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The Templeton Crocker Expedition. VIII. Polychaetous Annelids
from the West Coast of Lower California, the Gulf of
California and Clarion Island¹.

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(Plates I & II).

[Note: This is the eighth of a series of papers dealing with the specimens collected on the Twenty-fourth or Templeton Crocker Expedition of the Department of Tropical Research of the New York Zoological Society; William Beebe, Director. For data on dredges, localities, dates, etc., concerning the capture of specimens treated in this paper, refer to the present volume of *Zoologica*, No. 2, pp. 33 to 46.]

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¹Contribution No. 527, Department of Tropical Research, New York Zoological Society.

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INTRODUCTION.

The following is a taxonomic account of 34 species of polychaetous annelids collected by Dr. William Beebe on the Templeton Crocker Expedition in 1936. Seven new species are included in the collection.

The catalogue numbers all refer to specimens in the collections of the Department of Tropical Research of the New York Zoological Society.

SYSTEMATIC ACCOUNT.

Family Amphinomidae.

Eurythoe Kinberg.***Eurythoe pacifica* Kinberg.**

Eurythoe pacifica Kinberg, 1857, p. 14.

Collected under stones, Sulphur Bay, Clarion Island, and at Station 163: D-1 (Clarion Island, 20 fathoms). Cat. Nos. 36,627 and 36,595.

Family Polynoidae.

Lepidonotus Leach.***Lepidonotus coelorus*² Moore.**

Lepidonotus coelorus Moore, 1903, pp. 412-414; pl. 23, fig. 12.

Moore later recorded this species from the northern Pacific coast of the United States (1908, p. 331); Treadwell (1914, p. 182), listed it from San Diego, San Pedro and San Clemente Is., California, and Chamberlin (1919b, p. 252) recorded it from San Francisco, California and Gulf of Georgia, State of Washington. Chamberlin included in this species *L. squamatus* as identified by Treadwell (*loc. cit.*, p. 181) and by Johnson (1897, p. 166), without, so far as appears from the record, having reexamined the material. If his identification is correct, *L. squamatus* has not been found on the Pacific coast.

Collected at Station 136: D-1 (Arena Bank, 45 fathoms). Cat. No. 36,178.

***Lepidonotus pilosus* sp. nov.**

(Plate I, Figures 1-7).

A single specimen 43 mm. long and 17 mm. wide when measured to the ends of the setae. The median vertical diameter is 8 mm. at the thickest portion, hence the general effect is that of a thick-bodied animal. The twelve pairs of elytra completely cover the dorsal surface and because of their numerous spines and filaments arranged both laterally and on the surface, give the animal an unusually shaggy appearance. The elytra are light brown in color, the body iridescent pearly-gray on both dorsal and ventral surfaces. There are no dorsal tubercles. Nephridial tubercles first appear on the sixth setigerous somite, being at first very small but gradually increasing in length until posteriorly they are more than one-half as long as the ventral cirri. They are absent on the last setigerous somite. All anal cirri were lost.

The prostomium (Fig. 1) has its greatest width ($1\frac{1}{2}$ mm.), about equal to its length as far as to the bases of the tentaculophores. The anterior eyes are situated at the level of the greatest diameter and from this point the lateral margins slope about equally in both directions to the anterior and posterior ends. The anterior eyes are larger than the posterior, the latter lying definitely on the dorsal surface and at some distance from the posterior prostomial margin. In the preserved specimen a prominent lobe from the anterior margin of the first somite covers the prostomium to a point in front of the posterior eyes. When this lobe is lifted off a narrow isthmus can be seen connecting the prostomium with the first somite

²Moore spelled this *coelorus* in the original description. Later Moore, Treadwell and Chamberlin recorded it as *coeloris*. (Citations above.)

(Fig. 1). The tentacles were all lost. The lateral tentaculophores are anterior continuations of the lateral lobes of the prostomium and are about one-half as long as it is. The median tentaculophore is a little heavier than the laterals and is inserted in a basally rounded notch on the anterior prostomial margin. The dorsal surface of the prostomium is perfectly smooth, there being no indication of a median longitudinal cleft. The cirrophores of the tentacular cirri extend about as far as that of the median tentacle and only the right ventral style remains. This is slender and mainly colorless but has one colored band about two-thirds of its length from the base and another near the apex. The apex was covered with detritus which for fear of breaking the style I did not attempt to remove, but probably it is similar to the dorsal cirrus of the first parapodium, which is swollen near the end and terminates in a filament. However neither this nor later dorsal cirri has the medial pigment band. The palps are heavy, brown in color and about three times as long as the prostomium measured to the ends of the tentaculophores. Under a magnification of about 40 diameters they and the tentaculophores may be seen to be thickly studded with short, sharp-pointed spines.

When the elytra are removed the most noticeable features are the elytraphores and the gills. The former are very prominent, the oval scar of attachment of the elytron measuring 1.5 mm. in longest diameter. The gills both simple and branched occur sparingly on the posterior faces of the parapodia but are especially prominent on the dorsal and anterior surfaces. Usually a large three-branched one is attached to the lateral margin of the elytraphore (Fig. 2) and a dense mass of smaller ones fills the space between this and the end of the parapodium as well as covering the anterior face of the latter. On cirrus-bearing parapodia the gills lie mesially to the cirri but in other respects they do not differ from the others. In some posterior somites the gills are fewer on the dorsal but more numerous on the posterior parapodial faces.

In the parapodium the neuropodium (Fig. 2), is very thick and fleshy and has a rounded posterior lip and a pointed anterior one, into which the acicula extends. There are no tubercles but very definite wrinkles which seem not to be wholly due to the preservation methods. A tuft of twenty or more dark-brown setae lies posterior to the acicula. The notopodium is composed of a rounded posterior elevation in which is located a tuft of very fine setae and an anterior finger-shaped process from the end of which protrudes the acicula. The style of the ventral cirrus is an elongated narrow cone which reaches not quite to the end of the notopodium. The dorsal cirri extend beyond the apices of the neurosetae, and are slender, colorless except for a pigment band proximal to the subterminal swelling, and have fine filamentous tips.

The anterior pair of elytra completely cover the prostomium. They are broad-oval, nearly circular in outline and carry a densely packed row of filaments around their entire margins. The longest of these filaments are on the anterior and lateral margins and are as long as one-quarter of the diameter of the elytron. Posterior to the point of elytron insertion are numerous small brown papillae either sessile or on very short stalks, the terminal portion conical and covered with spines (Fig. 3). These occur on about one-third of the posterior surface of the elytron. On the remainder of the elytron are spines of a different sort, generally brown in color and of widely varying sizes. From an end view these appear to be circular but occasionally one is bent over showing an hour-glass form (Fig. 4), the rounded end densely studded with small spines. The one drawn was one of the smallest, many having diameters four or five times as great as this. Along the anterior, median and posterior borders of the region of the elytraphore attachment the elytron is elevated into a ridge on whose summit are as many as thirty of these papillae, some of which are colorless. Near the base of this ridge are fine hair-like fila-

ments on the elytral surface. Later elytra vary somewhat in outline but are all more or less alike (Fig. 5). On the narrower end (marked off by the dotted line) where each is overlapped by the preceding one, there are no marginal filaments and none of the larger papillae. A narrow line along the margin of this area is translucent and spineless while over the remainder occur the conical papillae. Around the remainder of the elytron is a dense marginal tangle of filaments and similar filaments occur along the elytrophoral ridge mentioned above, which is present in all elytra. Filaments occur over the general elytron surface but are smaller, sometimes smaller than the papillae of the hour-glass type which are numerous on the surface. When in position the elytra with their papillae and hairs give the dorsal surface a decidedly hairy appearance.

