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III. Descriptions of Three New Polychæta from the New Jersey Coast.

BY J. PERCY MOORE,
Instructor in Zoölogy.

THE descriptions of the three species of annelids here presented are based on specimens forming part of a small collection made at Sea Isle City, during the summer of 1892. A full list of the species collected will appear in the forthcoming report of work done at the Marine Laboratory. The descriptions of several apparently new species of SYL-LIDÆ are withheld, pending a more thorough study of that large group.

Clymenella elongata (n. sp.).

Plate III. Figures 1a-m.

Named *elongata*, because the species is much more elongated than any specimen of *C. torquata* (Leidy) Verrill, that I have examined. The single specimen collected measures ninety millimetres in length, and two millimetres in diameter. The body is of almost uniform diameter throughout, but is slightly enlarged in the middle region.

Head flattened dorsally. The cephalic plate oblique, inclined to body axis at an angle of about 45° ; broadest posteriorly, its borders convex. A low median dorsal ridge, most prominent anteriorly, where it terminates in a broadly rounded, somewhat projecting, margin. The flattened areas on each side of this are marked posteriorly by a pair of short longitudinal grooves, separated by a narrow ridge. Posterior marginal fold broad, thick, and prominent; its free margin obscurely lobed: lateral folds highest anteriorly, strongly flaring, the free margins not deeply lobed: anterior fold nearly perpendicular to body axis, its margin four-lobed: lateral folds separated from anterior and posterior by deep sinuses.

Buccal segment prominently swollen behind mouth. Proboscis thrown into rounded folds, and not ribbed as in *C. torquata*.

There are twenty-two setigerous segments (perhaps more, as the specimen had been broken in the middle, and no notes were taken at the time), all of which bear both capillary setæ and rows of hooked uncini. The latter are arranged in each segment in a pair of linear transverse series of fifteen to twenty, on narrow raised lines, which become broad and swollen on the posterior segments; their position is latero-ventral. The capillary setæ are fixed in fleshy papillæ attached to the dorsal ends of the uncigerous lines.

First setigerous segment very obscurely marked off from buccal, so that the distinction was at first overlooked. The first, second and third setigerous segments are slightly longer than the fourth and fifth, which are the shortest of the series. The anterior border of the fourth bears a thickened collar, which embraces the segment next in front. The sixth is equal to the third; with the seventh begins an increase in length, which continues to the twelfth, this being about as long as the second and third together. In this region the setigerous papillæ and uncigerous lines have shifted from the anterior to the posterior ends of the segments, where they occupy prominent swellings. From the thirteenth to the seventeenth segments there is a gradual shortening, the seventeenth equalling the eighth; the eighteenth to the twenty-first again lengthen, the twentieth and twenty-first being as long as the twelfth, these three being the longest segments of the body; the twenty-second is again shorter. The anterior and middle segments are nearly cylindrical; the posterior (behind the seventeenth) are narrow anteriorly, and expand to their greatest width near the posterior end.

There are two non-setigerous pre-anal segments, the most anterior being three-fourths the length of the last setigerous one; this segment is of an elongated ovoidal shape. The last pre-anal segment is very short—a mere ring—and bears the anal funnel, which was contracted in the specimen described, but bears around its margin about twenty short papillæ,

which surround a conical elevation at the summit of which the anus is situated.

Capillary setæ are of three forms, that appear to be intermingled in the fasciculi. The most common have the gracefully-curved and rounded stem bordered on either side by a narrow edge or blade, which extends almost to the acute, curved point. Others are slender and pointed, with a single thin margin on one side, broadest at the base, and ending some distance from the tip. The third form is less numerous, but very long and excessively slender; the stem is doubly bordered by fine spines disposed in two opposite rows, and spreading slightly in a common plane; the appearance being that of a very long narrow feather. These setæ were described from the twentieth segment.

