



## NOTES ON THE NEST AND BREEDING OF GOELDI'S ANTBIRD (*AKLETOS GOELDII*), A BAMBOO SPECIALIST, FROM UCAYALI, PERU

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**Abstract** · On 2 September 2018, we found a nest of Goeldi's Antbird (*Akletos goeldii*) in a patch of guadua bamboo (*Guadua* sp.). During the next week, we made regular observations of this nest, obtaining video and photographs of the nest structure, eggs, nestlings, and parental care behaviors. These data clarify previous discrepancies in reports of nest architecture for *A. goeldii* and deepen our knowledge of the breeding biology of this species.

**Resumen** · Notas sobre el nido y reproducción del hormiguero de Goeldi (*Akletos goeldii*), un especialista en bambú, en Ucayali, Perú

El 2 de septiembre de 2018, detectamos un nido del hormiguero de Goeldi (*Akletos goeldii*) en un parche de guadua bambú (*Guadua* sp.). En el transcurso de la semana siguiente, realizamos observaciones de este nido y obtuvimos videos y fotografías de la estructura del nido, huevos, pichones y comportamientos de cuidado parental. Estos datos aclaran las discrepancias previas en los informes de arquitectura de nidos para *A. goeldii* y aumentan nuestro conocimiento de la biología reproductiva de esta especie.

**Key words:** *Guadua* bamboo · Nesting biology · Parental care · Reproduction · Thamnophilidae

### INTRODUCTION

On 2 September 2018, we detected a nest of Goeldi's Antbird (*Akletos goeldii*) during avifaunal surveys, 31.3 km NW of Sepahua on the east bank of the Río Urubamba, Ucayali Region, Peru (10°53'20.4"S, 73°9'39.6"W, 300 m a.s.l. elevation; Moncrieff et al. 2020). The nest was on the ground c. 250 m into a dense stand of c. 8–10 m tall guadua bamboo (*Guadua* sp.) and c. 0.5 m to the side of a frequently used trail. The stand was between a pasture and mature *terra firme* forest and extended for c. 1 km along the trail.

As discussed by Greeney et al. (2013), previous reports of *A. goeldii* nests have included conflicting details on nest structure. Parker (1982) and Zimmer and Isler (2003) described *A. goeldii* nests as “cups” placed on the ground. In contrast, the first photo published of an *A. goeldii* nest showed a domed structure on the ground with a side entrance (Lebbin et al. 2007). Further confirmation of nest architecture in *Akletos* is of particular importance because domed nest construction was noted as a taxonomic character of *Akletos* in a revision of the genus *Myrmeciza* (Isler et al. 2013). Previously, cup nests were thought to be a trait that distinguished *A. goeldii* from close relatives (Zimmer & Isler 2003, Bradley 2008). Additionally, observations of parental care for this species are limited to those by Parker, who noted that a nest containing one egg was incubated by both parents (Parker 1982). *Akletos melanoceps*, the sister species to *A. goeldii* (Isler et al. 2013) also exhibits incubation by both sexes (Link & Ramírez 2003, Greeney et al. 2004).

### RESULTS AND DISCUSSION

**Description of *A. goeldii* nest architecture.** The nest we found had a domed structure (video ML236431031), slightly sunken into the leaf litter and almost entirely constructed of dead bamboo leaves (Figure 1A–B). The nest was protected from above by a lattice of four thick downed bamboo stems (Figure 1A). The nest measured 24 cm tall x 36 cm wide, with an opening 8 cm tall x 9 cm wide and a front-to-back diameter of 12 cm. The nest had a 11 cm long and slightly down-sloped side entrance. Our observations of *A. goeldii* nest architecture are consistent with those of Lebbin et al. (2007) and further support domed nest architecture as a synapomorphy uniting *Akletos* (Link & Ramírez 2003, Greeney et al. 2004, Lebbin et al. 2007), *Hafferia* (Wilkinson & Smith 1997, Cerón-Cardona & Londoño 2017), *Percnostola* (Willis 1992), *Pyriglena* (Protomastro 2002), *Gymnocichla* (Bradley 2008), and *Myrmoborus* (Londoño 2003, Lebbin et al. 2007). This feature distinguishes the clade from *Myrme-*

