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POLYCHÆTOUS ANNELIDS COLLECTED BY CAPTAIN R. A. BARTLETT IN ALASKA IN 1924, WITH DESCRIPTIONS OF NEW SPECIES

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In 1924 Captain R. A. Bartlett made in Alaska, under the auspices of the National Geographical Society, a collection of polychætous annelids. A portion of this collection is in the United States National Museum and was described by the present writer in 1925 (Proceedings U. S. National Museum, LXVII, Art. 29, pp. 1-3). The following descriptions are of the remainder now in The American Museum of Natural History in New York City.

Polynoidæ

HALOSYDNA Kinberg

Halosydna lordii Baird

Halosydna lordii BAIRD, 1865, Proc. Linn. Soc. London, p. 190.

One specimen, collected in Bering Strait "between King Island and the two Diomedes."

GATTYANA (*Nychia*) McIntosh

Gattyana imbricata, new species

Figures 1 to 5

Nine specimens are in the collection but none is complete. The description is taken from three paratypes which are in one bottle. One specimen (not a paratype) which retains all of its somites but has lost all cirri and all but one elytron is 40 mm. long and 9 mm. wide, not counting the parapodia. It has 15 pairs of elytophores. The prostomium measures about 1.5 mm. in both longitudinal and transverse diameters. Figure 1 is of the prostomium of a paratype and is nearly rectangular in outline. A deep depression in the middle of its anterior margin contains the cirrophore of the median tentacle and is continued posteriorly as a parallel-sided groove to about the level of the anterior margin of the posterior eyes where it divides, sending a shallow groove to each eye. From the cirrophore the anterior margin extends laterally to end in a blunt point with a very small elevation midway on either side, giving the peaks almost a bifid appearance. In the larger individual the prostomium is more

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rounded than in this paratype, the peaks are less prominent and the surface markings are less noticeable. It seems probable that the paratype is more or less shrunken. The protruded proboscis is as long as the first eight somites and has above and below, at its apex, a row of nine lobes. There is a dorsal and a ventral bifid tooth with dark brown margins.

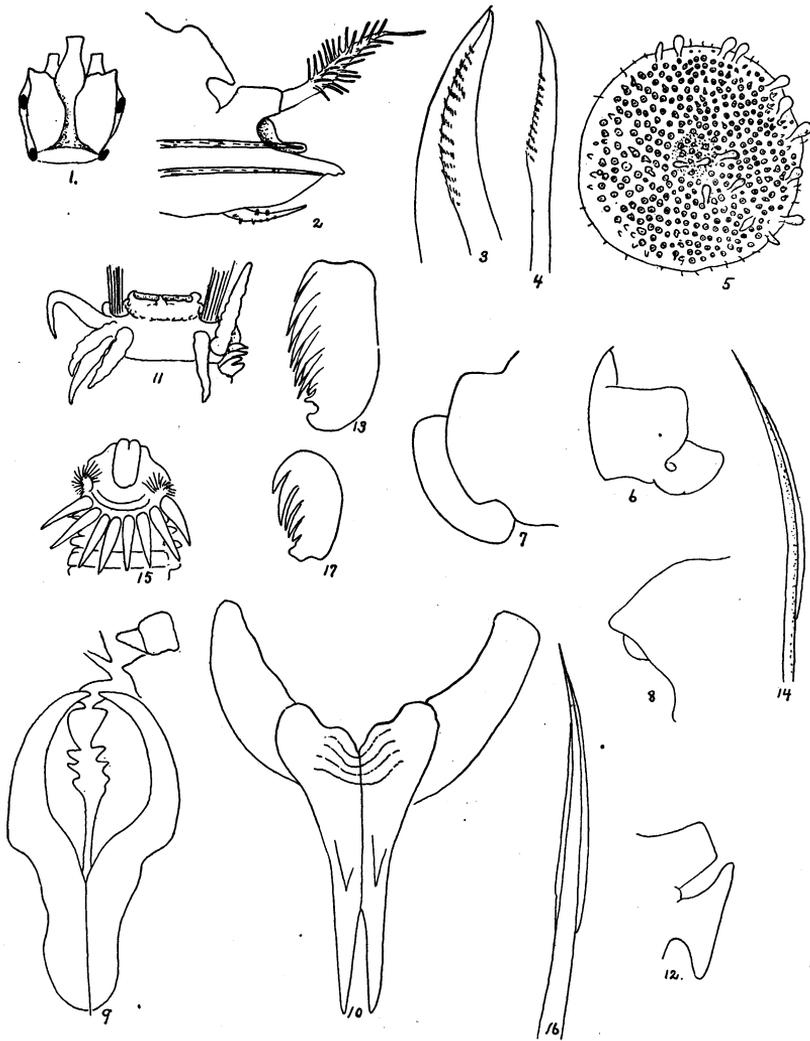
The cirrophore of the median tentacle is nearly as long, and about half as wide as the prostomium. It narrows gradually from the base, widening again toward the apex. The terminal style was lost from the specimen figured but in another specimen it is very slender and terminates in a filamentous tip, but is too much shrunken for accurate description. The lateral tentacles lie immediately under the peaks of the prostomium and are very similar to the median in form. They extend for about one-half their length beyond the cirrophore of the median tentacle and are densely "ciliated" throughout except for the slender filamentous tip. Only one tentacular cirrus is present in the specimens and this is similar in form to the lateral tentacles but is somewhat longer. Some of the tentacles show a slight swelling near the apex, followed by the filamentous tip, others merely narrow to the tip without the swelling. The dorsal cirri may be of either type and are densely covered with "cilia" (Fig. 2). Only one anal cirrus remains and this is larger than the dorsal, but in other respects resembles them. The palp is five times as long as the prostomium, tapers gradually to the apex and is densely "ciliated."

