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POLYCHAETOUS ANNELIDS FROM AFRICA IN THE COLLECTIONS OF THE AMERICAN MUSEUM OF NATURAL HISTORY

BY AARON L. TREADWELL

Syllidae

EUSYLLIS MALMGREN

Eusyllis setubalensis (McIntosh)

Syllis setubalensis McINTOSH, 1885, pp. 195, 196, Pl. xxx, figs. 5, 6; Pl. xxxiii, fig. 6; Pl. xv-a, figs. 16, 17.

Identified as this species because it agrees in all respects with McIntosh's description though not with his Figs. 5 and 6 of Pl. xxx. He describes the cirri and tentacles as moniliform and so represents them in Fig. 6 of Pl. xxxiii, but in Figs. 5 and 6 of Pl. xxx they are drawn as unsegmented. In my material they are definitely segmented but not moniliform. The setae are as McIntosh figures them in Pl. xiv-a, Figs. 16 and 17.

Collected at Capetown, South Africa, by H. Lang.

Nereidae

PERINEREIS KINBERG

Perinereis diversidentata, new species

Figures 1-7

A single incomplete and poorly preserved specimen lacking the posterior region. Approximately 70 anterior somites measure 150 mm. in length with a width of 8 mm. at the peristomium. The prostomium (Fig. 1) is 3 mm. in its widest portion; its posterior margin is nearly straight, and there is a slight convexity lateral to the eyes. Just in front of the anterior eyes the prostomium narrows very decidedly, so that its diameter is little more than one-half that of the posterior margin, and there is only a very slight increase from here to the anterior end. The tentacles are heavy, separated at their bases by about one-third of their width, and their length is about one-third of that of the prostomium. All tentacular cirri are heavy, the most slender one of the series being the antero-dorsal which reaches to about the middle of the tentacles. The postero-dorsal one is very short, while both ventral ones are longer than the antero-dorsal and have heavy styles. The eyes are small and

black, the anterior pair directed dorso-laterally the posterior dorsally.

The mandibles are dark brown in color, deepening toward the ends, and they have a marginal row of small rounded denticulations. The paragnath formula is: I, a single denticle; II, a patch of about 12 denticles (Fig. 2); III, two oblong patches (the specimen being too much mutilated for a determination of the denticle number); IV, an oval patch on either side; V, absent; VI, a half-circle plate on either side (Fig. 3); VII and VIII, a double row extending around the pharynx, there being no constant differences in the sizes of the individual denticles (Fig. 3).

The peristomium is about one-third longer than the second somite and about three times as wide as the prostomium. All parapodia have heavy tufts of setae distinguishable by the naked eye. The first two parapodia are uniramous, their dorsal and ventral lobes being short and almost globular in outline. The cirri are longer than the lobes. Beginning with the third the parapodia are biramous, and a small tuft of setae appears in the notopodium. In the ninth parapodium (Fig. 4) the notopodial lobes are rounded, the dorsal cirrus prominent, extending for more than one-half its length beyond the lobes. There is a small acicula, and the setae come to the surface between the two lobes. The setal lobe of the neuropodium has a posterior lip whose margin is vertical and an anterior, narrow, rounded one. The ventral lobe of the neuropodium is similar to those of the notopodium but smaller. A parapodium from the region of the fiftieth (Fig. 5) shows the dorsal notopodial lobe as much elongated and widened so as to have an oblong outline, and the cirrus is carried nearly at the apex so that the portion of the lobe distal to the cirrus looks like a small lobe at the base of the latter. The ventral notopodial lobe is much as in anterior somites but a trifle more conical in outline. The space between notopodial and neuropodial lobes is greater than anteriorly, and the lips of the dorsal portion of the latter are of equal length. The ventral lobe of the neuropodium is smaller than that of the notopodium and narrower. The ventral cirrus is slender and longer than the ventral lobe. In all parapodia the notopodial acicula is smaller than the neuropodial. The change of form from the anterior to the posterior para-

podia is a gradual one, beginning at about the region of the thirtieth somite.

Notopodial setae all have homogomphous basal joints; the terminal joints are very slender, pointed, with a row of prominent spines along one margin (Fig. 6). The neuropodial are all much heavier than the notopodial and are of two kinds. In the dorsal part of the tuft are setae similar to the notopodial. Those composing the ventral part of the tuft are heterogomph (Fig. 7) and have short, heavy, terminal joints, blunt-pointed and with a row of stout spines at the base of the concave margin.

