
PREDATION OF A BEARDED SAKI (*CHIROPOTES UTAHICKI*) BY A HARPY EAGLE (*HARPIA HARPYJA*)

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The predation of primates is rarely observed in the wild (Cheney and Wrangham, 1987; Stanford, 2002). The main predators are birds of prey (Eason, 1989; Sherman, 1991; Julliot, 1994; Vasquez and Heymann, 2001), reptiles (Corrêa and Coutinho, 1997; Burney, 2002; Gursky, 2002; Tello *et al.*, 2002; Ferrari *et al.*, 2003), and an array of predatory mammals (Stanford, 1989; Pertz *et al.*, 1992; Tsukahara, 1993; Condit and Smith, 1994; Wright *et al.*, 1997). According to Stanford (2002), primate males tend to be preyed upon more often than females. The predation of females and young has been recorded by Corrêa and Coutinho (1997), Vasquez and Heymann (2001), Burney (2002), and Ferrari *et al.* (2003). Here we report on the predation of an adult male bearded saki (*Chiropotes utahicki*) by a harpy eagle (*Harpia harpyja*) in the eastern Amazon. A necropsy was carried out, which provided additional information about the animal and clues as to the exact cause of death.

The attack took place at the Estação Científica Ferreira Penna (ECFPn), Melgaço, Pará (01°42'30"S, 51°31'45"W), an area of 33,000 ha in the Caxiuanã National Forest. The incident was observed during a mammal survey being conducted by two researchers, each walking simultaneously on parallel paths 200 m apart in a 100-ha plot (#4) (01°45'13"S, 51°31'15"W), one of the Tropical Ecology, Assessment and Monitoring (TEAM) Initiative monitoring sites at Caxiuanã (Fig. 1).

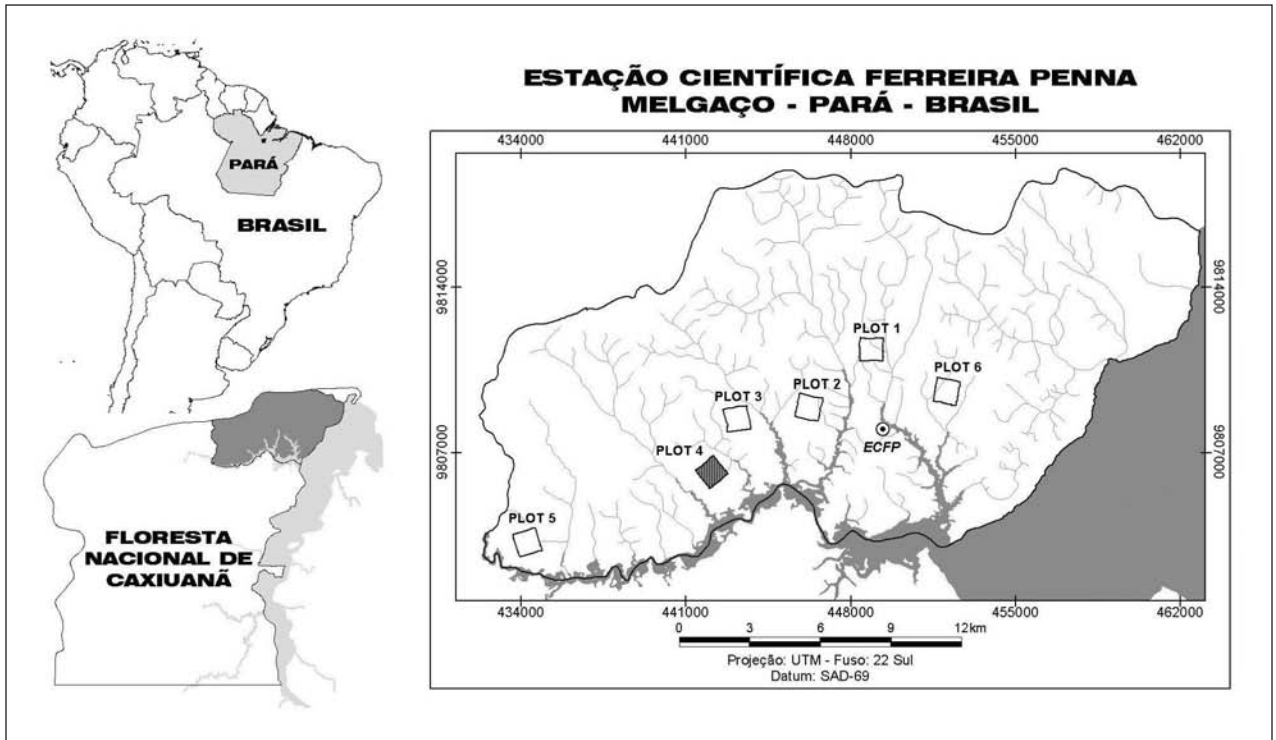


Figure 1. The plots of the TEAM Initiative in the Estação Científica Ferreira Penna. Plot 4 is where the harpy eagle attack occurred.

