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A New Ichthyobdellid Leech and its Egg-capsules

By

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PLATES V, VI

The leech here described was found together with its egg-capsules on a small shell washed-up on the beach at Sandy Bay, Hobart, 28th October, 1940.

There are very few records of marine leeches having been found in association with their egg-capsules, and it seems desirable, therefore, that some account of the present specimens should be published. The leech is a new species belonging to the genus *Pontobdella*. The name *Pontobdella verrucosa* is suggested.

Suborder	Rhynchobdellae
Family	Ichthyobdellidae
Genus	Pontobdella, Leach, 1815

Pontobdella verrucosa n. sp.

Description. Approximate total length, in alcohol, 37 mm.; greatest width 3·5 mm. The body is fusiform, circular in section, and narrowed towards the front (Plate VI, fig. 6). The living animal is light-brown in colour with a dark-brown triangular patch on the dorsal side of the anterior sucker. The larger tubercles are tipped with white, and annuli 23 and 29 are almost ringed with white or pale cream. In alcohol, however, these markings disappear and the leech assumes a uniform mustard-yellow hue without any special marks except the triangular brown patch on the sucker.

The anterior sucker is 2·26 mm. in diameter, cup-shaped, attached excentrically, and provided with four pairs of distinct submarginal papillae. The oral surface of the sucker is corrugated to form 12 radial furrows. No eyes are present.

The posterior sucker is cup-shaped, 3·54 mm. in diameter, attached centrally, much wider than the anterior sucker, but only slightly wider than the greatest width of the body.

There are 57 annuli behind the anterior sucker. A complete somite consists of three annuli. The anterior and posterior annuli of the somite are about equal in width and smaller than the middle ring, which is broad and lodges a ganglion of the ventral nerve chain (Plate V, figs. 1 and 2).

The anterior sucker is composed of somites I-V. Somites VI-IX and XIII-XXIV are complete with three annuli; X-XII are biannulate. The clitellum comprises the five narrow rings lying between the broad annuli of somites X and XIII (Plate V, fig. 1). The annulation and metamerism in the anal region are obscure. Somites XXV-XXVII appear to be uniannulate. Annulus 55 is divided below but not above. There is, however, on the dorsal side a small additional tubercle which is unpaired and which may indicate that the annulus is double. Annulus 56 is divided by a transverse groove on the dorsal side, but there is no corresponding division on the ventral surface. Annulus 57 is complete but without tubercles.

The normal arrangement of tubercles on a typical somite is as follows:—

The broad middle annulus is provided with four large tubercles above and four smaller ones below. The anterior and posterior annuli of the somite have six dorsal and six ventral tubercles. Of the six dorsal tubercles the middle pair are the smallest (Plate V, fig. 2). Sometimes there is a small median ventral tubercle on an annulus, and other small tubercles may be interposed between those normally present.

The mouth is a small central aperture in the front sucker.

The male genital pore lies between annuli 16 and 17; the female aperture is between annuli 18 and 19.

The anus lies in the dorsal transverse groove on annulus 56. The division of the annulus by this dorsal groove makes the anus appear to be separated from the posterior sucker by two annuli (Plate V, fig. 3).

The Egg-capsules

As mentioned above the egg-capsules were found attached to a shell stranded on the beach at Sandy Bay. The adult leech was coiled up over the capsules and was still alive (Plate V, fig. 5). The specimens were placed in sea-water and kept in the laboratory from 28th October to 26th November, 1940. By changing the sea-water frequently no difficulty was experienced in keeping both the adult and the embryos alive.

The shell was somewhat worn but appeared to be a right valve of the common *Dosinia coerulea* Reeve. There were 31 capsules in a group on the inner surface of the shell near the hinge line (Plate VI, fig. 7). Each capsule was oval in shape and composed of a transparent brown leather-like material, the surface of which was quite smooth and without any pattern. At each end, however, was a small circular spot. At one end the spot was nearer the upper surface than at the other end and formed a kind of operculum. This was forced open by the young leech when it emerged from the capsule. The capsules were very uniform in size and measured about 2·61 mm. long and 1·63 mm. wide.

During the 30 days the specimens were kept in sea-water in the laboratory, the adult leech usually rested near the capsules. Sometimes, however, it would leave them and move about in the water, later returning to the shell and coiling up in the attitude shown in Plate V, fig. 5.

Each capsule contained only one embryo. Seventeen young leeches completed their development and escaped from the capsules before the 26th November, 1940. They closely resembled the adult.

About ten species are now recognised as belonging to the genus *Pontobdella* (See Scriban and Autrum, 1934, p. (8) 338). These may be divided into two groups, viz., those in which the typical somite is triannulate and those in which it is quadrannulate. *Pontobdella verrucosa* belongs to the former group and is closely allied to *Pontobdella loricata*, Harding (1924, p. 490). The latter species, which is recorded from India, has, however, a clitellum composed of seven rings.

Moreover the figure which Harding gives shows the dorsal tubercles on the smaller annuli of a typical somite to be about equal in size, whereas in *P. verrucosa* the two middle tubercles are much smaller than the others on the dorsal side of the ring.

The type specimen of *Pontobdella verrucosa* and its egg-capsules will be lodged in the Australian Museum, Sydney.

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REFERENCES

HARDING, W. A., 1924.—Descriptions of some new Leeches from India, Burma, and Ceylon. *Ann. Mag. Nat. Hist.* Ser. 9, vol. XIV, pp. 489-499, Plates IX-XV.

SCHEAN, J. A., and AUTRUM, H., 1928-34.—Hirudinea; in Kukenthal-Krumbach's *Handb. d. Zool.*, vol. 2. Berlin, 1928-34.

