

KLEPTOPARASITISM AND OTHER INTERACTIONS OF CRESTED CARACARA IN THE CAPE REGION, BAJA CALIFORNIA, MEXICO

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Abstract.—Crested Caracara (*Polyborus plancus*) was observed kleptoparasitizing individuals of the same and different raptor species at the Cape Region, Baja California Sur, Mexico during January–October 1990. By recording activities using a focal animal sampling, caracaras were observed commonly stealing food from caracara immatures and adults, and from Turkey Vultures (*Cathartes aura*) at common feeding areas. Other kleptoparasitized species were Harris Hawk (*Parabuteo unicinctus*) and Red-tailed Hawks (*Buteo jamaicensis*). It is suggested that kleptoparasitism by caracaras in the Cape Region is enhanced by: 1) interactions at feeding areas, 2) opportunistic foraging behavior and 3) predictable primary and secondary food resources. Finally, a reverse dominance pattern of adult-immature caracaras was observed and may have been related to familial relationships.

CLEPTOPARASITISMO Y OTRAS INTERACCIONES DE INDIVIDUOS DE *POLYBORUS PLANCUS* EN LA REGIÓN DEL CABO, BAJA CALIFORNIA SUR, MÉXICO

Sinopsis.—Durante enero-septiembre de 1990 en la Región de Cabo, Baja California Sur, México, se observaron varios incidentes de cleptoparasitismo por parte del Caracara Común (*Polyborus plancus*) sobre miembros de su propia especie y de otras rapaces. Utilizando una técnica de muestreo focal de individuos, se encontró que el comportamiento de cleptoparasitar ocurrió comúnmente entre caracaras adultos e inmaduros, así como sobre el Aura Común (*Cathartes aura*) en las áreas comunes de alimentación. Otras especies cleptoparasitadas fueron el Halcón de Harris (*Parabuteo unicinctus*) y el Halcón de Cola-roja (*Buteo jamaicensis*). Nuestros resultados sugieren que el cleptoparasitismo en el caracara puede ocurrir y/o ser promovido por: 1) las frecuentes interacciones en las áreas de alimentación, 2) una conducta de forrajeo oportunista, y 3) la presencia de recursos alimenticios primarios y secundarios predecibles. Finalmente, en las áreas de alimentación se observó un patrón de dominancia adulto-inmaduro invertido, donde los individuos jóvenes dominan comúnmente a los adultos al desplazarlos de los sitios donde se alimentan. La razón de esta inversión pueden ser las prolongadas relaciones familiares de la especie.

Kleptoparasitism, or stealing of previously procured food from individuals of the same or different species, has been reported for various raptor species (Brockmann and Barnard 1979, Heredia and Clark 1984, Jorde and Lingle 1988, Temeles 1990, Woffinden 1986). The Crested Caracara (*Polyborus plancus*), an opportunistic but largely carrion feeding raptor (Sherrod 1978) has been observed kleptoparasitizing Brown Pelicans (*Pelecanus occidentalis*; Bent 1938), Turkey Vultures (*Cathartes aura*; Glazener 1964) and Northern Harriers (*Circus cyaneus*; Hamilton 1981). In this paper we present additional information on kleptoparasitism and other intra- and interspecific behavioral interactions of Crested Caracara at the Cape Region, Baja California Sur, Mexico.

METHODS

Our observations were conducted using 8 × 40 and 10 × 40 binoculars, and 20× spotting scopes in January–October 1990, while we studied the breeding ecology of the Crested Caracara. Ages (immatures vs. adults) of caracaras were determined using plumage characteristics (see Clark and Wheeler (1987) for description of age classes). When an interaction was occurring, we recorded the number and behavior of Crested Caracaras by using a focal-animal sampling described by Altmann (1974:242–247). An interaction was considered kleptoparasitism only when robbing of food was preceded by pursuit of one individual by the other.

The study area was located at the southern tip of the peninsula of Baja California (24°01'–23°48'N, 110°22'–110°14'W). Sarcocaulous scrub vegetation was present, dominated by dagger cactus (*Machaerocereus gummosus*), lomboy (*Jatropha cinerea*), plum tree (*Cyrtocarpa edulis*) and torote (*Bursera microphylla*). Other common species were cardón (*Pachycereus pringlei*), palo verde (*Cercidium microphyllum*), mesquite (*Prosopis juliflora*) and choya (*Opuntia cholla*). Several agricultural fields, five henhouses, one slaughterhouse and several garbage sites were commonly visited by Crested Caracara and Turkey Vultures searching for food. Aggressive interactions occurred frequently at chicken carcasses of the henhouses.

