

Role of predators in reindeer brucellosis in Alaska

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Abstract: Brucellosis caused by *Brucella suis* type 4 is endemic in Alaskan reindeer (*Rangifer tarandus*) herds. Predators and small mammals were collected on the fawning grounds of a known-infected herd during the springs of 1977 — 1984. Serologic reactions were detected in red foxes (*Vulpes vulpes*), arctic foxes (*Alopex lagopus*), grizzly bears (*Ursus arctos*) and arctic ground squirrels (*Spermophilus parryii*). *Brucella suis* type 4 was isolated from red and arctic foxes. Red foxes were orally challenged with *B. suis* type 4 in controlled experiments. Shedding of the organism was detected in fecal samples several days post-challenge. Antibody titers were detected up to several months post-challenge, and *B. suis* type 4 was isolated from several tissues at necropsy. Reindeer confined with infected foxes became infected. Transmission of brucellosis among reindeer and their predators needs to be addressed in a brucellosis control program.

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