

ADDITIONS TO
THE POLYCHAETOUS ANNELIDS COLLECTED BY
THE UNITED STATES FISHERIES STEAMER
"ALBATROSS," 1907-1910, INCLUDING
ONE NEW GENUS AND THREE
NEW SPECIES

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INTRODUCTION

Of the polychaetous annelids collected in the region of the Philippine Islands by the United States Fisheries steamer *Albatross* in 1907 to 1909 the greater part were described by Treadwell (Bull. U. S. Nat. Mus. vol. 1, pt. 8, 1920) and by Hoagland (Idem, vol. 1, pt. 9). Other material from this same collection was later sent me by Dr. W. L. Schmitt, of the United States National Museum. In the following paper I have recorded some old species not represented in the original lot, as well as descriptions of some new species.

DESCRIPTIONS OF SPECIES

Family POLYNOIDAE

Genus IPHIONE Savigny

IPHIONE MURICATA Savigny

Iphione muricata SAVIGNY, Système des Annélides, 1820, p. 21, pl. 2, fig. 1.—
GRUBE, Annulata Semperiana, Mem. Akad. Imp. Sci. St. Petersburg, vol. 25,
no. 8, 1878, pp. 21, 22.

One specimen collected at Naw Waw, Formosa.

Family APHRODITIDAE

Genus LAETMONICE Kinberg

LAETMONICE NITIDA, new species

Figures 1 to 5

Two specimens collected at Station 5139¹ are evidently closely related to *L. producta* of Grube,² McIntosh³ described a number of

¹ Vicinity of Jolo, 6° 06' N., 121° 02' 30'' E., Feb. 14, 1908, 20 fathoms.

² Monats. K. Akad, zu Berlin, 1877, p. 512.

³ McIntosh, W. C.: Report on the Annelida Polychaeta collected by H. M. S. *Challenger* during the years 1873, 1876. Report on the Scientific Results of the Voyage of H. M. S. *Challenger*, vol. 12, 1885, pp. 39-50.

specimens in the *Challenger* collection as varieties of this species, and it may be that these from the Philippines should be so identified. The main differences between these and those of McIntosh lie in the character of the setae and in the fact that in his varieties the ones which most nearly approach these in other respects have considerable covering of felt which is absent in the Philippine individuals.

The longer specimen has a body length of 22 mm. and a width of 8 mm., the smaller is 15 mm. long and 6 mm. wide. There are 35 somites, and 15 elytra is evidently the normal number, though in neither case were all of these present.

The prostomium (fig. 1), in the smaller specimen is about 0.75 mm. wide, globular in form with the ceratophore of the median tentacle and the two ocular peduncles covering the anterior quarter of its circular outline. Toward the posterior end of the dorsal surface is a decided elevation which posteriorly is continued laterally on either side by a ridge which merges into the base of the prostomium. Its posterior margin is overlapped by a fold from the first somite. The eyes are carried on short peduncles and are rather small, only the dorsal ones being visible from the dorsal surface. The ventral eyes are about the same size as the dorsal and lie a little nearer the outer margin of the peduncle than do the dorsal.

The ceratophore of the median tentacle is nearly one half as broad as the prostomium, its base more or less corrugated and tinged with brown. One specimen had lost the median tentacle and it was broken from the other before an accurate description could be recorded so that the most I can say is that it was slender and longer than the prostomium. The palps are from eight to ten times as long as the prostomium, are smooth as seen under a dissecting lens, but under higher magnification show large numbers of short "cilia" over their entire surfaces. The dorsal cirri are slender and taper gradually toward the end but have a small bulbous swelling toward the apex. They are fully equal in length to the transverse diameter of the body. There is no well-marked ventral groove but the entire ventral surface is covered with minute rounded papillae giving it a rugose appearance.

The body tapers very decidedly at both anterior and posterior ends and the parapodia in these regions are correspondingly small, those at the anterior end extending lateral to the mouth in the customary fashion. Parapodia from the middle of the body have large truncated notopodial lobes and slender cylindrical, neuropodial ones. Arising from the dorsal surface of the lobe and extending posterolaterally over the elytron or the cirrus as the case may be, is a fan-shaped row of slender setae, dark yellowish-brown in color for rather

less than half their length, the remainder being light straw. They taper very decidedly to the apex which is curved (fig. 2.). Ventral to these arises another tuft of chestnut-brown setae of varying lengths but the longest are fully equal to the transverse body diameter. In both specimens they are much disarranged and their normal position is not easy to determine. They have smooth margins and end in a lance-shaped apex with a subapical row of barbs on either side. The pair of these barbs nearest the end are opposite one another while farther down they assume an alternating arrangement (fig. 3.). Rounded papillae like those on the ventral body surface occur sparingly on the notopodial surfaces.

