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CRESTED EAGLE (*MORPHNUS GUIANENSIS*) FEEDING A POST-FLEDGED YOUNG HARPY EAGLE (*HARPIA HARPYJA*) IN PANAMA

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Águila crestada (*Morphnus guianensis*) alimentando a un juvenil de Águila arpía (*Harpia harpyja*) en Panamá.

Key words: Neotropical birds, *Morphnus guianensis*, *Harpia harpyja*, feeding, post-fledged young.

Among Neotropical birds, raptors are one of the least studied groups, especially the forest-dwelling species which are inconspicuous in their habits, and consequently relatively little is known about their basic natural history and behavior (Thiollay 1985, Bierregaard 1995). Most publications about the Harpy Eagle (*Harpia harpyja*) and Crested Eagle (*Morphnus guianensis*) are short notes from incidental observations (Fowler & Cope 1964, Ellis & Whaley 1981, Belton 1984, Collar & Andrew 1988, Eason 1989, Howell & Webb 1995, Galetti *et al.* 1997) and nest observations (Rettig 1978, Bierregaard 1984, Chebez *et al.* 1990).

The Harpy Eagle and the Crested Eagle are sedentary and inhabit lowland forests in the Neotropics. Harpy Eagles range from southeastern Mexico to northern Argentina, and Crested Eagles have a similar range but are absent from Mexico (Ferguson-Lees & Christie 2001). Both species are uncommon (Blake 1977), and difficult to find in Neotro-

pical forests despite their large size (Collar 1989, J. de J. Vargas pers. observ.). Here we report on observations of a female Crested Eagle at a Harpy Eagle nest, food provisioning the post-fledged young Harpy Eagle.

In November 2003, we confirmed a Harpy Eagle nest report close to Quintín community (08°14'N, 078°03'W) in the Darien province in the Republic of Panama. The nest was 25 m high in the crotch formed by three main branches of a Cuipo tree (*Cavallinesia platanifolia*, family Bonbacaceae). The nest tree was situated on a hillside at 38 m a.s.l. in the Bagre Mountains. During this visit, we observed a Harpy Eagle nestling, approximately one month old, and an adult female perched on a branch of the nest tree. During this initial visit to this nest site, a local resident of the Quintín community told us he had observed another large eagle in the nest area during the early incubation period that was being chased away by the female Harpy Eagle.

TABLE 1. Observations and interactions between post-fledged young Harpy Eagle and adult female Crested Eagle.

Date	Time	Observation
11 February 2004	10:34 h	Crested Eagle perched in a tree close to the nest. Nestling Harpy Eagle on the nest.
11 May 2004	09:10-09:25 h	Crested Eagle brought branches to the nest. Post-fledged young Harpy Eagle perched on another tree.
13 May 2004	15:20-15:35 h	Crested Eagle brought branches to the nest. Post-fledged young Harpy Eagle perched in the same tree vocalizing.
14 May 2004	08:10-08:15 h	Crested Eagle perched in a branch of the nest-tree. Post-fledged young Harpy Eagle vocalizing and observing the Crested Eagle.
15 May 2004	09:00-09:15 h	Crested Eagle brought branches to the nest-tree. Post-fledged young Harpy Eagle in the nest vocalizing.
16 May 2004	16:20-16:35 h	Crested Eagle perched in a branch of the nest-tree. Post-fledged young Harpy Eagle into the nest with wings extended and vocalizing.
17 May 2004	09:50-09:55 h	Crested Eagle perched on the nest. Harpy Eagle flew to the nest. Crested Eagle flew away.
17 May 2004	16:20-16:45 h	Crested Eagle tried to land on the nest. Post-fledged young Harpy Eagle into the nest, with wings extended and vocalizing.
5 August 2004	16:30-16:35 h	Crested Eagle brought a snake to the nest, and flew away. Crested Eagle perched in a branch observing.
5 August 2004	17:30-17:45 h	Crested Eagle perched and observed the post-fledged young Harpy Eagle from 3 m away. Harpy Eagle eating a snake.
6 August 2004	07:30-07:35 h	Crested Eagle perched 4 m from post-fledged young Harpy Eagle. Post-fledged young Harpy Eagle extended the wings and was vocalizing.
6 September 2004	11:40-11:45 h	Crested Eagle brought a snake to the nest and flew away. Post-fledged young Harpy Eagle flew to the nest, took the snake, extended its wings and called.
13 January 2005	11:30-11:55 h	Crested Eagle brought a squirrel to the nest, and flew away. Post-fledged young Harpy Eagle took the prey, and began to eat. Crested Eagle perched in the nest-tree and observed the Harpy.
13 January 2005	14:00-14:05 h	Crested Eagle brought a Geoffroy's Tamarin to the nest and flew away. Post-fledged young Harpy Eagle flew to the nest immediately and extended its wings and started to call.
15 January 2005	09:20-09:25 h	Crested Eagle came to nest-tree. Post-fledged young Harpy Eagle flew to the nest and started to call.
21 January 2005	10:10-10:55 h	Crested Eagle brought a young Brown-throated Three-toed Sloth to the nest, and flew away to a branch close to the nest. The Post-fledged young Harpy Eagle flew into the nest, took the prey, extended its wings, started to call and began to eat. Crested Eagle came with branches six times to nest while the Harpy was eating.