The neuropodial setae are very large and dark-brown in color. Each (Fig. 6) has a terminal tooth at whose base is a collection of sharp-pointed, transparent spines. I was unable to determine any regularity in the arrangement of these spines. The notopodial setae form a fan-shaped tuft which extends as far as to the ends of the neurosetae. They are thread-like and of varying diameters, but never very heavy, and carry two rows of plates (Fig. 7). Cross lines from one side of the stalk to the other at the level of the plates do not indicate rows of plates.

Collected at Station 136: D-13 (Arena Bank, 45 fathoms). Cat. No. 36,382. Type in the collections of the Department of Tropical Research, New York Zoological Society.

Halosydna Kinberg.

***Halosydna obtusa-cirrata* sp. nov.**

(Plate I, Figures 8-11.5).

The type specimen is 25 mm. long and measures 9 mm. across the back from tip to tip of setae. The prostomium has its greatest width (1 mm.) at the point of location of the anterior eyes, about half way along its lateral margin (Fig. 8). The posterior eyes lie near the posterior prostomial margin and in the preserved material are partly covered by the anterior margin of somite 1. The lateral prostomial margins are smoothly rounded and bend inward anteriorly to the bases of the tentaculophores. These are slender and about one-half as long as the prostomium posterior to their point of origin. The median one is slightly wider than the laterals and is inserted in an angular depression from which a fine line runs posteriorly for a short distance on the dorsal prostomial surface. The left lateral tentacle is the only one preserved. This (Fig. 8) is about twice as long as the tentaculophore and slender. Near the apex is a slight swelling and beyond this an unusually long filament. There is a pigment band just proximal to the swelling and at about the middle of the style a diffuse scattering of pigment spots. In the type the palps are badly shriveled but in the other specimen they are about three times as long as the prostomium and have filamentous ends. A band of pigment lies a short distance behind the end and a dusting of pigment occurs over their basal halves. The cirrophores of the tentacular cirri extend beyond that of the median tentacle. The left ventral style is the only one remaining. This is about one-quarter larger than the tentacle and is similar to it in form and markings. The protruded pharynx is about as long as the first nine somites. Apically, it has nine papillae both dorsally and ventrally and two pairs of brown jaws. Its surface is smooth.

The peristomium is rather more than three times as wide and its elytrophores about one-third as wide as the prostomium. There are eighteen pairs of elytra in contact or partially overlapping on the dorsal body surface and overlapping on the sides for nearly one-half of their diameters.

The first two pairs completely cover the prostomium. Elytra from the anterior end of the body (Fig. 9) are reniform with one end broader than the other. On the anterior border of each is a thin, colorless strip and posterior to this a collection of brown pigment running transversely. This pigment is densest near the mid-dorsal end of the elytron, much thinner at the outer end and extends for about one-half of the elytron length. Thus it is largely covered by the overlapping elytron in front of it. The posterior half of the elytron is mostly without pigment but there is a narrow band a short distance inside the posterior margin and a dark patch lies just over the elyrophore attachment. Light brown spines are scattered over the entire surface (detail Fig. 10), and on the lateral margin is a row of prominent filaments. There is along the body a gradual change in the form of the elytra from reniform to approximately round.

The parapodia (Fig. 11) have heavy, pointed neuropodia and very small notopodia, the latter hardly more than small lumps on the neuropodial surface. A small acicula is present in the notopodium and a much larger one in the neuropodium. On somites that do not carry elytra are pseudoelytrophores, prominent pads in line with the true elytrophores. Lateral to these (Fig. 11) are structures which at first seemed to be large cirrophores of the dorsal cirri from which the styles had been lost. When the specimen reached me the elytra were all in place, thus in a position to protect dorsal cirri from injury but no styles were found on either specimen. The thick structure shown in Fig. 11, lying lateral to the pseudoelytrophore, is the dorsal cirrus which is swollen at the base and bluntly rounded at the end. They differ in size, the longest extending beyond the setal lobe. The ventral cirrus is slender and extends almost to the end of the neuropodium.

The neurosetae (Fig. 11.5) are all of one kind and about twenty in a tuft. They are heavy, light-yellow in color and are slightly enlarged toward the apices, narrowing from this to a blunt point. Rows of toothed plates lie on the concave part of the curved region. The notopodial setae form a fan-shaped tuft close under the dorsal cirrus. They are colorless, very long, slender and sharp-pointed. The stalks are longitudinally striated and carry a large number of finely-toothed plates in two rows.

In the type the prostomium is colored a uniformly light brown on which the dark eyes are very prominent. On the dorsal surface of each somite is a transverse brown band, the remainder of the surface being colorless. In the type the nephridial papillae first appear on the seventh setigerous somite.

Collected at Station 126: D-3 (East of Cedros Island, Lower California, 40 fathoms). Cat. No. 36,637.

The type is in the collections of the Department of Tropical Research of the New York Zoological Society. The co-type is in the American Museum of Natural History.

Lepidasthenia Malmgren.

***Lepidasthenia pulchra* Johnson.**

Polynoe pulchra Johnson, 1897, pp. 177-179; pl. 7, figs. 34, 43, 43a; pl. 8, figs. 50, 50a, 50b.

Johnson recorded the elytra as faintly marked with brown or else immaculate. Most of those in this collection were colorless over the left anterior quadrant and diffusely marked with brown over the remainder. Johnson found occasional setae in the notopodia but said they are often absent from this part of the parapodium. I was unable to find any in the notopodia I studied.

While there may be some asymmetry in the arrangement of cirri and elytra, the location of elytra on every third somite after the twenty-third is generally regarded as characteristic of *Lepidasthenia* and Munro (1924, p. 43) proposed a new genus *Lepidastheniella* to include those in which these

later elytra lie on alternate somites. Johnson's specimens had elytra (after the twenty-third somite) on somites 23, 26, 28, 29, 31 --- 51. He did not record those between 31 and 51. In my specimen they are on 23, 25, 26, 28, 29 and on alternate somites posterior to this. Strictly speaking therefore, neither Johnson's specimen nor mine belongs in either of the above genera. In view of the frequent variability in this elytron arrangement it seems wiser to retain *Lepidasthenia* as the generic name.

One entire specimen was collected at Station 128: D-1 (East of Cedros Island, Lower California, 39 fathoms). A fragment of the anterior end was found at Station 127: D-1 (same locality, 38 fathoms). It was recorded as taken in an echinoderm test.

Cat. Nos. 3,698 and 36,105.

***Lepidasthenia fragilis* Johnson.**

Polynoe fragilis Johnson, 1897, pp. 179-181; pl. 7, figs. 36, 45; pl. 8, figs. 52, 52a, 52b.

One much mutilated specimen retaining only about forty-five somites of the anterior end. All elytra and most dorsal cirri are lost. I have identified it from its correspondence with Johnson's description of the head, parapodia and setae. In the original description Johnson noted that the ventral cirri are lacking but in a later paper (1901, p. 390), he recorded them as occasionally present. In my specimens they appear as flattened oval plates.

