

A NEW AMPHISTOME CERCARIA FROM *LYMNAEA TRUNCATULA* IN EUROPE

K. ODENING*, P. SAMNALIEV**†

SUMMARY. *Cercaria truncatuloides* n. sp. is described from experimentally infected *Lymnaea truncatula*. It is characterized by a dorsoventral finfold at the tip of the tail, 44 papillae on the tail and an extraordinary great number of papillae (96) on the acetabulum, and presumably belongs to a *Paramphistomum* species of cattle in GDR.

Key-words: *Paramphistomum*. Cercaria. Chaetotaxy.

Une nouvelle cercaire amphistome de *Lymnaea truncatula* en Europe.

RÉSUMÉ. *Cercaria truncatuloides* n. sp. est décrite de *Lymnaea truncatula* infestée expérimentalement. Elle se caractérise par une membrane nageuse dorsoventrale sur la pointe de la queue, 44 papilles sur la queue et un nombre extraordinaire de papilles (96) sur l'acetabulum. On présume qu'elle appartient à une espèce de *Paramphistomum* du bétail de R. D. A.

Mots-clés : *Paramphistomum*. Cercaire. Chétotaxie.

Introduction

Most of the authors working on the species composition of fam. Paramphistomidae (genus *Paramphistomum*) consider 5 valid species distributed in Europe, namely *Paramphistomum cervi* (Zeder, 1790)¹, *P. ichikawai* Fukui, 1922, *P. microbothrium* Fischöeder, 1901², *P. daubneyi* Dinnik, 1962³ and *P. gotoi* Fukui, 1922 (cf. Kamburov, 1977; Sey, 1978, 1979, 1980, 1982; Odening and Gräfner, 1979, Odening, 1983 and others). The species mentioned are not evenly distributed all over the continent and occur in different frequency. For example, there are 3 species in Bulgaria: *P. daubneyi*, *P. ichikawai* and *P. cervi*, but the latter two species

1. Synonyms: *P. leydeni* Näsmark, 1937; *P. scotiae* Willmott, 1950; *P. hiberniae* Willmott, 1950.

2. = *P. pigmentatum* (Sonsino, 1892) Odening *et al.*, 1979.

3. Previously often reported in Europe as *P. microbothrium*.

* Akademie der Wissenschaften der DDR, Forschungsstelle für Wirbeltierforschung (im Tierpark Berlin), Am Tierpark 125, Berlin, DDR-1136.

** Bulgarian Academy of Sciences, Central Laboratory of Helminthology, Sofia 1113 Kv « Geo Milev », Akad. G. Bontchev str. bl. 25, Bulgaria.

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are very rare, whereas in GDR and Poland *P. cervi* dominates. *P. microbothrium* is restricted to the areas of bulinid snails (some parts of mediterranean region) and *P. gotoi* was found only once in Rumania.

Odening *et al.* (1979) and Odening and Gräfner (1979) believed to have found *P. daubneyi* in GDR. They described an amphistome cercaria with finfold from *Lymnaea truncatula*, experimentally infected with miracidia obtained from eggs of cattle rumen flukes. However, the determination of the adult flukes was made only on total mounts, and data on the *P. daubneyi* cercaria was lacking by that time in the literature, since first detailed and illustrated descriptions of this cercaria were published by Vassilev and Samnaliev (1978), Sey (1979) and Samnaliev *et al.* (1981). Later on Samnaliev and Poljakova-Krusteva (1982) and Odening (1984) expressed doubts that the *Paramphistomum* cercaria described in GDR belongs really to *P. daubneyi*.

With the present paper we set ourselves the task to clarify the species belonging of the *Paramphistomum* cercaria from GDR, previously assigned to *P. daubneyi* and here named *Cercaria truncatuloides* n. sp.

COMPARISON BETWEEN « *CERCARIA TRUNCATULOIDES* » N. SP. AND RELATED CERCARIAE FROM « *LYMNAEA TRUNCATULA* »

So far *Lymnaea truncatula* is known to be an intermediate host for 4 amphistome cercariae of the « Pigmentata » group: *Cercaria truncatulae* Fain, 1953; *C. truncatuloides* n. sp.; *Paramphistomum daubneyi* Dinnik, 1962; *P. microbothrioides* Price and McIntosh, 1944⁴. Two of these cercariae, *C. truncatuloides* n. sp. and *P. microbothrioides* cercaria bear finfolds on the tail, but they are readily differentiated by the ratio body-tail length (the tail being 2-3 times longer than the body in the latter species, while the body and tail length are nearly of equal size in the former species). Besides the finfold of *P. microbothrioides* cercaria is very much like that described by Lengy (1960) for *P. microbothrium* cercaria, while *C. truncatuloides* n. sp. has a small finfold at the tail's end. Concerning the chaetotaxy, the maximum number of papillae established on the tail of *C. truncatuloides* n. sp. (44) coincides with the minimum number of papillae found in *P. microbothrioides* cercaria (44-52) (Samnaliev *et al.* in press). However, the tail's papillae of *C. truncatuloides* n. sp. are situated on 4 axes but not on 2 as in *P. microbothrioides* cercaria.

The body and tail of *P. daubneyi* cercaria are also of nearly equal length but the tail is void of finfold. Beside the finfold *C. truncatuloides* n. sp. and *P. daubneyi* cercaria can be distinguished by their tail widths, the tail being more slender in the latter species (36-46 μm against 52-140 μm , the measurements in both cases taken from silver impregnated cercariae). With regard to the chaetotaxy, these two cercariae can be also differentiated by the number of the tail's papillae, being 9-19 in *P. daubneyi* cercaria (Sey, 1979; Samnaliev *et al.*, 1981).