In February 2004, while we were attaching a radio transmitter on the nestling Harpy Eagle, we observed for the first time an adult

Crested Eagle (Ridgely & Gwynne 1993), the large eagle reported to us by the local resident. This individual was a light morph, and

appeared to be a female from our previous experiences with this species at three nests. We documented 16 interactions between the adult female Crested Eagle and the post-fledged young Harpy Eagle (Table 1).

The food solicitation behavior we observed by the young Harpy Eagle when the Crested Eagle delivered prey was the same as the behavior it showed when being fed by the Harpy Eagle adults. To interpret the behavior observed from both eagle species is difficult, but we were certain that in this case the Crested Eagle was assisting a normal Harpy Eagle pair. The preys delivered by the Crested Eagle to the Harpy Eagle nest were: two snakes (Colubridae family), one Geoffroy's Tamarin (*Saguinus geoffroyi*, Callitrichidae), one squirrel (*Sciurus* sp., Sciuridae) and one Brown-throated Three-toed Sloth (*Bradypus variegatus*, Bradypodidae).

Why the usually exclusive territorial behavior of adult Harpy Eagles allowed the Crested Eagle to visit their nest is not clear. Little is known about this topic, but interspecific nestling feeding is widely documented in birds including two species of Accipitridae and two species of Falconidae. Such unusual behavior may be explained by one or more of the following hypotheses: the Crested Eagle had recently lost a mate, nest or dependent juvenile nearby and transferred parental care to the Harpy juvenile; the Crested eagle was responding to the stimulus of the loud cries of the Harpy juvenile; the Crested Eagle had selected this tree for its own breeding attempt, despite the presence of the Harpy juvenile (Muszalski Shy 1982).

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REFERENCES

- Belton, W. 1984. Birds of Rio Grande do Sul Brasil. Part 1. *Rheidae* through *Furnariidae*. Bull. Am. Mus. Nat. His. 178(4): 396–636.
- Bierregaard, R. O., Jr. 1984. Observation of the nesting biology of the Guiana Crested Eagle (*Morphnus guianensis*). Wilson Bull. 96: 1–11.
- Bierregaard, R. O., Jr. 1995. The biology and conservation status of Central and South American Falconiformes: a survey of current knowledge. Bird Conserv. Int. 5: 325–340.
- Blake, E. R. 1977. Manual of Neotropical birds. Univ. of Chicago Press, Chicago, Illinois.
- Chebez, J. C., M. S. Croome, A. Serret, & A. Taborda. 1990. La nidificación de la Harpía (*Harpia harpyja*) en Argentina. Hornero 13: 155–158.
- Collar, N. J., & P. Andrew. 1988. Birds to watch. The ICBP World check-list of threatened birds. International Council for Bird Preservation, Cambridge, UK.
- Collar, N. J. 1989. Harpy Eagle. World Birdswatch 11(3): 5–6.
- Eason, P. 1989. Harpy Eagle attempts predation on adult howler monkey. Condor 91: 469–470.
- Ellis, D. H., & Whaley, W. H. 1981. Three Crested Eagle records for Guatemala. Wilson Bull. 93: 284–285.
- Ferguson-Lees J., & D. A. Christie. 2001. Raptors of the world. Houghton Mifflin Company, Boston, Massachusetts.
- Fowler, J. M., & Cope, J. B. 1964. Notes on the Harpy Eagle in British Guiana. Auk 81: 257–273.
- Galetti, M., P. Martuscelli, M. A. Pizo, & I. Simao. 1997. Records of Harpy and Crested eagles in the Brazilian Atlantic forest. Bull. Br. Ornithol. Club 117: 27–31.
- Howell, S. N. G., & S. Webb. 1995. Noteworthy

- bird observations from Chile. *Bull. Br. Ornithol. Club* 115: 57–66.
- Muszalski Shy, M. 1982. Interspecific feeding among birds: A review. *J. Field Ornithol.* 53: 370–393.
- Rettig, N. L. 1978. Breeding behavior of Harpy Eagle (*Harpia harpyja*). *Auk* 95: 629–643
- Ridgely, R. S., & J. A. Gwynne. 1989. A guide to the birds of Panama with Costa Rica, Nicaragua, and Honduras. Princeton Univ. Press, Princeton, New Jersey.
- Thiollay, J.-M. 1985. Falconiformes of tropical rainforests: A review. Pages 155–165 *in* Newton, I., & R. Chancellor (eds.). *Conservation studies on raptors*. ICBP Technical Publication No. 5, Cambridge, UK.

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