Collected at Station 126: D-3 (East of Cedros Island, Lower California, 40 fathoms). Cat. No. 36,637a.

***Lepidasthenia ornata* sp. nov.**

Plate I, Figures 12-15).

The collections contained two specimens, one of which, the type, is a mature male. It is 50 mm. long and has a maximum width of 4 mm. It is entire and composed of about one hundred somites. The other is a mature female about one-quarter larger than the type and is incomplete, retaining only about seventy-five anterior somites. The elytra have the usual arrangement and continue to the extreme posterior end of the body. I was unable to discover any somites having an elytron on one side and cirrus on the other, a condition described as characteristic of this genus.

The anterior half of the body is deeply pigmented in dark brown and in life must have made a brilliant showing. This pigmentation covers only the dorsal surface of the somites, leaving all cirri and parapodia uncolored. In the type there is a minute pigment patch at the base of the cirrophore of the tentacular cirri and another on the anterior face of the first parapodium. A rectangular patch lies on the mid-dorsal line of somites 2 and 3 and on each of these are narrow lateral patches. On somites 4 and 5 this pigment widens to form on either side an irregular line, the two uniting in a narrow patch on the anterior face of somite 4 and spreading across the posterior part of 5, leaving a large colorless patch on the dorsal surfaces of both somites. Somite 6 has a lighter pigment patch on the mid-dorsal line and a darker area on either side. Somite 7 has a dorsal patch similar to that on 6 and in addition an irregular darker area extends across its anterior margin and widens on either side so as to cover nearly all of the lateral surfaces; 8 is nearly colorless but has pigment on its dorsal surface and darker areas near the parapodial bases. The following three somites are almost completely covered with dark pigment but on either side is a colorless spot about half-way between the parapodium and the mid-dorsal line. The following eight somites are pigmented and alternate in having a large and a small colorless patch on either side of the mid-dorsal line. Behind this there is an approximation to this alternation but it soon becomes irregular and

throughout the posterior half of the body the most noticeable features are two colorless patches, one on either side of the mid-dorsal line; a small brown spot on either side in each somite forming a longitudinal line and the ocellae on the elytra.

Each half of the prostomium (Fig. 12) is flask-shaped with the inner "shoulder" a trifle higher than the outer and there is a definite emargination on the posterior margin. The median tentacle is a trifle longer than either lateral but in other respects they are similar. Each has a slender style which very slightly widens near the apex and terminates in a rather long filament. The palps are not very prominent and taper uniformly to a sharp apex which extends a little beyond the end of the median tentacle. The tentacular cirri in the type are smaller than the tentacle. In the other specimen there is asymmetry in that one of these cirri is larger than the others and the tentacle. The eyes lie in the usual position, the anterior, which are larger, lying near the lateral margin, the posterior ones farther back. The anterior ones have definite lenses. The protruded pharynx has a smooth surface and carries nine marginal papillae above and below the mouth in which, above and below, is a tooth composed of two unequal fangs.

In the type the left anterior elytron remained and covered the head region as far as half-way on the tentacular styles. It was broad and must originally have overlapped its mate on the opposite side. The second elytra are much smaller and reach only to the elytophore of the first. The third reaches to about the middle of the second but the two of this set do not meet dorsally. Later ones are still smaller, leaving fully one-half of the mid-dorsal region of the body uncovered and overlapping one another only slightly. The single first elytron was lost in transferring the specimen but all others are approximately circular in outline and have smooth margins. They are translucent, but numerous spots of a whitish appearance are scattered over their surfaces. Not so noticeable anteriorly but very prominent through most of the body is a pigment ring or ocellus surrounding the area of attachment to the elytophore on each elytron.

In both specimens the posterior parapodia are distended with sex products but I cannot say how far their structures may have been modified by this condition. The seventh (Fig. 13) has a heavy setal lobe obliquely truncated at the apex. There is a heavy neuropodial and a smaller notopodial acicula but there are no setae in the notopodium. The dorsal cirrus is relatively large and terminates in a fine filament; the ventral cirrus is flask shaped. In the 75th parapodium the dorsal region is much enlarged and is filled with sex products and the dorsal cirrus short and acutely and asymmetrically conical. The setal portion shows two distinct lips at its end, one being slightly shorter than the other, and there are two aciculae. (Fig. 14).

Contrary to the condition in other species of this genus, which in some respects resemble this one, only one kind of seta occurs in any parapodium and they are similar throughout the body. Each (Fig. 15) has a long stalk which widens very slightly in the region of attachment of the lateral plates, and a terminal and subterminal tooth. On the wider portion each carries two rows of plates. The only difference between setae from different parts of the body are that the stalks of the posterior ones are a trifle heavier and the number of toothed plates smaller than in anterior somites.

The anal cirri are moderately long and conical and have filamentous tips. They are covered for about one-half their length by the last pair of elytra.

From the fact that terebellid tentacles were found tangled in the parapodia I infer that the species is commensal with some member of that family.

This species seems to be closely related to *L. (Polynoe) gigas* Johnson (1897, pp. 172-175; pl. 7, figs. 23, 42, 42a; pl. 8, figs. 48, 48a, 48b, 49) but differs from it in the character of the cirri, setae and coloration.

The type was collected at Station 136: D-12 (Arena Bank, 35 fathoms) and is No. 36,377 in the collections of the Department of Tropical Research of the New York Zoological Society. Others were collected at Station 136: D-13 (Arena Bank, 45 fathoms). Cat. Nos. 36,377 and 36,382.

Family Aphroditidae.

Aphrodita Linnaeus.

***Aphrodita castanea* Moore.**

Aphrodita castanea Moore, 1910b, pp. 380-385; pl. 32, figs. 85-97; pl. 33, fig. 98.

The prostomium with its short, clubbed, median tentacle and long palps studded with spines is exactly as stated for this species by Moore. The only details in which there are disagreement are the length of the ventral cirri which reach only to the base of the ventral setae; the form of the fimbriate organs which are relatively shorter and more elevated than in Moore's specimens; and the fact that the setae have smooth rather than hirsute ends. These seem to be varietal rather than specific differences.

One specimen collected at Station 126: D-4 (East of Cedros Island, Lower California, 40 fathoms). Cat. No. 36,645.

Chloeia Savigny.

***Chloeia entypa* Chamberlin.**

Chloeia entypa Chamberlin, 1919a, pp. 30, 31; pl. 13, figs. 8, 9; pl. 14, figs. 1, 2.

Chamberlin diagnosed this species from a single specimen 10 mm. long and 4.2 mm. wide. In the present collection are two specimens of nearly equal size, one being 70 mm. long and 15 mm. wide. In all details except setae they agree with Chamberlin's description. The exception is that all setae taper uniformly toward the ends while in the original diagnosis they are said to bifurcate. Some of the dorsal setae have the rather coarse marginal denticulations figured by Chamberlin (1919a, pl. 14, fig. 1) as occurring on the larger of the two terminal branches. In spite of this difference I have tentatively included my material in this species. In view of the size differences between the specimens it is possible that these may be differences due to age.

Collected at Station 135: D-11 (Shallow water of San Lucas Bay, 6 to 11 fathoms) and under stones on the shore of Santa Inez Bay. Cat. Nos. 36,221 and 36,570.

Family Acoetidae.

Panthalis Kinberg.

***Panthalis adumbrata* Hoagland.**

Panthalis adumbrata Hoagland, 1920, pp. 606-607; pl. 46, figs. 9-14.

