

POLYCHAETOUS ANNELIDS COLLECTED BY THE
UNITED STATES FISHERIES STEAMER "ALBATROSS"
DURING THE PHILIPPINE EXPEDITION OF 1907-1909.

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INTRODUCTION.

The collection of Annelids described here is extensive but in many cases poorly preserved. Specimens too mutilated for identification are not mentioned in the following list; also, vials containing only tubes have in some cases been discarded. In descriptions of new species I have endeavored to include drawings in sufficient numbers to supplement the verbal descriptions, thus, I believe, eliminating the errors in identification which often result from such descriptions. I am indebted to Prof. A. L. Treadwell, of Vassar College, for the use of the collection.

The following families are represented:

Syllidae.	Cirratulidae.
Hesionidae.	Terebellidae.
Aphroditidae.	Ampharetidae.
Nereidae.	Capitellidae.
Nephtydididae.	Opheliidae.
Amphinomidae.	Chlorhaemidae.
Leodicidae.	Sabellidae.
Glyceridae.	Hermellidae.
Spionidae.	

DESCRIPTION OF SPECIES.

Family SYLLIDAE.

Genus MYRIANIDA Milne-Edwards.

MYRIANIDA TERESETA, new species.

Plate 46, figs. 1-3.

Type.—Cat. No. 18942, U.S.N.M. A sexually mature female of 114 somites (incomplete). Length, 17 mm.; greatest width, not quite 2 mm.

Head with width about twice length (fig. 1). No palps. Three moderately long tentacles showing no segmentation. Eyes four, reddish; the posterior pair dorsal, the anterior pair lateral, with lenses not seen from the dorsal surface. The stippling in figure 1 represents the part of the anterior eyes seen through the dorsal integument.

First somite triangularly shaped dorsally, with apex directed anteriorly. Tentacular cirri four pairs, of which the more ventrally placed are short, the dorsally placed equaling the tentacles in length. Second somite rectangular, setigerous.

Parapodia with blunt dorsal lobe (fig. 2). Dorsal cirrus heavy, not as attenuated as tentacles. Ventral cirrus lacking. Setae of two kinds. Dorsal long, slender, and tapering, extending beyond the dorsal cirrus. Ventral equally slender, shorter, and articulated. The terminal part is very minute; the basal part club-shaped and provided with fine teeth (fig. 3).

Color of alcoholic specimen brownish yellow.

Collected at San Miguel Harbor, Ticao Island.

Family HESIONIDAE.

Genus HESIONE Savigny.

HESIONE INTERTEXTA Grube.

Hesione intertexta GRUBE (1878), p. 102, pl. 6, fig. 5.

Collected at station D5355, Balabac Light, North Balabac Strait, 44 fathoms, coral and sand bottom.

Genus IRMA Grube.

IRMA ANGUSTIFRONS Grube.

Irma angustifrons GRUBE (1878), p. 108, pl. 6, fig. 7; pl. 15, fig. 12.

Collected at station D5149, Sirun Island, 10 fathoms, coral and shell bottom.

Family APHRODITIDAE.

Genus POLYNOE Savigny.

POLYNOE PLATYCIRRUS McIntosh.

Polynoe platycirrus MCINTOSH (1885), p. 111, pl. 3, fig. 4; pl. 16, fig. 2.

Collected at station D5518, Point Tagolo Light, Mindanao, 200 fathoms, gray mud and Globigerina bottom, temperature 54.0°.

POLYNOE POLYCHROMA Schmarda.

Polynoe polychroma SCHMARDA (1861), p. 153, pl. 31.

Collected at station D5355, Balabac Light, North Balabac Strait, 44 fathoms, coral and sand bottom.

Genus *IPHIONE* Kinberg.*IPHIONE FUSTIS*, new species.

Plate 46, figs. 4-8.

Type.—Cat. No. 18941, U.S.N.M. Specimen young. Length, 5.2 mm. Greatest width, 5 mm. Body oval, narrowing anteriorly and posteriorly. Number of somites, 26. Scales, 13 pairs.

