

OBSERVATIONS OF THE BREEDING BEHAVIOR OF THE YELLOW-TUFTED WOODPECKER (*MELANERPES CRUENTATUS*) IN NAPO PROVINCE, ECUADOR

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ABSTRACT · The Yellow-tufted Woodpecker (*Melanerpes cruentatus*) is common and conspicuous across most of tropical South America. Nevertheless, there is little information available on its breeding behavior. I describe observations of a breeding pair, made between 15 February and 10 March 2016, near the Biological Reserve Colonso Chalupas in the province of Napo, Ecuador. I observed aggressive interactions between *M. cruentatus* and Masked Tityras (*Tityra semifasciata*), likely as a result of competition for nest-holes. I did not observe cooperative breeding. My observations suggest that breeding in Ecuador may commence as early as February, and that *M. cruentatus* requires dead, standing tree snags, an element often eliminated from anthropogenic landscapes. The availability of snags should be part of ecosystem management, especially in the buffer zone of a protected area.

RESUMEN · Observaciones del comportamiento de anidación del carpintero azulado (*Melanerpes cruentatus*) en la provincia de Napo, Ecuador

El Carpintero Azulado (*Melanerpes cruentatus*) es una especie común que se encuentra en gran parte de América del Sur tropical. Sin embargo, hay poca información disponible sobre su comportamiento reproductivo. Detallo observaciones hechas entre el 15 de febrero al 10 de marzo de 2016, sobre una pareja reproductora, cerca de la Reserva Biológica Colonso Chalupas en la provincia de Napo, Ecuador. Observé interacciones agresivas entre *M. cruentatus* y *Tityra semifasciata*, probablemente como resultado de la competencia por huecos aptos para anidar. No observe indicios de reproducción comunal o cooperativa. Mis observaciones sugieren que el periodo reproductivo puede comenzar en febrero en el este de Ecuador y que *M. cruentatus* requiere árboles muertos en pie para nidificar. Asegurar la disponibilidad de estos árboles debe ser parte del manejo del ecosistema, especialmente en la zona de amortiguamiento de un área protegida.

KEY WORDS: Breeding behavior · Cavity-nester · Ecuador · Reserva Biológica Colonso-Chalupas · Snag · Yellow-tufted Woodpecker

The Yellow-tufted Woodpecker (*Melanerpes cruentatus*) is a common and conspicuous species with a range that extends across most of tropical South America (Ridgely & Greenfield 2001, Winkler & Christie 2016). In eastern Ecuador, in the Napo Province, it is easily observed in a variety of landscapes and habitats, from secondary rainforest to 'chakras' (small-scale agricultural clearings with a mix of banana, yucca, and other crops, and an occasional isolated tree). However, and despite its commonness, there is little information available on its breeding behavior. Here, I describe observations of a single breeding pair and describe interspecific interactions with potential nest usurpers and predators.

On 15 February 2016, I observed two adults on top of a dead tree, near the settlement of Alto Tena (location of tree: 0°56'26"S, 77°52'49"W, 696 m a.s.l.) between 12:30 and 13:00 h local time. This location is close (< 2 km) from the edge of the newly established Biological Reserve Colonso-Chalupas, and as such could be considered to be located within the 'buffer zone' of this protected area (Ecuador's Ministry of Environment, pers.com.). I returned the following day, between 15:20 h and 16:30 h, with 8x40 binoculars and a 40x birding telescope to observe the behavior of the birds, and to measure and describe tree characteristics. In addition to this first hour of observation, I returned to the site three more times, on 24 February (08:40–09:42 h), 3 March (08:48–10:00 h), and 10 March (16:22–17:22 h) and conducted three additional hours of observation.

The nest tree was located approximately 20 m from an unpaved road, in the middle of a chakra that consisted predominantly of banana plants. The nearest tree (of > 10 cm diameter DBH) was found at a distance of approximately 10 m. The nest tree was approximately 19 m high, lacked crown and leaves, had lost most of its bark, and

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Figure 1. *Melanerpes cruentatus* adult sticking head out of (a) and inside (b) the putative nesting cavity, most likely feeding nestlings, near Tena, eastern Ecuador. Photos: Y. van der Hoek.

epiphytes were growing near its top. There were no clear signs of fungi-fruiting bodies or termite activities. Given the lack of identifiable features it was difficult to determine the species membership, but according to local Kichwa residents the tree was likely a *Eugenia* sp. (Myrtaceae). The tree measured 41 cm DBH, and had five oval (c. 5 cm in radius) woodpecker-excavated holes between 17 m and 18 m high. The holes were all oriented towards south-east, between 135 and 165 degrees, respectively.