Only the anterior ends of two broken specimens are present in the collection. In the better preserved of the two, while the median tentacle is inserted at the level of the ommatophore base a longitudinal ridge of the same diameter as the tentacle runs posteriorly along the dorsal prostomial surface to meet a transverse ridge which crosses the surface at about one-third its length from the posterior border. The general effect is that the

tentacle seems to rise at the level of this transverse ridge. As noted by Hoagland, this species seems to be closely related to *P. panamansis* of Chamberlin (1919a, pp. 86-89; pl. 11, figs. 4-8; pl. 12, figs. 1-6).

Collected at Station 136: D-4 (Arena Bank, 55 fathoms) and at Station 143: D-4 (Santa Inez Bay, 55 fathoms). Cat. Nos. 36,283 and 36,353.

Family Phyllodocidae.

Anaitides Czerniawsky.

***Anaitides minuta* sp. nov.**

(Plate II, Figures 16-18).

A single specimen from which the posterior end has been lost. What remains is 45 mm. long and at its widest portion, near somite 15, is 2 mm. wide. Since the posterior end of the fragment is very narrow it seems probable that only a small part is missing.

The prostomium (Fig. 16) has a basal width slightly greater than its length, the proportions being about as 1 to 0.9. The eyes are very large, each nearly one-quarter as wide as the prostomium, and are situated at the posterolateral prostomial angles. They are dark brown in color with a central area of a lighter brown. Immediately in front of each eye the prostomium narrows and this narrowing continues uniformly to the anterior end. There is a definite emargination on the posterior margin but I could find no indication of a nuchal cirrus. The tentacles are acutely conical, subequal in size and rather less than one-third as long as the prostomium. On either side of the base of the protruded pharynx are six short rows of sharp papillae. Beyond these on either side are three rows of larger papillae having very poorly defined outlines. The extreme end of the pharynx was not exerted. There are four pairs of moderately prominent tentacular cirri on somites 1, 2 and 3. On either side of somite 1 is a single cirrus whose style reaches to somite 4; somite 2 has two on a side, the dorsal one reaching to somite 10, the ventral one to 4. The style of the ventral one is larger than that of the dorsal. Somite 3 has one on a side, its style reaching almost as far as the dorsal one on somite 2.

After the first four or five the somites are biannular, the anterior ring being very short. The parapodia are attached to the posterior ring. The general body color is a yellowish-brown with a fine dusting of black. In the anterior region this dusting is irregular on the dorsal surface but posteriorly it tends to be limited to the intersomitic constrictions.

The parapodium (Fig. 17) has a conical setal lobe having a bifid anterior and a conical posterior lip at its apex, the anterior one being the longer. The dorsal cirri are not prominent and would not be able to overlap if brought together over the dorsal body surface. In the preserved specimen they are held parallel to the longitudinal body axis and well away from contact with the body. Each is long enough to touch the parapodium of the second somite behind the one to which it is attached. Each cirrus is asymmetrically ovate in general outline and has an acute apex. The ventral cirrus is much shorter than the dorsal and is blunt ended but in general has a similar outline.

The setae (Fig. 18) have an unusual development of spines on the apex of the basal joint, and the terminal joint is noticeably toothed especially near its base.

Collected at Station 136: D-12 (Arena Bank, 35 fathoms).

This type is No. 36,377 in the collections of the Department of Tropical Research, New York Zoological Society.

Family Nephthydidae.

Nephthys Cuvier.***Nephthys dibranchis* Grube.**

Nephthys dibranchis McIntosh, 1885, pp. 161-162; pl. 27, fig. 5.

A number of species of this genus have been recorded from the Pacific coast but Moore (1911, p. 243), after an exhaustive study of this material, decided that they all belong to *N. coeca* (Fabricius) Oersted. *N. dibranchis* differs from this in the possession of a slender cirrus-like branchia on the dorsal surface of the neuropodium in addition to the much heavier coiled one on the notopodium. In prostomial structure the specimens listed here agree more closely with McIntosh's *N. verrilli* (*loc. cit.*, pp. 163-164; pl. 26, figs. 6, 7; pl. 32A fig. 8), but Munro (1933, p. 56), reported after a reexamination of the type of *N. verrilli* that it is synonymous with *N. dibranchis*.

Collected at Station 126: D-2 (East of Cedros Island, Lower California, 38 fathoms); Station 126: D-9 (same locality, 87 fathoms), and Station 136: D-4 (Arena Bank, 100 fathoms). Cat. Nos. 3,684, 36,653 and 36,353.

Family Hesionidae.

Hesione Savigny.***Hesione panamena* Chamberlin.**

Hesione panamena Chamberlin, 1919a, pp. 188-190; pl. 22, figs. 9, 10.

A single specimen lacking tentacular, anal and all dorsal cirri. Traces of longitudinal pigment lines remain in anterior somites but mostly the body is colorless. The prostomium is broader than long and the anterior eyes have twice the diameter of the posterior. The anterior and posterior eyes are separated by about the diameter of the posterior ones from one another, the anterior being a trifle farther apart than the posterior. The setae agree with Chamberlin's description. Munro (1928, p. 79) has listed this species as synonymous with Grube's *H. intertexta*. While in coloring Chamberlin's specimen agreed with Grube's diagnosis (1878, pp. 102, 103; pl. 6, fig. 5) the two seem to differ in other respects. Chamberlin stated that the antennae had been broken. In my specimen there are no antennae and no trace of their presence. In Grube's Figure 5 definite antennae are shown. It is possible that in my specimen and in Chamberlin's no antennae occur. The character of the prostomium is much more like that in Chamberlin's description than that of Grube's. Tentatively I am retaining *H. panamena* as a valid species.

The protruded pharynx is about as long as the prostomium and first somite taken together. Its basal portion is thin-walled and is wider than the prostomium but has a constriction at the base. The terminal portion is about one-half as long as the basal and has a denser wall. Its apical margin is recurved and carries numerous fine short filaments.

Collected at Station 163: D-1 (Sulphur Bay, Clarion Island, 20 fathoms). Cat. No. 36,595a.

Family Nereidae.

Nereis Linnaeus.***Nereis ambiguus* sp. nov.**

(Plate II, Figures 19-24).

Two specimens, one of which had lost its posterior end, are in the collection. The larger one, the type, is 25 mm. long and 1 mm. in prostomial

diameter. The prostomium (Fig. 19) is a trifle wider than long and narrows sharply just in front of the anterior eyes to widen a trifle at the anterior lateral angles where the tentacles are attached. The tentacles are relatively rather stout and are separated at their bases by less than one-half their diameter. Their length is about one-half that of the prostomium. The basal joint of the palps is heavy, the terminal joint globular, and does not quite reach the end of the tentacle. The longest tentacular cirrus is the posterior dorsal one which reaches as far as the ninth somite. The anterior dorsal is a little more than half as long as this, the ventral ones much shorter. The peristomium is shorter than the prostomium and about twice as long as somite 2. Between the eyes there is a noticeable emargination of its anterior edge. Aside from the parapodial pigment the only trace of color in the specimen is a very little brown at the bases of the tentacles and two longitudinal bands running posteriorly from the anterior peristomial border in a line with the posterior eyes.

