ground/ water	Outside height	Outside diameter	Nesting chamber height	Nesting chamber diameter	Entrance length	References
<i>M. a. ridgwayi</i>	7000	300	120				Kirwan 2009
<i>M. a. atricaudus</i>	3048						Skutch 1960
	500	510				38 × 45	Gross 1964
<i>M. a. snethlagei</i>	890	410	52.5	62.9	44.6	43.6 × 31	This study

**Figure 1.** Lateral view of the nest, depicting the attachment, architecture and material of *Myiobius atricaudus snethlagei* in the Caatinga Biome, northeast Brazil. Photo author: D.F. Perrella.

the slope of the Araripe Plateau, Ceará state, northeastern Brazil. The area is located in the Cariri Valley, where several permanent water sources such as springs and streams maintain an evergreen humid forest in the midst of the semi-arid Brazilian Caatinga (Bencke *et al.* 2006). The mean annual temperature there varies between 24.1 and 27.4°C, with annual precipitation averaging 1033 mm (Linhares *et al.* 2010). The climate is arid steppe with hot temperatures – BSh description according to Köppen-Geiger classification (Peel *et al.* 2007).

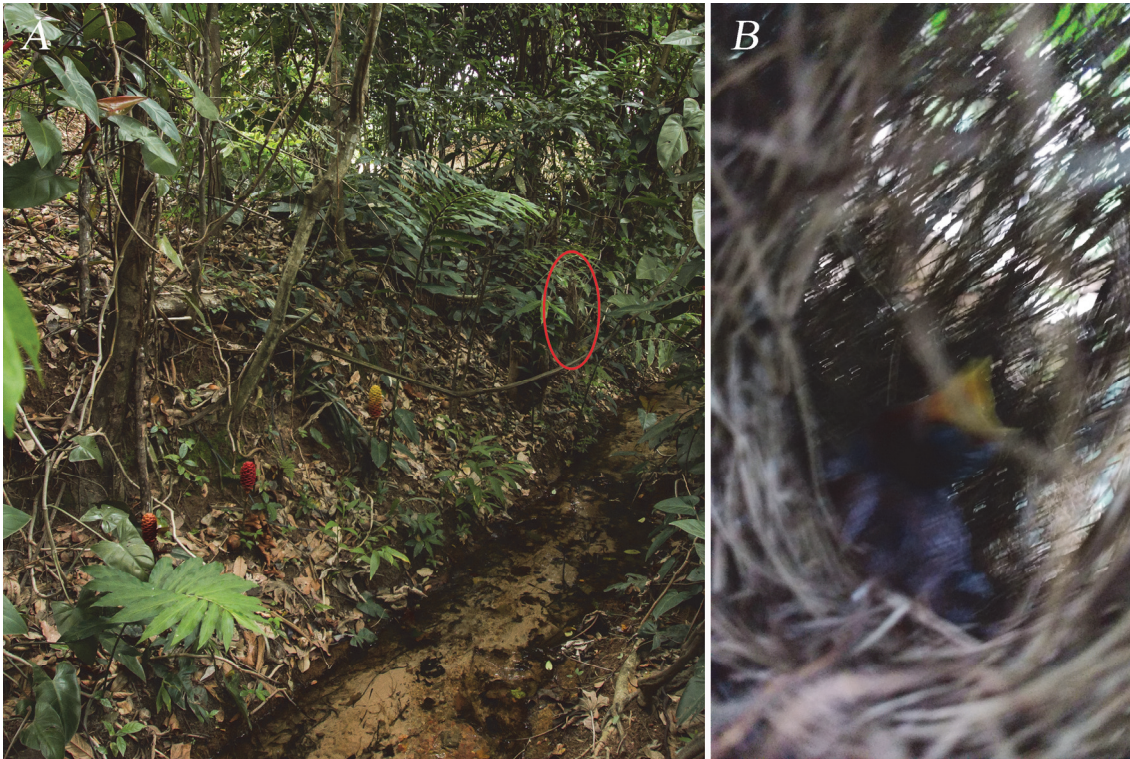
Measurements of the nest for description were

collected with a metal caliper nearest 0.1 mm and the main measurements (height above the water and nest total length) were taken with a measuring tape. The classification of the nest type followed Simon & Pacheco (2005) and nest dimension patterns followed Hansell (2000).

