

***Skrjabinngylus chitwoodorum* (NEMATODA: PSEUDALIIDAE)
FROM *Mephitis mephitis* IN NORTH CENTRAL NORTH DAKOTA**

In connection with a study on the life history of *Mesocestoides*, 25 mature striped skunks, *Mephitis mephitis*, were trapped in Ward County, north central North Dakota between early May and late December 1968. Marked protrusion over the frontal sinuses was observed in two male skunks captured on June 8 and July 15. The frontal sinuses were opened and examination of the sinuses revealed bright red nematodes which were identified as *Skrjabinngylus chitwoodorum* Hill, 1939. The numbers of worms found in the two skunks were 20 and 35. Both skunks appeared vigorous and healthy. Two male *S. chitwoodorum* were found in the fissures of the brain of a road-killed female skunk on July 25. The frontal sinuses were free of worms and the bone structure was normal.

S. chitwoodorum was originally described from two striped skunks, *M. m. mesomelas* and three eastern spotted skunks, *Spilogale putorius interrupta* in Oklahoma by Hill (1939, J. Parasit. 25: 475-478). This parasite has subsequently been reported from mustelids in several localities throughout the United States (California, New York, Pennsylvania, Texas, Maryland, Illinois and Kansas). This is the first report of this parasite from North Dakota.

S. nasicola (Leuckart, 1842) from the frontal sinuses of mustelids was inadvertently synonymized with *Filaroides mustelarum* Rud. 1819v. Beneden, 1858, a nematode occurring in cysts in the lungs of mustelids. Because of this, it is highly probable that parasites recorded from the frontal sinuses as *F. mustelarum* previous to Hill's report are of the genus *Skrjabinngylus*.

Lankester (1968, Prog. and Abstr. 43rd Ann. Meet. Am. Soc. Parasit., No. 146, p. 58) showed *S. chitwoodorum* to be neurotropic in experimentally infected *M. mephitis*. Most of the worms found, 15 and 20 days postinfection, were in the frontal sinuses but some were associated with the leptomeninges of the olfactory lobes and cerebrum. In the later sites, worms provoked hemorrhage and an intense leptomeningitis with heavy infiltrations of histiocytes, eosinophils and some lymphocytes. Similar infiltrations were found in the leptomeninges of the spinal cord. He concluded that the worms may reach their definitive site in the frontal sinuses by migrating from the cranial cavity along olfactory nerve bundles which pass through perforations in the cribiform plate of the ethmoid bone.

A review of the literature reveals only two records of *S. chitwoodorum* found on the brain surface of skunks, both reports being simultaneously concerned with rabies studies. Levine *et al.* (1962, Trans. Illinois State Acad. Sci. 55: 3-5) found that skunks infected with *S. chitwoodorum* appeared healthy and of normal behavior. Whether these animals were rabid was not indicated. The report of Ewing and Hibbs (1966, Am. J. Vet. Res. 27: 1783-1785) is of interest in that some of the skunks infected with *S. chitwoodorum* were negative for rabies although rabies was indicated by antemortem behavior. These authors suggested that invasion of the central nervous system by these parasites may account for abnormal behavior in skunks found negative for rabies. Accumulated data of this nature may prove informative of aberrant behavior in mustelids.

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March 17, 1969