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## *ACETES MAGNIFICA*, A NEW SPECIES OF POLYCHÆTOUS ANNELID FROM MONTEGO BAY, JAMAICA, BRITISH WEST INDIES

A. L. TREADWELL

### *Acetes magnifica*, new species

A single individual was collected by the writer on a muddy bottom in Montego Bay, Jamaica, British West Indies, in July, 1921. The specimen is incomplete, lacking an unknown number of posterior somites; 64 somites with a length of 110 mm. remain. Some of these were cut away for study and are loose in the bottle with the type. At the point of greatest width, in the region of the 14th somite, the body diameter is 15 mm. when measured to the ends of the parapodia. Immediately behind somite 14, there is a slight diminution in width and this continues without change to the end of the fragment.

The greatest width of the prostomium is 1.4 mm., which is the same as the distance from the base of the prostomium to the anterior margin of the larger eyes. The halves of the prostomium are distinctly rounded, each bearing the stout ommatophore with the large eye at the end (Fig. 1). The median tentacle arises at the anterodorsal margin of the prostomium; its style about equal to the stalk of the eye in diameter; its cirrophore somewhat heavier. It is about one-third longer than the length of the prostomium, plus the eye stalks. The style tapers slightly to an acute tip and has a subterminal swelling. The lateral tentacles are not more than half as thick as the median, but resemble it in form. The palps have been lost.

The first parapodia (Fig. 1, where only one is shown) extend anteriorly, so that their distal margins are on a level with the anterior border of the eyes. Each has a dorsal and a ventral cirrus, similar in form to the median tentacle but heavier. On the inner face, just ventral to the dorsal cirrus, each setal lobe of the first parapodia bears a square-ended protrusion directed toward the eye. This carries a tuft of long delicate setæ.

The tenth parapodium (Fig. 2) is shown in posterior view. The main portion of the setigerous lobe is compressed antero-posteriorly and is nearly rectangular when viewed from behind. A single vertical row of heavy setæ arises along its outer margin. On the antero-dorsal face of this portion is a thin, flattened lobe extending dorsally beyond the margin, but ventrally it is less than half as high. In figure 2 the cirrus-like structure just ventral to the dorsal cirrus is a gill and the shaded part just behind it is the upper part of this thin lobe. The dorsal cirrus is heavy and ends in a blunt point. The ventral cirrus is elongate-lanceolate in form and does not extend as far as the end of the setal portion. On the dorsal and anterior face of the parapodia are a number of bladder-like gills, some of which are shown in Fig. 2. Ventrally there is a regular arrangement of these gills in a single row on each parapodium, three or four in number, situated on the parapodium between the point of origin of the ventral

cirrus and the parapodial base. Two aciculae, one large and one small, lie in each parapodium. Later parapodia are essentially like the tenth in form, though there is some increase in length and the gills are larger and more swollen. On either side in each parapodium is a large golden-colored chitinous rod much larger than the acicula and entirely unconnected with it. One end is narrow and lies in a glandular mass near the laterodorsal face of the intestine. From here it extends ventrally and bends on

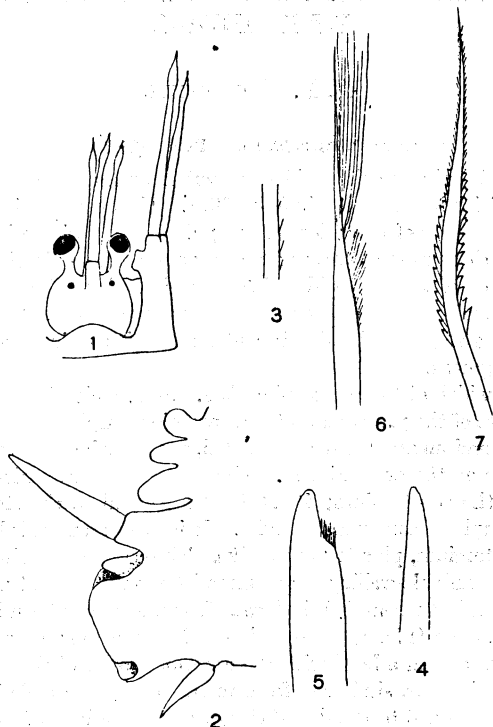


Fig. 1. Head,  $\times 5$ . Fig. 2. Tenth parapodium,  $\times 10$ . Fig. 3. Detail of fine seta,  $\times 250$ . Fig. 4. Heavy seta from tenth parapodium,  $\times 68$ . Fig. 5. Heavy seta from posterior parapodium,  $\times 68$ . Fig. 6. Dorsal seta,  $\times 150$ . Fig. 7. Ventral seta,  $\times 150$ .

itself to form a large circle equal in diameter to the height of the parapodium, finally bending outward to the anterior face of the latter, where it ends just posterior to the thin flap mentioned earlier. A similar structure has been described in *Panthalis ocula* (Treadwell, 1901, p. 189, Fig. 15). In *Acetes* a single one of these was 12 mm. long and measured 0.5 mm. in diameter at the outer end.