The parapodia carry either elytriphores or cirri and in the latter case (Fig. 2, the thirteenth parapodium) there is an elytriphore-like process dorsal to the base of the cirrus. The dorsal cirrophore is heavy but the style slender, terminating in a filament. Through the median region of the cirrus its "cilia" are equal in length to the transverse diameter of the cirrus and toward the tip they are longer. The ventral cirrus does not reach the end of the parapodium and is sharp pointed and has a few inconspicuous "cilia."

In the parapodium the neuropodium is much heavier than the notopodium and is beveled at the end, and the upper angle continued into an asymmetrical process. The form of the notopodium, owing to the dense mass of setæ it carries, is difficult to determine in the entire specimen. It is merely an area on the dorsal face of the neuropodium with one finger-shaped process into which the dorsal acicula extends and another on the dorsal surface. The latter is not shown in the figure because covered by the cirrophore of the dorsal cirrus. The setæ of the notopodium are arranged in a slightly radiating tuft around an area that is nearly circular in outline but broken at the point where the acicula comes near the surface. The dorsalmost of the setæ are stout as compared with their length and slightly curved at the ends (Fig. 3). The middle ones of the tuft are about twice as long as these and terminate in long slender tips, though these are never as thread-like as in other species of this genus. The ventralmost ones are similar to the middle ones in form but are much shorter and somewhat more slender. All the dorsal setæ have transverse rows of toothed plates which, in the material at my disposal, are difficult to see because of deposits of fine sand.

The neuropodial setæ (Fig. 4) are longer and larger in every way than the notopodial. Near the apices they widen and then narrow to slightly bent points without any subterminal tooth. Each has a double series of transverse rows of toothed plates.

Elytra are retained in only one specimen. They overlap both laterally and antero-posteriorly so that fully one-third of each is covered by others. The first one



Figs. 1 to 5. *Gattyana imbricata*, new species

Fig. 1, prostomium $\times 10$; 2, thirteenth parapodium $\times 12.5$; 3, dorsal seta $\times 185$; 4, ventral seta $\times 85$; 5, elytron $\times 15$.

Figs. 6 to 10. *Lumbrinereis similabris*, new species

Fig. 6, first parapodium $\times 45$; 7, tenth parapodium $\times 45$; 8, fiftieth parapodium $\times 45$; 9, maxilla $\times 10$; 10, mandible $\times 10$.