In neither specimen was the pharynx protruded and an attempt was made to get the dental formula by dissection. Since the vertical diameter of the peristomium was about 1 mm., this attempt was not wholly successful but the best I could do is I, absent; II, absent; III, a tuft of about 8 on either side; IV, 3 in a transverse row; V, absent; VI, 3 or 4; VII, 7 or 8 very long and blunt pointed ones on either side, having irregular ones in front of them; VIII, a circular patch of about 20. Some of the paragnaths are very prominent and all are dark brown in color. The jaws are large, hardly colored except that along the concave margin of the apex and the teeth there is a light brown tint. On the margin are nine teeth.

The type retained only one anal cirrus. This is relatively heavy and long, as long as the last seven body somites.

Anterior parapodia (Fig. 20 of the 8th) have the notopodial lobes and the ventral lobe of the neuropodium very bluntly rounded, the lip into which the neuropodial acicula protrudes being sharp-pointed. The dorsal cirrus is slender and extends for about one-half its length beyond the notopodium. The ventral cirrus is shorter than the neuropodium. At the base of the dorsal cirrus is a small pigment spot but there is no definite pigmentation elsewhere, although the thickness of the organ makes it opaque. There are two aciculae. In posterior parapodia (Fig. 21), the parapodial lobes become very sharp-pointed and are noticeably filled with pigment, giving a characteristic appearance to the animal as a whole. This pigment completely fills the two notopodial lobes and the ventral one of the neuropodial. Both dorsal and ventral cirri are short, neither quite reaching the end of the parapodium.

In anterior parapodia the setae of the notopodium occur in tufts of about six. They are slender and uncolored, each (Fig. 22) having a camerated homogomphous basal joint and a long, slender terminal one with a row of spines along one border. There is some variation in the lengths of these terminal joints even when the basal are of the same length. The neuropodial setae are of three kinds. Dorsal to the acicula are some like those of the notopodium and lying posterior to these are heavier ones (Fig. 23) that are heterogomphous and carry short blunt-pointed terminal joints that have a row of prominent spines along one concave border. Ventral to the acicula are a third kind similar to the dorsal ones except that they are heterogomphous, together with some of the heavier ones shown in Fig. 23. In all of the posterior parapodia examined there was one heavy seta in the notopodium. This (Fig. 24) is camerated like all of the others and is homogomphous, carrying at its end a terminal joint deeply mortised into the basal. This form of seta is common in *Nereis* but this is unusual in that instead of being lens-shaped with smooth margins it has a row of spines along one edge and its end is rounded. There is never more than one of

these setae in a parapodium and it is either the only one there or it is accompanied by one of the slender ones like Fig. 22. The neuropodial setae are like those farther forward except that in the heavier ones the terminal joint is shorter.

In the form of the parapodium this species resembles *N. neonigripes* Hartman (1936, pp. 471, 472; figs. 48 a-g), but the two differ in the relative length of the tentacular cirri and in the posterior notosetae. So far as my imperfect dissection could determine they also differ in tooth formula. In this last respect *N. ambiguus* resembles *N. procera* Ehlers but in other details it is different from that species. The structure of the head is different as are also the posterior notosetae and Ehlers says that in *N. procera* the paragnaths are small and difficult to see. In *N. ambiguus* they are prominent.

Collected at Station 163: D-1 (Sulphur Bay, Clarion Island, 20 fathoms). This type is No. 36,595 in the collections of the Department of Tropical Research, New York Zoological Society.

A specimen of a heteronereis is in the collection labeled Cat. No. 36,883. "Taken at night light, off Avalon, Santa Catalina Id."

Family Leodidae.

Leodice Savigny. (*Eunice* Cuvier).

Leodice has priority but because of long usage some annelid taxonomists prefer *Eunice*. The revival of *Leodice* is not as recent as some have implied, since it was used by Malmgren in 1865 and by Verrill in 1885.

Leodice 1. sp?

The only specimen is a fragment of the posterior end of a single individual, the fragment being 107 mm. long and 7 mm. wide. In the peculiar form of the sub-acicular setae and end of the acicula and in the fact that the gills extend to the pygidium, this agrees with a specimen Munro (1933, pp. 65-66; fig. 27 a-b) identified as *Eunice filamentosa* Quatrefages collected in Galápagos. In this note Munro apparently claims that *Eunice* (*Leodice*) *filamentosa* is synonymous with *E. denticulata* Webster. Having collected considerable numbers of *denticulata* and a few of *filamentosa* I am unable to agree with Munro on this point. *Denticulata* is several times as large as *filamentosa* and lives in a branching parchment tube which extends through the body spaces of a sponge, while *filamentosa* never builds such tubes. The two differ in almost every detail of structure (See Treadwell, 1921). I have reexamined a specimen of *denticulata* collected by myself and now in the American Museum of Natural History and find that in details of aciculae and setae it agrees with the Lower California specimen. It also agrees with Munro's description. It seems quite probable that both Munro's specimen and mine are *denticulata*.

Collected at Station 136: (Arena Bank, from coral, in 2½ fathoms). Cat. No. 36,882.

Leodice 2. sp?

A fragment 80 mm. long and 15 mm. wide, measured to the ends of the setae. It shows very great similarities to *Eunice* (*Leodice*) *multipectinata* of Moore (1911, pp. 248-251; pl. 15, figs. 20-23), and very possibly may be of that species.

Collected at Station 141: D-1 (Santa Inez Bay, 7 to 9 fathoms). Cat. No. 36,206.

Arabella Grube. sp?

A single much mutilated fragment of the anterior end. From prostomium, maxilla and seta structure it is recognisable as *Arabella* but further identification is not possible.

Collected at Station 127: D-1 (East of Cedros Island, Lower California, 38 fathoms). Cat. No. 3,692.

Lumbrinereis de Blainville. sp?

A fragment of the posterior end of a *Lumbrinereis* was taken at Station 147: D-2 (Santa Inez Bay, 60 fathoms). Cat. No. 36,335.

Diopatra Grube.

Diopatra californica Moore.

Diopatra californica Moore, 1904, pp. 484-487; pl. 37, figs. 1-9.

One incomplete specimen 15 mm. long, retaining only the prostomium and thirty anterior somites. Moore stated that the spiral arrangement of the gill is lost on the thirtieth somite. In this specimen that structure appears on that somite but since this is the last somite retained in the fragment I cannot say what the condition would be in later gills. Other (probably minor) differences from Moore's account are that the gills begin on the fifth instead of the fourth somite and their basal parts show no ringing.

Collected at Station 155: D-1 (13 miles west of Mazatlan, 56 fathoms). Cat. No. 36,473.

Hyalinoecia Malmgren.

Hyalinoecia juvenalis Moore.

Hyalinoecia juvenalis Moore, 1911, pp. 277-280; pl. 18, figs. 86-95.

Provisionally listed with this species although simple setae occur with the compound in earlier somites than as described by Moore and the maxillae are rather more strongly hooked.

Collected at Station 136: D-4 (Arena Bank, 55 fathoms). Cat. No. 36,353.

Fragments of tubes belonging either to *Onuphis* or *Diopatra* were taken at Station 136: D-5 (Arena Bank, 33 fathoms). Cat. No. 36,359.

Family Glyceridae.

Glycera Savigny.

Glycera rugosa Johnson.

Glycera rugosa Johnson, 1901, pp. 409-411; pl. 10, figs. 101, 102.

Several specimens, some immature. I have based the identification on the form of the prostomium and parapodium. The latter are proportionately smaller than as described by Johnson.