The neuropodium is slender, cylindrical, and covered with globular papillae. About midway of its length is a slender ventral cirrus which does not reach the apex of the neuropodium. The most prominent of the neuropodial setae are, relatively to the size of the neuropodium itself, very heavy, and brown in color becoming lighter in tint toward the outer ends. At the apex they bifurcate asymmetrically (fig. 4.), the larger branch terminating in a gently curved tip while there is a series of lateral teeth between the two branches. Probably through accidental breaking the number of these latter teeth varies, but a fairly typical one is shown in the figure. In most of the parapodia examined, these were the only neuropodial setae to be found but in one specimen one other kind is present. This has a central axis, narrowing to an acute point. Beginning at the point of narrowing and extending toward the apex, are two rows of stout teeth. In some positions of the seta these appear to be opposite one another but they really are both nearer one side of the axis. Figure 5 represents one row of teeth in full face and the other in profile. Material was not available on which to determine the distribution of these setae along the body and I am unable to say whether they are regularly present or absent from any portion. The setae above described are in general much like those figured by McIntosh⁴ but I was unable to find any of the brushlike setae figured in plate 4*a*, figures 8 to 10, in plate 5*a*, figures 2, 4, 8, and 9.

The elytra are white and very delicate in texture and in both specimens are entirely free from foreign matter. The first ones are nearly circular in outline, are small but cover the prostomium. Later ones are more nearly oval. Under high power the surface shows numerous round spots with granular lines running more or less parallel to one another between and around the spots. The elytra completely cover the dorsum.

⁴ McIntosh, W. C.: Report on the Annelida Polychaeta collected by H. M. S. *Challenger* during the years 1873, 1876. Report on the Scientific Results of the Voyage of H. M. S. *Challenger*, vol. 12, 1885, pls. 4*a* and 5*a*.

The peculiar marking on the surface of the elytra recalls the structure of the elytra of *L. pellucida* Moore, from Bering Sea.⁵

Type.—Cat. No. 19206, U.S.N.M.

Family ACOETIDAE

Genus EUPANTHALIS McIntosh

EUPANTHALIS EVANIDA, new species

Figures 6 to 12

Two specimens were collected at Station D 5526, between Siquijor and Bohol Islands, 9° 12' 45'' N., 123° 45' 30'' E., August 10, 1909, 805 fathoms, one the holotype, bears Cat. No. 19208 U. S. N. M. Neither is entire, each retaining only about the anterior 50 somites. Apparently through the action of the preserving fluids all color has been lost even in the eyes which are recognizable only because of their form.