Each visit, I was able to observe a pair of *M. cruentatus* adults (one male, with red patch visible on crown, and one female), on or near the nest tree. Both adults, in turns, visited the same hole throughout the four hours of observation. They occasionally entered the nest hole (Figure 1a) and often stick their head inside (Figure 1b), apparently providing food to nestlings. It was impossible to look inside the cavity due to the height of the hole and the fragile state of the tree, but this behavior of return-

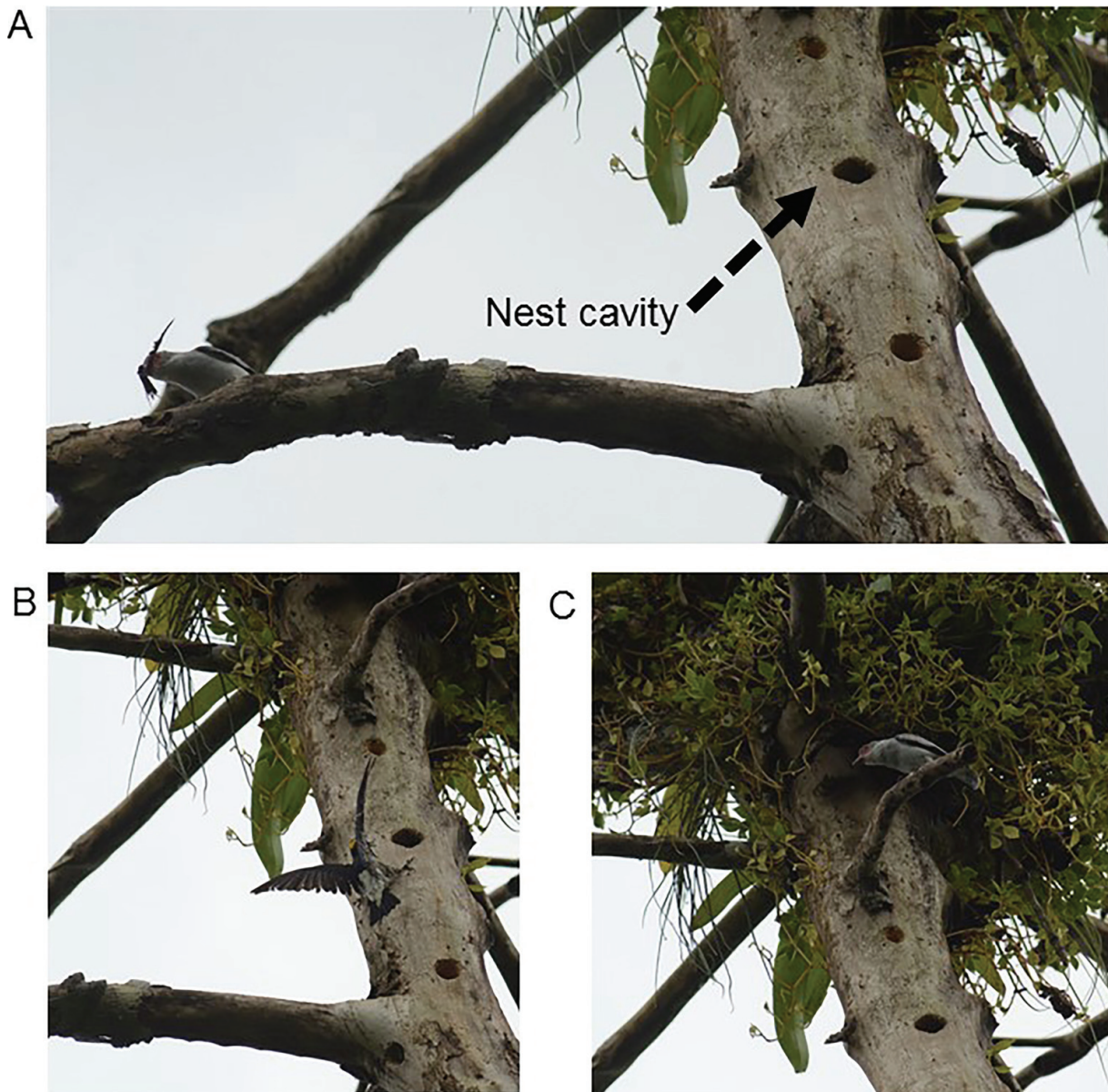


Figure 2. Aggressive interactions between *Melanerpes cruentatus* and *Tityra semifasciata* at the nest tree, near Tena, eastern Ecuador. (A) A male *Tityra semifasciata* approaches a *Melanerpes cruentatus* nest cavity with likely nesting materials in bill (B) *M. cruentatus* chases a female *Tityra semifasciata* away which, (C) remains perched in nearby branch. Photos: Y. van der Hoek.

ing, at least every half hour, to the same hole indicated the presence of at least one young. Each day of observation, I noted that it was common for one adult to remain near (ca. 1 m distance) the cavity entrance. This remaining individual (of either sex) sometimes probed under a bit of remaining bark, or would sporadically be active drumming, but mostly remained silent and still.

Occasionally, both parents stayed away from the nest tree for over 10 minutes. During two of these brief periods of absence, Chestnut-eared Araçaris (*Pteroglossus castanotis*) approached the nest tree, only to leave within 20 seconds. Adult *M. cruentatus* did not return to the nest or attacked the Araçaris. Conversely, there were occasions (two to four times per hour) each day that one or two Masked Tityras

(*Tityra semifasciata*) perched on a branch on the nest-tree. In all cases they were instantaneously confronted (aggressively and with vocalizations) by both returning *M. cruentatus*, and left immediately afterwards. On one occasion, a male *T. semifasciata* perched within 50 cm of the nest cavity carrying what seemed to be nesting material (Figure 2a). Quickly after, a female *T. semifasciata* approached the nest cavity, and was able to stick its head inside for a second, before being chased away by both adult *M. cruentatus* (Figures 2b-c). Both *M. cruentatus* subsequently stayed near the nest, one of them entering the nest hole twice.

