**128. A New Species of *Cambarincola*, with Remarks
on Spermatic Vesicles of Some
Branchiobdellid Worms.**

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The Branchiobdellidae known as occurring in Japan have been represented by the four genera, *Branchiobdella*, *Stephanodrilus*, *Ceratodrilus*¹⁾ and *Carcinodrilus*.²⁾ Lately I found among branchiobdellid specimens attached to the crayfish, *Cambaroides japonicus*, collected at Soranuma, Hokkaido, a new worm referable to the genus *Cambarincola* which has hitherto been reported only from America. In the preparation of the paper the writer's thanks are due to Prof. Dr. Tohru Uchida who gave him several valuable suggestions and advices.

Cambarincola homodonta nov. sp.

The body is rather slender and cylindrical, about 1.5 mm long and 0.2 mm wide in the widest portion about the middle part of the trunk, in mature worms. From the widest portion the body becomes gradually narrower toward both the anterior and posterior ends. The head is easily distinguishable from the trunk, composed of two annulations of which the anterior one is the peristomium indistinctly divided dorso-ventrally. The dorsal part of the peristomium is incised to form 4 distinct digitiform appendages or lobules, while the ventral part is slightly bilobed. In addition to these lobules two small ones are located at each lateral part of the peristomium. The mouth is surrounded by a circlet of 16 minute papillae. Both the dorsal and ventral dental plates are slightly brown and of similar form. The teeth of each plate consist of a large median and 8 small lateral ones. Unlike *Ceratodrilus* and *Pterodrilus*, the species is destitute of trunk appendages. The spermathecal pore and the male sexual aperture open on a slightly elevated papilla in the mid-ventral line in trunk segment V

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and VI respectively. The oviduct pores are paired, situated on the ventro-lateral sides of trunk segment VII. The anterior nephridia open outside in a common median dorsal pore in trunk segment III. The digestive tract runs almost straight from the mouth to the anus. Two pharyngeal diverticula, one dorsal and the other ventral, are present. The testes are paired in trunk segments V and VI. The ovaries are in pair in trunk segment VII. The spermatic vesicle is represented by a long simple tube, irregularly folded about three times and connected with both the anterior and the posterior vasa deferentia at some distance from the distal end. The spermatheca is not bifid, having in the middle portion a flask-shaped enlarged part which occasionally shrinks with the distal part withdrawn into the proximal portion.

Fig. 1. *Cambarincola homodonta* nov. sp., A, side view, about $\times 50$; B, dorsal dental plate, about $\times 900$.

Remarks: The present species seems to me to be referable to the genus *Cambarincola* in respect to the following characteristics; the plurilobate peristomium, the paired testes in trunk segments V and VI, the number of pharyngeal diverticula, possession of a common anterior nephridial pore, absence of trunk appendage. The plurilobate peristomium often occurs in other genera, such as *Branchiobdella*,¹⁾ *Ceratodrilus*, *Stephanodrilus* and *Carcinodrilus*. The common dorsal anterior nephridial pore is found in *Bdellodrilus illuminatus* but the bifid spermatheca occurring in *Bdellodrilus* is absent in the new species.

In regard to spermatic vesicles of branchiobdellids there seems to be a series of variations as will be stated below. According to Pierantoni (1912) the vesicles of *Branchiobdella anatis* is of a simple bulged form and connected with a vas deferens (Fig. 2. A). In *Branchiobdella tetrodonta* (by Pierantoni, 1912) the vesicle is narrower and provided with a blind tube at the distal end (Fig. 2. B). The vesicle becomes comparatively a little larger in *Stephanodrilus sapporensis* and is furnished with two vasa deferentia (Fig. 2. C). As regards the spermatic vesicle, the new species is almost similar to the

1) *B. digitata* and *B. minuta*.

former species but differs in the presence of the foldings of the proximal portion (Fig. 2. D). The accessory sperm tube known as a generic character of *Cambarincola*, seems to me to be homologous to the blind tube of these three species (Fig. 2. E). There is a difference

Fig. 2. Schematic figures of spermatic vesicles in various Branchiobdellids. A, *Branchiobdella anatis* after Pierantoni, slightly changed; B, *Branchiobdella tetrodonta* after Pierantoni, changed; C, *Stephanodrilus sapporensis*; D, *Cambarincola* sp. v, vas deferens; a, accessory sperm tube; a₁, a₂, a₃, blind tube; b, short tube connected with two vasa deferentia.

in the new species from the other species of *Cambarincola* hitherto described, in which the spermatic vesicle has always a short tube (Fig. 2. E, b) connected with two vasa differentia as shown in a section made from *Cambarincola*¹⁾ sp. Moreover, both the dental plates of the new species are almost similar in form, while in other species of *Cambarincola* they are generally dissimilar.

Though the new species is unique in these two characters, it appears to me to be right to refer the species to the genus *Cambarincola*.

1) The species was obtained from crayfishes transferred from America in a Japanese lake and is probably referable to *C. philadelphia*.