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INTERSPECIFIC ALLOPREENING BETWEEN CRESTED CARACARA AND BLACK VULTURE

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Interspecific allopreening has rarely been reported among birds. The majority of reported events involve the Brown-headed Cowbird (*Molothrus ater*), in which allopreening is associated with a "preening invitation" or "head-down" display (Selander and La Rue 1961; Selander 1964; Dow 1968; Rothstein 1977, 1980; Scott and Grustrup-Scott 1983). It has also been reported for Brewer's Blackbird (*Euphagus cyanocephalus*) and Red-winged Blackbird (*Agelaius phoeniceus*; Verbeek et al. 1981), as well as for other cowbirds (Harrison 1963, Selander 1964). Among raptors, interspecific allopreening has been reported between a caged Tawny Owl (*Strix aluco*) and a Little Owl (*Athene noctua*; Harrison 1965). To our knowledge, however, such behavior has not been reported between any raptors in nature. We report here our observations of allopreening between a Black Vulture (*Coragyps atratus*) and a Crested Caracara (*Polyborus plancus*). Intraspecific allopreening has been reported for the vulture in nature (Haverschmidt 1977) and for caged caracaras (Harrison 1969), so the mechanism for allopreening appears to be present in both species. Our observations may shed some light on the general nature and function of this unusual behavior.

On 13 December 1982, approximately 12 miles east of Refugio, Refugio Co., Texas, we observed a Black Vulture and an immature Crested Caracara allopreening. The incident began at 12:00 as we were watching these birds, which were perched on the cross-arm of a utility pole. A total of about 12 allopreening events occurred between the two birds in 20 min. A second Black Vulture was also perched on the cross-arm at first, but flew off without interacting with the other two birds. In a typical preening event, the caracara turned toward the vulture with head lowered and bill down, similar to the "head-down" display described by Selander and La Rue (1961) and Rothstein (1977, 1980). The vulture responded by preening the caracara on the back of the head and nape. The vulture once turned toward the caracara with a lowered head, which resulted in its being preened by the caracara. The two birds in a more upright position also pecked several times at each other's breast feathers. No other displays or activities were observed, and at no time during the observation did the birds move away from each other.

The head-down display of cowbirds is presumed to be given by a dominant bird in assessing agonistic tendencies of flock members (Rothstein 1980), and may aid a bird in joining a flock for foraging or roosting purposes (Scott and Grumstrup-Scott 1983). The dominance or subordinance of the caracara in presenting itself as it did could not be established. The kind of preening observed may be the result of a general response when one bird approaches another (Rothstein 1980). However, this display and preening may allow caracaras to join Black Vultures for foraging and roosting. Advantages of the display in allowing a cowbird to join a flock for foraging and roosting may apply equally to the caracara.

This single observation should not be taken to indicate that allopreening between the Crested Caracara and Black Vulture occurs rarely. In southeast Texas, the two species are often present near each other, so more observations at shared roost sites are needed to determine the frequency of the event. If the hypothesis of agonistic assessment and flocking benefits holds true for these species, we may expect that the head-down display and allopreening are not rare. Allopreening between these raptors may parallel that among icterids.

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THE FIRST DOCUMENTED BREEDING OF THE BOREAL OWL IN COLORADO

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After they collected a recently fledged Boreal Owl (*Aegolius funereus*) in north-central Colorado, Baldwin and Koplin (1966) hypothesized that the species "occurs in Colorado as a relict of a more widespread multilatitudinal Pleistocene population of Boreal Owls." Such isolated breeding units in the Rocky Mountains would parallel a similar distribution throughout the species' Eurasian range (Mysterud 1970). Several recent records from the breeding season throughout the Rocky Mountains (Tables 1 and 2) support Baldwin and Koplin's (1966) theory and may also show that the species has a contiguous distribution along the range from Canada to southern Colorado. The owl's status as a breeding bird in Colorado has not hitherto been fully confirmed, but we now present such evidence.

From 1979 to 1983, intensive searches for nesting Boreal Owls have been centered near Cameron Pass in Larimer County, approximately 35 km southeast of the Deadman Lookout area searched by Baldwin and Koplin (1966), and the site of several recent records. This area is characterized by climax spruce-fir (*Picea engelmanni-Abies lasiocarpa*) forests above 2,900 m in elevation. Snowfall in the region is typically heavy with an average snow depth on 1 April of 188 cm (Soil Conservation Service 1983) and with snow covering the ground until mid-June or later.

We began censusing the owls in April 1980 in order to estimate their density in the Cameron Pass area. The late

TABLE 1. Breeding season records of Boreal Owls in Colorado—1963–1979.

Date	Number	Locality	County	Source
14 August 1963	1 juvenile specimen (CSU 9662)[1]	1.6 km S of Deadman Mt. Lookout	Larimer	Bailey and Niedrach (1965)
23 July 1966	1 heard	Deadman Mt.	Larimer	DFO 1(11):3[2]
22–23 July 1967	1 heard	Deadman Mt.	Larimer	DFO 2(11):3
29 July 1967	1 heard	Webster Pass	Summit	DFO 2(11):3
2 August 1967	1 seen	Webster Pass	Summit	DFO 2(11):3
1 April 1970	1 specimen (DMNH 36064)[3]	5.6 km S of Estes Park	Larimer	Collister (1971)
6 September 1970	1 seen	Keebler Pass	Gunnison	DFO 6(1):2
31 August 1971	1 juvenile photographed	1.5 km NE of Gothic	Gunnison	Calder and Calder (1972)
15 June 1973	1 specimen	Rabbit Ears Pass	Routt	Reddall (1976)
13 July 1974	1 juvenile seen	8.1 km N of Chambers Lake	Larimer	Reddall (1976)
19 July 1975	1 seen	75 km S of Powderhorn	Gunnison	Hyde (1979)
15 July 1978	1 seen	0.8 km NE Deadman Lookout	Larimer	Webb (1982)
July 1978	1 captured & released	Rocky Mountain National Park, W entrance	Grand	Webb (1982)
25–27 June 1979	1 heard	0.8 km S Deadman Lookout	Larimer	Webb (1982)
14 July 1979	1 juvenile specimen (DMNH 36862)[3]	fresh road kill on Trail Ridge Road	Grand	Webb (1982)

[1] CSU: Colorado State University.
[2] DFO: Denver Field Ornithologists' Newsletter.
[3] DMNH: Denver Museum of Natural History.