Head (fig. 4) 3 mm. longer than broad. Palps, 3.5 times as long as head, with longitudinal rows of papillae. Tentacular cirri, two on each side, extending to end of palps; borne on basal portion one-half length of palps. Tentacles, two, converging toward the median line anteriorly. Blunt anteriorly directed lobe in place of median tentacle. Eyes, two pairs, posterior pair on postero-lateral margin of the head. Anterior pair a short distance in front of these, but so placed as to be scarcely seen from the dorsal surface.

Elytra (fig. 5) reniform, divided and subdivided by honeycomb reticulum. Postero-lateral surface of dorsal side armed with cudgel-like spines. First elytra ovate.

Parapodia (fig. 6) small, not divided. Dorsal cirrus long, provided with papillae, extending to ends of dorsal setae. Ventral cirrus extending to lateral edge of parapodium; provided with papillae. Dorsal setae bundle very thick, arising anteriorly and just medianly to ventral setae bundle.

Setae of two kinds. Dorsal (fig. 7) long and slender with naked tip. Subterminal portion provided with leaf-like appendages, gradually increasing in size just below tip, but soon becoming uniform. Ventral (fig. 8) heavy, yellow, with fine irregular serrations and naked, blunt tip.

Collected at station D5141, Jolo Light, 29 fathoms, coral sand bottom. Paratypes collected at Tanguingui Island Light, 30 fathoms, fine sand bottom; North of Cebu; Caguayan Point, off east coast Leyte Island, 8 fathoms.

Genus *LAGISCA* Malmgren.*LAGISCA? HEXACTINELLIDAE* McIntosh.

Lagisca? hexactinellidae MCINTOSH (1885), p. 94, pl. 4, fig. 5; pl. 12a, figs. 14-16.

Specimen 15 mm. in length. Missing parts identical with those missing in McIntosh's specimen. No data given as to habitat of form.

Collected at station D5536, Apo Island, 279 fathoms, green mud bottom.

LAGISCA OCULESCENS, new species.

Plate 47, figs. 1-7.

Type.—Cat. No. 18943, U.S.N.M. Length of specimen, 25 mm. Number of somites, 38. Number of scales, 15. Greatest width, 7 mm. Body attenuate posteriorly.

Head (fig. 1) somewhat more than twice as long as broad, prolonged anteriorly into minute lateral peaks. Median tentacle broken. Lateral tentacles attached below median, extending a short distance beyond lateral lobes of head. Palps about three times as long as head, longitudinally striped. Tentacular cirri, two pairs, reaching two-thirds of length of palps, borne on long basal portion. Eyes, two pairs, completely coalesced, forming roughly S-shaped markings on the dorsal surface of the head.

Elytra (fig. 2) roughly ovate, with ruffling edge; crowded into almost vertical position posteriorly by the pressure of the dorsal setae. Median posterior area of elytron covered with ornate golden-brown spines (fig. 3).

Parapodia (fig. 4) with noto- and neuro-podia, each drawn out into bluntly pointed processes laterally. Dorsal cirri long, sharply attenuated at end, borne on basal portion. Ventral cirri small and short.

Setae of three kinds; all light yellow. Dorsal (fig. 5) stout, with blunt naked tip and provided with minute serrations throughout remainder of length. Ventral two kinds: many (fig. 6) slender, bidentate, provided with long barb-like teeth; a few (fig. 7) bidentate, and provided with needle-like serrations.

Type either from Jolo Anchorage, Jolo, or from Kopoposang Light, Macassar Strait, 400 fathoms hard bottom.

Genus PANTHALIS Kinberg.**PANTHALIS MELANONOTUS Grube.**

Panthalis melanonotus GRUBE (1878), p. 48, pl. 4, fig. 1.

One specimen of this species was found. The first seven pairs of elytra were lacking, so that it was impossible to determine to what extent they had overlapped. It agreed in all respects with Grube's description, except that it possessed small paired tentacles situated immediately beneath the ommatophores. Number of somites, 90.

Collected at station D5209, Taratara Island, 20 fathoms, green mud bottom.

PANTHALIS ADUMBRATA, new species.

Plate 46, figs. 9-14.

Type.—Cat. No. 18944, U.S.N.M. Length of specimen 48 mm., incomplete. Length of a complete paratype 63 mm. Number of somites, 53; scales, 24 pairs. Width, 12 mm.

