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Lone Wolf, *Canis lupus*, Displaced from a Kill by an Adult Black Bear, *Ursus americanus*, in Northeastern Alberta

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Wolf (*Canis lupus*) packs are generally competitively dominant over Black Bears (*Ursus americanus*); however, less is known about lone Wolf–Black Bear interactions. We report an observation of a lone Wolf and an adult Black Bear at a kill made by the Wolf in northeastern Alberta. In this instance, the bear chased the Wolf from the kill site. Our observation supports the hypothesis that Wolf–Black Bear interactions may fit the pattern of asymmetrical interference competition when the interaction involves a lone Wolf rather than a pack.

Key Words: Black Bear, *Ursus americanus*, Wolf, *Canis lupus*, competitive interactions, boreal forest, Alberta.

Larger mammalian carnivore species are generally competitively dominant over smaller carnivore species (Palomares and Caro 1999). Wolves (*Canis lupus*) are widespread carnivores that have sympatric distributions with many other mammalian carnivores (Ballard et al. 2003). Competitive interactions between Wolves and other members of the carnivore guild were summarized by Ballard et al. (2003). These authors reported that outcomes of Wolf interactions with most species fit the pattern of asymmetrical interference competition, but that outcomes of Wolf–Black Bear (*Ursus americanus*) interactions did not. Indeed, Black Bears won only 15% of interactions between the two species (Ballard et al. 2003), despite being 2 to 3 (or more) times heavier than Wolves (Garshelis 2009; Sillero-Zubiri 2009). Reported outcomes include Wolves displacing Black Bears from kills (Gehring 1993) and Wolves killing both young and adult Black Bears (Rogers and Mech 1981; Horejsi et al. 1984; Paquet and Carbyn 1986). However, it has been suggested that this anomaly may be a result of Wolves outnumbering (i.e., hunting or traveling as a pack) Black Bears in such interactions, and consequently having a competitive advantage (Ballard et al. 2003). The purpose of this note is to report an observation of an interaction between a lone Wolf and a Black Bear at a Wolf kill in a Woodland Caribou (*Rangifer tarandus caribou*) range in northeastern Alberta.

On 20 June 2002, during a routine aerial Woodland Caribou relocation survey in the west side of the Athabasca River Caribou range near the town of Wabasca-Desmarais (latitude 55°57'N, longitude 113°49'W), an adult female Caribou was seen moving into a small clearing in a Black Spruce (*Picea mariana*) and Tamarack (*Larix laricina*) fen. Closer inspection revealed a silver-white Wolf trailing closely behind the Caribou and lunging at its hindquarters. While still in the for-

est clearing, the Wolf locked its jaws on to the Caribou's rump. The Wolf and the Caribou remained standing in the clearing, the Caribou with its legs apart in a braced position, for approximately 5 minutes before the Caribou sank to its knees. The Caribou made one final attempt to regain its feet before the Wolf bit the Caribou on the back of the neck near the shoulders. The Wolf did not begin feeding immediately, but rather walked away to lie down. The described sequence of events took approximately 15 minutes in total. No other Wolves were seen with the silver-white Wolf during this observation. Similarly, no other Wolves were seen after a search was conducted of the surrounding area. Upon flying over the kill site approximately 2 hours later, it was ascertained that the Wolf had consumed a small amount of the Caribou's hindquarters.

The following day, an aerial survey revealed a mature Black Bear feeding on the carcass of the Wolf-killed Caribou. A silver-white Wolf, presumably the same individual, was seen close to the feeding bear. The bear left the kill to chase the Wolf, with the two individuals being less than 1 m apart for a brief period. After chasing the Wolf from the vicinity of the kill site, the Black Bear returned to the dead Caribou and resumed feeding. No other Wolves were seen in the vicinity of the kill site during this interaction. Although other accounts of mature Black Bears chasing off (or in one instance killing) lone Wolves have been reported (Joslin 1966; Rogers and Mech 1981), they represent a relatively small percentage of the competitive interactions between the two species — which in themselves remain poorly documented (Ballard et al. 2003). Consequently, this observation supports the claim that Wolf–Black Bear interactions may fit the pattern of asymmetrical interference competition when the interaction involves a lone Wolf rather than a pack (Ballard et al. 2003).

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