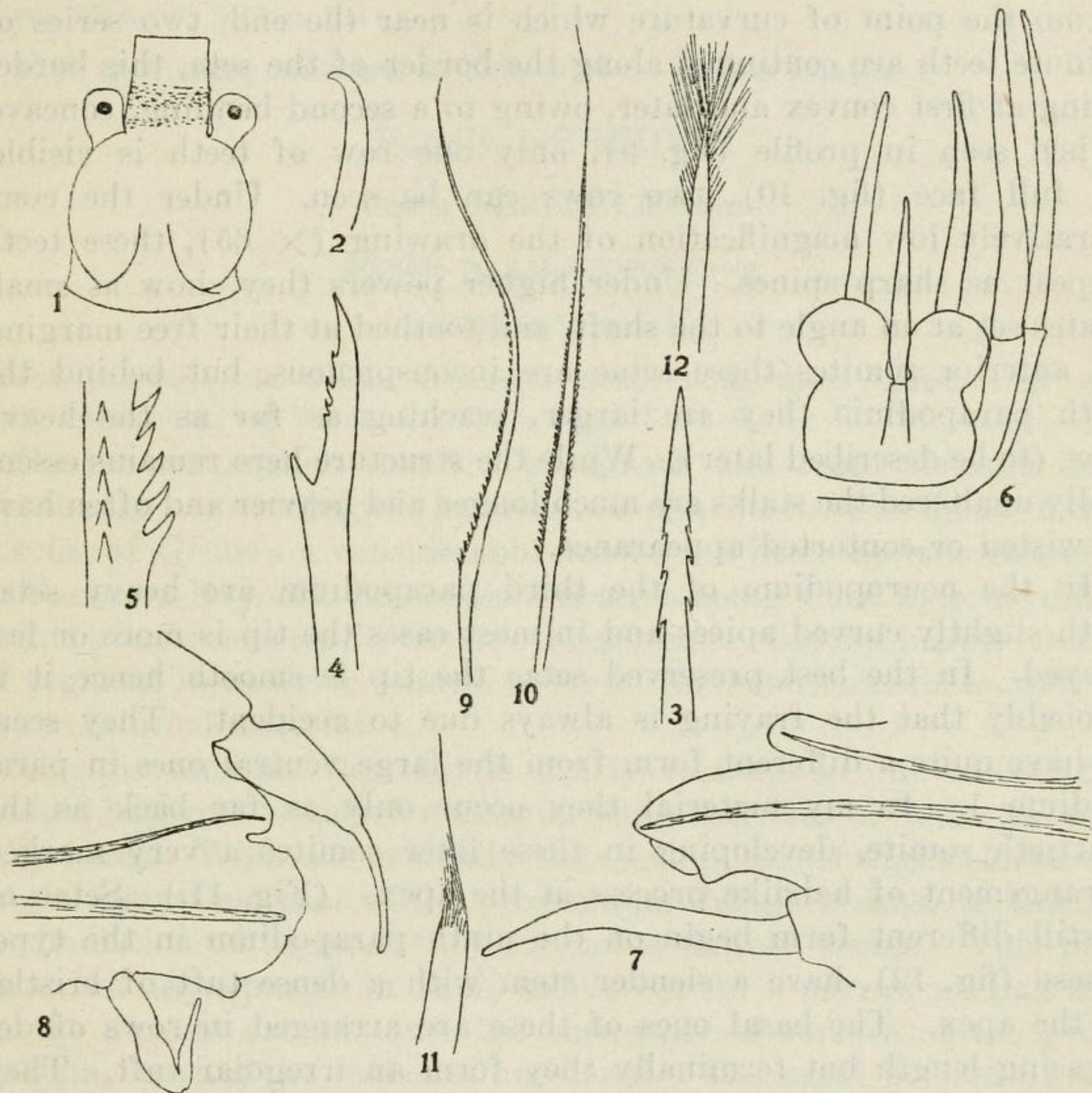
The prostomium of the type has a width of 1 mm. Following somites successively increase up to the region of the eighth, which measures approximately 5 mm. There is posteriorly a gradual decrease in diameter so that somite 50 is hardly more than 2 mm. in width.

The prostomium (fig. 6), is rectangular in general outline, its breadth being only twice its length. The postero-lateral angles are rounded, while the antero-lateral ones are continued into the large sessile eyes which are distinguishable only by their form, any trace of pigment which might have been originally present having been lost. The ceratophore of the median tentacle arises near the posterior margin of the prostomium and extends to about the base of the eye stalks. The terminal joint is slender and tapering and extends about one-half its length beyond the eyes. The lateral tentacles arise from the extreme ventral face of the prostomium. They have about the same diameter as the median tentacle but are somewhat longer. The palps are slender but long and tapering, six or seven times as long as the prostomium. The dorsal tentacular cirrus is about one-half as thick and one-third as long, as the palp. The ventral tentacular cirrus is similar in form to the dorsal but smaller.

The first parapodium has a tuft of very slender setae arising just ventral to the tentacular cirrus. The second has a notopodium in the form of a rounded knob into which an acicula extends and a much larger neuropodium with rounded presetal and pointed postsetal lips. The acicula nearly reaches the surface between the lips. Dorsally there is an elyrophore and ventrally a cirrus which is much longer than the setal lobes. (Fig. 7.)

⁵ Moore, J. Percy: Polychaeta from the Coastal Slope of Japan and from Kamschatka and from Bering Sea, Proc. Acad. Nat. Sci. Philadelphia, 1903, vol. 55, p. 422.

The third parapodium (fig. 8) is noticeably heavier than is the second. The notopodium is still a rounded knob with a tuft of thread-like setae. The ventral cirrus is relatively shorter than it is in parapodium 2. The dorsal cirrus widens suddenly from its attachment to the cirrophore and narrows again to an apex from which extends a finger-shaped process nearly as long as the basal portion.