The uncini are deeply imbedded in the tissues, the hooked ends only projecting from the surface. The stems of the ventral uncini are long and curved, shorter and straighter on the dorsal ones; they are internally attached to a strong ligament, and just beneath the skin enlarge to form a broad shoulder, at which point the terminal piece is readily detached. The hooked end bears a strong decurved tooth, supported at its base by three smaller ones (four on sixth segment), all of which have a fibrous structure. Within the concavity of the hook arises a brush or beard of slender hairs, most of which curve gracefully upward on both sides of the principal tooth. On the sixth segment the beard appears to spring from the base of the large tooth itself; but this point has been insufficiently studied, and I was unwilling to further sacrifice the single specimen to the description.

Described from a single specimen collected on the mud-flats of Ludlam Bay, New Jersey, August, 1892. The species is a tube-dweller, and was found with *C. torquata*, *Maldane elongata*, *Amphitrite ornata*, *Drilonereis longa*, etc.

Eulalia lobulata (n. sp.).

Plate III, Figures 2a to 2f.

Named *lobulata* from the lobulated appearance of the peculiar tentacular appendages.

The sixty-eight anterior segments measured thirteen millimetres in length.

Body depressed and broad; segments very short, bearing prominent parapodia, which are much crowded anteriorly. Posterior segments proportionally longer.

Head nearly one-fifth broader than long; its greatest width well behind middle; lateral prominences rather sharply rounded, almost angular. Posterior border broadly concave, with prominent lateral angles; antero-lateral outline deeply concave; anterior outline slightly convex, its angles rounded.

Anterior-paired antennæ of equal length, somewhat flattened, narrowed toward the base, broadest beyond the middle, and suddenly tapering to a blunt point; with a sub-terminal emargination, deepest on the ventral pair. Ventral pair of antennæ inserted well on the ventral surface of head, and posterior to the dorsal pair, the origin of which is on the antero-lateral angles of the head. Median antennæ arising posterior to middle of head just in front of its greatest width; its base contracted and diameter slightly increasing toward middle (the terminal portion is missing).

Eyes dark brown, situated near postero-lateral angles of head, their long diameters less than three times in median length of head; external outline nearly straight; internal strongly convex; longest diameter antero-posterior.

Head with a median ventral ridge, which becomes broad and flat anteriorly. Buccal segment truncate; its margin crenulate.

Tentacular cirri of first segment incomplete, the part present about equal to head in length, and of nearly uniform diameter. The species is best distinguished by the possession of peculiar lobed appendages near the distal extremities of the tentacular cirri of the first two setigerous segments. The ventral pair of the first setigerous segment possess short basal and stout terminal articles one and one-third times the length of the head; following a slight constriction about the middle of the latter piece is a prominent swelling, which bears on the ventral side the lobulated appendage referred to

above, and beyond which the cirrus ends in a short, blunt point. The dorsal cirri are borne on strongly curved basal articles; the terminal portions are long and stout, but, unfortunately, incomplete in the specimen. A slight thickening near the end of the more perfect one may indicate the presence on these also of the lobed appendages. The dorsal cirri of the next segment, which bears a well-developed parapodium, are long and slender-pointed; length about two and a half times that of the principal piece of the second ventral cirrus. This cirrus bears at a point slightly more than one-third of its length from the tip a distinctly pedunculated body, which is similar to, but more conspicuous than that borne by the second ventral cirrus. These lobulate appendages are deserving of further study.

The branchiæ are foliaceous; those of the middle region are broadly heart-shaped, and much longer than the ventral cirri, which are closely appressed to the parapodia and attached obliquely.

The stems of the setæ bear short, rather stout, sharp-pointed terminal pieces, which are delicately toothed along the inner curved margin; the terminal end of the stem is slightly thickened, and delicately toothed and fringed along the margin.

Described from a single incomplete specimen collected among *Molgula*. Ludlam Bay, New Jersey, August, 1892. In the figure of the parapodium (2c) the setæ are represented too large and heavy.

Eracia brevicornis (n. sp.).

Plate III, Figures 3a to 3h.

Named from the character of the dorsal-paired antennæ. A complete specimen of sixty-seven segments measures fourteen millimetres in length. Form rather slender; dorsum convex, elevated.

The segments increase gradually in width from the head to about the twenty-fifth, remaining equal as far back as the fortieth, behind which they gradually narrow to the anal segment.