Head (fig. 9) with length (including peduncles) about three times the width. Palps somewhat less than twice as long as entire head, tapering at end, faintly papillose. Tentacular cirri, two on each side, borne on long basal portion, extending three-fourths of length of palp. Median tentacle slender, borne on short basal portion, extending slightly beyond peduncles. Paired tentacles present, equal in length to the median tentacle, but not seen from the dorsal surface. Eyes, two pairs; anterior large, reddish, and borne on peduncles; posterior small, gray, and situated dorsally equidistant from base of peduncles and median tentacle.

Dorsal surface of first seven somites conspicuously tuberculated in type. Not tuberculated in paratype.

Eltrya (fig. 10) oval, grayish, with black edging medianly and posteriorly, giving the whole a shaded appearance.

Parapodia (fig. 11) stout, with small antero-dorsal lobe separated by a deep cleft. Dorsal cirrus stout, reaching beyond body of parapodium. Ventral cirrus small, not reaching to edge of parapodium.

Setae of three kinds. Dorsal long, slender, provided with hair-like points along the terminal portion (fig. 12); subterminal portion slightly enlarged. Middle setae (fig. 13) heavy, yellow, bluntly pointed terminally and provided with a group of fine needle-like teeth just below the termination. Ventral setae (fig. 14) like the dorsal, strongly serrated along the enlarged subterminal portion, the serrations becoming smaller toward the tip. The setae did not cover the scales dorsally in any part of the body.

Type collected at Dumurung Point, Masbate Shore, or Tinakta Island, 10 fathoms, coral sand bottom. Paratypes collected at stations D5157 and D5158, Tinakta Island, 18 fathoms, fine sand bottom.

This species resembles *Panthalis panamensis*, Chamberlin.¹ The differences between the two species are the coloration of the ommatophores or peduncles, the shape of the head, the absence in *P. adumbrata* of the finer setae in the dorsal series and the absence in *P. abumbrata* of the lash-like process in the median setae. The last may be due to breakage.

Family NEREIDAE.

Genus NEREIS Linnaeus.

NEREIS MASALACENSIS Grube.

Nereis (Lycoris) masalacensis GRUBE (1878) p. 75, pl. 5, fig. 4.

Collected at Varadero Bay and at station D5146, Suladé Island, 24 fathoms, coral sand and shell bottom.

¹ 1919, p. 86, pl. 11, fig. 4-8; pl. 2, fig. 1-6.

NEREIS ZONATA Malmgren.

Neries zonata MALMRGEN, Fauvel (1914), p. 177, pl. 14, figs. 1-17.

Epitokous form with paragnaths coalesced.

Collected at station D5149, Sirun Island, 10 fathoms, coral and shell bottom.

NEREIS (LEPTONEREIS) INERMIS, new species.

Plate 47, figs. 8-12.

Type.—Cat. No. 18947, U.S.N.M. An incomplete specimen of 30 somites. Length, 16 mm.; greatest width, just behind head, 5 mm.

Head (fig. 8) 6-angled, with length equal to greatest width. Palps more than twice as long as head, with ends distorted and unequal because of poor preservation. Tentacles extending three-fourths of length of palps, borne on anteriorly directed lobes of head. Tentacular cirri, four pairs, the longest extending posteriorly as far as the twelfth setigerous somite. Eyes, four pairs, all provided with lenses, situated in the posterior region of the head. Anterior pair larger with lenses directed antero-laterally; posterior pair nearer the mid line, with lenses directed dorsally. Proboscis without armature of any kind.

Parapodia varying slightly, the change being gradual antero-posteriorly. Typical anterior parapodium (fig. 9) divided into noto and neuro podia. Notopodium divided into two lobes, the acicula being in the ventral one. Dorsal cirrus arising median to base of dorsal lobe and extending beyond it. Neuropodium divided into two lobes, the dorsal of which is subdivided for a short distance, and contains acicula. Ventral cirrus short, and arising medianly and ventrally to ventral lobe. Posterior parapodium (fig. 10) with same parts. Dorsal cirrus greatly elongated. Dorsal lobe of notopodium shortened. Ventral lobe greatly increased. Ventral cirrus elongated.

Setae from anterior parapodium of setose variety. First variety, setose seta (fig. 11) occurring in dorsal and ventral bundles. Blade finely serrated. Second variety, setose setae (fig. 12) occurring in ventral bundle. Blade finely but deeply serrated. Setae of posterior parapodia essentially the same as to form, but more slender.

