TRICHURIASIS IN MONTANA MOUNTAIN LIONS *

Author: WINTERS, JOHN B.

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In 1967, *Trichinella spiralis* larvae were found in tissues of a mountain lion *(Felis concolor)* from the National Zoological Park, Washington, D.C. (Kluge, 1967. Bull. Wildl. Dis. Ass., 5: 110-111). Olsen [1960. J. Parasitol., 46 (5-Sect. 2): 22] found no evidence of trichina in six mountain lions from Colorado. There are apparently no other published reports of trichinae in mountain lions (W. J. Zimmermann, personal communication).

From December, 1968, to April, 1969, six *F. concolor* adults were examined for *T. spiralis.* Five of these animals originated from western Montana whereas one came from the southcentral part of the state. The following tissues were examined by an artificial digestion method: diaphragm in six animals, tongue and masseter in two animals and latissimus dorsi and intercostal muscles in one lion. Approximately 35 g of muscle were minced and placed in two-quart jars containing 250 ml of pepsin (0.8%)-HCl (0.7%) solution. The containers were then agitated and incubated at 37 C for not more than 24 hours. After incubation, the digest was washed through a 150-mesh screen. The undigested material and retained larvae were concentrated by centrifugation in 50 ml tubes at 1200 r.p.m. for three minutes. The supernatant fluid was removed by aspiration and the sediment was examined under a dissecting microscope.

Fifty percent (3/6) of the lions were infected with *T. spiralis.* The three positive animals originated from western Montana. Intensity of the infections ranged from 0.75 - 11.71 larvae per gram (l.p.g.) of muscle tissue. The highest larval concentration was found in the diaphragm (mean = 6.1 l.p.g.) whereas the lowest occurred in the masseter (0.75 l.p.g.). Most of the larvae recovered were tightly coiled and viable while a few were comma-shaped and non-motile, indicating that the 24-hour incubation period had little deleterious effect on the larvae. No infectivity studies were pursued because of the limited number of larvae available.

This report apparently constitutes the first North American record of a trichina infection in *F. concolor* under wild conditions, since Kluge's positive finding was based on an animal confined to a zoo for seven years. Although deer comprise a primary source of food of mountain lions (Hornocker, Maurice G. 1967. Ph.D. Thesis. University of British Columbia, Vancouver, British Columbia. 115 pp.), the 50% prevalence of trichina noted in this study suggests that *F. concolor* forage for carrion or small animals which may harbor trichina larvae. This brief study indicates that trichiniasis in mountain lions may be more widespread than previously recognized.

JOHN B. WINTERS

Veterinary Research Laboratory,

Montana State University,

Bozeman, Montana 59715

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