Head longer than broad; as eight to seven: its greatest width a little behind middle; there prominently rounded; constricted and concave anterior to this and tapering anteriorly; anterior border straight, its angles nearly square; posterior margin slightly concave. The dorsal surface presents a well-marked depression, extending from the posterior border nearly to the base of the median antenna. A slight transverse constriction is noticeable just behind the anterior antennæ. Ventral pair of antennæ stout, with short basal articles; about three-fifths of length of head. Dorsal pair very much reduced, being mere pointed tubercles; their length about one-third of diameter of eye. Median antenna arising from middle of head, slender and tapering from a broad base; length more than three-fourths that of head. Eyes large, brown, oblong-elliptical in shape, situated close to lateral margin of head, and midway between median antenna and posterior margin. Buccal segment pouted forward in the middle.

Tentacular cirri with terminal articles missing, except a ventral one of the second segment; this one slightly longer than head, and tapering rather suddenly to a slender tip. The dorsal cirri of the second segment have an elevated insertion, the basal article being stout.

Dorsal cirri (branchiæ) of remaining segments foliaceous, ovate-lanceolate in shape, with base scarcely indented; about one and two-fifths to twice the length of corresponding ventral cirri, which are oblong, with blunt, rounded tips, and scarcely flattened. Dorsal cirri much more easily detached than ventral. Dorsal and ventral lobes of parapodia about equal in development, both bearing setæ.

Setæ numerous, similar on all segments except the second, which bears a few short ones; longest on middle segments. Stem slender and curved, somewhat enlarged and bi-lobed at the end, the dorsal lobe being much the larger, and minutely toothed on the margin; ventral lobe a single sharp, slender and curved tooth. Terminal piece slender and more or less strongly curved, sharp-pointed, and finely serrate along the concavity of its curve; attached to stem by a delicate membrane.

Color in alcohol dull yellowish, the dorsal surface of head, tentacular cirri, bases of parapodia, and a broad zone on each segment thickly dotted with minute dark brown specks. On the back narrow immaculate lines separate the punctated zones, producing an appearance of annulated color distribution. Cirri brown.

Described from a specimen collected among *Botryllus*, in Ludlam Bay, New Jersey, August, 1892.

EXPLANATION OF PLATE III.

FIGURES 1a-m. *Clymenella elongata*.

- Figure 1a. Dorsal aspect of head and anterior five setigerous segments. $\times 6\frac{1}{2}d$. The protruded proboscis, the cephalic shield, and the collar on the fourth setigerous segment are shown.
- Figure 1b. Dorsal aspect of posterior region of the body, showing the anal funnel and fringe, the non-setigerous pre-anal segments, and the last two setigerous segments. $\times 6\frac{1}{2}$.
- Figure 1c. Full outline of anal segment. $\times 6\frac{1}{2}$.
- Figure 1d. Dorsal view of head tipped forward to show lobulation of the free margins of the cephalic shield. $\times 6\frac{1}{2}$.
- Figure 1e. Twelfth setigerous segment. $\times 6\frac{1}{2}$.
- Figure 1f. Profile of the head, showing extended proboscis. $\times 6\frac{1}{2}$.
- Figure 1g. A ventral uncinus from the twentieth setigerous segment—terminal portion. $\times 330$.
- Figure 1h. A dorsal uncinus from the twentieth setigerous segment—complete. $\times 330$.
- Figure 1k. A dorsal uncinus from the sixth setigerous segment—complete. $\times 330$.
- Figure 1l. A ventral uncinus from the sixth setigerous segment—terminal portion. $\times 330$.
- Figure 1m. Three forms of capillary setæ. $\times 800$.

