

The flea *Palaeopsylla soricis* as intermediate host for the cestode *Hymenolepis scutigera*

by

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Among the fleas collected by my son Emile from small mammals at Mirns, Gaasterland (region), Friesland (province), Netherlands, during the last week of July, 1972, are 3 ♀ *Palaeopsylla soricis soricis* (Dale, 1878) taken from *Sorex araneus* (the common shrew) trapped at the edge of a reed-marsh between cottage "De See-Hanne" and the IJsselmeer. The specimens of this flea, a common and specific parasite of shrews, were subsequently not macerated prior to mounting but only made translucent by applying the terpeneolum method (see Brinck-Lindroth & Smit, 1973). Any form of helminth present in fleas can thus often be spotted and so it was found that the abdominal cavity of one of these female *P. s. soricis* contains no fewer than nine cysticercoids of the cestode *Hymenolepis scutigera* (Dujardin, 1845); this is the commonest of the various tapeworms of the genus *Hymenolepis* specific to shrews (*Sorex* spp.), from the Netherlands hitherto recorded from Makkinga (Friesland) and Oostvoorne (Zuid-Holland) (Vaucher, 1971). These cysticercoids (Fig. 1), most of which situated in the dorsal half of the abdomen, measure 115—135 $m\mu$ \times 70—78 $m\mu$; the rostellar hooks, ten per cysticercoid, are 33—37 $m\mu$ long and well visible; suckers are not discernible (fully grown the worm is about 35 mm long).

Quentin & Beaucournu (1966) found one cysticercoid of this cestode in a female *P. soricis* (54 specimens were examined) taken from *Talpa europaea* (an accidental host) at Seilhac (Corrèze), France, in July, and nine cysticercoids in a female *Ctenophthalmus congener* (3148 specimens of *Ctenophthalmus* spp. examined) from *Clethrionomys glareolus* collected at La Beaume (Hautes-Alpes), France, in August. The cysticercoid and hooks shown in their fig. 2 closely agree with those in the shrew flea from Mirns; although the French cysticercoids are somewhat smaller, the measurements of the hooks are exactly the same.

Prokopič (1969) recorded the presence of 1—4 cysticercoids of *H. scutigera* in the abdominal cavity of the fleas *Ctenophthalmus agyrtes* ssp., *C. bisoctodentatus* ssp. and *C. assimilis* ssp. collected from nests of the mole (*Talpa europaea*) in southern Bohemia. None of these fleas (like *C. congener* mentioned above) is a specific parasite of shrews. Flea larvae can only become cestode-infected in the nest of their cestode-infected host; either shrews are occasionally utilizing nests of moles or *H. scutigera* occurs in moles as well. Prokopič did not mention the rate of infection and there seems to be a discrepancy in his measurements of cysticercoid and scolex. The cysticercoid figured by him is in a different stage of development and has a invaginated properly developed scolex.

Hymenolepis scutigera is also known from Wales, England, Belgium, Germany, Switzerland, Austria, Poland, Denmark, Norway, Sweden and Finland. Summer appears to be the season of the occurrence of its cysticercoidal stage in fleas.

