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VIVIPARUS CONTECTUS AS A NEW INTERMEDIATE HOST OF LINSTOWIELLA VIVIPARAE (LINSTOW, 1877) (TREMATODA: CYATHOCOTYLIDAE)

During the studies of larval trematodes from water snails collected in the pond Žehuňský near Kolín (Central Bohemia, 60 km east of Prague), we found metacercariae of *Linstowiella viviparae* (Linstow, 1877) in the snail *Viviparus contectus* (Millet, 1913). A total of 339 snails were examined in the locality: 142 *V. contectus*, 79 *Bithynia tentaculata*, 3 *Valvata cristata*, 9 *Lymnaea stagnalis*, 1 *Radix auricularia*, 40 *Radix peregra peregra*, 2 *Galba corvus*, 23 *Planorbarius corneus*, 19 *Planorbis planorbis*, 17 *Anisus vortex*, 1 *Gyraulus albus*, 2 *Physa fontinalis*, 1 *Acroloxus lacustris*. Metacercariae of *L. viviparae* occurred only in *V. contectus* — the total prevalence was 80%, intensity of infection ranged between 1—43. In spite of their frequent occurrence in the locality, no cercariae of *L. viviparae* were found here. The adults were obtained experimentally. About 50 metacercarie from spontaneously infected *V. contectus* were fed to a one-day-old duckling; 3 days p.i. 2 adults were found in the small intestine.

Descriptions: **Metacercaria.** (Fig. 1A, B) Encysted metacercariae occurring dominantly in edge of mantle, exceptionally in gills, kidneys or muscles of snail hosts. Cysts spherical, 315—365 μm in diameter, with hyaline walls 47—82 μm thick (under slight cover glass pressure). Excystment realizing easy according to the method of Irwin (1983: Int. J. Parasitol. 13: 191—196). Released metacercariae, when fixed, stained and mounted, measuring 188—280 × 138—187 μm. Oral sucker 25—31 × 30—49 μm; prepharynx practically absent; muscular pharynx 25—32 to 20—27 μm; esophagus as long as pharynx; wide ceca terminating near posterior body end. No acetabulum. Brandes' organ, 75—125 to 65—120 μm, occupying middle third of body between ceca. Secondary excretory system well developed and filled with small granules. Numerous gland openings in anterior part. Body surface covered with fine spines. **Adult.** (Fig. 1C) Two 3-day-old specimens fixed, stained and mounted gave the following measurements: body 435—574 × 334 to 422 μm; oral sucker 40 × 60 μm; pharynx 32—42 × 33—37 μm; Brandes' organ inconspicuous, about 150 μm in diameter; ovarium 40—70 × 75 μm; testes 75—100 × 75—90 μm; cirrus pouch 163 × 50 μm; egg 120 × 105 μm.

The species *L. viviparae* was first described by Linstow (1877: Arch. Naturgesch. 43: 173—198) on the basis of metacercariae obtained from the snail *Viviparus viviparus*. Also Sudarikov (1961: In: K. I. Skryabin, Trematodes of animals and man, Vol. 19, Publ. House Nauka, Moscow, pp. 296—471. In Russian.) and Ginetsinskaya and Dobrovolskiy (1968: Trudy Astrachan. zapov. 9: 29—95. In Russian.) found the metacercariae in the same host. Szidat (1933: Z. Parasitenkd. 5: 444—459) and Sudarikov (1961: op. cit.) contributed to the knowledge of the development of this species. Mishchenko (1974: Trudy GELAN 24: 102—112. In Russian.) studied the life cycle in detail. The above mentioned authors concentrated mainly on the larval stages of the trematode *L. viviparae*. Since the adults have a short life span, they can be found only sporadically in nature. According to Sudarikov (1974: In: K. I. Skryabin, Trematodes of animals and man, Vol. 25, pp. 29—244. In Russian.) and Yamaguti (1971: Synopsis of digenetic trematodes of vertebrates. Parts 1, 2. Keigaku Publ. Co., Tokyo, 1074 pp. + 249 Plts), the definitive hosts of this species are various bird species.

The snails *V. contectus* were recorded for the first time as intermediate hosts of this species. This contribution also reports the first finding of *L. viviparae* in Czechoslovakia.

