

- the liver fluke *Fasciola hepatica*. *Experientia* 15: 464—468, 1959.
- HYMAN L. II., The Invertebrates Platyhelminthes and Rhynchocoela. The acoelomate Bilateria vol. II. McGraw Hill Book Co. N. Y. Toronto London, 1951.
- IRWIN S. W. B., THREADGOLD T., Electron microscope studies on *Fasciola hepatica* VIII. The development of the vitelline cells. *Exp. Parasitol.* 28: 399—411, 1970.
- JORDAN B. M., BARKER J. R., A simple methyl green/pyridine technique. *Quart. J. Micr. Sci.* 96: 177—179, 1955.
- KANWAR U., AGRAWAL M., NATH V., Cytochemical studies on the vitelline glands of the trematodes *Gastrothylax crumenifer* and *Ceylonocotyle dawesi*. *Res. Bull. Punjab Univ.* (In press).
- LAL M. B., JOHRI G. N., The function of the vitellocalycal glands in the egg shell formation of *Fasciola indica* Verma, 1953. *J. Parasitol.* 53: 989—993, 1967.
- LILLIE R. D., Histopathologic Technique and Practical Histochemistry. McGraw Hill Book Co., N. Y. Toronto London, 1965.
- MAZIA D., BREWER P. A., ALFERT M., Cytochemical staining and measurement of proteins with mercuric bromphenol blue. *Biol. Bull. Woodstock* 104: 57—67, 1953.
- PEARSE A. G. E., Histochemistry Theoretical and Applied J. A. Churchill London. Third ed., 1968.
- SMYTH J. D., Egg-shell formation in trematodes and cestodes as demonstrated by the methyl or malachite green techniques. *Nature* 168: 322—323, 1951.
- , CLEGG J. A., Egg-shell formation in trematodes and cestodes. *Exp. Parasitol.* 8: 286—323, 1959.
- STEPHENSON W., Physiological and histochemical observations on the adult liver fluke *Fasciola hepatica* L. III. Egg-shell formation. *Parasitology* 43: 628—632, 1957.
- TULLOCH G. S., SHAPIRO J. E., Ultrastructure of vitelline cells of *Haematoloechus*. *J. Parasitol.* 43: 628—632, 1957.
- YASUMA Y., ICHIKAWA T., *J. Lab. Clin. Med.* 41: 296, 1953. (ex Pearse 1968).

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## FURTHER OCCURRENCE OF SOME HELMINTHS IN RODENTIA AND INSECTIVORA FROM FENNOSCANDIA

First results of Czechoslovak-Norwegian cooperation in the research of helminths of small terrestrial mammals, which began in 1974, have already been published by Wiger, Lien and Tenora (Norw. J. Zool. 22: 61—64, 1974; 24: 133—135, 1976). In a new collection originating from the locality Kvitesøid we found 3 further helminth species hitherto not reported from the territory of Norway, which suggests the possibility of their wider distribution in Fennoscandia.

### 1. *Hymenolepis horrida* (Linstow, 1901)

One specimen of this cestode was recovered from one of the 37 *Clethrionomys glareolus* (Schreber, 1780) examined. This species is characterized by the scolex without hooks, cirrus armed with chitinous spines and eggs of lemon shape. The specimen from our collection corresponds both in morphology and measurements to the description of *H. horrida* published by Murai and Tenora (Parasit. Hung. 6: 111—116, 1973).

### 2. *Soboliphyme soricis* Baylis et King, 1932

This species (4 and 6 specimens) was found in the small intestine of two of 38 *Sorex araneus* (L.) examined. It is a specific parasite of *Sorex* and *Neomys*. A characteristic feature of *S. soricis* is the conspicuous oral sucker (visible macroscopically) which has a small incision on the dorsal side. The species *S. jamesoni* Read, 1952 parasitizing *Sorex* from America and closely related to *S. soricis* does not possess this incision. Although *S. soricis* is conspicuous in its size (males 18—26 mm, females 47—51 mm long) and morphology, it is rarely encountered. For example, Skrjabin et al. (Opredelitel paraziticheskikh nematod IV. Izdat. AN SSSR, Moscow, pp. 1—921, 1954) reported this species only from England and the USSR. It was later found also by Prokopič (Čs. parazit. (Praha) 6/2: 87—134, 1959) in Poland and Czechoslovakia. The specimens in our collection originate not only from Norway, but also from Denmark, where the host is *Sorex araneus*.

### 3. *Mastophorus muris* (Gmelin, 1970)

This species was found in the stomach of 4 of the 121 *Lemmus lemmus* (L.) examined (intensity of infection 2, 2, 4 and 6 specimens). It is a widely distributed parasite of many species of rodents (Skrjabin and Sobolev, *Osnovy nematodologii* XI, Izdat. AN SSSR, Moscow, pp. 1-511, 1963). However, this nematode has never been reported from *L. lemmus* in the whole distribution area of this rodent. The specimens from our material have characteristic morphological features described by Aloyan (ex Skrjabin and Sobolev 1963). They possess a small number of teeth on each of the three lobes of two lateral pseudolabia.

Besides the high median tooth present on each lobe there are 2-3 small teeth distributed on its sides. The spicules are unequal (0.82 and 1.12 mm) and their distal ends are distinctly rounded (surrounded by a membrane). The gubernaculum has the shape of irregular triangle and measures 0.078-0.093 mm in length. The eggs are relatively thick-walled and contain a coiled larva. They measure 0.051-0.056  $\times$  0.032-0.034 mm.

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