I am indebted to Miss Elisabeth van den Broek (Amsterdam) for comments on

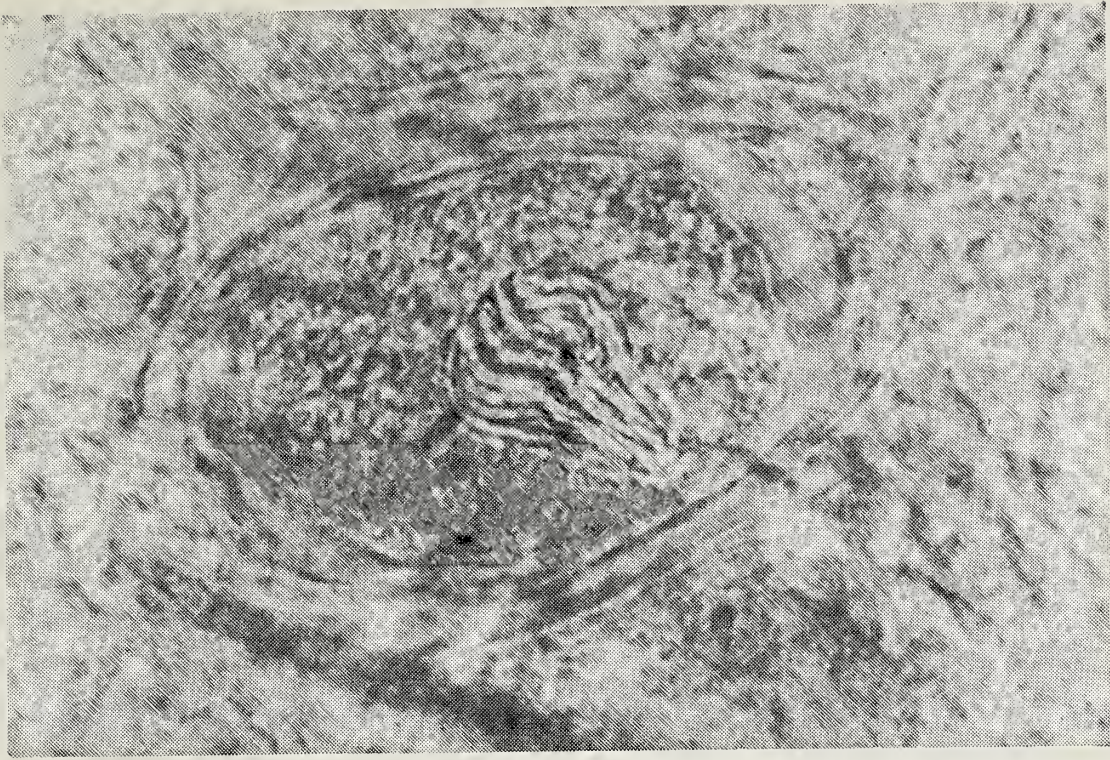


Fig. 1. Cysticercoid of *Hymenolepis scutigera* in abdomen of the flea *Palaeopsylla soricis* (Mirns, Netherlands).

the distribution of *H. scutigera* and to Dr. B. Ryšavý (Prague) for confirming the determination of the cestode.

References

- BRINCK-LINDROTH, G. & F. G. A. M. SMIT, 1973. Parasitic nematodes in fleas in northern Scandinavia and notes on intersexuality and castration in *Amphipsylla sibirica* Wagn. *Ent. Scand.* 4: 302—322, figs. 1—9.
- JOYEUX, C. & J. G. BAER, 1936. Cestodes. *Faune Fr.* 30: 643 pp., 569 figs.
- PROKOPIČ, J., 1969. Three species of the genus *Ctenophthalmus* (Siphonaptera) as new, natural intermediate hosts for *Hymenolepis scutigera*. *Folia Parasit., Praha* 16: 264, figs. 1—2.
- QUENTIN, J. C. & J. C. BEAUCOURNU, 1966. Cysticercoïdes d'*Hymenolepididae* parasites d'*Insectivores* chez des *Siphonaptères*. *C. r. Acad. Sci., Paris (D)* 262: 2059—2061, figs. 1—2.
- VAUCHER, C., 1971. Les Cestodes parasites des *Soricidae* d'Europe. Etude anatomique, révision taxonomique et biologie. *Rev. suisse Zool.* 78: 1—113, figs. 1—84.

British Museum (Natural History), London S.W. 7.

Een nieuwe vlieg voor Nederland. In het kader van ons onderzoek naar de parasitaire fauna van de satijnvlinder *Leucoma salicis* L. in Nederland werden er in 1972 en 1973 ook een aantal Tachiniden verkregen. Na determinatie door dr. L. P. MESNIL (Commonwealth Institute of Biological Control, Delémont, Zwitserland) bleken er 41 exemplaren tot de soort *Linnaemyia olsufjevi* Zimin te behoren. Deze soort is volgens dr. MESNIL tot nu toe alleen bekend uit Rusland en Zwitserland (Tessin); er was nog geen gastheer van *Linnaemyia olsufjevi* bekend.

S u m m a r y. The Tachinid *Linnaemyia olsufjevi* Zimin, so far only known from Russia and Switzerland, was bred in the Netherlands in 1972 in numbers from caterpillars of *Leucoma salicis* L.

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