

PEER-EDITED NOTES

SUSPECTED PREDATION BY COMMON RAVENS (*CORVUS CORAX*) ON KANGAROO RATS (*DIPODOMYS* SPP.) IN THE SAN JOAQUIN DESERT

HOWARD O. CLARK, JR. AND CAMERON A. REID

Colibri Ecological Consulting, LLC, 9493 North Fort Washington Road, Suite 108,
Fresno, California 93730; Corresponding author, e-mail: hclark@colibri-ecology.com

Abstract.—The Common Raven (*Corvus corax*) is a large-sized passerine that occurs in a variety of land types, including grasslands, desert scrub, and forests, ranging throughout a large portion of North America. Ravens are versatile opportunistic scavengers and predators that prey on a variety of species such as rodents, birds, and reptiles, as well as invertebrates and regularly consume anthropogenic food items. Herein, we report two raven suspected predation events on kangaroo rats (*Dipodomys* spp.), a nocturnal rodent.

Key Words.—Corvidae; diet; foraging; grassland; predation; prey.

The Common Raven (*Corvus corax*) is a large-sized passerine ranging throughout a large portion of North America. Ravens are habitat generalists that occupy and breed within a variety of land types within California, including grasslands, desert scrub, forests, and foothill regions (Boarman and Heinrich 1999). They are scavengers and formidable opportunistic predators that take a variety of vertebrate prey, including mammals, birds, and reptiles, and regularly consume eggs, invertebrates, and anthropogenic food items (Temple 1974; Engel and Young 1989; Camp et al 1993). Small mammals make up a significant portion of their diet. In a regurgitated pellet study conducted in Oregon, 59% of the food items identified were small mammals, including voles (*Microtus*), mice (*Peromyscus*, *Paragnathus*, *Reithrodontomys*), kangaroo rats (*Dipodomys*), and gophers (*Thomomys*; Stiehl and Trautwein 1991). In another pellet analysis study conducted in the Mojave Desert, California, mammals were found in 76.5% of the pellets examined, with kangaroo rats alone occurring in 282 pellets (50.2%; Kristan et al. 2004). These studies focused on pellet analysis and did not report on observed predation events occurring on the landscape. Herein, we document two incidents of suspected predation of kangaroo rats by Common Ravens within a foothill non-native grassland community in the San Joaquin Desert of western Kern County, California (approximately 18 km north of Blackwells Corner).

During the evening of 13 November 2024, just prior to sunset (1653; air temperature 15° C), we observed a solitary Common Raven flying west in front of us with a large item in its beak. We were able to identify the item as a kangaroo rat through binoculars due to its large hind feet and long, dangling tail. The following morning, 14 November, just after sunrise (0636; air temperature 10.5° C), we observed another raven transporting a kangaroo rat in its beak flying north in front of us with a second

raven nearby in possible pursuit. Again, with binoculars, we were able to observe the kangaroo rat in the beak of the raven; this time we detected kicking motions as the kangaroo rat struggled while being held by the raven. The raven held the kangaroo rat by the midbody immediately behind the forelimbs. During these two observations, both ravens flew into the grassland fields and disappeared upon landing, presumably to consume their prey item. Two species of kangaroo rats occur in this area: the Giant Kangaroo Rat (*Dipodomys ingens*) and the Heermann's Kangaroo Rat (*D. heermanni*; Kelt 1988; Williams and Kilburn 1991). Although the Giant is larger than the Heermann's Kangaroo Rat, we could not identify the prey to species, especially at the distances we were making our observations, because they have the same body shape and markings (Williams et al. 1993).

Common Ravens, due to their generalist feeding habits, have the potential to impact special-status species, especially localized populations. For example, they have been documented predated on the Mojave Desert Tortoise (*Gopherus agassizii*; Camp et al. 1993; Knight et al. 1993) and the Western Burrowing Owl (*Athene cunicularia*; Clark 2017). Impacts to Giant Kangaroo Rats, a federally and state-listed Endangered species (USFWS 1998), are unknown, but predatory pressures by ravens on Giant Kangaroo Rats can potentially be a concern. Ravens are primarily active diurnally and kangaroo rats are predominantly nocturnal. Our observations occurred during crepuscular time periods (around sunrise and sunset) and may indicate that ravens have learned to exploit additional prey resources by extending their opportunistic hunting efforts into these time periods, especially during the late fall and winter months when day length is shorter.

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HOWARD O. CLARK, JR., is a Certified Wildlife Biologist with nearly 30 y of professional wildlife and research experience. He earned his Master’s degree in Biology from California State University, Fresno, in 2001. His work as a researcher focuses on the fauna and ecosystems of Northern, Central, and Southern California, and the Mojave Desert provinces, and includes extensive baseline mammalian inventories, surveys focused on rare animals, habitat assessment, radio telemetry, and long-term ecological studies on several endangered species. He regularly works with the Western Burrowing Owl, San Joaquin Kit Fox (*Vulpes macrotis mutica*), Giant Kangaroo Rat, and the Mohave Ground Squirrel (*Xerospermophilus mohavensis*). He is currently a Senior Technical Specialist with Colibri Ecological Consulting, LLC, Fresno, California. (Photographed by Erica Kelly).



CAMERON A. REID grew up spending time outdoors through his involvement in Boy Scouts of America. Those experiences left him with a great respect for nature. Having lived in Fresno his whole life, he was able to spend considerable time in the adjacent Sierra Nevada and on the Central Coast. He completed a B.S. in Biology at California State University, Fresno, in 2022. He has spent the last 2 y working professionally at Colibri Ecological Consulting, LLC, as a Wildlife Biologist with a particular interest in San Joaquin Valley species. (Photographed by Cameron Reid).