The setæ of the first parapodium are very long and slender, extending beyond the head. They arise in two tufts, one on the protrusion which is directed toward the eye, the other below the dorsal cirrus. They are of uniform width throughout most of their length but taper rapidly to a sharp point at the end. Along one side there are regularly

repeated teeth, looking like single, needle-shaped spines, but probably in reality transverse rows of small spines. A detail is shown in Fig. 3. In subsequent parapodia there are three sorts of setæ. The first lie in a single vertical row about six in number, protruding from the outer face of the setigerous lobe. They are very heavy and in one from the tenth somite the end is bluntly rounded (Fig. 4). In one from a later somite there is a subterminal depression filled with a series of fine spines (Fig. 5). So many were broken that I was unable to determine the precise distribution of these two types. Near the dorsal end of the setal lobe, arising between the larger portion and the flap above mentioned, is a tuft of setæ of the form shown in Fig. 6. Each has a stout stalk, narrowing rapidly near the apex and continuing as a slender sharp-pointed portion. At the point where the narrowing begins is a tuft of stiff bristles and beyond these is a dense mass of long bristles which extend beyond the end of the stalk. The figure shows them in profile, though they are much more numerous than is represented there. In full face they look like a much frayed paint brush. At the ventral angle of the setal lobe is a tuft of a third kind of setæ. These vary considerably in length but are never as long as the dorsal ones. Each (Fig. 7) has a slender, curved stalk, sharp-pointed at the end and provided terminally with two rows of toothed plates which merge into single spines at the end.

The elytra show peculiar size variations for, while those of the first pair are large and must have covered the head during life, those of the second pair are not more than half as large as either the first or third. The sixth parapodium on one side (that of the other is lost) is also not more than half as large as those near it. When the animal was caught it swam rapidly with the elytra held above the back at an angle of about 40° with the dorsal surface of the body. If this was its habit, the elytra might easily have been bitten off or otherwise injured and the small size be due to regeneration. An average sized elytron measured 13 by 6 mm. in its two diameters, the general outline being oval. Behind about somite 40 they overlap from opposite sides, covering the dorsal surface. Between somites 14 and 40 a part of the dorsal surface is uncovered. This is due to the greater body width in that locality. The margin of the elytron is perfectly smooth and free from cilia, and there are no spines on the surface. The surface is divided by intersecting lines into five- or six-sided areas. Over a considerable part of its surface these lines are brown, giving this portion a distinct brownish tinge, though uncolored areas occur even here. In other portions the lines are not so brown and are distinguished from the general surface by their greater density. Near the upper free edge the elytron has a denser accumulation of brown granules. The general effect of the whole is that the body appears to be nearly colorless but with a slight brownish tinge. The body itself is uncolored except for some fine transverse brown lines on the dorsal surface.

The type is in The American Museum of Natural History (A. M. N. H. No. 1694).

*Acætes* was first defined by Audouin and Milne Edwards (1834, pp. 99 and 102, Pl. III, figs. 7 to 14), with *A. pleei* as genotype. In the arrangement of eyes and first parapodia their figures show no essential differences from *Panthalis*. They say that there are five antennæ, but their figures show plainly that they counted the palps as antennæ. The distinguishing feature of the genus is the possession of the bladder-like

gills. Chamberlin (1919, p. 85) defines *Acœtes*, as "with branchia; first parapodia normal," and *Panthalis* as "without branchia; first parapodia abnormal." His later figure of *Panthalis* indicates that by "abnormal" he means the extension of the first parapodia forward on the sides of the head, which Audouin and Milne Edwards clearly figure in *Acœtes pleei*. The essential differences seem to lie in the presence or absence of gills, and on this basis I have assigned the above species to *Acœtes*.

*Acœtes* is evidently a rare genus, since *A. pleei* is the only one I have found mentioned in the literature. *A. pleei* came from Martinique; *A. magnifica* from Jamaica. It seemed possible that they might be identical, but while the description of *A. pleei* is not always clear, the figure of the head region shows that it has much shorter stalks to the anterior eyes; and the antennæ and first parapodial cirri are quite different, being smaller and having no subterminal swelling. The large chitinous rods resemble *Panthalis oculatea*, but a reëxamination of that species, made possible through the courtesy of Dr. W. L. Schmitt of the U. S. National Museum, shows that it certainly has no gills and in other respects is quite unlike *A. magnifica*.

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