Collected at Station 125: D-1 (East of Cedros Island, 44 fathoms); Station 126: D-6 (same locality, 45 fathoms); Station 147: D-2 (Santa Inez Bay, 60 fathoms). Cat. Nos. 3,672, 36,335 and 36,648.

Family Cirratulidae.

Cirratulus Lamarck.

***Cirratulus exuberans* Chamberlin.**

Cirratulus exuberans Chamberlin, 1919b, pp. 263, 264.

Collected at Station 159: T-2, in tidepool. Cat. No. 36,489.

***Cirratulus inhamatus* sp. nov.**

(Plate II, Figure 25).

A single specimen 85 mm. long, its greatest width 7 mm. The basal width of the prostomium is 1 mm.

The prostomium (Fig. 25) is conical, overlapping and bounding laterally the prominent mouth. An uncertain number of somites compose the remainder of the head region. Dorsally no somite boundaries can be seen while ventrally there are indications of at least four. On either side near the posterior margin is a region bounded by a shallow ditch and bearing on its end scars where branchiae have been attached. It is difficult to say how many of these there were but probably the number was about five. Approximately the thirty somites following the head are extremely short, and following ones are fully twice as long as these, there being not more than two of an intermediate length. This latter condition continues to the posterior end of the body. The pygidium has been lost. Most of the lateral gills are lost but evidently were originally present on most somites. Some of those remaining are very small, looking like hardly more than cirri. Because so many are absent it is impossible to tell whether there originally was an alternation of long and short gills. Capillary setae begin on the first short somite behind the head. Except that anterior ones are longer than the posterior, they are all alike, the longest equal in length to one-half the body width. The notopodial and neuropodial setae are separated by only a short distance.

Collected at Station 126: D-4 (East of Cedros Island, 40 fathoms). Type No. 36,645 in the collections of the Department of Tropical Research of the New York Zoological Society.

This species in many respects resembles *C. sinicolens* of Chamberlin (1919a, pp. 377-379; pl. 70, figs. 7-10), also taken in the Gulf of California, but differs in the form of the head, in the location of the special branchiae on the somite in front of the first setigerous rather than on that somite and in the character of the setae. While both species lack the heavy spines generally found in this genus, *C. sinicolens* has in posterior somites a single stout neuropodial seta which Chamberlin thought represents the crochet. There is no trace of this form of seta in *C. inhamatus*. Also in the former species Chamberlin describes two kinds of capillary setae of which the larger has serrations along one margin. In the latter are finer and coarser capillary setae but there is no trace of serrations on either. Also the relative sizes of the somites in different parts of the body is not as described by Chamberlin.

Several other specimens belonging to this family are in the collection but because of poor preservation it is not possible accurately to identify them. They appear to have no dorsal filaments, which would seem to put them in the genus *Cirrinereis*.

Collected at Station 126: D-2 (East of Cedros Island, 38 fathoms); 126: D-3 (same locality, 40 fathoms) and 127: D-1 (same locality, 38 fathoms). Cat. Nos. 3,684, 3,692 and 36,637.

Family Sternaspidae.

Sternaspis Otto.***Sternaspis scutata* Ranzani.**

Thalassema scutata Ranzani, 1817, p. 183; pl. 11.

Sternaspis scutata Fauvel, 1927, pp. 216-218; fig. 76 a to g.

For earlier references see this paper.

Stimpson (1853, p. 29; fig. 19) described as *Sternaspis fossor* a species from Grand Manan and this has been supposed to be the only species of this genus found in northeastern North America. Moore (1910a, p. 144) stated that he was unable to distinguish the species found on the coast of southern New England from *S. scutata* Ranzani, but that this differs in a number of details from the species found further north which he listed as *S. fossor* Stimpson. Through the courtesy of Professor Moore I have had the opportunity of examining specimens from Newport, Rhode Island, which he labeled *scutata* and find that they agree in essential respects with Fauvel's description and with mine from Lower California. Fauvel considered that *S. fossor* is synonymous with *S. scutata* but specimens in my possession from Nova Scotia differ from these and agree with Moore's diagnosis (*loc. cit.*). It seems therefore that *fossor* should be retained, though it is possible that it may have a varietal rather than a specific value. The surface of the body is much more densely covered with papillae than in *scutata*, the shields are nearly square (taken together) rather than oblong, and the anterior setae are more slender and translucent.

Collected at Station 125: D-1 (East of Cedros Island, 44 fathoms), 126: D-2 (same locality, 38 fathoms) and 126: D-7 (same locality, 48 fathoms). Cat. Nos. 3,673, 3,684 and 36,649.

Family Maldanidae.

Maldane Grube.***Maldane carinata* Moore.**

Maldane carinata Moore, 1923, pp. 233-235.

Two specimens, neither entire, the pygidium being absent in both cases. Moore gave no figures but the specimens apparently conform to his diagnosis, except that he did not mention a second form of seta occurring in anterior somites. In addition to the very long, slender, narrowly limbate setae are others much shorter and fewer in number. These narrow abruptly and bend at nearly a right angle. Just at the bend the marginal wing is very prominent but soon disappears, leaving the long and slender terminal portion without the wing.

Collected at Station 125: D-1 (East of Cedros Island, 44 fathoms), 126: D-3 (same locality, 40 fathoms). Cat. Nos. 3,672 and 36,637.

Family Terebellidae.

Artacama Malmgren.***Artacama coniferi* Moore.**

Artacama coniferi Moore, 1905, pp. 853-855; pl. 44, figs. 11-13.

One specimen collected at Station 125: D-1 (East of Cedros Island, 44 fathoms). Cat. No. 3,672.

Lanice Malmgren.***Lanice heterobranchia* (?) Johnson.**

Lanice heterobranchia Johnson, 1901, p. 427; pl. 17, figs. 172-174.

The specimens were incomplete but correspond very well with Johnson's description except that the size differences between the gills are not so extreme as is there indicated.

Collected at Station 126: D-9 (East of Cedros Island, 56 fathoms) and Station 126: D-12 (same locality, 45 fathoms). Cat. Nos. 36,660 and 36,653.

Terebellides Sars.***Terebellides stroemi* Sars.**

Terebellides stroemi Sars, 1835, p. 48; pl. 13, figs. 31a-d.

Terebellides stroemi, McIntosh, 1922, pp. 209-215; pl. 120, fig. 3; pl. 127, figs. 5-5b.

The material is poorly preserved and identification was made by comparison with McIntosh's description.

Collected at Station 126: D-4 (East of Cedros Island, 40 fathoms), 136: D-4 (Arena Bank, 55 fathoms) and 147: D-2 (Santa Inez Bay, 60 fathoms). Cat. Nos. 36,335, 36,353 and 36,654.

Amphitrite O. F. Muller.***Amphitrite robusta* Johnson.**

Amphitrite robusta Johnson, 1901, pp. 425, 426; pl. 16, figs. 164-168.

A much mutilated specimen in which none of the recognisable details differs from Johnson's description but the preservation is too poor to allow of a reliable identification. In *Amphitrite* the gills are simple filaments. In these they have branches which would put the species in the genus *Neoamphitrite* of Hesse.

Collected at Station 126: D-4 (East of Cedros Island, 40 fathoms). Cat. No. 36,245.

Streblosoma Sars.***Streblosoma magna* sp. nov.**

(Plate II, Figures 26-28).

