Observation of dystocia in wild elk

Chad P. Lehman  
South Dakota Department of Game, Fish, and Parks, Custer, SD, chad.lehman@state.sd.us

Lowell E. Schmitz  
South Dakota Department of Game, Fish, and Parks, Rapid City, SD, lowell.schmitz@state.sd.us

Mark A. Rumble  
USDA Forest Service, Rapid City, SD, mrumble@fs.fed.us

Jackie J. Kragel  
South Dakota Department of Game, Fish, and Parks, Custer, SD, jackie.kragel@jacks.sdstate.edu

Joshua J. Millspaugh  
University of Missouri, Columbia, MO, MillspaughJ@missouri.edu

Follow this and additional works at: https://scholarsarchive.byu.edu/wnan

Part of the Anatomy Commons, Botany Commons, Physiology Commons, and the Zoology Commons

Recommended Citation
Available at: https://scholarsarchive.byu.edu/wnan/vol72/iss2/14

This Note is brought to you for free and open access by the Western North American Naturalist Publications at BYU ScholarsArchive. It has been accepted for inclusion in Western North American Naturalist by an authorized editor of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen amatangelo@byu.edu.
We report on an observation of dystocia in a wild elk (*Cervus elaphus*) which was radio-marked in the Black Hills, South Dakota. Dystocia is defined as a difficult parturition (Sloss and Dufty 1980). Dystocia may cause death in both the mother and offspring, and mortalities from dystocia have been documented for wild caribou (*Rangifer tarandus*; Bergerud 1971), pronghorn (*Antilocapra americana*; Jacques et al. 2007), elk (Larkin et al. 2003), moose (*Alces alces*; Testa 2004), and musk oxen (*Ovibos moschatus*; Norment 1980). On 27 May 2011, we tracked a radio-marked cow elk after the vaginal implant transmitter had been activated following parturition. We visually observed the lone cow elk bedded on her side exhibiting calving behavior typical of second-stage labor—ears held back and mouth open during contractions (Hudson et al. 2002). We watched the female experience many contractions over a 45-min period, but neither the amniotic sac, nor the calf appeared, and we quietly left the site. We observed the radio-marked cow elk again on 28 May 2011 and noted that her vaginal opening was distended and swollen and that she appeared lethargic. We collected daily location coordinates of the cow elk and she was visually confirmed to be alive on 30 May. However, on 31 May, the cow elk was found dead on her side with all 4 legs extended approximately 800 m from the visual location obtained on 28 May. A field necropsy showed a fully developed female calf lodged in the birth canal. The fetus appeared recently dead with no sign of decomposition. Also, the cow elk exhibited little rigamortis of the leg muscles and most likely died in the early morning hours. Postmortem examination revealed the calf had an abnormal presentation and was posterior with the hind legs leading into the birth canal. The calf’s hind legs were crossed, and the left tibia and metatarsus were bent around the right leg and stuck in the cervix. The bent-leg position of the left hind leg appeared to prevent passage through the pelvic girdle. Severe dystocia in cows occurs with the posterior presentation if the hind legs are flexed beneath the fetal body (Arthur 1975). The cow was lactating, and the rumen was approximately half full. The cow’s estimated age was 6 years based on cementum annuli from an upper canine tooth (Hamlin et al. 2000). It took approximately 4 days for the radio-collared cow elk to succumb to dystocia. We report that 1 of 34 (3%) pregnant cow elk experienced dystocia during birth for one year of data collection in 2011. Dystocia was reported in wild elk once previously (Larkin et al. 2003).
al. 2003). The authors noted its occurrence but did not provide specific details. Dystocia can occur at a high rate in farmed elk (Freidel and Hudson 1994, Pople et al. 2001) and can be an important cause of mortality and economic loss for producers (Pople et al. 2001). A comprehensive survey of North American elk farm producers indicated dystocia occurred in 5.9% of births (Woodbury et al. 2006). Little is known about dystocia in wild elk populations, and most likely fetal malpresentations do not occur often. Research with objectives specific to elk reproduction would provide additional insight into dystocia in wild elk.

We thank S. Lindsay, DVM, for constructive comments and additions to this manuscript. Funding for this research was from the South Dakota Department of Game, Fish and Parks, Federal Aid to Wildlife Restoration Fund (Project W-75-R-53, No. 7544), and the Rocky Mountain Elk Foundation. Additional field assistance and technical support was provided by the USDA Forest Service, Rocky Mountain Research Station. Technical support was provided by the University of Missouri–Columbia. All handling, marking, and monitoring procedures were approved by the South Dakota State University Research Committee (Institutional Animal Care and Use Committee Approval Number 11-012A).

LITERATURE CITED


Received 23 November 2011
Accepted 13 February 2012