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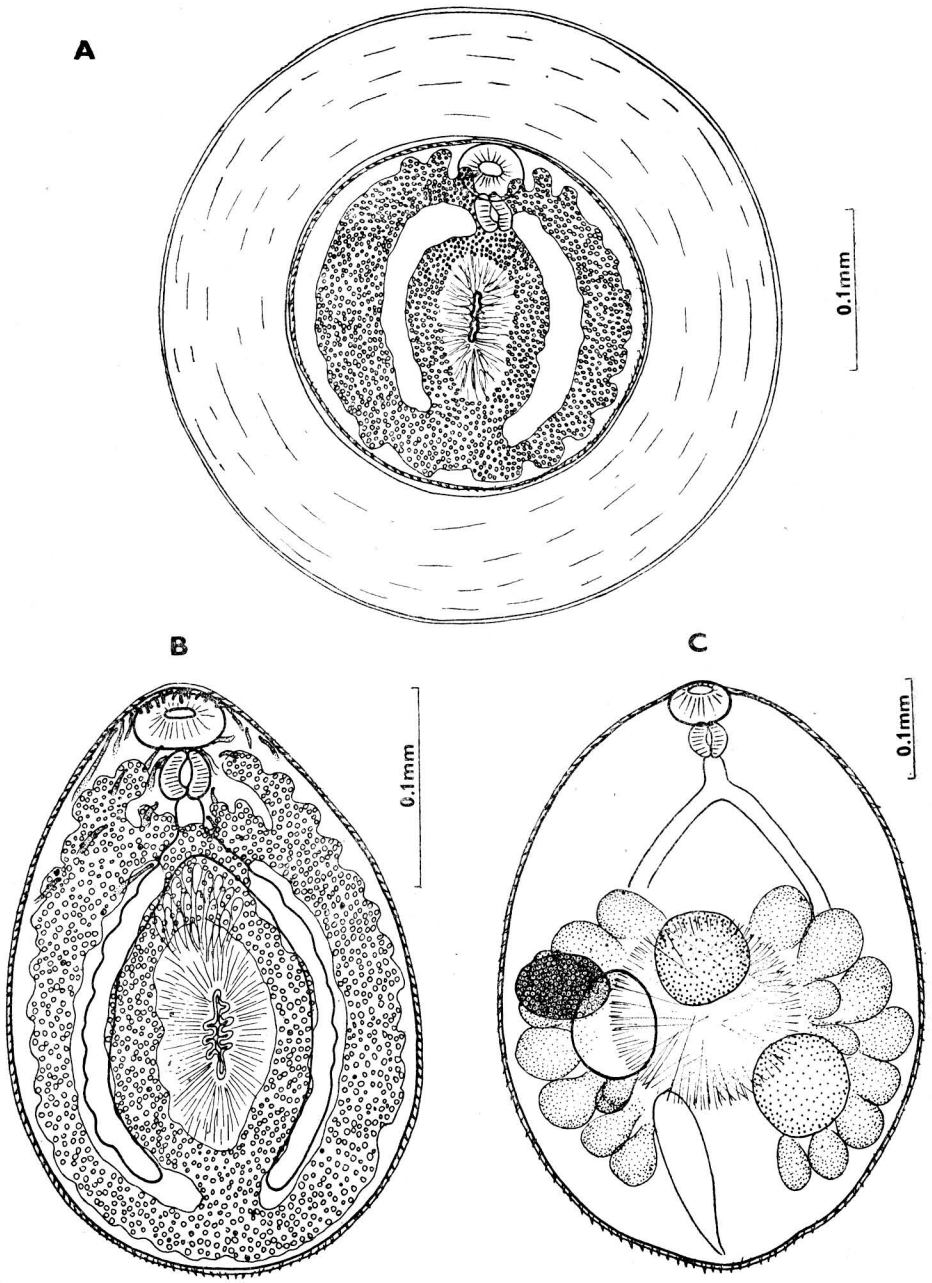

Fig. 1. *Linstowiella viviparae* (Linstow, 1877). A — metacercaria in the cyst; B — excysted metacercaria; C — 3-day. — old adult.