



## XXIII.—On a small collection of earthworms from Henderson Island

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The remaining figures are fascimiles of those by T. Austin. The following legend is also copied from Austin's MS., except for words within [ ], and except that, for the reasons given in the text, the names *clausus* and *jacksoni* have been transposed:—

Fig. 2. *Sycocrinus anapeptamenus*.

Fig. 2. Natural size.

Fig. 2 a. Lateral aspect. [× 3 diam.]

Fig. 2 b. A different lateral view. [× 3 diam.]

Fig. 2 c. Ventral aspect. [× 3 diam.]

Fig. 2 d. Dorsal aspect. [× 3 diam.]

Fig. 2 e. [Reconstruction. × 2 diam. Austin's figure is tinted yellow and pink.]

Fig. 3. *Sycocrinus clausus*.

Fig. 3. Natural size.

Fig. 3 a. Lateral aspect, magnified. [× 3·5 diam.]

Fig. 3 b. Lateral aspect showing the circular opening into the interior. [× 3·5 diam.]

Fig. 3 c. Lateral view on a different side to the two before specified. [× 3·5 diam.]

Fig. 3 d. View of the apex showing the base of the protrusive pore. [× 3·5 diam.]

Fig. 3 e. Dorsal aspect. [× 3·5 diam.]

Fig. 4. *Sycocrinus jacksoni*.

Fig. 4. Lateral view showing the pore. [× ca. 3 diam.]

Fig. 4 a. The apex showing the excentric pore. [× ca. 3 diam.]

Fig. 4 b. The dorsal apex. [× ca. 3 diam.]

XXIII.—*On a small Collection of Earthworms from Henderson Island.* By Dr. LUIGI COGNETTI DE MARTIIS, R. Museo Zoologico, Torino.

By the courtesy of Prof. F. J. Bell, of the British Museum, I am able to give the first notification on the Oligochæta of the Henderson or Elizabeth Island in the South Pacific. The small collection dealt with in the present paper was collected by Mr. David Tait. In the collection only two species of the same genus are to be found, as follows:—

*Pheretima hendersoniana*, sp. n.

Four specimens.

*External characters.*—Length 80–108 mm., breadth 4·5–6 mm. behind the clitellum. Segments about 120.

Colour brownish dorsally at the preclitellian segments, pale brownish or whitish elsewhere. Prostomium proepilobous ( $\frac{1}{2}$ ).

Setæ arranged in continuous rings: 32/ii., 35/iii., 46/vi., 65/x., 70/xiii., 70/xxii.; there are no dorsal and ventral gaps. The setæ of the anterior and caudal segments are slightly stronger.

First dorsal pore in intersegmental furrow xii./xiii.

Clitellum embracing segments xiv.–xvi., unprovided with intersegmental furrows. The setæ are wanting on the clitellum.

Male pores in the ring of setæ of the xviii. segment; between the male pores the setæ are wanting. On segments xvii. or xix. there are about seven setæ between the lines of male pores. The distance between the lines of male pores corresponds to  $\frac{1}{4}$  of the segment circumference.

Paired papillæ are present on segments xix. and xx., one pair for each segment, close to the middle ventral line, behind the ring of setæ. A third pair of papillæ, or a single lateral papilla, may be present in the same position on the xxi. segment. In one specimen a pair of papillæ is present on the viii. segment, in front of the ring of setæ, and about in the same lines with the papillæ above mentioned.

On the xix. and xx. segments there is also present a pair of papillæ, or a single lateral papilla, behind the ring of setæ; these papillæ are disposed laterally to the lines of the male pores. The distance between the *lateral* papillæ of each pair corresponds to about  $\frac{1}{4}$  of the segmental circumference.

Female pore on the xiv. segment, in a little grey area surrounded by a white ring. Spermathecal apertures in intersegmental furrows vii./viii. and viii./ix., about in the same lines with the male pores, slightly closer ventrally.

*Internal anatomy.*—Septa iv./v.–vii./viii. are moderately thickened; gizzard septa viii./ix. and ix./x. are wanting. Gizzard very strong, just behind septum vii./viii. The sacculated intestine begins in the xv. segment, and is provided at the xxvi. segment with a pair of cæca which extend forward through four segments. The cæca are simple in structure. Hearts paired in segments x.–xiii.

The sperm-capsules in segments x. and xi. are ventral to the œsophagus; those of the same segment do not seem to communicate with each other, but the capsules of the x. communicate with those of the following segment through septum x./xi. Sperm-sacs paired in xi. and xii. segments.

The spermiducal glands are rather large, and extend through segments xvii. and xviii. Each gland is a white reniform body, compressed between the body-wall and the

gut; its dorsal edge is very convex and divided into 3 to 5 lobes. From the hilum of each gland originates a cylindrical muscular duct, which describes an **S** and opens directly to the exterior; the terminal bursa copulatrix is wanting.

Spermathecæ, two pairs, in viii. and ix. segments. Each spermatheca has a medial long and slightly bent muscular duct. The main pouch has the same length, and is clearly distinct from the duct. The diverticulum ends in a spherical or oval distal extremity; it is longer than the main pouch. The duct of the diverticulum is **S**-shaped at its base and diminishes in breadth at the same region (text-fig.). Before and



*Pheretima hendersoniana*, sp. n. Spermatheca,  $\times 6$ .

behind each spermathecal pore, at the internal surface of the body-wall, a whitish glandular mass (*gl.*) is recognizable.

*Loc.* Henderson Island, S. Pacific (D. Tait coll.).

*Pheretima montana*, Kinb., subsp. *arthuri* (Benham).

Two specimens.

*Loc.* Henderson Island, S. Pacific (D. Tait coll.).

The two specimens agree particularly with Benham's description and figures of *Perichæta arthuri*, Benh.\*. This species is arranged by Beddard † in the synonymic list of *Ph. montana*, Kinb., with a number of other species; but more recently Ude ‡ separates them again as a distinct species. I prefer a middle course, and give to Benham's *P. arthuri* the rank of subspecies only.

In a specimen from the above locality the following characters are noticeable: the spermathecæ open to the exterior in intersegmental furrow vii/viii., but lie in the vii. segment; instead of a single median female pore, there are two female pores close to the middle line on the ventral side of the xiv. segment.

\* Journ. Linn. Soc., Zool. xxvi. 1897, p. 212, pl. xvi. fig. 4 a, b.

† Proc. Zool. Soc. London, 1900, p. 620.

‡ Zeitschrift f. wiss. Zool. lxxxiii. p. 448.