The specimen shows so many similarities to *P. marionii* Audouin and Milne-Edwards (1834, pp. 185-187, Pl. IV-A, figs. 1-6) that I at first considered listing it as a variety of that species. The prostomium is very different in appearance from Audouin and Milne-Edwards' figure but agrees closely with that given by Fauvel (1923, pp. 355-356, fig. 139). It differs from this figure in that the styles of the tentacular cirri are much heavier in the African specimen and the dorso-posterior one much smaller. In dental formula the two are different. I, according to Fauvel, is 2 or rarely 3 (he figures only 1); V is absent in the African specimen (Fauvel figures 1 with a variable number of smaller ones); VI is quite different in the two; VII and VIII lack the finer denticles Fauvel describes for *marionii*. The lobes of the parapodia are much less pointed in the African species, and the notopodial lobes are relatively much broader.

The type specimen was collected at Cape Cross, Africa, and is No. 3235 in the collections of The American Museum of Natural History.

EUNEREIS MALMGREN

Eunereis africana, new species

Figures 8-13

A single specimen, collected at Lobito, Africa, May 22, 1924. The specimen is about 19 mm. long and at its widest portion in the region of the tenth somite measures 1.5 mm. Parapodia from the fourth to the tenth are heavier than any others. Beginning with the twelfth somite each parapodium is marked with a prominent light brown pigment patch, at first distinct but small and increasing in size posteriorly. In addition to these, much less conspicuous patches occur on the body wall dorsal to the notopodium throughout the posterior region of the body.

The prostomium (Fig. 8) is widest at the level of the anterior eyes; its halves are rounded laterally, and on the posterior border is a shallow indentation into which the anterior margin of somite I extends. The anterior eyes are the larger and have very prominent lenses which face dorso-laterally. The much less prominent lenses of the posterior eyes face dorsally. The tentacles are slender cones well separated at the bases and about half as long as the prostomium.

The palps have heavy basal joints and nearly spherical terminal ones, with a broad, shallow constriction between them. The tentacular cirri are on prominent cirrophores, the anterior dorsal style being nearly three times as long as the prostomium, the anterior ventral about one and a half as long as the dorsal, the postero-ventral similar to antero-dorsal; all are slender, tapering gradually to the end. The postero-dorsal had been lost. The mandibles are light brown in color, darker toward apices, translucent, with five or six marginal denticles. The pharynx is retracted and, owing to an accident in an attempted dissection, the only thing I can be certain about is that there is only one group of denticles on either side in the basal part of the pharynx. These I think are the VI group. Each group is composed of four rows of denticles, the latter much crowded in the row, each row having two subrows of denticles of which the anterior are the larger. A detail of one of the rows is shown in Fig. 9.

The first somite on its median dorsal line is about two-thirds as long as the prostomium, the second about one-half as long as this, the following ones about the same as the second. The first extends around the prostomium on either side. The ninth parapodium has in the notopodium two equal, bluntly rounded lobes, the acicula coming to the surface between them. The dorsal cirrus (Fig. 10) is much longer than the lobes and has the form of a narrow cone. Pigment patches are arranged at the base of the cirrus, this being the first of the somites in which these patches are recognizable. The neuropodium (Fig. 10) has a small rounded setigerous lobe and ventral to this a blunt lobe much smaller than the notopodial ones. The ventral cirrus is an asymmetrical cone, very sharp-pointed, and about half as long as the ventral lobe. Its cirrophore is very prominent. A parapodium from the middle of the body (Fig. 11) is more slender than anterior ones but of approximately the same size. The dorsal cirrus is heavy, conical and extends to only a short distance beyond the apex of the dorsal lobe. Pigment patches at its base are prominent. The notopodial lobes are well separated from one another, the acicula coming to the surface in a small lobe between them. In the neuropodium the dorsal lobe is the heavier and has two lips, the anterior rounded and longer, the posterior with a vertical terminal margin. The ventral neuropodial lobe is similar to the ventral notopodial. The ventral cirrus is heavy, its apex not reaching to the end of the ventral lobe.

The notosetae are all homogomphous, the terminal joint slender, sharp-pointed, with a row of fine spikes along one margin. In the neurosetae the dorsalmost of the tuft are similar to those in the notopodium, the median ones (Fig. 12) heterogomphous but have terminal joints like those in the notopodium, the ventral ones heterogomphous (Fig. 13), their terminal joints short, bluntly rounded at the apices and with a marginal row of strong spikes.