Collected at station D5346, Cliff Island, 7 fathoms, mud bottom.

NEREIS (HETERONEREIS) CAERULEIS, new species.

Plate 47, figs. 13-16; plate 48, figs. 1-4.

Type.—Cat. No. 18948, U.S.N.M. Specimen, 90 mm. in length, incomplete posteriorly. Greatest width, 10 mm. Number of so-

mites, 167. Color, grayish, with marine blue mid-dorsal stripe. Light refractive spot just median to dorsal lobe of parapodium on each somite; most conspicuous on heteronereid somites. Ventral surface milky white.

Head (pl. 47, fig. 13) iridescent. Length somewhat less than twice breadth. The figure shows the head in a flattened condition for purposes of comparison. In the specimen the head was bent directly ventrally along a line just in front of the posterior eyes. Palps, two, the same length as the head; provided with terminal articles not seen in the figure. Tentacles short and bluntly pointed. Tentacular cirri, four pairs, the longest pair slightly exceeding the breadth of the peristomium. Eyes, two pairs; posterior pair small, provided with lenses and situated nearer the mid line than the anterior; anterior pair large, provided with lenses and directed laterally.

As the pharynx was not extruded it is represented diagrammatically (pl. 47, figs. 14, 15). Paragnath formula as follows: I, two small groups; II, absent; III, three groups, the central one the largest; IV, crescent-shaped group with heavier teeth anteriorly; V, three groups roughly triangular in shape with teeth in longitudinal rows and heavier teeth anteriorly; VI, single row of heavy black teeth; VII, zigzag group across ventral side; VIII, gradually decreasing continuation of VI.

First 28 pairs of parapodia in the ordinary nereid condition (pl. 47, fig. 16). Notopodium subdivided into three lobes, the dorsal cirrus situated on the most dorsal of these and extending to the limit of the notopodium laterally. Middle and ventral lobes pigmented with brown laterally. Acicula passing to base of ventral lobe. Neuropodium subdivided into three lobes, with acicula passing to base of dorsal lobe. Middle lobe shorter and pigmented; ventral lobe still shorter and bearing ventral cirrus. Setae bundle on dorsal lobe. Twenty-ninth and following parapodia in heteronereid condition (pl. 48, fig. 1). Notopodium subdivided into three lobes: the dorsal large and flat bearing a short cirrus subterminally and a large finger-like lobe ventrally; middle short and bearing setae; ventral lobe intermediate in size. Neuropodium subdivided into three lobes: the dorsal pointed and provided with acicula and seta bundle; the middle resembling the ventral lobe of the notopodium; the ventral flat and fan shaped, bearing a small ventral cirrus and provided dorso-anteriorly with a vascularized area. Extra lobe, large and faintly bordered with pink borne posteriorly by neuropodium. Margins of all lobes provided with papillae.

Setae on heteronereid parapodium of two kinds, the most abundant of the large natatory type (pl. 48, fig. 2) with one edge finely ser-

rated. Setose type rare (pl. 48, fig. 3). Setae of thirteenth parapodium of two kinds, the most abundant of the falcate type (pl. 48, fig. 4) with short terminal portion without serrations. Setose type rare. Similar to those of heteronereid parapodium but with shorter terminal blade.

Type collected from Limbe Strait and paratypes from Leyte Sound, Port Dupon.

Family NEPHTHYDIDAE.

Genus NEPHTHYS Cuvier.

NEPHTHYS MIRASETIS, new species.

Plate 48, figs. 5-8.

Type.—Cat. No. 18950, U.S.N.M. A complete specimen, 45 mm. in length, including extruded proboscis. Width, 4 mm., not including setae. Number of somites, 79, the last nine greatly reduced in size and terminating in a single anal cirrus.

Head (fig. 5) square, with rounded corners. Posterior area faintly marked with grayish oblong spots. Tentacles conical; subtentacles similar but longer. Proboscis set with numerous rows of papillae, gradually decreasing in size posteriorly. Not more than nine in a row in type specimen. Mouth a dorso-ventral slit surrounded by distal papillae.