FIGS. 1 TO 12.—*LAETMONICE NITIDA*, NEW SPECIES. 1, PROSTOMIUM $\times 20$; 2, APEX OF NOTOPODIAL SETA $\times 250$; 3, APEX OF LARGE NOTOPODIAL SETA $\times 68$; 4, APEX OF LARGE NEUROPODIAL SETA $\times 68$; 5, DETAIL OF SMALL NEUROPODIAL SETA $\times 250$. *EUPANTHALIS EVANIDA*, NEW SPECIES. 6, PROSTOMIUM $\times 15$; 7, SECOND PARAPODIUM $\times 45$; 8, THIRD PARAPODIUM $\times 45$; 9, NOTOPODIAL SETA $\times 65$; 10, ANOTHER VIEW OF NOTOPODIAL SETA $\times 65$; 11, LARGE NEUROPODIAL SETA $\times 65$; 12, ANOTHER FORM OF NEUROPODIAL SETA $\times 185$.

Many of the setae are broken and some kinds occur on the second specimen which I could not find on the type, hence the following description includes only those that were actually seen. Other forms may have been lost and the distribution may not be accurately stated owing to losses in some somites. In anterior somites the notopodium carries a tuft of very long and delicate setae most of which have smooth margins but under high power (500 diameters) the larger ones may be seen to have toward the apex very faintly indicated

marginal teeth along the curved edge. In my material these did not appear after the ninth parapodium. In its neuropodium the second parapodium carries a tuft of rather heavy setae curved toward the apices and provided with toothed plates along the apical region. All of these are broken and nothing can be said about their precise shape. Ventral to these is a tuft of slender colorless curved setae. From the point of curvature which is near the end, two series of minute teeth are continued along the border of the seta, this border being at first convex and later, owing to a second bending, concave. When seen in profile (fig. 9), only one row of teeth is visible. In full face (fig. 10), two rows can be seen. Under the comparatively low magnification of the drawing ($\times 65$), these teeth appear as sharp spines. Under higher powers they show as small plates set at an angle to the shaft, and toothed at their free margins. In anterior somites these setae are inconspicuous, but behind the fifth parapodium they are larger, reaching as far as the heavy ones (to be described later). While the structure here remains essentially unaltered the stalks are much longer and heavier and often have a twisted or contorted appearance.

In the neuropodium of the third parapodium are heavy setae with slightly curved apices and in most cases the tip is more or less frayed. In the best preserved setae the tip is smooth hence it is probably that the fraying is always due to accident. They seem to have quite a different form from the large ventral ones in parapodium 1. In my material they occur only as far back as the thirtieth somite, developing in these later somites a very marked arrangement of hairlike process at the apex. (Fig. 11.) Setae of a still different form begin on the ninth parapodium in the type. These (fig. 12), have a slender stem with a dense tuft of bristles at the apex. The basal ones of these are arranged in rows of decreasing length but terminally they form an irregular tuft. They take the place of the thread-like notopodial setae of anterior somites and after about somite 30, they and the toothed variety are the only ones I could find.

There is little of diagnostic value in the few elytra remaining on the specimens. The anterior ones overlap on the same side of the body and the first one or two may perhaps meet across the dorsum. The margins are smooth but they are too much distorted by the preservation to show the original form. Their color is like that of the general surface of the body but no markings are to be seen even under considerable magnification.

Family HESIONIDAE

Genus HESIONE Savigny

HESIONE GENETTA Grube

Hesione genetta GRUBE, Jahresbericht der natur. Sect. der Schles. Gesellsch., 1866, p. 63; Annulata Semperiana, Mem. Akad. Imp. Sci. St. Petersburg, vol. 25, no. 8, 1878, p. 104:

One specimen, collected in tide pool on Tobeia Island.

Family NEREIDAE

Genus NEREIS Linnaeus

NEREIS MASALACENSIS Grube

Figures 13 to 17

Nereis masalacensis GRUBE, Annulata Semperiana, Mem. Akad. Imp. Sci. St. Petersburg, vol. 25, no. 8, 1878, p. 75, pl. 5, fig. 4.

On the assumption that the paragnath and tooth formula does not change in assuming the heteronereis phase, I have assigned to this species of Grube's a considerable number of heteronereids collected at Varadera Bay, Mindanao, identification being aided by some other points of agreement with Grube's description. Lateral brown streaks of pigment in anterior somites occur in the heteronereids as well as in the original material.

