

FIRST DESCRIPTION OF THE JUVENILE PLUMAGE OF THE CRITICALLY ENDANGERED KAEMPFER'S WOODPECKER (*CELEUS O布里ENI*) OF CENTRAL BRAZIL

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Primera descripción de la plumagem juvenil do críticamente ameaçado Pica-pau-do-parnaíba (*Celeus obrieni*) no Brasil Central.

Key words: Kaempfer's Woodpecker, *Celeus obrieni*, juvenile plumage, Brazil.

The Kaempfer's Woodpecker (*Celeus obrieni*) was described by Short (1973) from a single specimen collected in 1926 by Emil Kaempfer in Uruçui region, Piauí. Based on morphological similarities it was traditionally considered a subspecies of the Rufous-headed Woodpecker (*Celeus spectabilis*) (e.g., Short 1973, Sick 1997), occurring between Peru and the Amazon state of Acre. However, more recent workers (e.g., Whittaker & Oren 1999, Winkler & Christie 2002) elevated *obrieni* to species rank to due to a distinct morphology and biogeography of both taxa.

Since its discovery, the absence of any further records caused doubt as to the existence of the species, which was given as probably extinct as recently as 2006 (Tobias *et al.* 2006). In October 2006, 80 years after the species

was collected in Piauí for the first time, a female was captured in Goiatins, northeastern Tocantins, 400 km southwest of the type locality (Prado 2006). Since this rediscovery, the species has been found in several other localities in the states of Tocantins, Maranhão, Piauí, and Goiás (Santos & Vasconcelos 2007, Pinheiro & Dornas 2008, Pacheco & Maciel 2009, Dornas *et al.* 2009). All prior records refer to adults with an entire rufous head and crest, abruptly becoming pale buffy on the sides of the neck and hindneck, and black on the throat and chest (Short 1973). The male differs from the female only by exhibiting a red malar stripe (Sick 1997).

Further specimens of Kaempfer's Woodpecker were collected by Hidasi in the 1960s and deposited the ornithological collection of

Institute José Hidasí of Biodiversity - IJHB (Dornas *et al.* 2009). Santos & Vasconcelos (2007) provide two records for the species in Maranhão. The first visual record was from São Pedro da Água Branca, Maranhão, with the individual having a yellow cloak and barred dark reddish-brown head. The second record in Serra da Raposa, Maranhão, was a sub-adult male, according to the analysis of the skull bone, but its plumage had characteristics of an adult. Pinheiro & Dornas (2008) captured an adult female in Pium, Tocantins, and photographed one male, both with the same characteristics as described by Short (1973). Other adults were observed by Pacheco & Maciel (2009) in Goiás. All these records were of sub-adults and/or adults. However, the plumage of juvenile individuals has remained unrecorded.

We consider the later juvenile and immature stage as individuals who are not adults. Juveniles are individuals who have abandoned the nest and are able to survive alone, but have not completed the post-juvénal molt, while immatures are considered as individuals after completing the post-juvénal molt, but have not acquired the complete adult plumage yet (Wood 1946).

Our first contact with a juvenile of Kaempfer's Woodpecker occurred in September 2008 in the municipality of Pium (10°2'9.30"S, 49°46'54"O), which we found along with another adult individual on bamboo cane (*Guadua paniculata*). We were able to discriminate both only by subtle differences in size and coloration of head feathers, with the young being apparently smaller and having darker colored feathers on the head.

In August 2009, at the same place, we were able to observe more clearly another juvenile (Fig. 1) which was perched in a tree. This bird had black feathers on the head that stretched down the throat to the breast, the crest was reddish-brown, and the upper back was buffy without the black bars seen in

adults. The wing had the same pattern as the adult, and the upperwing was buffy with black bars ring while the primaries and secondaries were reddish-brown with black margins. The tail was buffy with dark tips. The beak appeared to be smaller than in adults, not fully grain, and the base still showed an evident gape.

From this observation, the most important difference between the plumage of a juvenile and an adult is a dark colored head, which clearly differs from those of adults who have reddish-brown head and lack the black bars on the back (Table 1).

Five other juveniles were seen during the months of September and October 2009, of which some already had black bars on the back and were changing the head color to reddish-brown. In January 2010, an immature male was captured (Fig. 2) which still had dark feathers on the head, but the characteristic red malar stripe of the male was already evident. However, it weighed less and was smaller than other adults caught earlier.

During the last two years of Kaempfer's Woodpecker's monitoring we have concluded from observations of fledged juveniles that the reproductive period apparently begins in June/July at the start of the dry season in central Brazil. Kratter (1998) observed the beginning of nesting period in the Rufous-headed Woodpecker in southeastern Peru between June and July when the adults were constantly frequenting a nest hole. Lloyd (2000) found an active nest of the Rufous-headed Woodpecker in July in southeastern Peru, containing a fully feathered chick with a rufous head, no red facial markings, blue eyes with a blue orbital, and a white beak.

For the first time, the observations of our study allow to describe the juvenile vs. the adult plumage in Kaempfer's Woodpecker and indicate details of the timing of the reproductive period in west-central Tocantins, information relevant to the conservation of



FIG. 1. Juvenile Kaempfer's Woodpecker (*Celeus obrieni*), exhibiting a dark head and reddish-brown crest as main diagnostic characters.



FIG. 2. Immature male of Kaempfer's Woodpecker, with some dark feathers on the head.

TABLE 1. Different plumage stages in Kaempfer's Woodpecker.

Age	Description
Adult	Entire rufous head and crest, abruptly becoming pale buffy on the sides of the neck and hindneck, and black on the throat and chest.
Immature	A few dark feathers on the head, but the characteristic red malar stripe of the male is already evident. Weigh less and is smaller than adult.
Juvenile	Black feathers on the head that stretch down the throat to the breast, the crest is reddish-brown, and the upper back is buffy without the black bars seen in adults.

this critically endangered species (IUCN 2010).

ACKNOWLEDGMENTS

This study is part of the project "Ecology and distribution of Kaempfer's Woodpecker *Celex obrieni*", funded by Boticário Foundation for Nature Conservation (078.620.081) and Sociedade para Conservação das Aves do Brasil (SAVE Brasil). Thanks to M. A. Crozariol, S. Amancio, and M. Barreiros for comments on the manuscript.

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Accepted 5 July 2010.