Parapodia (fig. 6) divided into noto- and neuro-podia. Dorsal lamella of notopodium moderate in size. Gill large and curved, borne on posterior face of notopodium. Dorsal cirrus simple, arising near base of gill. Neuropodium provided with small simple gill dorsally. Ventral cirrus conical, not reaching beyond parapodium. Ventral lamella not prominent anteriorly, gradually increasing to slightly larger dimensions posteriorly.

Setae of three kinds. Most abundant simple non-serrated setae of capillary type. Barred setae (fig. 7) present at base of setae bundle in most parapodia. Bidentate setae (fig. 8) with extra serrations present at base of setae bundle in a few parapodia.

Collected at station D5161, Tinakta Island, 16 fathoms, fine sand and black specks bottom.

Family AMPHINOMIDAE.

Genus AMPHINOME Brugière.

AMPHINOME ROSTRATA Pallas.

Amphinome rostrata PALLAS, McIntosh (1885), p. 21, pl. 1, fig. 7.

Collected at station D5332, Apo Light on "driftwood at surface."

Genus **CHLOEIA** Savigny.**CHLOEIA FLAVA** Savigny.

Chloeia flava SAVIGNY, Grube (1878), p. 10.

Two specimens, one of which is a young form previously described by Grube (1874) as *Chloeia ceylonica*.

Large specimen collected at station D5136, Jolo Light, 22 fathoms, sand and shell bottom; another from Jolo Anchorage, Jolo, electric light, March 5, 1908; and a small specimen collected at Opol, Mindanao Island.

Genus **EURYTHOE** Kinberg.**EURYTHOE PACIFICA** Kinberg.

Eurythoe pacifica KINBERG, McIntosh (1885), p. 27, pl. 2, figs. 3-4.

Collected at station D5147, Sulade Island, 21 fathoms, coarse sand and shell bottom.

Genus **EUPHROSYNE** Savigny.**EUPHROSYNE TRIPARTITA**, new species.

Plate 48, figs. 9-12.

Type.—Cat. No. 18951, U.S.N.M. Length, 15 mm. Elliptical in form, tapering evenly at both ends; 9 mm. in greatest width. Dorsal bare area, 3 mm. in greatest width—i. e., one-third the width of body. Number of somites, 37.

Caruncle (fig. 9) extending to middle of fifth somite, consisting of median vertical crest and horizontal portion thickened laterally, giving the whole a three-lobed appearance. Median tentacle short and thick, with posterior eye spots at its base. Antennae short and small, situated just above the anterior eye spots; not seen from the dorsal surface. Mouth bounded posteriorly by fourth somite. Palps large and ovate, their broader posterior margins reaching the fourth somite.

Parapodia with heavy setae bundle ventrally. Ventral cirrus arising immediately posterior to setae bundle, so as to appear to emerge from it. Dorsal cirrus short, not extending beyond branchiae. Lateral cirrus between second and third branchiae, extending beyond them in length. Branchiae, eight or nine on each side, all ramose with trefoil termination to each branchlet (fig. 10).

Ventral setae (fig. 11) heavy, bidentate, without serrations. Dorsal setae (fig. 12) cleft, with heavy serrations within the cleft.

Collected at station D5250, Linao Point, Gulf of Davao, 23 fathoms, coral and sand bottom.

Paratype.—Locality not recorded.

Genus **HERMODICE** Kinberg.**HERMODICE DISTINCTA**, new species.

Plate 48, figs. 13-15.

Type.—Cat. No. 18953, U.S.N.M. Specimen large and well preserved. Length, 145 mm.; breadth, 10 mm., with gradual narrowing throughout last 10 somites. Number of somites, 91. Body rectangular in section, with dorso-ventral flattening throughout last somites. Dorsal surface dull white, irregularly streaked with bluish gray. Ventral surface dull white with median longitudinal stripe of bluish gray. Anus in last somite, dorsal, surrounded by elevated fold.

Caruncle (fig. 13) triangular in shape, with apex reaching as far as fourth somite posteriorly. Composed of a central, brownish, vertical lamella with broad anterior end between the eyes, and lateral vertical lamellae (10 on each side), paired and decreasing posteriorly. Dorsal two-thirds of lateral lamellae corrugated anteriorly and posteriorly.