The prostomium (fig. 13) is nearly rectangular in outline, the middle half of the anterior margin being extended to form the tentacle bases. What are evidently the eyes appear as slight elevations on the lateral margins of the prostomium though because of a dense accumulation of pigment they are not definitely visible. This pigment is a dense purple in color, and except for a narrow median line on the dorsum extends over the entire dorsal surface of the prostomium, leaving the tentacles uncolored. The basal portion of the palp is uncolored, but its apex is pigmented, though of a lighter color than the prostomium.

In the specimen figured the protruded pharynx distorts the peristomium. In another this is seen to be distinctly biannular, and much shorter dorsally than ventrally. A rounded nuchal lobe extends from its anterior border over the posterior end of the prostomium. The peristomium is pigmented and each of the following 13 somites has on either side a pigment spot whose size becomes smaller successively from somite to somite. The postero-dorsal is the longest of the tentacular cirri, its apex in the male reaching to the twentieth somite or the end of the anterior body region.

In the male, the first 20 somites form the anterior body region. The first three dorsal cirri are acute oval in outline, with filamentous apices and the ventral ones are similar to them in form but are smaller. (Fig. 14.) The fourth and fifth cirri are more elongated but retain in general this distinction between the basal portion and the filamentous tip, while from the sixth to the twentieth the cirri are long and slender, reaching beyond the tips of the setae. (Fig. 15.) In these somites the setae lobes become heavier and blunter than farther forward but in other respects they do not noticeably differ.

In the modified region characteristic heteronereis changes appear as indicated in Figure 16.

In the anterior region of the male are two kinds of setae. The first, found in both noto- and neuropodium, has a long slender, cambered shaft and a very long delicate, terminal joint which narrows to a very sharp point and has a row of teeth along one margin. The second variety, found only in the neuropodium, is similar to the first in the form of its shaft, but the terminal joint is blunt-pointed and short, with a row of stiff spines along one margin. (Fig. 17.) These spines are as long as the transverse diameter of the main part of the terminal joint. In the modified portion the setae have the form characteristic of this state; a prominent cambered shaft and a broad, oval terminal joint toothed along one margin.

In the females the number of modified somites varies from 18 to 25. The females have a setal and parapodial structure essentially like those of the males except that the distinction between the first three, and the later dorsal cirri is much less marked. The larger female are about 35 mm. long and the males about 25 mm.

Family SABELLARIIDAE

MONORCHOS, new genus

Body-form characteristic of the family: Opercular lobes fused except for a shallow median ventral incision. On the margin of each opercular lobe is a single row of paleae, the two rows overlapping at their ventral ends but separated dorsally. A single pair of dark brown heavy hooks lies in the space between the dorsal ends of the rows of paleae. On the dorsal median surface of the fused opercular lobes are two rows, each three or four in number, of short, sharp dark brown spines, arranged in an inverted V with the apex near the margin of the ventral incision. On the ventral surface the opercular stalk is folded so as to form a deep groove leading back to the mouth. A single row of tentacles lies on either margin of this groove. Just anterior to the mouth is a pair of long palps, capable of being retracted into the groove.

