

FIRST DESCRIPTION OF THE NEST OF THE BLACK-AND-WHITE HAWK EAGLE (*SPIZAETUS MELANOLEUCUS*) IN THE BRAZILIAN ATLANTIC RAINFOREST, SOUTHEAST BRAZIL

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Primeira descrição do ninho do Gavião Pato (*Spizaetus melanoleucus*) na Floresta Atlântica Brasileira, sudeste do Brasil.

Key words: Black-and-white Hawk-eagle, *Spizaetus melanoleucus*, Brazilian Atlantic rain forest, nest, behavior.

INTRODUCTION

The Black-and-white Hawk-eagle (*Spizaetus melanoleucus*) is a Neotropical raptor with a wide but patchy distribution. Although it can be locally numerous, it is generally rare to uncommon across its range (Fergusson-Lee & Christie 2001). In Brazil, it is found chiefly in Roraima, in north and south of Amazon, Mato Grosso and southern Pará to, perhaps, Santa Catarina (Fergusson-Lee & Christie 2001). Being found at the middle-oriental portions of the country (Sick 1979), Mato Grosso, it may frequent savannahs or gallery forests (Brown & Amadon 1968).

Its breeding biology and nest have not yet been described in Brazil. Strauch (1975) pub-

lished the only work describing some features of a nest site, found in Panamá.

According to Machado *et al.* (1998), the Black-and-white Hawk-Eagle is endangered in the Brazilian state of Minas Gerais, having suffered population declines due to habitat fragmentation, persecution and poaching. Historical records in Minas Gerais documented its occurrence in the north of the state, in the Tejuco district (Andrade 1991), in the reserve where this study was conducted (Melo-Júnior 1996, Lins 2001, Zorzín *et al.* 2006), in the municipalities of Caratinga and Ipanema (Vasconcelos & Veado 2001), in Viçosa (Ribon *et al.* 2003), and in Viçosa, Nanuque, São Jorge and Matozinhos municipalities (Zorzín *et al.* 2006). At this last loca-



FIG. 1. Black-and-white Hawk-Eagle (*Spizaetus melanoleucus*) fledgling and nest at a Brazilian Atlantic rainforest reserve (Parque Estadual do Rio Doce, MG, Brasil). Photo taken on 5 October 2006 by Carlos Eduardo A. de Carvalho.

tion, the species was seen in a fragmented region of semi-deciduous forest and ranchlands within a limestone landscape. This species was also recorded perched near a main road in the southern portion of the state close to the municipality of Barbacena, at “Colônia Rodrigo Silva” (21°15’S, 43°48’W, 1084 m; Canuto pers. observ.).

I present here a description of the nest and nest site and information on the breeding behavior and the fledgling.

RESULTS

On 21 September 2006, I found a medium to large sticky nest (Fig. 1) being used by a breeding pair of Black-and-white Hawk Eagles. It was located in the Atlantic rainforest reserve of Parque Estadual do Rio Doce (19°44’S, 42°37’W) (Minas Gerais state, of southeast Brazil). The park is located in the Doce river basin, approx. 217 km E of Belo

Horizonte, the State capital, and is bounded by ranchlands and by a secondary dirt road along the border. Its vegetation is classified as seasonal semi-deciduous forest (Lins 2001). The nest was located in a dense forest on the slope of a small ravine, 830 m from the park’s western edge (secondary road). The area surrounding the nest site is characterized by ridges, small ravines, and valleys.

The tree was at the base of a 395-m hill; with its crown almost reaching the crest, it was possible to observe the nest from above. According to Simon & Pacheco’s (2005) standardization of nest descriptions of Neotropical birds, the nest can be classified as a low cup/fork type. The external axes of the nest were 102 cm long, 85.5 cm wide, and 60 cm deep. The chamber was 62 cm long, 50 cm wide and 5 cm deep, and contained a few unidentified dry and fresh leaves, down feathers, and some prey remains caught by the hawks, as bird bones and a rectrice of a Squirrel

Cuckoo (*Piaya cayana*). The nest was located 37 m high amongst four tertiary tree branches. It was at the upper half of the crown of a conspicuous 40 m tall *Jequitibá rosa* (*Cariniana legalis*), with a few bromeliads and epiphytes at the crown. The tree's diameter and circumference at breast height was 86 cm and 2.91 m, respectively.

Before finding the nest, on 21 July 2006, during the dry season, I observed a pair of Black-and-white Hawk-Eagles soaring in a thermal at low altitude with five Black Vultures (*Coragyps atratus*) above a ridge paralleling the western edge of the reserve, approx. 900 m from the then unknown nest location. According to Howell & Webb's (1995) descriptions of the species vocalizations, I heard one individual (of unknown sex) giving three to five clear, fast whistles, ending with a more emphatic and slightly bi-syllabic note. This was repeated several times. After a few minutes, one of the adults rapidly dived once towards the other without making contact. Both adults then glided towards the forest interior (towards the nest tree). The same behavior was also recorded on 23 July 2006, from a second pair 14 km from the site of the first observation. During the second encounter, both individuals were at a very high altitude and made several dives towards each other.

In the early wet season, at 09:00 h on 21 September 2006, I went up to the same ridge and saw a distant, conspicuous tree with two adult Black-and-white Hawk-Eagles perched on it. Several hours later, I approached this tree and found a nest containing one chick. Both adults were present at the nest vicinity.

On 29 September 2006, I climbed the tree using rappel techniques to measure the nest and band the nestling. At this stage the nestling had a slightly brownish-black back, fully feathered tarsi, dark orange feet, white shoulders and white leading edges of the wing, a

strong molt pattern in the underwing coverts, wing remiges more than half grown, a black cere (dark orange around the nostril) and mask, light gray iris and a inconspicuous crest still with white down feathers and just a few black feathers. The chick did not vocalize but remained in a threat position with bill and wings partially opened. Both adults were present and gave several alarm calls while perched. Also, the adults made some short flights around the nest tree and by the surrounding area while we were checking the nest. When I climbed the tree to take measurements of the nest, I could see that from it the hawk-eagles had an unobstructed view of the landscape, including a portion of the western edge of the reserve.

A second attempt was made on 5 October 2006 to band the chick, with no success. By this time, the plumage of the chick had changed considerably; the crest was more prominent with a black pattern, the remiges were almost fully grown, and the underwing coverts were almost fully feathered. Just one adult was seen in the area on this second day. The adult bird made several alarm whistles but kept itself distant from the observer.

On 6 October 2006, I observed the fledgling near the nest, on a lateral branch of the tree. After a few minutes the fledgling flew away.

DISCUSSION

An adult Black-and-white Hawk-Eagle attacked (dived on) the observer while he was close to the nest on one occasion. Though we climbed the nest twice, we tried to minimize the time spent close to the nest. The three visits to the nest tree were intended to avoid disturbing the site, with just two observers each time. We made no further attempts to record the chick in the vicinity of the nest or to return to the site after 6 October 2006. Nothing was detected regarding the observers hav-

ing some influence on the chick leaving the nest.

According to Brown & Amadon (1968), egg-laying dates for the Black-and-white Hawk-Eagle in Guyana are March and April (dry season). In this study the observations of courtship and chick-rearing occurred during the dry season in southeast Brazil. The chick fledged at the beginning of the rainy season. No observations of breeding activities were recorded in the following year. The nest was inactive from September to November 2007.

This nesting record of the Black-and-white Hawk-Eagle, an endangered species in the state (Machado *et al.* 1998), documents the suitability and importance of this region in supporting a local nesting population. It is concluded that the Parque Estadual do Rio Doce provides an important breeding site for the conservation of this species.

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