The type is No. 3237 in the collections of The American Museum of Natural History.

Leodicidae

LEODICE SAVIGNY

Leodice langi, new species

Figures 14-18

A single individual 45 mm. long and 4 mm. wide in widest portion. The peristomium is 2 mm. wide. The prostomium (Fig. 14) has rounded halves with a narrow depression between them. The median tentacle is fully four times as long as the prostomium and is much wrinkled, but so far as I could determine has no true articulations. The lateral tentacles are similar in form to the median but are shorter. The tentacular cirri are slender and extend to the middle of the prostomium (Fig. 14). The first somite is heavy, more than twice as long as the second. The gills begin as a single filament on the third parapodium (fifth somite) and finish as two filaments on the thirty-eighth somite. There is one pair of long slender anal cirri.

The dorsal cirri of the first five parapodia are noticeably heavier than in later somites. In the fourth parapodium (Fig. 15) is a bifid anterior and rounded posterior lip and heavy dorsal and ventral cirri. The gill is a single branch attached to the dorsal cirrus. There are several aciculae in a tuft. The seventh parapodium (Fig. 16) is somewhat smaller than the fourth and the three-branched gill is partly attached to it and partly to the body wall. The ventral cirrus is a conical lobe at the end of a ventral swelling. The setal lobes are as in the fourth. The eleventh gill has five branches, the fifteenth has six, and in one later one there were seven. This was the largest number that I could find. At the posterior end of the gill row the number decreases from three at the next to the last to one on the last. The dorsal cirri are prominent throughout the body. Behind the gill region the ventral parapodial pad which carries the ventral cirrus becomes much smaller and eventually disappears. In posterior parapodia there are two aciculae coming to the surface between the setal tufts and one with a hooked apex, ventral to this (Fig. 17).

The setal structure is essentially the same throughout the body. The setae in the dorsal bunch are all simple, long and sharp-pointed. Those of the ventral tuft are compound, the terminal joint with terminal and subterminal teeth. The pectinate setae are about one-half as long as the simple ones of the dorsal tuft, their ends closely attached to the stalks of the latter. They have about ten indistinct teeth, the terminal ones of the row not much larger than the others.

The maxilla has in general a light brown color with a prominent dark brown band at the junction of the carrier with the forceps. Other brown patches are at the base of the carrier, at the tips

of the forceps and at the basal margin of the toothed plates. The carrier is short, the forceps rather heavy by comparison. The left paired plate has seven teeth; the right, six; the unpaired, nine. The left terminal paired plate has seven with the third and fourth fused; the right has seven (Fig. 18). The mandibles were lost in dissecting.

The type was collected at Capetown, Africa, and is No. 3239 in the collections of The American Museum of Natural History.

Opheliidae

POLYOPHTHALMUS QUATREFAGES

Polyopthalmus papillatus, new species

Figures 19, 20

The type is about 10 mm. in length and 1 mm. in greatest diameter. The prostomium (Fig. 19) is bluntly rounded. The body color (in alcohol) is faintly yellow with, on the first somite, pigment which is somewhat scattered but shows a tendency to group in a transverse band. On the following seventeen somites this pigment is a noticeable narrow dark band lying transversely on the dorso-lateral surface. These are absent from the last four somites and are most noticeable in the median region. In anterior somites and more noticeable in the type than in others of the collection a narrow and much fainter brown band lies postero-ventral to these. There are twenty-six setigerous somites and ten pairs of lateral eyes, the first pair lying in the sixth somite. A single pair of eyes is on the prostomium.

The parapodia are biramous, both branches long, slender, thread-like. The pygidium is blunt with a row of large papillae around its terminal margin. In the best preserved specimens the two dorsal ones (Fig. 20) are much smaller than the ventral ones, and their points of attachment are anterior to these. There are four ventral ones. In the type only two of these latter are retained, and in others of the collection they are entirely lost. So far as I can discover this equipment of large papillae has not been described in other species of this genus.

The setae are thread-like and somite boundaries indistinct. The pharynx (Fig. 19) when protruded has a globular outline and is thin walled.

Collected at Lobito, Africa. The type is No. 3236 in the collections of The American Museum of Natural History.

