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DEFENSE OF PRONGHORN FAWNS BY ADULT MALE PRONGHORN AGAINST COYOTES

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Key words: pronghorn, *Antilocapra americana*, coyote, *Canis latrans*, juvenile defense.

Adult male pronghorn (*Antilocapra americana*) have never been reported defending fawns against predators (Marion and Sexton 1979, Byers 1997). Lipetz and Bekoff (1980) observed male pronghorn participating in coyote chases. However, they were uncertain of the motivation and suggested that males may only appear to participate in chases and may actually be trying to stop females from leaving their territories. I report here 2 instances in which an adult male pronghorn assisted female pronghorn in defending fawns against searching coyotes (*Canis latrans*) in Grand Teton National Park in northwestern Wyoming (43°39'N, 110°40'W).

The 1st instance occurred on 16 June 2001 while I was conducting a focal observation of a radio-collared female pronghorn to determine the survival status of her fawn. At 1015 MST the female became extremely agitated when she noticed a coyote searching the vegetation 50 m away from her. The pronghorn immediately ran toward the coyote, repeatedly charging it in an attempt to drive it away from the area. A solitary adult male pronghorn had been browsing approximately 0.4 km from the female. When the female began charging the coyote, the male ceased feeding, trotted toward the female, and joined in the chase (1017 MST). The 2 pronghorn succeeded in displacing the coyote 0.5 km from its location at the beginning of the encounter; whereupon it adopted a defensive, reclining posture in a shallow irrigation ditch (1045 MST). For the next hour both pronghorn alternately stood next to, and circled, the reclining coyote. The pronghorn finally moved about 30 m away, and the male pronghorn bedded down (1150 MST). The coyote took this opportunity to leave the ditch and

began moving directly away from the pronghorn. The female pronghorn immediately re-initiated the chase (1205 MST), and the male promptly stood and followed. The 2 pronghorn pursued the coyote for over 1 km, at which point all 3 animals left my range of view (1225 MST).

Both pronghorn remained out of sight for nearly an hour before returning concurrently to the vicinity of the pre-encounter location of the female (1330 MST). The male began browsing, while the female commenced the vigilant behavior characteristic of mothers with hidden fawns (Byers 1997). At 1426 MST, the female reunited with her fawn, which had been hiding less than 100 m from the area where the coyote had been searching.

The 2nd instance occurred on 8 June 2004 while I was observing 2 females (~200 m apart; hereafter female A and female B) to identify the bedsite locations of their fawns to capture the fawns for radio-collaring. I already knew the bedsite location of 1 fawn belonging to female A because I had collared the fawn earlier that same day (1018 MST). At approximately 1130 MST, female A reunited with her uncollared fawn and allowed it to nurse. Approximately 15 minutes later (1145 MST), female B also reunited with an uncollared fawn and allowed it to nurse. At this point I knew the locations of 3 fawns, the fawn I had previously radio-collared plus the 2 uncollared fawns that had recently nursed and had subsequently reclined at new bedsites.

At 1210 MST, 2 coyotes approached within 150 m of the bedsite of the uncollared fawn belonging to female A. Female A noticed the coyotes and ran toward them. Female B also noticed the coyotes and ran to join female A.

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Together, the 2 females began charging at the coyotes in an attempt to drive them from the area. A solitary adult male pronghorn that had been browsing in the vicinity of female A (100 m away) trotted toward the 2 females (1215 MST). The 3 pronghorn adopted a triangular formation, with the male at the apex and the females flanking the male on either side. The male pronghorn took up the primary defense, charging at the coyotes with his head lowered. Whenever a coyote succeeded in getting past the male, the female on that side would step forward to assist in the defense. All 3 pronghorn kept up the harassment for nearly an hour, at which point the coyotes left the area (1310 MST).

That defense of fawns by male pronghorn has not previously been reported is perhaps a result of both the isolation of females that tends to occur at parturition and the difficulty in knowing whether hidden fawns are present when male pronghorn are observed harassing coyotes. Why male pronghorn engage in fawn defense is a different issue. Variation in lifetime reproductive success among pronghorn males is largely a result of differences in offspring survival (Byers 1997). Consequently, in areas where fawn mortality is chiefly attributable to predation, reproductive males might increase their own fitness by defending from predators fawns they sired. However, for this to be a satisfactory explanation of the interactions I described, males would either have to recognize their offspring or have a high probability of being in areas where females bore their offspring. Evidence in support of these suppositions is weak given the ephemeral nature of social groups, which, as is the case with most polygynous ungulates, precludes determination of paternity (Sinclair 1979, Berger 1986, Byers 1997).

Several alternatives might also explain why male pronghorn engage in fawn defense. First, nonpaternal males might protect fawns as a form of future reproductive investment because opportunities for mating increase with a greater number of surviving females. This idea suggests that males should defend female rather than male fawns. In the 2nd observation reported above, the 2 fawns closest to the coyotes were a male and a female. Whether

the male pronghorn was defending the male or female fawn, or both, is unknown. Second, if coyotes that are recipients of male-directed aggression are more hesitant to attack pronghorn in the future, then the behavior might be explained by a purely selfish model. However, previous harassment did not appear to deter coyotes from future interactions with pronghorn (Lipetz and Bekoff 1980). Third, male pronghorn may only appear to harass coyotes and may actually be trying to stop females from leaving their territories (Lipetz and Bekoff 1980). This latter supposition appears unlikely as there was no effort by the 2 females involved in the 2nd incidence to leave the area, and the aggression exhibited by the male pronghorn was clearly directed at the coyotes.

A fuller understanding of the underlying cause(s) of male-directed aggression toward coyotes will require further investigation. Irrespective of the cause, the observations reported here demonstrate that male pronghorn, in addition to females, do defend fawns from predators.

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LITERATURE CITED

- BERGER, J. 1986. Wild horses of the Great Basin: social regulation and population size. University of Chicago Press, Chicago, IL. 326 pp.
- BYERS, J.A. 1997. American pronghorn: social adaptations and the ghosts of predators past. University of Chicago Press, Chicago, IL. 300 pp.
- LIPETZ, V.E., AND M. BEKOFF. 1980. Possible function of predator harassment in pronghorn antelopes. *Journal of Mammalogy* 61:741-743.
- MARION, K.R., AND O.J. SEXTON. 1979. Protective behavior by male pronghorn, *Antilocapra americana* (Artiodactyla). *Southwestern Naturalist* 24:709-10.
- SINCLAIR, A.R.E. 1979. The African buffalo: a study of resource limitation of populations. University of Chicago Press, Chicago, IL. 355 pp.

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