The nest (Fig. 1), containing two nestlings in their initial stage of development, was over a small stream inside the forest and near the border (Fig. 2A). It consisted of a long, closed, pensile structure attached from the tip to a slender branch and suspended 89 cm above water. It was pyriform with lots of tightly bonded material and ended in a chamber with circular lateral entrance, located on the lower portion of the nest. The nest had the following dimensions: total outside height 41 cm; widest outside diameter 52.5 mm; outside height of nesting chamber 62.9 mm; inside diameter of nesting chamber 44.6 mm; circular chamber entrance 43.6 mm (horizontal length) per 31 mm (vertical length). The nest wall was composed mainly of long rootlets, strips of dried leaves, tendrils and some fine sticks, making the nest pale brown on the outside. In the bottom, there were loose rootlets dangled irregularly forming a “tail” measuring 43 cm. The same material in the walls was projected over the entrance of the nest chamber, covering it. The outer surface was poorly adorned with some sticks, and the inner lining was composed of thin rootlets.

The nestlings had their eyes closed and were totally devoid of down. The skin on their bodies was dark reddish, and on their heads, dark grey. Their bills were dark, the swallow flanges and the interior of their mouth was bright yellow (Fig. 2B). During approximately one hour of nest observation, only one parent came to attend the nestlings. This parent brought whole arthropods to the nest, in its beak. After provisioning the nest, the adult brooded the nestlings while its tail projected to the outside, remaining totally covered by the projection of material over the chamber's entrance.

The observed nest was found during the rainy season in the northeastern slope of the Araripe Plateau (Linhares *et al.* 2010). However, this does not correspond to the breeding period of birds in other localities of northeastern Brazil, where reproduction activities were detected from



**Figure 2.** Nest placement over the stream inside forest (A) and nestlings (B) of the Black-tailed Flycatcher, of *Myiobius atricaudus snethlagei* in the Caatinga Biome, northeast Brazil. Photo author: D.F. Perrella.

March to July in Rio Grande do Norte state (Cavalcanti *et al.* 2016), and from June to August in the state of Paraíba (Telino-Júnior *et al.* 2005). It is possible that the different reproductive phenology of the Black-tailed Flycatcher is associated to seasonal rains, that influences the timing of breeding cycles in the Caatinga, as found by other studies conducted in semi-arid habitats (Illera & Díaz 2006, Cavalcanti *et al.* 2016).

Although definitive conclusions cannot be drawn from one nest, the data presented here is useful to compare the characteristics of the nest of *M. a. snethlagei* with the nests of the other subspecies of *Myiobius*. It is known that both *M. a. atricaudus* and *M. a. ridgwayi* construct closed and elongated nests attached by the tip and that those nests are mainly composed of rootlets and leaf fibers (Stone 1918, Skutch 1960, Gross 1964, Wetmore *et al.* 1972, Kirwan 2009), matching the information provided here on *M. a. snethlagei*. Hatchlings with no down, with dark skin and yellow mouth also seem to be conditions present in the other subspecies (Skutch 1960, Gross 1964). However, according to Gross (1964), the birds of the nominate subspecies use spider web to bond the nest material and entire leaves to compound the outer surface of the nest. We did not find such materials in the nest of *M. a. snethlagei*.

Despite considerable volume of material on the nest, the chamber has a small size. So when the bird sits for brooding, with the head facing the back of the nest, its

tail projects out of the entrance. This has been observed in other members of the genus *Myiobius*, *Onychorhynchus* and *Terenotriccus* (Skutch 1960). The projected material over the nest entrance might represent a strategy to hide or to keep both the access to the chamber and parents safe. Another characteristic shared among the species of the family Onychorhynchidae and reinforced by the information provided here is the nest architecture pattern (Tello *et al.* 2009), depicted as an elongated and closed pendulous structure with the incubation chamber below and lateral entrance (Fitzpatrick *et al.* 2004 and references therein).

Here, we provide additional information on the reproduction of the Black-tailed Flycatcher, and present the first data on the nest and nestlings of *M. a. snethlagei*. Despite other similarities among the nests of the three subspecies, we did not find evidence that *M. a. snethlagei* uses leaves and spider web, as the nominate subspecies does, in nest construction. Furthermore, this nest description further strengthens the known pattern of nest architecture of other members of the Family Onychorhynchidae.

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