Hermillidae

PALLASIA QUATREFAGES

Pallasia capensis (Schmarda)

Hermella capensis SCHMARDA, 1861, p. 23, Pl. xx, fig. 171.

Sabellaria (*Pallasia*) *capensis* MCINTOSH,

1885, pp. 418-420, Pl. xxv-A, figs. 24, 25; Pl. xxvi-A, figs. 11, 12.

Collected at Pompano, Africa, by H. Lang.

Sabellidae

DASYCHONE SARRS

Dasychone loandensis, new species

Figures 21-25

In 1921 (Treadwell, 1921, p. 1) I identified a specimen from St. Paul de Loanda, Africa, as *Dasychonopsis bairdii* McIntosh. Later study of this material made in connection with that of other specimens from this locality indicated that this identification was erroneous, and I am placing them in this new species.

The type specimen is 20 mm. long and 5 mm. wide. The gills are 10 mm. long. The body color is light brown, the tips of the gills a little lighter than the body. On the dorsal surface is an irregular spattering of small dark brown spots. The only well-marked pigmentation on the body is a brown spot at the dorsal end of each thoracic uncinigerous row and a similar one at the ventral end of the abdominal ones. There are no pigment bands on the gill filaments though the outer filamentary appendages may be colored and give the effect of bands. Some barbules may be colored. The faecal furrow is narrow and deep, bending to the dorsal surface at the posterior end of the eighth somite. The dorsal surface is regularly convex.

The collar (Fig. 21) is lowest at the dorsal end and increases in height toward the ventral end where it terminates in two prominent conical lobes. The antennae are longitudinally folded plates, narrow toward their apices and about as

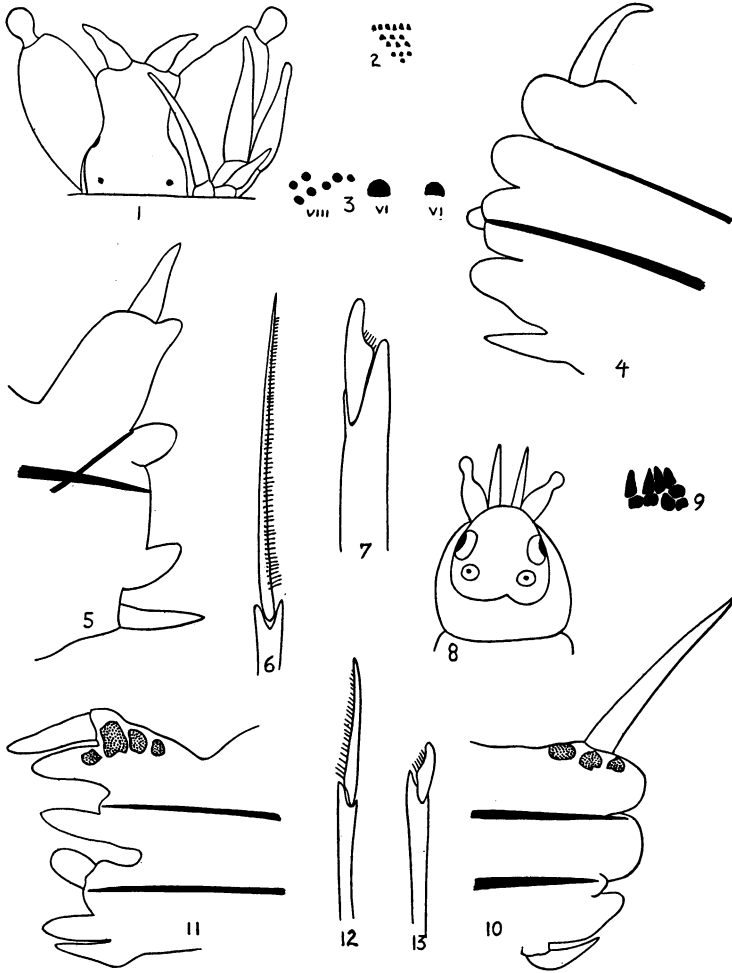
long as the first six somites. Each gill has more than twenty filaments of which the ventral pair are very short, the others longer and sub-equal. Throughout the greater part of the filament the barbule length is four or five times the width of the filament, but they are short at the apex, leaving the filament uncovered (Fig. 22). Rather indistinct eye spots (Fig. 23) alternate with the dorsal appendages which are paired and longer than the filament width. The barbules are densely crowded in two rows, and Fig. 23 is intended to show only their size and not their number. The collar is entire. The collar setae form a dense bundle, and their ends protrude from the surface less than do those of later somites. They are geniculate and sharp-pointed and carry a narrow striated wing along the convex surface. Of the uncinial rows in the following thoracic somites the first is longest and the seventh about one-half the length of this. The ventral ends of the rows are at about the same level so that this reduction in length involves the dorsal half. A thoracic seta from the seventh somite is essentially like those of the collar. The stalk is stout and carries the wing along the convex margin (Fig. 24). The uncini (Fig. 25) have one large tooth, and the crown is covered by a tuft of small sharp teeth. The body of the uncinus is definitely striated (not shown in figure).