Eyes (fig. 13) four pairs, large, reddish, and provided with lenses. Posterior pair directed dorso-laterally; anterior pair directed ventro-laterally. Median tentacle arising between posterior eyes; somewhat more than half as long as caruncle.

Oral lobe provided with paired superior and inferior tentacles, somewhat shorter than the median tentacle. Mouth longitudinal, extending to edge of fifth somite posteriorly.

Parapodia (fig. 14) divided into dorsal and ventral parts. Dorsal setae bundle borne on stout darkly pigmented lobe, also bearing dorsal cirrus. Gill, large and bush-like, situated just posterior to dorsal lobe. Ventral lobe pale, bearing ventral cirrus and large ventral setae bundle.

Dorsal setae of two kinds. First variety (fig. 15) rare, simple, slender, with tip finely serrated. Second variety abundant, simple, smooth, considerably longer and more slender than first variety. Ventral setae of same character. Serrated setae slightly heavier than those in dorsal bundle.

Collected at Opol, Mindanao Island.

Genus **NOTOPYGOS** Grube.**NOTOPYGUS HISPIDA**, new species.

Plate 48, fig. 16; plate 49, figs. 1-3.

Type.—Cat. No. 18954, U.S.N.M. Length, 27 mm.; greatest width, 16 mm. Number of somites, 31. Body elliptical, with prominent white setae shading to Nile green posteriorly in paratype. Body a

dull brown. Anus situated dorsally between twentieth and twenty-first somites. Terminal cirri short and stout.

Head (pl. 48, fig. 16) rounded. Tentacles three, of equal length, the median extending posteriorly for a short distance over the caruncle. Tentacular cirri two, arising at base of first somite. Eyes, two pairs; most posterior pair situated on each side of median portion of caruncle; anterior pair scarcely seen from the dorsal surface. Caruncle large, extending to anterior border of seventh somite. Composed of a middle vertical plicated crest and two horizontal plicated portions. Mouth a longitudinal slit surrounded by oral lobe and extending to anterior edge of third somite.

Parapodia (pl. 49, fig. 1) divided into dorsal and ventral lobes. Dorsal cirri two. The more lateral jointed and borne on a basal portion emerging from the dorsal lobe with the dorsal setae bundle. More median arising near base of gill and extending for short distance beyond gill. Ventral cirrus borne on ventral lobe just below setae bundle. Gills palmate in form, beginning on fifth somite and situated just median to dorsal lobe of parapodium.

Dorsal setae of two kinds—simple tapering variety (pl. 49, fig. 2) and smooth bifid variety. Ventral setae all smooth bifid (pl. 49, fig. 3).

Port Maricabau, anchorage, electric light.

Paratype obtained from station D5249, Lanang Point, Gulf of Davao, 23 fathoms, coral and sand bottom.

Family LEODICIDAE.

Genus LEODICE Savigny.

LEODICE (EUNICE) COLLARIS Ehrenberg.

Eunice collaris EHRENBURG, Grube (1878) p. 158, pl. 9, fig. 3.

Specimens collected at station D5165, Observation Island, 9 fathoms, coral bottom. Small specimens collected at station D5157, Tinakta Island, 18 fathoms, fine sand bottom.

LEODICE (EUNICE) APHRODITOIS (Pallas).

Eunice aphroditois (PALLAS) Grube, 1878, p. 146.

Collected in tide pool at Batan Island and at Verde del Sur Island, Palawan 8–10 feet, coral, gravel, and sand bottom.

LEODICE (EUNICE) MAGELLANICA McIntosh.

Eunice magellanica McINTOSH (1885), p. 265, pl. 37, figs. 12–15.

Specimen collected at station D5589, Mabul Island, 260 fathoms, fine gray sand and gray mud bottom, temperature 45.7°.

LEODICE (EUNICE) MICROPRION Marenzeller.

Eunice microprion MARENZELLER (1879), p. 135 (sep. p. 27), pl. 5, fig. 1.

Specimens collected at station D5149, Sirun Island, 10 fathoms, coral and shell bottom and station D5148, Sirun Island, 17 fathoms, coral sand bottom; station D5411, Luis Point Light, 145 fathoms, green mud bottom, temperature 55.2°; station D5641, Kalono Point, 39 fathoms, sand and shell bottom; station D5280, Malavatuan Island, 193 fathoms, gray sand bottom, temperature 49.6°; station D5523, Point Tagolo Light, 182 fathoms, Globigerina and sand bottom, temperature 54.3°; station D5519, Point Tagolo Light, 230 fathoms, temperature 52.3°; station D5589, Mabul Island, 260 fathoms, fine gray sand and gray mud bottom, temperature 45.7°; and station D5536, Apo Island, 279 fathoms, green mud bottom, temperature 53.5°.

