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## Short-eared Owl, *Asio flammeus*, Attack on a Burrowing Owl, *Athene cunicularia*, in Suffield National Wildlife Area, Alberta

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During nighttime surveys for Ord's Kangaroo Rats in Suffield National Wildlife Area, Alberta, we observed a Short-eared Owl attacking a Burrowing Owl. The incident is of interest because aggressive interactions between these two species have apparently never been documented and because both species are considered at risk by the Committee On the Status of Endangered Wildlife In Canada. Presumably, aggression between these two species is rare; however, such interactions may play a more important role than previously realized in governing the owls' territories and survival, especially in areas of high owl and/or prey densities.

**Key Words:** Burrowing Owl, *Athene cunicularia*, Short-eared Owl, *Asio flammeus*, attack, attempted predation, aggression, interaction, territoriality, Alberta.

Incidental to our field studies of Ord's Kangaroo Rats (*Dipodomys ordii*) in southeastern Alberta, we recorded observations of Great Horned Owls (*Bubo virginianus*), Snowy Owls (*Nyctea scandiaca*), Burrowing Owls (*Athene cunicularia*), Long-eared Owls (*Asio otus*), and Short-eared Owls (*A. flammeus*). This note recounts an aggressive interaction that we observed between a Short-eared Owl and a Burrowing Owl on 21 June 1999.

We conducted nighttime surveys for Ord's Kangaroo Rats in Suffield National Wildlife Area (SNWA; 50° 35' N, 110° 25' W) on 45 nights during May and June 1999. SNWA occupies 460 km<sup>2</sup> in the eastern part of Canadian Forces Base Suffield, Alberta. Eolian sand dunes, stabilized by native grassland and prairie scrub vegetation, are the most conspicuous landforms in SNWA. Our surveys consisted of field personnel driving a vehicle (< 25 km•h<sup>-1</sup>) along gravel roads, trails, and sandy firebreaks, or hiking on open sand dunes, with spotlights (10<sup>6</sup> candlepower, Brinkmann Corporation, Dallas, Texas) aimed at the edges of vegetation (Kaufman and Kaufman 1982; Gummer et al. 1997; Ralls and Eberhardt 1997).

On 21 June 1999, we conducted a spotlight survey along a 15 m wide fireguard in SNWA. At 00:43, we crested a small hill and noticed a Short-eared Owl in the process of attacking a Burrowing Owl on the ground in the centre of the fireguard. Using its talons, the Short-eared Owl had the Burrowing Owl pinned to the ground. The Burrowing Owl was on its back with its wings spread open and its talons raised in a defensive posture. We approached in our truck to a distance of approximately 5 m from the owls. The Short-eared Owl turned and looked at us but remained atop the Burrowing Owl until 00:48. The Short-eared Owl then fled the scene temporarily. The Burrowing Owl, its movements clearly hindered by its injuries, fluttered across the fireguard to the east bank. The Short-eared Owl suddenly returned (00:49) and resumed the attack briefly before departing. The Burrowing Owl then dropped down from the bank (1 m elevation) onto the road. Its wings were outstretched and twisted and its right eye appeared to be injured. At 00:51 the wounded Burrowing Owl retreated into an abandoned Badger (*Taxidea taxus*) den that was 2 m away.



According to Earhart and Johnson (1970), Short-eared Owls are approximately twice the mass of Burrowing Owls (315 g versus 146 g, respectively). Hence it is not surprising that the larger owl dominated the smaller owl. We do not know if the Burrowing Owl eventually died of its injuries, or if it would have been killed had we not interrupted the attack. We speculate that the interaction may have related to: (i) an attempted predation by the Short-eared Owl on the Burrowing Owl; (ii) conflict over a potential prey item in the vicinity; or (iii) a territorial dispute.

Short-eared Owls are not documented as predators of Burrowing Owls (Haug et al. 1993) whereas Cooper's Hawks (*Accipiter cooperii*), Swainson's Hawks (*Buteo swainsoni*), Red-tailed Hawks (*B. jamaicensis*), Ferruginous Hawks (*B. regalis*), Merlins (*Falco columbarius*), Peregrine Falcons (*F. peregrinus*), Prairie Falcons (*F. mexicanus*), Great Horned Owls, and American Crows (*Corvus brachyrhynchos*) and are all known threats to Burrowing Owls (Wedgewood 1978\*; Konrad and Gilmer 1984; Haug et al. 1993). Short-eared Owls are not known to kill any other raptors (Holt and Leasure 1993).

Both Short-eared Owls and Burrowing Owls are considered at risk by the Committee On the Status of Endangered Wildlife In Canada (COSEWIC 2000\*). Because of long-term declines in population estimates, Short-eared Owls are listed as "special concern" (Cadman and Page 1994\*; COSEWIC 2000\*) and Burrowing Owls are classed as "endangered" (Wedgewood 1978\*; Haug and Didiuk 1991\*; Wellicome and Haug 1995\*; COSEWIC 2000\*). Aggression between these owl species is probably rare, although it may be more common in areas of unusually high densities of owls and/or prey (e.g., Ord's Kangaroo Rats in SNWA). Interspecific aggression may play a more important role than previously realized in determining these owls' territories and survival. Novel interactions among owls may also become more common as patches of natural habitat and abundant prey decline in frequency and size. Thus, interaction between owls may be yet another factor to consider for conservation and management of Short-eared Owls and Burrowing Owls.

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