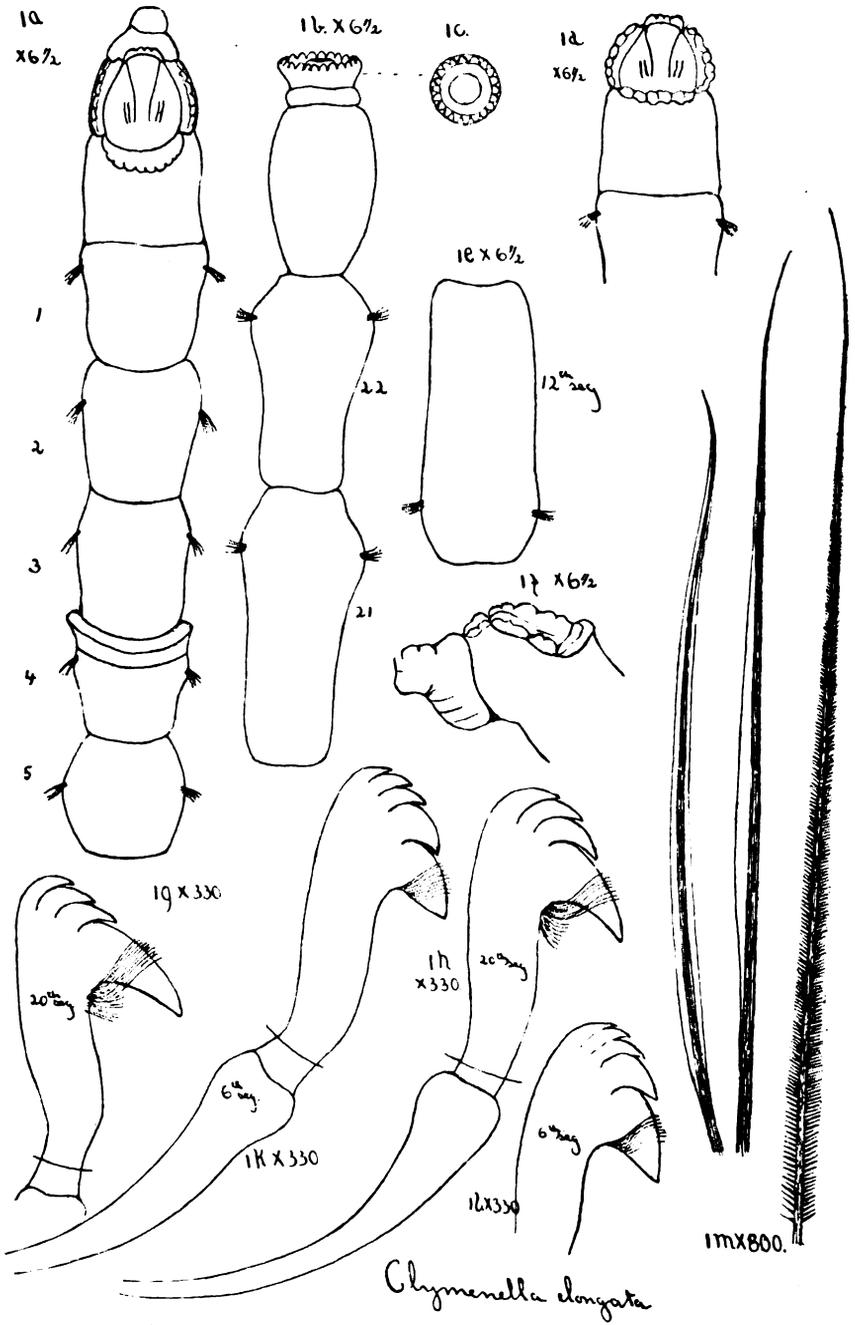
EXPLANATION OF PLATE IV.

FIGURES 2a-f. *Eulalia lobulata.*

- Figure 2a. Dorsal view of head and anterior two setigerous segments, $\times 38$.
Figure 2b. Ventral view of head and anterior region of body. $\times 38$.
Figure 2c. A parapodium from middle region of body (twenty-first segment), seen from behind. $\times 40$.
Figure 2d. A segment from the same region seen from above. The parapodium of the right side is omitted, and the bases only of the setæ on the left are shown. $\times 40$.
Figure 2e. A seta showing only the blade and terminal portion of the stalk. $\times 300$.
Figure 2f. The articulation of a seta more highly magnified. $\times 800$.

