

BRUCELLOSIS IN CAPTIVE ROCKY MOUNTAIN BIGHORN SHEEP (*OVIS CANADENSIS*) CAUSED BY NATURAL EXPOSURE TO *BRUCELLA ABORTUS* BIOVAR 4

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Abstract: Nine (4 female, 5 male) captive, adult Rocky Mountain bighorn sheep (*Ovis canadensis*) contracted brucellosis caused by *Brucella abortus* biovar 4 as a result of natural exposure to an aborted elk (*Cervus elaphus*) fetus. Clinical signs of infection were orchitis and epididymitis in males, and lymphadenitis and placentitis with abortion in females. Gross pathologic findings included enlargement of the testes and/or epididymides and yellow caseous abscesses and granulomas of the same. *Brucella abortus* biovar 4 was cultured in all sheep from a variety of tissues, including testes/epididymides, mammary gland, and lymph nodes. All sheep tested were positive on a variety of standard *Brucella* serologic tests. This is the first report of brucellosis caused by *B. abortus* in Rocky Mountain bighorn sheep. It also provides evidence that sheep develop many of the manifestations ascribed to this disease and that infection can occur from natural exposure to an aborted fetus from another species. Wildlife managers responsible for sheep populations sympatric with *Brucella*-infected elk or bison (*Bison bison*) should be cognizant of the possibility of this disease in sheep.

Key words: bighorn sheep, *Ovis Canadensis*, brucellosis, biovar 4, clinical infection, trans species infection