On 18 April 2004, at 14:50, one of the researchers (SSM) located a group of more than twelve bearded sakis. Only minutes later the group was attacked by a harpy eagle. The group was moving away when it happened, and, as is the case of most recorded attacks on primates, there was intense long-calling by all of the group members, who subsequently scattered over 200 m from the site of the attack. Minutes after the start of the vocalizations, the second researcher (EML) on the parallel trail saw two adults, one of them female, move towards her in the canopy and then descend a liana to the ground. The sakis ran silently about 30 m straight towards her, bounding (synchronized movements of the front and the back legs) with their tails held upright. Their fur was fluffed up (piloerection), and even when they saw the researcher about 10 m away, they ran on without changing direction.

After the attack, the harpy eagle noticed the presence of the first researcher (SSM), flew about 40 m with a saki in its claws, but then dropped it from a height of about 10 m. The entire incident lasted about four minutes. The saki, an adult male of 3.5 kg, was found dead on his back beside a fallen tree, with his arms folded and hands tightly fisted, clutching some feathers, which indicated that his demise had not been instantaneous. The muscles of the saki's mouth were contracted in a grimace, and its tongue was forced between its left canines and premolars. Nearby we found a bush about 2 m high with a broken branch and some of the eagle's feathers, indicating a struggle.

The attack took place in a stretch of quite open primary forest with a sparse, broken canopy at about 40 m. Spacing between the uppermost branches enabled good light pen-

etration and visibility. Although it was the rainy season, the temperature was approximately 30°C, and it was dry. These conditions, we believe, favored the eagle's attack.

Four other primates have been recorded in the area of this TEAM site: the silvery marmoset (*Mico argentatus*), the black-handed tamarin (*Saguinus niger*), the tufted capuchin (*Cebus apella*), and the red-handed howling monkey (*Alouatta belzebul*). While some have been the subject of previous field research (Jardim, 1997; Veracini, 1997, 2002; Bobadilla, 1998; Pinna, 1999; Souza, 1999; Tavares, 1999; Martins *et al.*, 2005), this is the first incidence of primate predation recorded there.

The bearded saki was taken to the field station laboratory, its biometric measurements were taken, and we tried to assess the way it had been captured. A necropsy was performed in order to ascertain the cause of death, and it was later taxidermized and placed in the collection of the Museu Paraense Emílio Goeldi (MPEG – 36084). The wounds consisted of punctures and both superficial and deep cuts. The superficial wounds broke only the epidermis, the dermis, and the hypodermis, but the deep ones affected the muscle tissue. The superficial punctures were in the abdomen and on the dorsum and right flank of the thorax. The deep perforations were in the left ventral thoracic region and abdomen and had provoked internal hemorrhaging. Nine internal organs were perforated. Superficial cuts were also found on the right side of the braincase and on the back of the right forearm. Deep cuts were found on the central crown of the skull (between the cerebral hemispheres), which had caused encephalic cranial traumatism with internal and external hemorrhaging. As no other organs were affected and no



Figure 2. The adult male bearded saki, *Chiropotes utabicki*, killed by the harpy eagle. Note the feathers still in the hands.

bones of the postcranial skeleton were broken, the cerebral wounds would seem to have been the cause of death and were probably caused by the beak.

Apart from the recent wounds, we also observed old, darkened scars resulting from perforations, along with a broken articulation (held together only by skin) between the proximal and middle phalanges of the little finger on the left hand. The distal phalanx of the indicator finger on the left hand was missing. These findings may have been wounds from fighting other males in the group.

According to Stanford (2002), adult males are preyed upon more frequently than other sex-age classes, probably because they are generally larger and as such, are more obvious targets. In many species, adult males position themselves strategically to defend the group. During an attack, they may try to distract or confront the predator so that the rest of the group can disperse and escape; therefore, they are more exposed and vulnerable (Cheney and Wrangham, 1987; Gursky, 2002; Tello *et al.*, 2002).

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