4. For the development of this North American species in experimentally infected *Lymnaea truncatula* see Samnaliev and Vassilev (1981).

C. truncatulae differs from *C. truncatuloides* n. sp. by the lack of a finfold and the presence of a median diverticulum on the transversal anastomosis of the main excretory ducts.

Finally, *C. truncatuloides* n. sp. has an extraordinary great number of acetabular papillae (96), differing from all hitherto studied paramphistomid species.

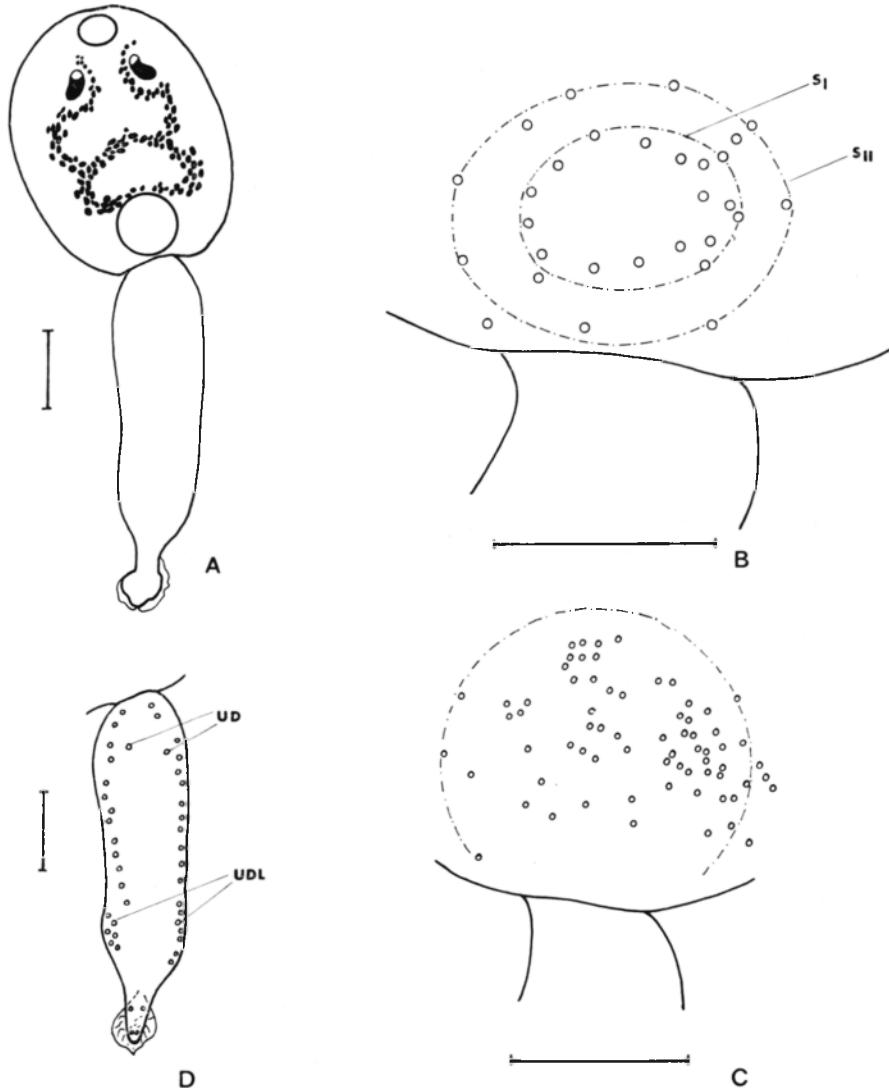


FIG. 1. — *Cercaria truncatuloides* n. sp. Bar = 100 μ m.

A: general view.
B-C: acetabular papillae.
D: caudal papillae.

DESCRIPTION OF « *CERCARIA TRUNCATULOIDES* » N. SP.

Amphistome cercaria of the « *Pigmentata* » group (fig. 1-A). Body 279-426 μm long and 250-323 μm wide; tail 222-573 μm long and 52-140 μm wide, bearing a small dorsoventral finfold at the tip. The oral sucker measures 44-66 \times 44-66 μm and acetabulum 110-125 \times 81-125 μm (all measurements taken from silver impregnated specimens). The main lateral excretory ducts are connected by a transversal anastomosis situated at midbody, lacking a constant median diverticulum; ocellar diverticula seem to lack. Chaetotaxy: the total number of the papillae on the acetabulum is 96 (fig. 1-B, C), located at least on three circles, $S_1 = 17$, and $S_{11} = 11$, being clearly outlined; the maximum number of papillae on the tail is 44 (fig. 1-D), situated on 4 axes (one pair UD, 19 pairs UDL and 4 papillae at tail's tip).

Host (experimental): *Lymnaea (Galba) truncatula* (Müller, 1774).

Locality: GDR (districts of Schwerin and Frankfurt on Oder).

Holotype: Parasite collection of Forschungsstelle für Wirbeltierforschung (im Tierpark Berlin), no. kT 51/86.

Remarks. *C. truncatuloides* n. sp. presumably belongs to a *Paramphistomum* species from cattle, in total mounts showing some similarities with *P. daubneyi* (lobed testes and strongly developed pars muscosa of vas deferens with 3-7 windings, see Odening and Gräfner, 1979). — In *C. truncatuloides* n. sp. when first described as belonging to *P. daubneyi*, a finfold-like structure on the dorsal surface of the tail was shown on the drawing, which was seen only in a few cases (Odening *et al.*, 1979). The nature of this structure remains unclear.

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