Food Habits and Weight of Chimango Caracaras in Central Chile

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The Chimango Caracaras (*Milvago chimango*) are the most common diurnal raptors in central Chile and are found in great numbers in areas under cultivation. They are weak flyers that pursue their prey from the ground, running and jumping after it. Chimango Caracaras are considered beneficial because of their scavenging habits, but their diet is only anecdotally known (Johnson 1965, The birds of Chile and adjacent Argentina, Bolivia and Peru, Buenos Aires, Platt Establecimientos Gráficos). We report their prey in Pudahuel (33°26'S, 70°47'W; 475 m elevation; 15 km west of Santiago), based on 87 pellets collected in February 1974, 36 stomachs collected in March 1979, and 16 stomachs collected in February 1980. We also report the fresh weights of 29 of the specimens obtained in March 1979.

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Because there were no important differences in the stomach contents examined in the two years, we lumped these observations into a single figure. Vertebrate prey appeared better represented in pellets; insects and arachnids were about equally frequent in both pellets and stomachs; earthworms were observed only in the stomachs (Table 1). These results might be expected from the differential digestibility of prey items: preservation of soft-bodied invertebrates is less likely than that of vertebrates, which potentially might bias the figures toward a higher apparent representation of vertebrates in the pellets. This contention is supported by the facts that coleopteran larvae were not found in the pellets, larvae and pupae of both dipterans and lepidopterans were poorly represented in the pellet sample, and earthworms were seen only in the stomachs. Alternatively, given that stomachs and pellets were collected in different years, the possibility that the contents in

TABLE 1. Prey of Chimango Caracaras in central Chile; *n* = sample size; subtotals in parentheses.

Prey	Stomachs		Pellets		Total	
	n	%	*n*	%	*n*	%
Rodents	(1)	0.1	(15)	4.1	(16)	1.5
Oryzomys longicaudatus	1		—		1	
Unidentified	—		15		15	
Passeriforms	(0)	0.0	(7)	1.9	(7)	0.6
Unidentified	—		7		7	
Lacertilians	(1)	0.1	(19)	5.2	(20)	1.8
Liolaemus lemniscatus	1		—		1	
Liolaemus sp.	—		19		19	
Insects	(620)	85.8	(324)	88.0	(944)	86.6
Coleoptera (adults)	61		274		335	
Coleoptera (larvae)	182		—		182	
Dermaptera	2		1		3	
Diptera (adults)	7		2		9	
Diptera (larvae)	18		1		19	
Hemiptera	2		—		2	
Hymenoptera	6		2		8	
Lepidoptera (adults)	1		1		2	
Lepidoptera (larvae)	68		5		73	
Lepidoptera (pupae)	26		6		32	
Odonata	2		4		6	
Orthoptera	234		22		256	
Unidentified (larvae)	3		3		6	
Unidentified (pupae)	8		3		11	
Arachnids	(4)	0.6	(3)	0.8	(7)	0.6
Araneae	4		—		4	
Scorpionida	—		3		3	
Oligochaetes	(97)	13.4	(0)	0.0	(97)	8.9
Lumbricus terrestris	97		—		97	
Total prey	723	100.0	368	100.0	1,091	100.0

the two samples simply reflect the relative availability of prey through time cannot be ruled out. The only occurrence of carrion in the diet (as indicated by the presence of dipteran larvae) was represented by the remains of one *Oryzomys longicaudatus* (Cricetidae).

The weight ($\bar{x} \pm$ SE) of Chimango Caracaras was 299.6 ± 7.1 g (n = 19) for females and 288.5 ± 10.3 g (n = 10) for males. The difference between the means is not statistically significant (t = 1.08; df = 27; $P > 0.20$).

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Reciprocal Allopreening in the Brown-headed Nuthatch

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In his extensive reviews of allopreening, Harrison (1965, 1969) did not record this behavior for the Sittidae, nor did Kilham (1968, 1972, 1973) mention observing this behavior in either White-breasted (*Sitta carolinensis*) or Red-breasted (*S. canadensis*) nuthatches. Norris (1958: 187), however, mentioned the occurrence of allopreening in Brown-headed Nuthatches (*S. pusilla*), in passing. Here we relate our observations of reciprocal allopreening between two Brown-headed Nuthatches.

The incident began at about 0840 (EST) on 8 November 1975 in a pine flatwoods in Marion County, north-central Florida. It had rained heavily the previous afternoon and evening, and the vegetation was heavy with dew. The morning was partly sunny, but hazy from high humidity. The two nuthatches were perched on branches in the sunlight midway up a 25-m longleaf pine (*Pinus palustris*). They autopreened continously and vigorously for 10–15 min. Nuthatch A, which was perched about 2 m lower than B and farther from the trunk, left its perch and foraged for 2–3 min along the trunk of the tree. No vocalizations were heard. Bird A then flew and landed at the right side of B on a horizontal branch; their bodies appeared to be touching. Nuthatch A initiated preening of the right side of B's breast, back, and the side of its head and neck. Bird A was then momentarily distracted by a low-flying plane and gazed skyward. While A looked upward, nuthatch B reciprocated by preening the left side of A's neck and upper breast. After B's 1 min of reciprocal preening, nuthatch A preened B for 30–60 s. Both birds then flew to a pine 40 m away and commenced foraging. At no time during the episodes was there simultaneous allopreening or solicitous fluffing of the feathers, nor did the behavior appear aggressive.

Nuthatches pair for lengthy periods of time, possibly for life (Lack 1945, Norris 1958, Kilham 1972), and, of the four North American species, two (*S. pusilla* and *S. pygmaea*) are social year round and exhibit cooperative breeding (Norris 1958, Woolfenden 1976). Interestingly, allopreening has now been observed twice in a sexually monomorphic species, *S. pusilla*, and never in either sexually dimorphic species, *S. carolinensis* and *S. canadensis*. In nuthatches, allopreening may be a highly ritualized behavior that functions in establishing and maintaining the pair bond for lengthy periods.

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