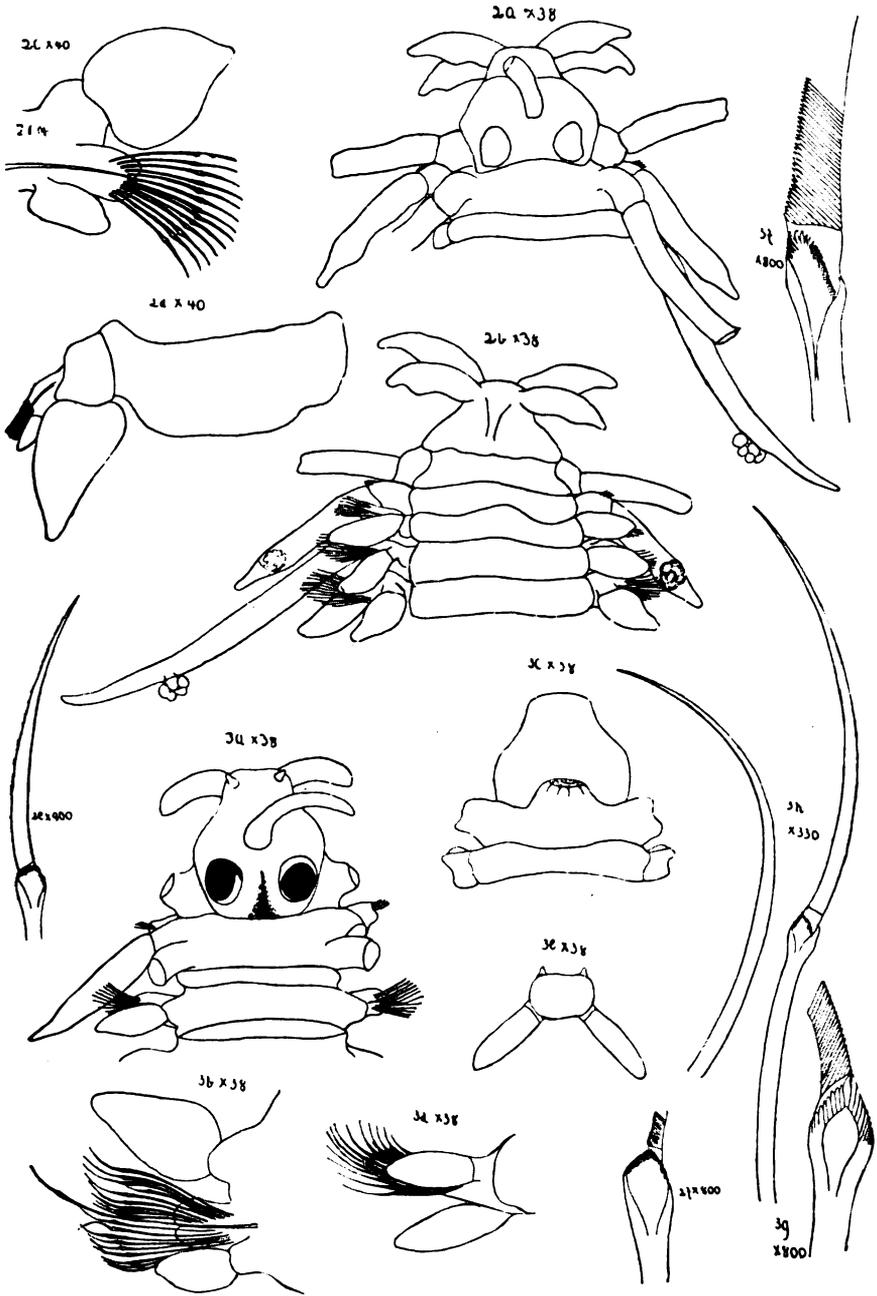
FIGURES 3a-h. *Eracia brevicornis.*

- Figure 3a. Anterior region from dorsal aspect. $\times 38$.
Figure 3b. Parapodium from middle region of body, from behind. $\times 38$.
Figure 3c. Outline of head from ventral aspect, showing form of buccal segment. $\times 38$.
Figure 3d. A parapodium viewed from ventral side. $\times 38$.
Figure 3e. Outline of anterior border of head, showing the form and position of the cirri. $\times 38$.
Figures 3f and g. Two views of the articulation of stalk and blade of a seta. $\times 800$.
Figure 3h. Terminal portions of two forms of setæ. $\times 330$.



MOORE ON NEW POLYCHÆTA.





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