PLATE V

Pontobdella verrucosa n. sp.

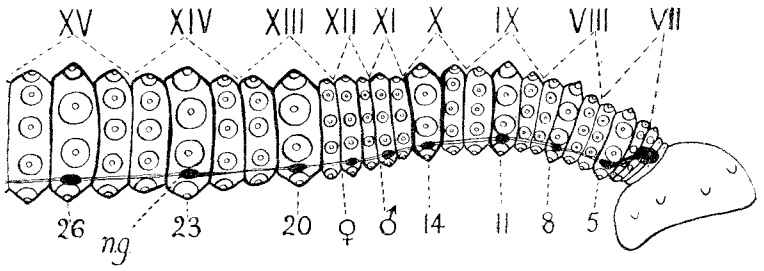
FIG. 1.—Diagrammatic lateral view of leech showing annulation of anterior somites and the position of the nerve ganglia. *n.g.* ganglion of somite XIV.

FIG. 2.—Dorsal view of two typical somites (XVIII and XIX) showing arrangement of tubercles.

FIG. 3.—Dorsal view of annuli 54-57 showing position of anus, (*a*).

FIG. 4.—Egg capsule viewed from above showing the aperture (*ap.*) through which the young leech has emerged and the disc (*d*) which it has forced out.

FIG. 5.—Leech in a coiled-up position over its egg-capsules.


XV
XIV
XIII
XII
XI
X
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VII
26
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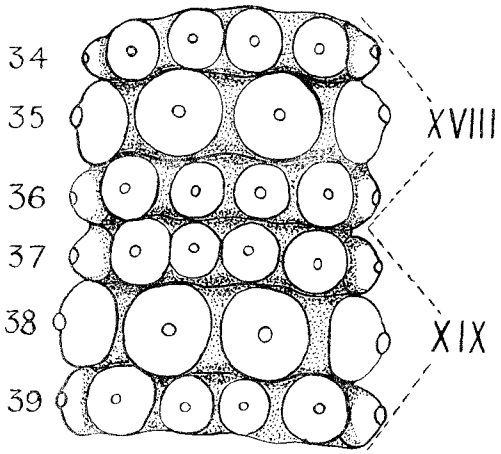
1


34
35
36
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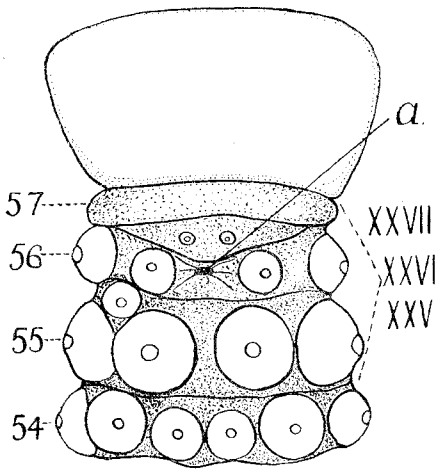
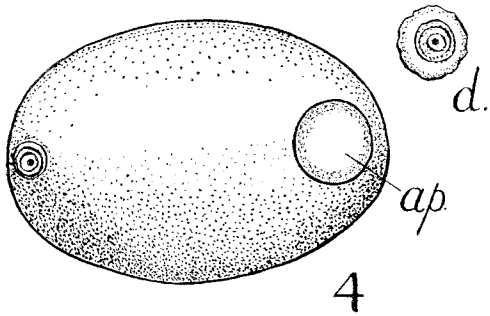
38
39
XVIII
XIX

2


a.
57
56
55
54
XXVII
XXVI
XXV

3


d.
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4

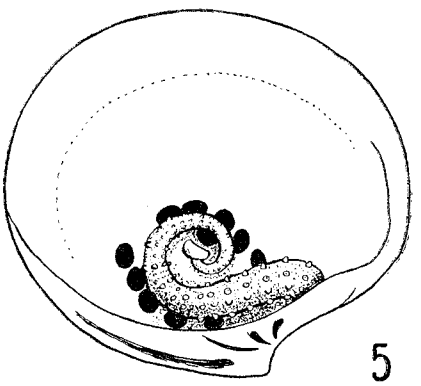

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PLATE VI

Pontobdella verrucosa n. sp.

FIG. 6.—Photograph of leech (in alcohol). x 2.
FIG. 7.—Photograph of shell with egg-capsules of leech. x 3/2.

Fig. 6.

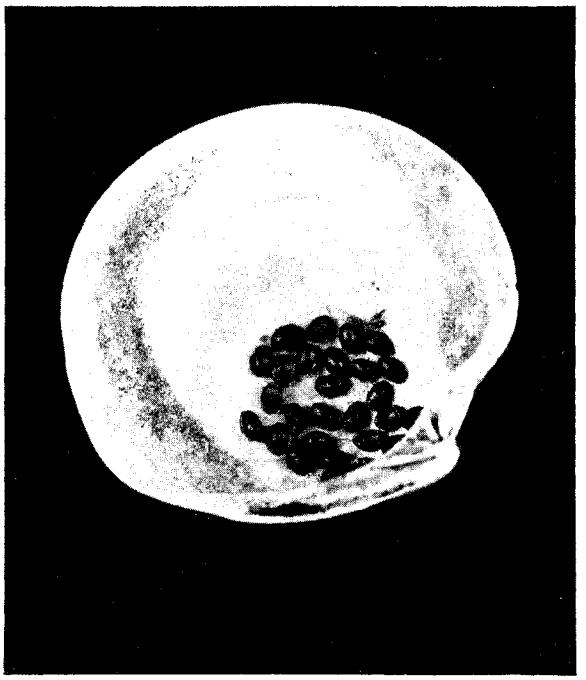

Fig. 7.