Some (apparently only a small portion), has been lost from the posterior end of the type. What remains is 80 mm. long. The prostomium is 3 mm. wide, the first somite 11 mm. and in the region of the tenth somite the body width is 14 mm. Thirty mm. back from the head the width is 11 mm. and behind this point the body abruptly narrows to 5 mm. There are fourteen ventral thoracic shields. The prostomium (Fig. 26) is a low dome whose width is about twice its length. Bounding the ventral face of the mouth is a thick pad partly covered by the lateral ends of the upper lip and posterior to this is a rounded lower lip whose lateral ends are more or less covered by the ventral tentacles which are the smallest of any. The tentacles form a dense mass and some of them are very long. There is no trace of eyes on the dorsal prostomial surface.

The first seta tufts appear on the second somite and occur on successive somites to beyond the fiftieth. In the thoracic region the tufts are prominent but posterior to the beginning of the narrowed portion of the body the setae are fewer in number and arise more directly from the body wall. Uncinigerous tori begin on the fourth somite. Throughout the

thoracic region the tori are long but in the narrowed body region they are much shorter and at the same time are more definitely elevated above the body surface.

There are three pairs of gills on somites 2, 3 and 4. The basal portion of each gill is a short, thickened, transverse ridge, those on opposite sides of the somite but belonging to the same pair separated from one another by a space a little shorter than the length of the ridge. These ridges are of essentially the same length in all gills. Along the upper surface of each ridge is a row of about twelve long branches which form a densely tangled mass reaching well beyond the prostomium.

An uncinus from the first torus (Fig. 27) has one large and two smaller teeth, the smaller ones situated one on either side of the base of the larger. This form of uncinus persists in the abdomen. Two kinds of setae occur in each seta tuft. The shorter ones are lance-shaped and have a narrow wing along the margins of the blade (Fig. 28). The longer ones are straight and narrow gradually to a very fine point. Their marginal wings are broader than in the shorter form and in some cases the wing seems to be broader on one side than on the other.

The type was collected at Station 136: D-12 (Arena Bank, 35 fathoms). It is Number 36,377 in the collections of the Department of Tropical Research of the New York Zoological Society.

Others were collected at Station 136: D-13 (Arena Bank, 45 fathoms). Cat. Nos. 36,377 and 36,382.

Family Capitellidae.

***Dasybranchus* Grube.**

Fragments of two specimens probably of this genus were in the collection. One taken at Station 126: D-4 (East of Cedros Island, 40 fathoms), Cat. No. 36,245, seems to be *Dasybranchus caducus* Grube (Eisig, 1887, pp. 823-828; pl. 1, fig. 2). The other collected at Station 126: D-6 (same locality, 45 fathoms), Cat. No. 36,648, retained only the thoracic and a few abdominal somites and was too poorly preserved for accurate description.

Family Amphictenidae.

Pectinaria Lamarck.

***Pectinaria brevicoma* Johnson.**

Pectinaria brevicoma Johnson, 1901, pp. 423-424; pl. 15, figs. 151-156.

Pectinaria brevicoma, Moore, 1923, pp. 216-217.

The identification is based on Johnson's diagnosis with additions made by Moore. Johnson figured the paleae as blunt-pointed but described them as either bluntly or acutely pointed. He said there are ten to twelve in each group; Moore says fourteen; mine have fifteen. In no other respect are they essentially unlike the diagnosis.

Collected at Station 125: D-1 (East of Cedros Island, 44 fathoms) and 126: D-1 (same locality, 38 fathoms). Cat. Nos. 3,672 and 36,648.

Family Serpulidae.

Apomatus Mörch.

***Apomatus similis* Marion & Bobretzky.**

Apomatus similis Marion & Bobretzky, 1875, p. 97; pl. 12, fig. 25.

Fauvel (1914, pp. 359-361; pl. 31, figs. 44-46) described this species from localities ranging from the Azores to Norway and decided that it is

synonymous with *A. globifer* of Théel. Except that it is larger, the single specimen in this collection differs in no important respect from Fauvel's description. Théel thought that the presence of eyes on the branchia in *A. globifer* distinguished it from *similis* but Fauvel pointed out that this might be an age difference, being present in the young and absent in the adult, and also that there may be considerable variation in this respect. I distinctly saw one eye in my specimen, formed by six or seven refringent bodies. I cannot say if there were others.

Moore and Bush (1904, pp. 168-169; pl. 11, figs. 17, 18; pl. 12, fig. 38) described *Protula geniculata* from Japan, but Moore later (1908, p. 361) listed a specimen from the Gulf of Georgia in the north Pacific which retained the operculum, this having been lost in the type. This globular operculum places the species in the genus *Apomatus*. Moore (1923, p. 248) listed several specimens from Southern California. *A. similis* differs from *A. geniculata* in several respects. The branchiae of *geniculata* are recorded as having short bases concealed by the collar while in *similis* these are longer than the collar. *A. geniculata* has 18 radioles on a side while in *similis* the number is nearer 60. Moore does not mention the curved setae, limbate on the convex border, described by Fauvel, but his description of the other setae and the uncini agrees with the conditions in *similis*. The differences between the two are hardly to be explained as age differences and they are distinct species.

Collected at Station 136:D-24 (Arena Bank, 50 fathoms). Cat. No. 36,535.

Pomatostegus Schmarda.

***Pomatostegus stellatus* Abildgaard.**

Terebella stellata Abildgaard, 1789, p. 142.

Pomatostegus stellatus, Mörch, 1863, p. 50.

A single specimen, identified by the aid of Ehlers' description (1887, pp. 296-300). The only disagreement is that while Ehlers describes the collar as forming a prominent triangular lobe on the ventral surface, in my specimen the margin is straight and the ventral portion of the collar is thrown into longitudinal pleats. Munro (1933, pp. 1081-1082), listed this species from the Panama region.

Collected at Station 136:D-30 (Arena Bank, 35 fathoms). Cat. No. 36,553.

A serpulid larger than *A. similis* was collected at Station 126: D-4 (East of Cedros Island, 40 fathoms), Cat. No. 36,666. The body is badly macerated and since it lacks the operculum its generic position is in doubt.

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EXPLANATION OF THE PLATES.

PLATE I.

Lepidonotus pilosus.

- Fig. 1. Prostomium x 10.
Fig. 2. Parapodium x 7.5.
Fig. 3. Small papilla on elytron x 68.
Fig. 4. Hour-glass papilla x 45.
Fig. 5. Elytron x 25.
Fig. 6. Neuropodial seta x 85.
Fig. 7. Notopodial seta x 250.

Halosydna obtusa-cirrata.

- Fig. 8. Prostomium x 15.
Fig. 9. Elytron x 12.
Fig. 10. Detail of elytron spines x 65.
Fig. 11. Parapodium x 12.
Fig. 11.5. Seta x 250.

Lepidasthenia ornata.

- Fig. 12. Prostomium x 10.
Fig. 13. Seventh parapodium x 12.5.
Fig. 14. Seventy-fifth parapodium x 12.5.
Fig. 15. Seta x 250.

PLATE II.

Anaitides minuta.

- Fig. 16. Prostomium x 7.5.
Fig. 17. Parapodium x 45.
Fig. 18. Seta x 250.

Nereis ambiguus.