Figs. 11 to 14. *Amphareta brevibranchiata*, new species

Fig. 11, anterior end $\times 1.5$; 12, parapodium $\times 7.5$; 13, uncinus $\times 250$; 14, seta $\times 45$.

Figs. 15 to 17. *Amphareta seribranchiata*, new species

Fig. 15, anterior end $\times 4.5$; 16, seta $\times 85$; 17, uncinus $\times 250$.

(Fig. 5) is nearly circular in outline. Over about one half of its area it carries a few (15 in the one drawn) very prominent oval papillæ. The elytron had been removed before this observation was made, but from analogy with the others this area should be the dorso-median. The largest of these papillæ are near the dorsal margin and three lie over the elytophore. Much smaller conical papillæ are thickly distributed over the surface of the elytron. Under high power these appear conical with rounded basal discs, and central dark cores which extend well into the apex of the cone. A few short colorless and inconspicuous "cirri" are distributed at or near the margin of the elytron for its entire extent. The second elytron is kidney-shaped while succeeding ones are larger and more nearly circular though there is always a depression or hilus on the anterior margin, or region covered by the preceding elytron. The large papillæ are limited to the free postero-dorsal margins.

Three imperfect specimens collected in a dredge 25 miles east of Cape Haustern were all employed as type material in the preparation of the above description. They are Cat. No. 1631 A. M. N. H. Nine others were dredged at Devils Mountain. One very imperfect specimen was dredged off Shmiscoff, 22 miles off shore in 22 fathoms.

Nereidæ

NEREIS Linnæus

Nereis pelagica Linnæus

Nereis pelagica LINNÆUS, 1767, 'Systema naturæ,' 12th Ed., p. 1086.

Two specimens collected in Bering Strait and two recorded as dredged at "Devils Mountain in 16-18 fathoms."

Nephtydidæ

NEPHTHYS Cuvier

Nephtys cœca Fabricius

Nephtys cœca FABRICIUS, 1799, 'Betragtninger over Nereidslægten.' Skr. Nat. Selsk. Kjobenhavn, V, pp. 154-190 Pl. iv, figs. 24-29.

Four specimens collected in "Bering Strait"; two specimens dredged "25 miles east Cape Haustern, mouth Holzeome Sound"; one specimen dredged "off Shmiscoff 22 miles off shore."

Phyllodoceidæ

PHYLLODOCE Savigny

Phyllodoce (Anaitides) medipapillata Moore

Phyllodoce (Anaitides) medipapillata MOORE, 1909, Proc. Acad. Nat. Sci., Philadelphia, LXI, pp. 237-239, Pl. VII, figs. 3 and 4.

A single specimen dredged "25 miles east Cape Haustern, mouth Holzeome Sound," agreeing with Moore's description except in the following respects: the median dorsal papilla on the prostomium is slender

instead of being one-third the diameter of the nuchal organs; I was unable to find any median dorsal row of papillæ on the basal region of the proboscis; the number of papillæ in the lateral rows is greater than he describes; and the terminal joint of the setæ is concave instead of convex. Since, in other respects, this agrees with Moore's description I have located it here. Some color notes may be added: at the base of the dorsal tentacle on either side is a pigment spot giving the effect of a second pair of eyes located at the extreme anterior end of the prostomium; at the anterior end of the body where the foliaceous dorsal cirri have not yet reached their full development the dorsal surface of the body can be seen to have a longitudinal purple band along the mid-dorsal line with, on either side, a light-brown area equal to this band in width; farther back the notocirri cover over the light brown bands so that the dorsum seems to be uniformly purple in color. In the notocirri the development of the marginal glands described by Moore makes these margins noticeably thicker and lighter in color than the remainder of the cirrus.

Leodiciidæ

LUMBRINEREIS de Blainville

***Lumbrinereis similabris*, new species**

Figures 6 to 10

The following description is based on one incomplete specimen and is therefore possibly not entirely accurate as a diagnosis of this species. The individual differs so decidedly from any thus far described that it seems best to regard it as a new species.