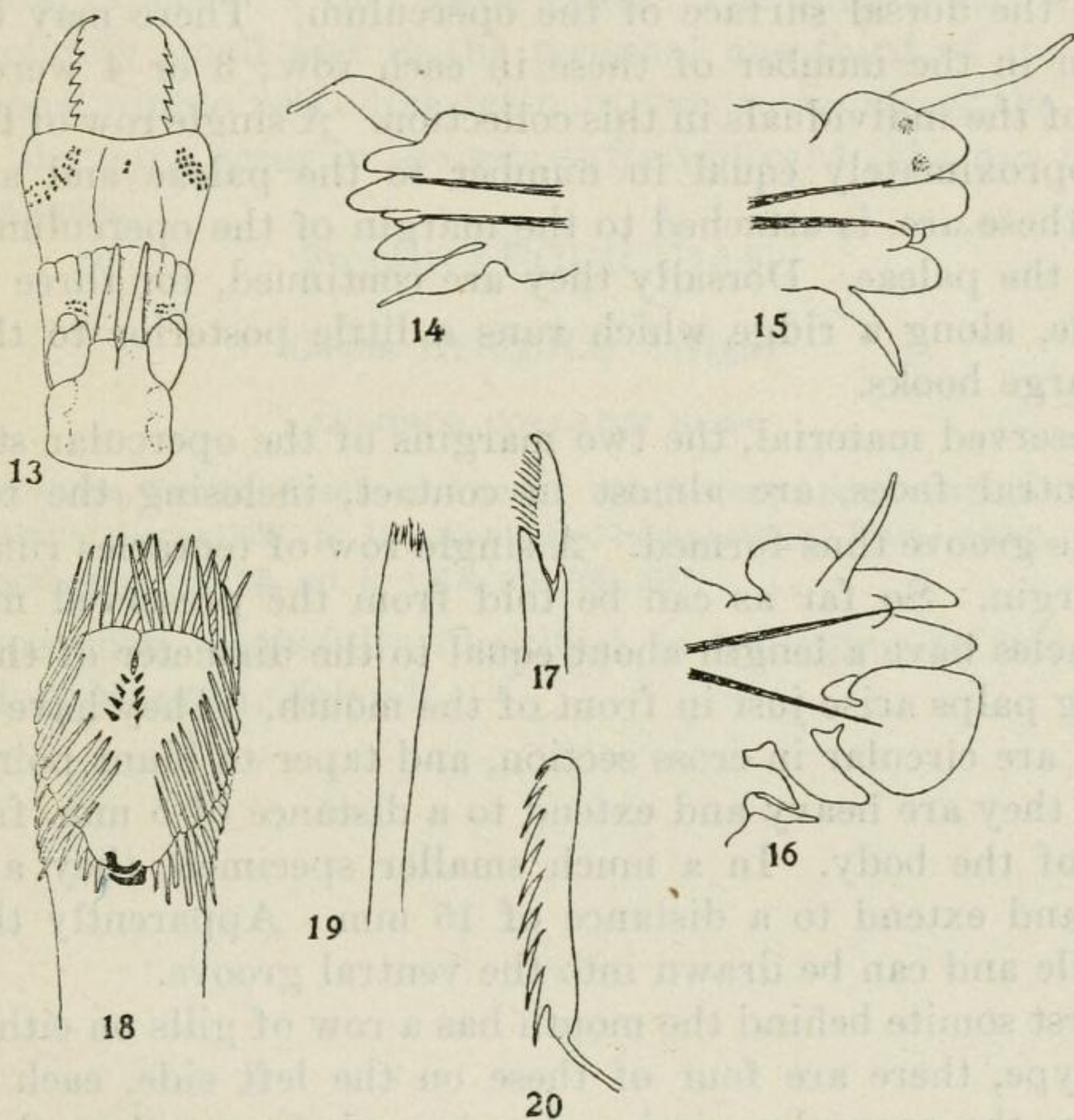
This differs from other genera in that it has only one row of paleae, the place of the inner row being taken by the V-shaped arrangement of hooks.

Genotype.—*Monorchos philippinensis*, new species.

MONORCHOS PHILIPPINENSIS, new species

Figures 18 to 20.

A number of individuals were collected at D 5526, between Siquijor and Bohol Islands, $9^{\circ} 12' 45''$ N., $123^{\circ} 45' 30''$ E., August 10, 1909,



FIGS. 13 TO 20, *NEREIS MASALACENSIS* GRUBE. 13, PROSTOMIUM $\times 20$; 14, THIRD PARAPODIUM OF MALE $\times 45$; 15, TENTH PARAPODIUM OF MALE $\times 45$; 16, MODIFIED PARAPODIUM $\times 45$; 17, APEX OF COMPOUND SETA $\times 250$. *MONORCHOS PHILIPPINENSIS*, NEW SPECIES. 18, ANTERIOR END $\times 2.5$; 19, THORACIC SETAE $\times 45$; 20, UNCINUS $\times 185$.

805 fathoms, (one, the holotype, bears Cat. No. 1920 F, U.S.N.M.). Although none retained more than the anterior regions of the body, these are so characteristically different from other genera in this family that the formation of a new genus seems necessary.