Several young specimens of this species were found, differing from Marenzeller's description of the adult worm in having a softer, paler jaw apparatus and fewer gills. Specimens collected at station D5249, Lanang Point, 23 fathoms, coral and sand bottom; station D5146, Sulade Island, 24 fathoms, coral sand and shell bottom; and station L5355, Balabao Light, 44 fathoms, coral and sand bottom.

LEODICE LEVIBRANCHIA, new species.

Plate 50, figs. 1-8.

Type.—Cat. No. 19018, U.S.N.M. Specimen, 100 mm. in length; 10 mm. in width anteriorly, gradually decreasing to 5 mm. posteriorly. Anal cirri lacking. Number of somites, about 105; about 20 in the middle covered with fragment of tube.

Head (fig. 1) provided with five tentacles, the three median ones of the same length (about as long as first three somites). Two lateral tentacles of equal length, being two-thirds as long as median tentacle. Prostomium prominent and bilobed. Eyes roughly triangular in shape, situated at base of lateral tentacles. Peristomium or first somite broad and smooth. Second somite about one-third as long as the first, and provided with short tentacular cirri. Third somite provided with parapodia.

Dental apparatus (fig. 2) dark brown. Maxillae jointed posteriorly and notched for muscle attachment. Curvature moderate. Surface smooth. Dental plates large, deeply notched posteriorly for muscle attachment. Each provided with seven large teeth, with irregularity in shape of last two. Lateral accessory plates about two-thirds length of dental plates, bearing 10 teeth each. Unpaired plate of right side finely toothed. Mandibles (fig. 3) brown, with clear white dental plates ventrally.

Anterior parapodia (fig. 4) with long dorsal cirrus and large blunt ventral lobe.

No hooks; acicula ending in blunt points.

Gills beginning at about fiftieth somite. The poor preservation made this almost impossible to determine. Gill a simple three-lobed structure (fig. 5). Differentiation gradually lost until on ninetieth parapodium gill is a flattened, knob-like structure.

Setae of three kinds. Heavy, pale yellow, compound setae (fig. 6) ventrally. Simple capillary type (fig. 7) dorsally. Pectinate type (fig. 8) just below dorsal cirrus.

Type collected at station D5348, Point Tabonan, Palawan Passage, 375 fathoms, coral and sand bottom.

LEODICE ARTICULATA, new species.

Plate 50, figs. 9-12.

This is not *Eunice articulata* Ehlers (1887), which has been shown to be synonymous with *Leodice longicirrata* Webster, the latter name having precedence.

Type.—Cat. No. 18955, U.S.N.M. A young, well-preserved specimen, 57 mm. in length, 5.5 mm. wide anteriorly, tapering gradually posteriorly. Anal cirri two, consisting of five articulations. Number of somites, 107.

Head (fig. 9) provided with five tentacles, so articulated as to give a beaded appearance. Median tentacle longest, reaching back to anterior border of eighth setigerous somite. Intermediate tentacles reaching to anterior border of fifth setigerous somite. Lateral tentacles reaching fifth setigerous somite. Tentacular cirri similarly articulated, extending slightly beyond anterior edge of peristomium. Eyes round, in usual situation.

As the specimens, both type and paratype, were young, the jaw apparatus (fig. 10) was pale in color and soft in texture. Maxillae with short basal joint, grooved dorsally for muscle attachment. Terminal joint long, with slight curvature. Dental plates long and narrow, provided with eight to nine brown teeth. Lateral plates short, with nine small brown teeth. Right unpaired plate with about seven small teeth. Mandibles present, with light brown basal part and white dental plate. On account of their softness they disintegrated upon being touched, thus making it impossible to determine their structure.

