CHRONIC CRANIAL OSTEITIS IN A ROCKY MOUNTAIN BIGHORN SHEEP

JACK C. TURNER, Division of Life Sciences, Geoscience, and Geography, Sam Houston State University, Huntsville, Texas 77341, USA.


Recent observations have resulted in speculation that cranial osteolysis may be initiated by irritation of nasal and sinus epithelium by larvae of the nasal botfly, *Oestrus ovis*, in concert with secondary bacterial infections by *Corynebacterium* sp. (Bunch et al., 1978, Utah Sci. 39: 97-103; Cobbette and Mitchell, 1941, Am. J. Vet. Res. 2: 358-366; Paul and Bunch, op. cit.). Pyogenic osteomyelitis of the paranasal sinuses could potentially result from this invasion, cause perforation of the cranial vault and death from brain abscessation and/or supplicative meningoencephalitis. Consequently, bot-induced osteopathy has been suggested as a major mortality factor for desert bighorn populations (Bunch, 1980, Trans. Desert Bighorn Counc. 24: 14-18; Bunch and Allen, op. cit.; Paul and Bunch, op. cit.).

Therefore, osteolytic lesions similar to those described for desert bighorn sheep have not been observed in the Rocky Mountain bighorn ecotype. This seems unusual since the botfly has a wide distribution and is abundant in the Rocky Mountain area (Capelle, 1966, J. Parasitol. 52: 618-621; Meleny et al., 1962, Am. J. Vet. Res. 23: 1246-1251; Rogers and Knapp, 1973, Environ. Entomol. 2: 11-20). This paper describes an extensive cranial osteolytic condition in a Rocky Mountain bighorn sheep, *O. c. canadensis*, similar cases of which, previously, have been characterized as botfly induced. It is the intention of this article to emphasize caution in the indiscriminate assignment of the botfly as the etiologic agent of mortality by showing that other avenues of infection may result in conditions similar to those purportedly induced by the botfly larvae.

A 3 to 5 yr old, free-ranging Rocky Mountain bighorn ram was repeatedly observed over an interval of several months by Wyoming Game and Fish personnel in Sybille Canyon, Albany County, Wyoming. The ram appeared alert, active and able to negotiate 2.5 m fences to pursue captive bighorn ewes maintained in the canyon. The last time it was observed alive the ram appeared to have an injury or infection involving the right eye and/or cornual process. The ram was not seen for 10-20 days and subsequently was found dead. Advanced autolysis precluded a necropsy; however, a draining abscess caudal and ventral to the right orbit was observed. The right cornual process and horn were separated from the skull. However, no evidence was discernible to suggest a fall was the cause of death. The head was severed from the...