RESULTS AND DISCUSSION

We recorded 10 incidents of kleptoparasitism by caracaras; six interspecific and four intraspecific (Table 1). Caracaras kleptoparasitized Turkey Vultures and Harris Hawks (*Parabuteo unicinctus*). Red-tailed Hawks (*Buteo jamaicensis*) also may be kleptoparasitized because we observed two pursuits, but in neither case did the Red-tailed Hawk drop its prey. When coexisting on the feeding areas, adult caracaras are dominant over Turkey Vultures and other raptor species, displacing them from, for example, a carcass (Table 2).

Intraspecific kleptoparasitism was a common behavior between adult and immature caracaras (Table 1). Adults were most likely to kleptoparasitize in groups of 2–3 individuals. As shown in Table 1, kleptoparasitism occurred mainly at common feeding areas (henhouses, slaughterhouse and garbage), but also was observed in dense and open natural habitats.

Dominance of adults over immatures is a well documented phenomenon in many raptors, especially when feeding on the same resource at the same time (Newton 1979, Rodríguez 1986, Valverde 1959). Dominance within groups of caracaras is variable, however, because immature caracaras sometimes dominate when feeding with adults (Table 2). This reverse-dominance pattern may have been related to familial relationships. Possibly when immatures and adult caracaras of a family group forage together the adults are more tolerant of aggressive behavior by offspring compared to other raptor species (Newton 1979, Trivers 1974).

Kleptoparasitism by caracaras in the Cape Region is enhanced by: 1)

TABLE 1. Intra and interspecific kleptoparasitism by Crested Caracara in the Cape Region, Baja California, Mexico during January–October 1990.

| Host | Number of Crested Caracara involved | | Food |
|--------------------------|-------------------------------------|-------|--------------------|
| | Immature | Adult | |
| Turkey Vulture* | 1 | 2 | Carrion |
| Turkey Vulture* | — | 2 | Carrion |
| Turkey Vulture* | 1 | 1 | Carrion |
| Turkey Vulture* | — | 1 | Carrion |
| Turkey Vulture* | 1 | 1 | Carrion |
| Harris Hawk** (juvenile) | — | 1 | Unknown small prey |
| Crested Caracara adult* | — | 2 | Carrion |
| adult* | — | 2 | Carrion |
| adult† | — | 3 | Small snake |
| immature† | 2 | — | Carrion of lizard |

* Henhouse, slaughterhouse, garbage.
 ** Open cropland.
 † Dense vegetation.

interactions at feeding areas, 2) opportunistic foraging behavior and 3) predictable primary and secondary food resources (see Brockmann and Barnard 1979). Heredia and Clark (1984) proposed that kleptoparasitism is favored by similar niche overlap between species, but Turkey Vultures and Harris Hawks apparently do not strongly overlap with caracaras. Food habits of caracara in the Cape Region indicate they have a generalist diet (Rodríguez-Estrella et al. 1990) whereas Turkey Vultures and Harris Hawks are more specialized. It is hard to determine the real proportion of carrion in the caracara pellets and remains, but we estimate that carrion

TABLE 2. Success in intra and interspecific attempts to displacement at the feeding source by Crested Caracaras in the Cape Region, Mexico. A displacement was considered “win” when a caracara successfully displaced an individual of the same or different species from the feeding source (i.e., carcass); and “lose” when the attempt to displacement was unsuccessful. Each attempt of displacement corresponds to different individuals.

| Species | Crested Caracara | | | |
|--------------------------|------------------|------|-------|------|
| | Immature | | Adult | |
| | Win | Lose | Win | Lose |
| Turkey Vulture | 1 | 3 | 11 | 2 |
| Harris Hawk ^a | 0 | 0 | 1 | 1 |
| Crested Caracara | | | | |
| immature | 2 | 2 | 2 | 0 |
| adult | 8 | 2 | 3 | 2 |
| Total | 11 | 7 | 17 | 5 |

^a Interactions occurring one at field crop, and the other one near to a henhouse.

represents less than 50% of caracaras' diet ($n = 50$ pellets), whereas it is more than 95% of the Turkey Vultures' diet (Coleman and Fraser 1987, Prior 1990, R. Rodríguez-Estrella, unpubl. data).

Clearly, further research is needed to determine the conditions under which kleptoparasitism by caracaras occurs, and to understand better the dominance patterns between immatures and adults.

ACKNOWLEDGMENTS

We especially thank Y. Maya and E. Mata for field assistance. A. Ortega, J. Cancino, D. J. Jorde and an anonymous reviewer provided valuable comments and suggestions on earlier drafts of this manuscript. Support was provided by Secretaría de Programación y Presupuesto, Centro de Investigaciones Biológicas, Consejo Nacional de Ciencia y Tecnología and the World Wildlife Fund.

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Received 7 Mar. 1991; accepted 10 Aug. 1991.