The prostomium and 90 somites are retained. The prostomium is 2 mm. wide, the peristomium 3.5 mm. wide and the greatest width of the fragment is 6.5 mm. The prostomium is an equilateral triangle with rounded apex, its length about equal to that of the first two somites. As is characteristic of the genus, the anterior ventral border of somite 2 borders the mouth posteriorly, forming the posterior portion of its lip, its lateral and dorsal borders being formed by somite 1. The proboscis is partly protruded which may make the lip unduly prominent.

Ventrally somite 1 is a little longer than 2, but dorsally the two are practically of the same length and not noticeably longer than the following somites. The parapodia are short and fleshy in anterior somites, having the post-setal lobe longer than the pre-setal. In this respect later somites gradually change so that from the region of somite 40 backward the two lobes are of about the same length. They are short and thick with smoothly rounded ends. The first parapodium (Fig. 6) has a postero-ventral lobe with an outline about that of one-quarter of a circle while the antero-dorsal lobe is roughly rectangular in outline. A tuft of simple setæ arises between the lobes, but extends only as far as these overlap one another.

In the tenth parapodium (Fig. 7) the relations of these parapodial lobes to one another is the same as in the first, but the lobes themselves have a much greater vertical diameter. Inside the parapodium there is a bunch of 30 or more bases of

setæ from which the terminal portions have all broken away. Though the dorsal ones of these stumps are much darker than the ventral ones they, together, make up a row which when seen under a dissecting lens appears as a prominent dark vertical line in each parapodium. A posterior view of the 53rd parapodium is shown in Figure 8. The posterior lobe projects ventro-posteriorly beyond the anterior but there is very little difference in length between the two.

Practically all of the setæ are broken. Entire ones are long with shafts of uniform diameter until near the end when they widen slightly and bend. Beyond this point they gradually narrow to an acute point and have a wing on either side, the one on the convex side being much the wider of the two.

The maxillæ (Fig. 9) are very dark, the forceps slender and not very much curved. The toothed plates are similar on the two sides, the first pair having a small apical, a larger subapical and two small proximal teeth, the terminal two pairs have each a single tooth. The mandible (Fig. 10) is lighter in color than the maxilla and has only a limited amount of white along its margin. On the other side anteriorly is a long thin and broad colorless "wing."

Collected in Bering Strait "between King Island and the two Diomedes."

The type is in The American Museum of Natural History (Cat. No. 1632).

Ampharetidæ

AMPHARETE Malmgren

Ampharete brevibranchiata, new species

Figures 11 to 14

In the type specimen the prostomium is 6 mm. wide while the first somite measures 10 mm. The greatest width of the body is at the sixth parapodium where it is 15 mm. and from here it tapers gradually to a width of 8 mm. at the posterior end of the anterior region. The body then narrows for three more somites to 4 mm. and from there narrows more gradually to a width of 1 mm. at the extreme posterior end. The length of the anterior and posterior regions are respectively 35 and 30 mm.

The mouth is surrounded by a thick fleshy lip which is divided on each ventro-lateral margin by a deep depression. The lower lip thus formed is horizontal, the remainder forming a horseshoe-shaped portion surrounding the remainder of the oral region. On the dorsal mid-line is a small blunt conical knob representing the prostomium, its margins continuous with grooves on the surface of the peristomium. (Fig. 11). A second inner horseshoe-shaped lip is concentric with this outer one, and in the groove between them are numerous short tentacles which in the preserved material extend hardly beyond the margin of the lip. Dorsally the first two somites are not distinguishable from one another. They are fused as far as the ventral side of the parapodia but separate on other parts of the ventral surface. The ventral anterior border of somite 1 is thickened to form a lip-like structure which resembles the lower lip and is separated from it by a deep depression. Somite 2 has a less well-marked anterior lip and a faint depression across its middle; somite 3 is much shorter and less prominent than either of the other two.

Dorsally somite 1 carries on either side a pair of stout gills and the tuft of paleæ. Just ventral to the outer gill is a small rounded knob, evidently homologous with the setal lobe of a parapodium but devoid of setæ. The inner one of each pair of gills is just posterior to the tuft of paleæ so that nearly the entire width of the prostomium separates the dorsalmost gills of the two sides. The gills of the second somite lie nearer the dorsal mid-line than do those of the first, the outer one of the second pair lying at the level of the inner one of the first.

