

Shorter Contributions

Banisteria, Number 25, 2005

© 2005 by the Virginia Natural History Society

VOCAL MIMICRY OF BROAD-WINGED HAWK BY BLUE JAY—The Blue Jay (*Cyanocitta cristata*) is a well-known vocal mimic of the Red-shouldered Hawk (*Buteo lineatus*), Red-tailed Hawk (*Buteo jamaicensis*), and several other predatory birds in eastern North America (Atkins, 1987; Hailman, 1990; Phillips, 1993; Tarvin & Woolfenden, 1999). At least five hypotheses have been proposed to explain jay mimicry of raptor vocalizations but unequivocal evidence for a specific function is still lacking (Hailman, 1990; Tarvin & Woolfenden, 1999). Future investigation of this widespread phenomenon will benefit from careful documentation of the geographic and temporal patterns of jay mimicry and raptor distribution.

Here I report the first well-documented account of the Blue Jay mimicking the Broad-winged Hawk (*Buteo platycercus*). On 13 June 2002, I heard what I thought was the whistle call of a Broad-winged Hawk in the forest canopy at my campsite on Big Santeetlah Creek, Graham County, North Carolina (35° 20.7' N, 83° 57.9' W; 840 m above sea level = asl). After a few minutes, I located the source of the call, a pair of Blue Jays that had been frequenting the campsite during the preceding week. This fact was confirmed a few minutes later when the jays flew across a small clearing and one of them gave the “hawk” whistle call several more times. John Gerwin, Rebecca Browning, and I heard jays mimic a Broad-winged Hawk at the same site on

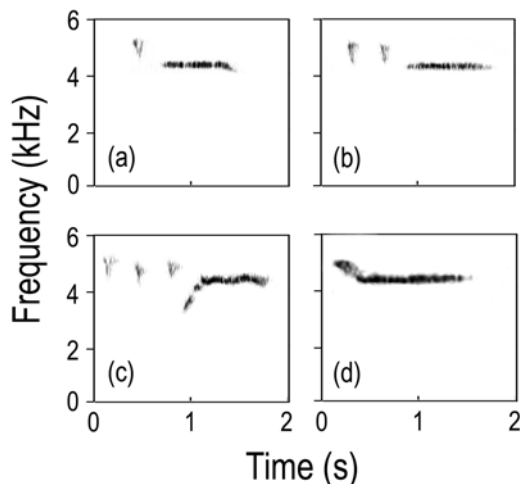


Fig. 1. Audio spectrographs (a-c) of three consecutive whistle-calls of a Blue Jay mimicking a Broad-winged Hawk (Graham County, North Carolina; 17 June 2002), and (d) a whistle-call of a Broad-winged Hawk (Cumberland County, Tennessee; 8 July 2002).

the morning of 15 June, and I tape-recorded a short sequence of similar jay calls there at 0800 h on 17 June (Fig. 1). The behavioral context of the vocal mimicry was unknown in all three cases.

Broad-winged Hawks occur at relatively low densities as a summer resident in the Big Santeetlah Creek watershed (620-1679 m asl), but none was known to be in the immediate vicinity when the jays called. With the exception of single sightings of a Red-tailed Hawk and an unidentified *Accipiter*, this was the only hawk I observed in the Santeetlah Creek watershed (Graves et al., 2002) during 91 days of fieldwork over ten consecutive breeding seasons (9-24 June 1995-2004). This observation suggests that breeding Blue Jays may only mimic raptors that are locally present regardless of previous experience with other raptor species encountered during the non-breeding season.

ACKNOWLEDGMENTS

I thank Phyllis and Mort Isler for help with the audio spectrographs and Joseph Mitchell and an anonymous reviewer for comments on the manuscript. Field work was supported by the Alexander Wetmore Fund, Smithsonian Institution.

LITERATURE CITED

- Atkins, A. 1987. Blue Jay imitates Osprey. *Oriole* 52: 48.
- Graves, G. R., C. S. Romanek, & A. Rodriguez Navarro. 2002. Stable isotope signature of philopatry and dispersal in a migratory bird. *Proceedings of the National Academy of Sciences USA* 99: 8096-8100.
- Hailman, J. P. 1990. Blue Jay mimics Osprey. *Florida Field Naturalist* 18: 81-82.
- Phillips, J. D. 1993. Blue Jay vocalization resembles Fish Crow. *Redstart* 60: 53.
- Tarvin, K. A., & G. E. Woolfenden. 1999. Blue Jay (*Cyanocitta cristata*). Pp. 1-31 *In* A. Poole & F. Gill (eds.), *The Birds of North America*. Academy of Natural Sciences, Philadelphia, PA and American Ornithologists' Union, Washington, DC.

Gary R. Graves
Department of Vertebrate Zoology, MRC-116
National Museum of Natural History
P. O. Box 37012, Smithsonian Institution
Washington, DC 20013-7012