In one bottle of this collection are a considerable number of specimens much smaller than the type and which seem superficially to be quite unlike them. Careful examination, however, failed to show any important differences.

Collected at St. Paul de Loanda by H. Lang. The type is No. 3238 in the collections of The American Museum of Natural History.

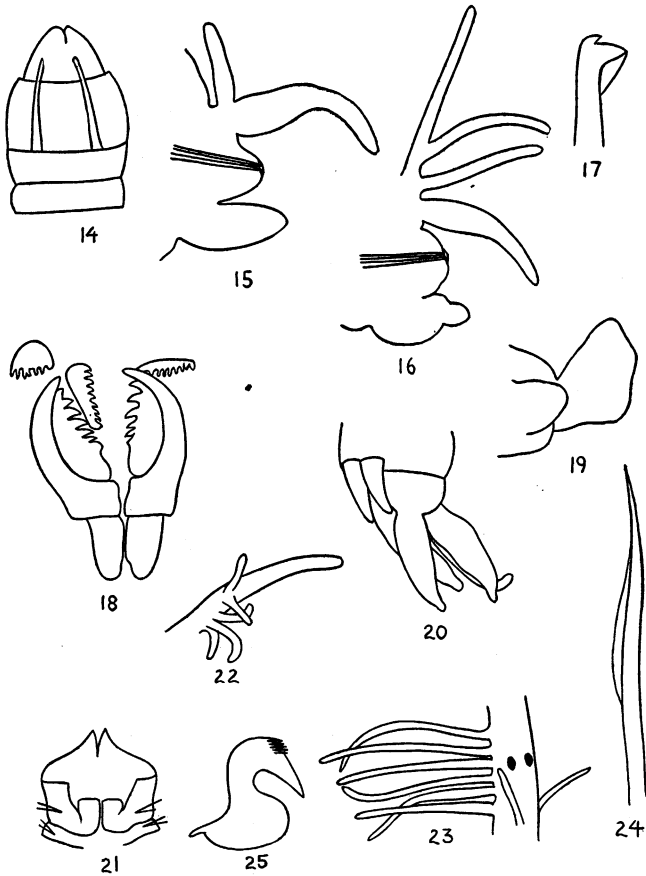
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Figs. 1-7. *Perinereis diversidentata*. 1, head, $\times 4$; 2, dorsal paragnath, $\times 4.5$; 3, ventral paragnath, $\times 4.5$; 4, ninth parapodium, $\times 11.5$; 5, fiftieth parapodium, $\times 11.5$; 6, notopodial seta, $\times 250$; 7, neuropodial seta, $\times 250$.

Figs. 8-13. *Eunereis africana*. 8, head, $\times 12.5$; 9, paragnath, $\times 250$; 10, ninth parapodium, $\times 45$; 11, middle parapodium, $\times 45$; 12, median neuroseta, $\times 250$; 13, ventral neuroseta, $\times 250$.



Figs. 14-18. *Leodice langi*. 14, head, $\times 4.5$; 15, fourth parapodium, $\times 85$; 16, seventh parapodium, $\times 85$; 17, posterior hooked acicula, $\times 185$; 18, maxilla, $\times 10$.

Figs. 19, 20. *Polyophthalmus papillatus*. 19, prostomium, $\times 22.5$; 20, pygidium, with lobes, $\times 85$.

Figs. 21-25. *Dasychone loandensis*. 21, collar, $\times 5$; 22, apex of gill filament, $\times 45$; 23, portion of filament showing barbules, eye spots and dorsal appendages; 24, thoracic seta, $\times 185$; 25, uncinus, $\times 185$.