The first two pairs of parapodia lack the neuropodial lobes and the notopodium has the form of a blunt cylinder with a median vertical slit from which arises the tuft of setæ. There are 14 pairs of these notopodia successively increasing in length from the first to the last. Uncinigerous tori begin in the third parapodium. Behind the fourteenth parapodium are 12 somites. In these the notopodium is represented only by a small elevation like that on somite 1 while uncinigerous tori continue to the end. Neuropodia are entirely distinct in point of origin from the notopodia. They have rather broad bases and widen asymmetrically at either end from this (Fig. 12), the outer margin cut squarely so as to lie parallel with the general body surface. Seen from end view the outer end of the neuropodium is a long, very narrow oval with the uncini forming a single dark line down its center.

The paleæ are slender and sharply pointed; there are approximately 30 on either side, the apex of the tuft hardly extending beyond the anterior margin of the prostomium. The notopodial setæ are of two kinds, the larger ones having long shafts imbedded in the parapodial tissues, the protruding portion curved and very sharply pointed with a wing on the convex margin (Fig. 14). Among these are others equal to them in length and quite similar in form but extremely slender. The uncini are broad with approximately 10 sharp teeth (Fig. 13). The apices of alternate teeth apparently point in opposite directions like the "set" of the teeth of a saw.

One specimen collected in "Bering Strait between King Island and the two Diomedes."

The type is in The American Museum of Natural History (Cat. No. 1633).

***Amphareta seribranchiata*, new species**

Figures 15 to 17

A single individual 17 mm. long and 4 mm. in greatest width. The anterior region of the body has 14 somites with capillary setæ and 12 of these somites have also uncinigerous neuropodia. The posterior region has 13 uncinigerous somites without capillary setæ. No anal cirri are preserved.

The prostomium (Fig. 15) is rectangular in outline, its length equal to double its breadth and is notched on its anterior margin. The peristomium is closely applied to the prostomium along its lateral margins and extends almost to the anterior end, the portion of the peristomium which joins the prostomium anteriorly being on either side about one-half the width of the latter. At its posterior border, where it is widest, the peristomium is about four times as wide as the prostomium. On either side of the base of the peristomium is a band of 30 or more golden-yellow paleæ arranged in a crescent. These are flattened and sharp pointed at the apex and do not extend as far as the anterior border of the peristomium.

The eight gills lie in a single transverse row with no trace of a median dorsal gap between those of the two sides, and while medial dorsal lines indicate that they do not all arise from the same somite there is nothing to indicate that fact from an anterior view. They seem to arise from the anterior margin of a collar-like flap which overhangs the dorsal surface of the first few somites.

The first notopodium is smaller than the second and this in turn is smaller than the third, but no noticeable change occurs in later somites. The parapodium has essentially the same form as in *A. brevibranchiata* with a notopodium in the form of a truncated cone, but slightly oval in cross section. The anterior neuropodia resemble Figure 12 but posteriorly they become relatively larger and have narrower apices, so that the lateral margins are more nearly parallel to one another.

As in *A. brevibranchiata* there are two kinds of setæ. The larger ones (Fig. 16) are broader than the corresponding ones in the latter species and have more noticeable marginal wings toward the apices. They are pale yellow in color. The smaller ones are colorless, very slender and terminate in very sharp points. They are fewer in number than the large ones and apparently always lie at an angle crossing them. The uncini (Fig. 17) have relatively large teeth, 5 or 6 in number, but agree in other details with those of *A. brevibranchiata*.

Collected in Bering Strait.

The type is in The American Museum of Natural History (Cat. No. 1634).

Terebellidæ

LANICE Malmgren

Lanice heterobranchia Johnson

Lanice heterobranchia JOHNSON, 1901, 'The Polychæta of the Puget Sound Region,' Proc. Boston Soc. Nat. Hist., XXIX, p. 427, Pl. xvii, figs. 172-174.

Two specimens collected in "Bering Strait between King Island and the two Diomedes."