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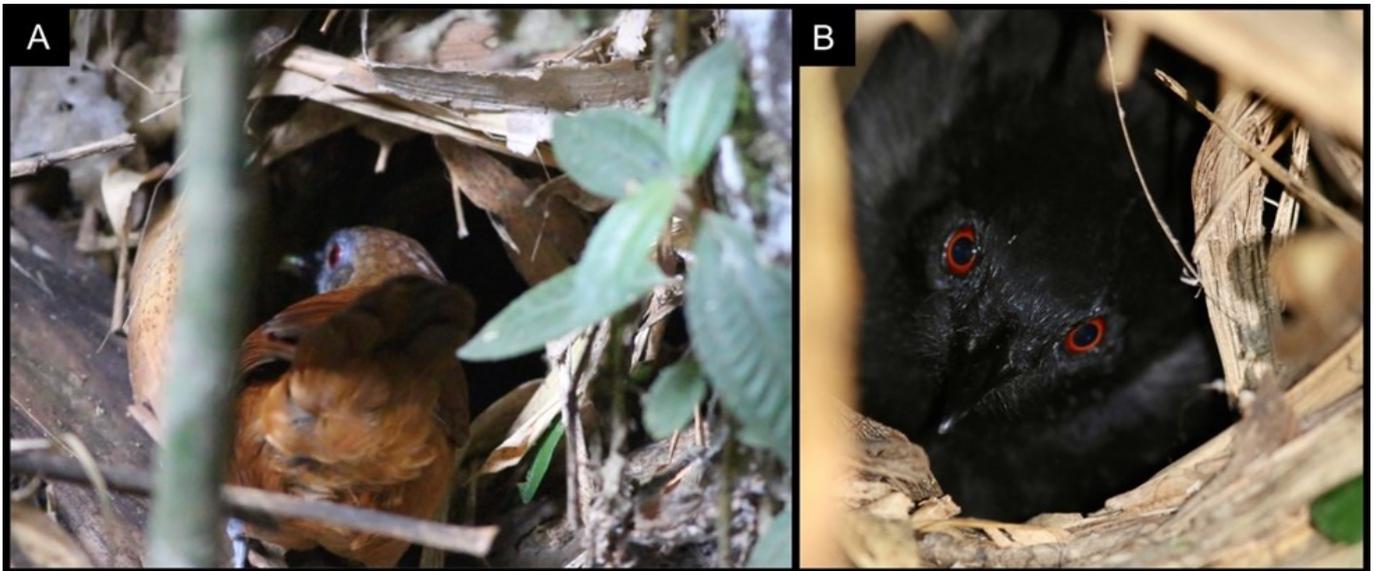
**Figure 1.** A) Goeldi's Antbird (*Akletos goeldii*) domed nest located under fallen bamboo stems (ML236431031). B) Two eggs in the nest on 3 September 2018 (ML 228028681). C) Two nestlings present and begging for food, first observed on 4 September and photographed here on 5 September 2018 (ML228027081). Photographs by AEH.

*ciza longipes* (Belcher & Smooker 1936, Greeney et al. 2013) and members formerly in the genus *Myrmeciza* (e.g., *Sipia la-mosticta*, *Myrmelastes hyperythrus*), all of which have open cup nests (Wilkinson & Smith 1997, Londoño 2003, Greeney et al. 2013, Isler et al. 2013).

**Observations of *Akletos goeldii* parental care.** On 3 September, we flushed a male off the nest at 13:19 h (Peru Standard Time). It contained two grayish white eggs with irregular dark red-brown splotches (Figure 1B). On 4 September when we checked at 06:16 h and both eggs had hatched. The skin of the nestlings was dark pink to black, without natal down. The bill was black, with a light-yellow fleshy gape and dark-yellow lining. The nestlings exhibited begging behavior when we approached (Figure 1C). We also video-

recorded a female visiting the nest at around 10:20 h (video ML236435641). The female *A. goeldii* called loudly several times and then approached the nest from above, landing in front of the entrance carrying a large green arthropod in her mouth (Figure 2A). She looked left and right for 18 seconds and, after delivering the prey, covered the nestlings for c. 5 min. At 11:56 h, we again observed a female brooding. On 5 September at 13:00 h, we noted the two young in the nest and heard a parent call from nearby. On 7 September at 11:08 h, we photographed a male sitting on the nest (Figure 2B), and on 9 September we observed at least one nestling, which had begun developing a covering of post-natal down feathers.

Hatching at this nest (3 September) was slightly earlier than the other egg records for *A. goeldii* (egg in nest 30 Sep-



**Figure 2.** A) Female *A. goeldii* visiting the nest with food on 4 September 2018 (ML236435641). B) Male brooding on the nest containing two nestlings on 7 September 2018 (ML228026741). Photographs by AEH.

tember; Parker 1982, egg in nest 5 October; Lebbin et al. 2007), but is largely consistent with the dry season breeding times of other lowland bamboo-specialist antbirds in eastern Peru (Kratter 1997) such as *Cercomacra manu* (male incubating nest 11 September; Kratter 1998), *Myrmoborus lophotes* (eggs in nest 4–7 September; Lebbin et al. 2007), and close relative *Hafferia fortis* (hatching between 8 September and 8 December in SE Peru; Cerón-Cardona & Londoño 2017). Like Parker (1982), we documented incubation by both sexes, and we demonstrated that biparental care extends through the nestling period.

Our observations definitively clarify the nest architecture of *A. goeldii*, provide a description of hatchlings for the species, and confirm biparental care, a common behavior in *Thamnophilids*.

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