The type of the species measures 25 mm. from the anterior end of the operculum to the beginning of the uncinigerous tori and has an opercular width of 6 mm. Except for the median ventral incision, the opercular lobes are completely fused, and their dorsal surfaces are smooth except for indistinct ridges starting from the

margins and converging toward the postero-dorsal median margin, not shown in the figure. In some specimens the margins of the ventral incision are thickened and extend backwards as a sort of lip, as far as the V-shaped row of hooks, which are themselves sometimes carried on an elevation continuous with this lip. This structure does not show in all individuals and may be due to the preservation. On either side of the operculum is a row of paleae, about 18 on a side. The rows overlap ventrally but are separated dorsally by a considerable gap. (Fig. 18.) In this gap is a pair of very heavy hooks. Two rows of dark spines, grouped to form an inverted V lie on the dorsal surface of the operculum. There may be some variation in the number of these in each row; 3 or 4 were found in each of the individuals in this collection. A single row of flattened cirri, approximately equal in number to the paleae and about as long as these are, is attached to the margin of the operculum at the bases of the paleae. Dorsally they are continued, for three or four on a side, along a ridge which runs a little posterior to the level of the large hooks.

In preserved material, the two margins of the opercular stalks on their ventral faces, are almost in contact, inclosing the tentacles inside the groove thus formed. A single row of tentacles runs along each margin. So far as can be told from the preserved material, the tentacles have a length about equal to the diameter of the body. Two long palps arise just in front of the mouth. They have smooth surfaces, are circular in cross section, and taper to blunt points. In the type they are heavy and extend to a distance of 5 mm. from the surface of the body. In a much smaller specimen, they are very slender and extend to a distance of 15 mm. Apparently they are contractile and can be drawn into the ventral groove.

The first somite behind the mouth has a row of gills on either side. In the type, there are four of these on the left side, each shaped much like the opercular cirri and not much larger than they, and only two on the right side, one of these, however, being more than twice as broad as any of the others. The four following somites have each a small ventral seta tuft and a dorsal elevated torus carrying a row of heavy spines. The first of these tori is much the smallest. Behind this region each somite has smaller but very prominent tori and gills. The latter are too poorly preserved for accurate description, but are relatively long and narrow, tapering to an acute point and are pigmented. On the torus is a row of pectinate uncini.

The opercular paleae are light straw in color and apparently have rounded tips, though they were all badly broken in the material I had. The thoracic paleaelike setae have much the same form as

these but are longer and more slender. They are faint straw color, with slight darkening toward the ends and apparently have normally acute tips, though in all that I could find these were frayed. (Fig. 19.) The uncinae of the thoracic tori (fig. 20), have 8 or 9 double rows of sharp hooklike teeth, of which the apical one is the smallest. Figure 20 is drawn in profile and shows only one row of the teeth. The base of the uncinus is prolonged into a very slender rod, whose length I was unable to determine with accuracy. It is certainly many times as long as the uncinus itself. Ventral to the torus is a tuft of fine setae of two sorts. One kind is long and slender and tapers to a very acute apex. The other is larger though still absolutely small and in the terminal one third of its exposed portion has minute plate-like teeth in two rows, along the margin. Similar fine setae occur in the seta tufts ventral to the tori carrying the large setae.

Family LEODICIDAE

Genus LYSIDICE Savigny

LYSIDICE COLLARIS Grube

Lysidice collaris GRUDE, Beschreib, neuer von Ehrenb. gesammelt Annel., Berl. Akad, Monatsber., 1869, p. 15; Annulata Semperiana, Mem. Akad. Imp. Sci. St. Petersbourg, vol. 25, no. 8, 1878, pp. 166, 167.

One specimen, doubtfully identified as belonging to this species, collected at Macassar Island.



these are arranged and more slender. They are faint green color with slight darkening toward the ends and apparently more than usually sensitive to light. I found that these were found (Fig. 12). The number of the thoracic feet (Fig. 13) is 10 double rows of sharp hook-like teeth of which the apical one is the largest. I found 20 is shown in profile and shows only one row of the teeth. The base of the organ is produced into a very slender foot whose length I was unable to determine with accuracy. It is certainly more than as long as the anterior head. I found to the tooth is a part of the entire of two rows. The hind is long and slender and curves to a very acute apex. The other is larger though still absolutely small and in the terminal one third of its exposed portion has minute plate-like teeth in two rows along the margin. Similar fine teeth occur in the setae which extend to the foot carrying the large setae.

Family LIODICIDAE

Genus LYSDICH Baskin

LYSDICH CULICIDAE

The following Genus is described from the material of the family Lyodicidae. It is named in honor of the author of the family, Dr. Baskin, who has collected many of the specimens of this family. It is named in honor of the author of the family, Dr. Baskin, who has collected many of the specimens of this family.

This specimen is definitely identified as belonging to this species collected at Massachusetts Island.

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