On 4 March, 17 days after the first observation of adult *M. cruentatus* feeding one or more nestlings, there were still signs of feeding. However, on 10

March, now 23 days after the first observation, I observed a fledgling *M. cruentatus*, showing duller colors, greyer underparts, and less distinct barring than the adults, perched on top of the dead tree, and an adult actively excavating another hole in the same tree.

Similar to Robinson (1997) and Haverschmidt (1968), I found that interactions between *M. cruentatus* and *T. semifasciata* were common. Skutch (1946), although referring to a different woodpecker species, also noted that *T. semifasciata* made use of woodpecker holes that were used for roosting, or even those that were just completed and likely intended for nesting. Interestingly, the individuals of *T. semifasciata* continuously approached the cavity that had the apparent nest, even though various other cavities were available. Although there were various woodpecker-excavated holes in the nest tree, I did not observe coloniality or cooperative breeding, behavior that might help defend against interspecific aggression. Finally, my observations suggest that breeding in eastern Ecuador may commence as early as February, whereas current knowledge indicates that it usually occurs between March and June (Lévêque 1964, Greeney et al. 2004), or perhaps even as late as September (Greeney & Gelis 2008). Additional observations will be required to conclude the actual breeding season of this species in eastern Ecuador.

Melanerpes cruentatus, as an edge species (Terborgh et al. 1990), seems to adapt relatively well to human intervention, such as habitat fragmentation (Lees & Peres 2006). Nevertheless, the study indicates that one element often eliminated from landscape by anthropogenic activities may be required for the breeding of this species: dead standing trees. Especially in the Neotropics, snags are of utmost importance for many cavity-breeding birds (Gibbs et al. 1993), and species such as *M. cruentatus* and also *T. semifasciata* are no exception. Lévêque (1964) and Short (1970) also describe the use of dead trees for breeding (?), although Greeney & Gelis (2008) report this species excavating in a living *Inga* tree. Ensuring that such snags are available to cavity-nesting species could thus be an

effective part of ecosystem management, especially in the buffer zone of a protected area such as Biological Reserve Colonso Chalupas.

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