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TREMATODE PARASITES OF THE MUSKRAT, ONDATRA ZIBETHICA ZIBETHICA, IN SOUTHERN ILLINOIS.

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ABSTRACT.-- Eighty-one muskrats, Ondatra zibethica zibethica, were collected from three southern Illinois counties, and seventy-five were infected with one or more of the following species of trematodes: Echinostoma revolutum, Quinqueserialis quinqueserialis, and Echinoparyphium recurvatum. The finding of Echinoparyphium recurvatum represents a new state record.

In recent years a number of investigations carried out in Europe and North America have indicated the muskrat, Ondatra zibethica zibethica, Linneaus 1758, to be host of a variety of species of parasitic helminths. A review of the literature includes a total of 66 species, comprising 36 trematodes, 11 cestodes, 15 nematodes and 4 acanthocephalans. Several reports summarized these helminths (Meyer and Reilly, 1950; Knight, 1951; Beckett and Gallichio, 1967).

Muskrats may serve as a resevoir host for parasites normally parasitic in domestic animals and humans. Among these are Dirofilaria immitis, Leidy 1856, (Goble, 1942; Smith, 1938), Trichinella spiralis, Owens 1835, (Beckett and Gallechio, 1967) and both the adult and larval forms of Taenia taeniaeformis, Batsch 1786, (Byrd, 1951). Muskrats also serve as a source of human food. Therefore a knowledge of parasites harbored by them would be of value to public health officials, wildlife personnel, veterinarians and parasitologists.

The only extensive study done in Illinois yielded 9 species of trematodes, 2 species of cestodes and 3 species of nematodes with an infection rate of 55.4% (Gilford, 1952). This study was limited to northern and central Illinois. Arata (1959) examined 36 muskrats

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from Perry County, Illinois and found only 2 endoparasites: one tapeworm (Monoecocestus sp.) in 1 of 36 muskrats and the trematode (Quinqueserialis quinqueserialis) in 13 of 36 animals.

Eighty-one muskrats were collected with conibear traps between August 14, 1975 and January 15, 1976 from three southern Illinois counties: Jackson, Union and Williamson. Necropsy of the entire muskrats revealed only three species of trematodes recovered from 91.2% of the male and 92.6% of the female muskrats: Echinostoma revolutum (92.6%), Quinqueserialis quinqueserialis (2.5%) and Echinoparyphium recurvatum (1.2%). The incidence of infection was 92.6% with a mean worm burden of 15.9 in the males and 13.7 in the females, with a range of 0-83 worms per muskrat. Age did not appear to be a factor, since all size classes were parasitized equally.

This report constitutes the first record of the occurrence of Echinoparyphium recurvatum in Ondatra zibethica zibethica from Illinois. Echinoparyphium recurvatum was first reported in muskrats from North America by Penner (1940) in Minnesota and later by Meyer and Reilly (1950) in Maine and lastly by Beckett and Gallechio (1967) in Ohio.

Identification of the trematodes was by means of the "Key to the trematode parasites of the muskrat" (Penner, 1940).

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