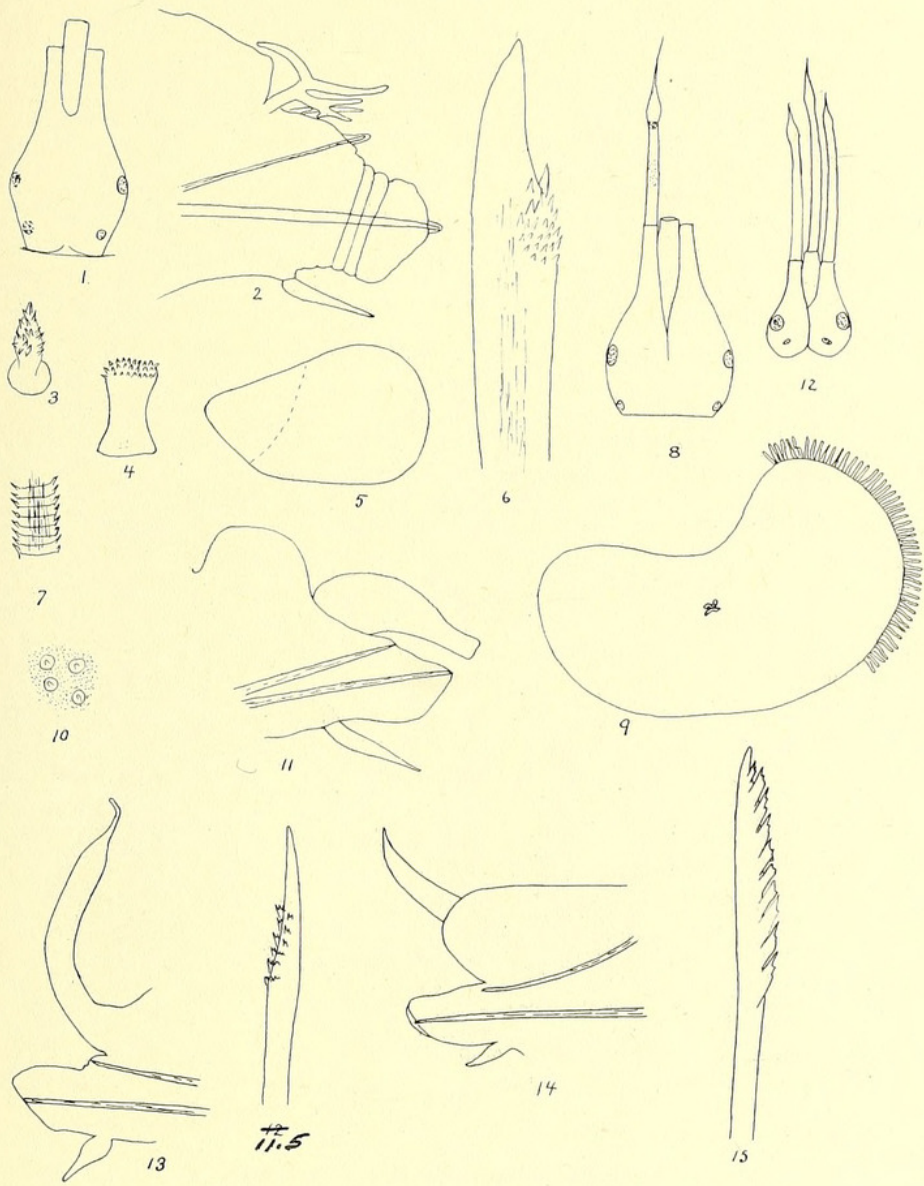
- Fig. 19. Head x 12.
Fig. 20. Anterior parapodium x 35.
Fig. 21. Posterior parapodium x 30.
Fig. 22. Anterior notopodial seta x 250.
Fig. 23. Neuropodial seta x 250.
Fig. 24. Posterior seta x 250.

Cirratulus inhamatus.

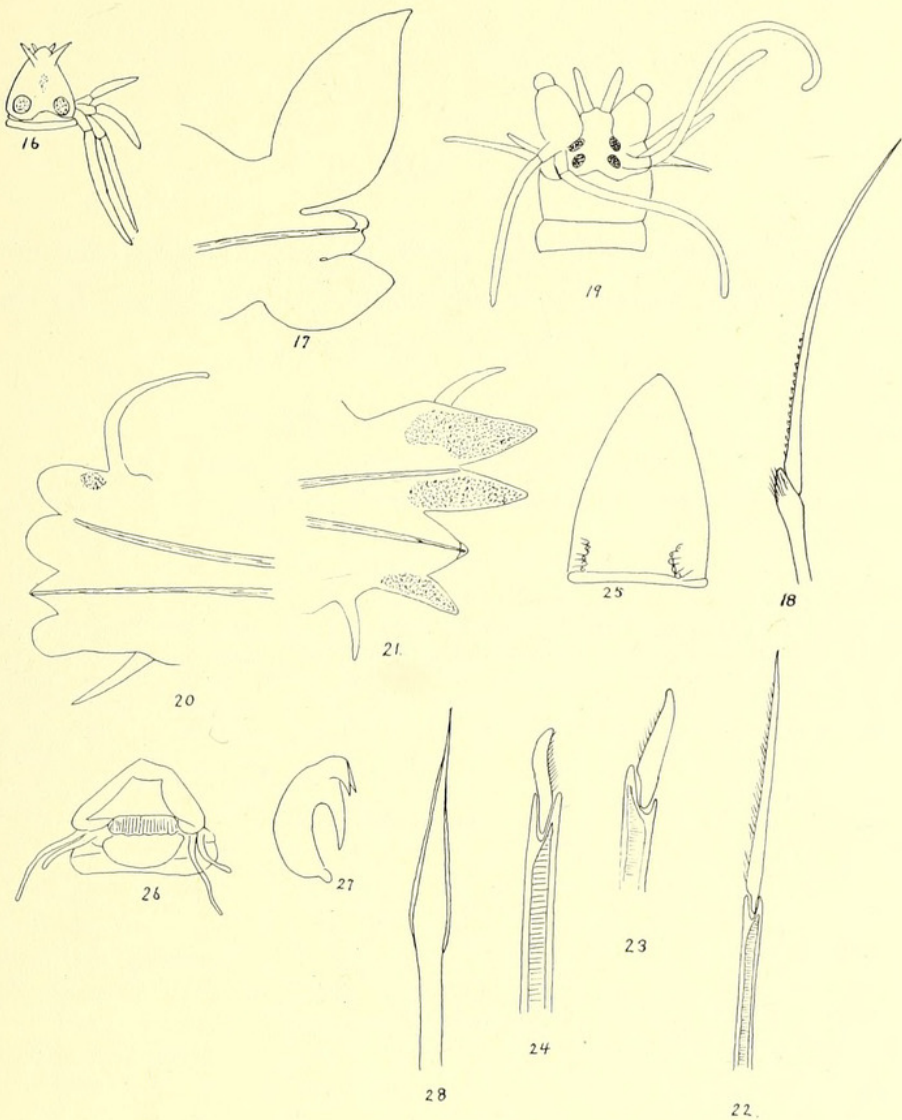
- Fig. 25. Head x 5.

Streblosoma magna.

- Fig. 26. Prostomium x 5.
Fig. 27. Uncinus from first torus x 250.
Fig. 28. Seta x 185.



POLYCHAETOUS ANNELIDS FROM THE WEST COAST OF LOWER CALIFORNIA,
THE GULF OF CALIFORNIA AND CLARION ISLAND.



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