Gills beginning as single filament on dorsal cirrus of fifth parapodium, gradually increasing to six and seven filaments toward middle of body (fig. 11), continuing to within seven somites of end of body, but gradually reduced to two filaments posteriorly. Dorsal cirri sharply articulated, with three or four joints terminally (fig. 11), and long, smooth base. Ventral cirri short, with cushion-like ventral portion.

Setae of two kinds. Ventral compound (fig. 12) with bidentate, terminal portion covered by wing, and shaft finely serrated distally.

Dorsal setae of simple capillary variety. Acicula light yellow in color, with blunt termination.

Type collected at station D5159, Tinakta Island, 10 fathoms, coral sand bottom, and paratype (poorly preserved), at station D5205, Caguayan Point, off Leyte Island, 8 fathoms.

LEODICE ACCRESCENS, new species.

Plate 50, figs. 13-16; plate 51, figs. 1-2.

Type.—Cat. No. 18956, U.S.N.M. A large incomplete specimen, 150 mm. in length; width, 9 mm., uniform throughout. Number of somites, 289. Anal cirri lacking.

Head (pl. 50, fig. 13) provided with five smooth tentacles, the median slightly larger than the intermediate, and intermediate slightly longer than lateral. Eyes small and irregular, situated just median to base of lateral tentacles. Prostomium deeply notched, with lobes slightly shorter than lateral tentacles. Peristomium or first somite broad and smooth. Stout tentacular cirri on second somite. Parapodia on third.

Dental apparatus (pl. 50, fig. 14) dark brown. Maxillae with comparatively long basal joint. Terminal joint sickle-shaped, with prominence for articulation with great dental plate. Right dental plate with four large round teeth; left with three similar teeth and irregular surface posteriorly. Anterior lateral plates small and finely toothed. Posterior lateral plates small and smooth. Mandibles (pl. 50, fig. 16) heavy. Posterior part light brown. Dental plates clear white and recurved dorsally on lateral side.

Anterior parapodia provided with moderately long dorsal cirrus and cushion-like ventral cirrus. No gills. Gills begin at irregular intervals in region of eightieth somite, as small knob-like processes at base of dorsal cirri (pl. 51, fig. 1). Three acicula, all ending in blunt points. Posteriorly gill increases in length (pl. 51, fig. 2), extending almost to mid-dorsal line. Dorsal cirrus greatly reduced. Third aciculum lost.

Setae of two kinds. Ventral compound (pl. 50, fig. 15), with bifid terminal portion, finely serrated shield, and serrated basal shaft. Dorsal setae of simple, capillary form.

LEODICE ACCRESCENS, new species, young.

The only differences between this form and the adult specimens are the first appearance of the gills in the neighborhood of the one-hundredth somite (a point posterior to that in the adult), and the fewer number of acicula. Here there are two acicula to a parapodium anteriorly and one posteriorly.

Collected at station D5148, Jolo Light, Jolo, 17 fathoms, coral sand bottom, and station D5142, Sirun Island, 21 fathoms, coral sand and shell bottom.

Genus LUMBRINEREIS Blainville.**LUMBRINEREIS BIFURCATA McIntosh.**

Lumbrinereis (Lumbriconereis) bifurcata MCINTOSH (1885), p. 241, pl. 36, figs. 10, 11, 12.

Collected at station D5100, Corregidor Light, off Luzon, 35 fathoms, gray sand bottom.

LUMBRINEREIS HETEROPODA Marenzeller.

Lumbriconereis heteropoda MARENZELLER (1879), p. 138, (sep. p. 30), pl. 5, fig. 4; pl. 6 (fig. 1).

Collected at Batan Island "Electric Light."

LUMBRINEREIS JAPONICA Marenzeller.

Lumbriconereis japonica MARENZELLER (1879), p. 137, (sep. p. 29), pl. 5, fig. 3.

Collected at station D5536, Apo Island, 279 fathoms, green mud bottom, temperature 53.5°.

Genus ONUPHIS Audouin and Milne-Edwards.**ONUPHIS (NOTHRIA) WILLEMOESII McIntosh.**

Onuphis (Nothria) willemoesii MCINTOSH (1885), p. 322, pl. 41, figs. 4-10.

Collected at station D5394, Panalangan Point, Talajit Island, 153 fathoms, green mud bottom.

Genus MARPHYSA Quatrefages.**MARPHYSA DIGITIBRANCHIA, new species.**

Plate 49, figs. 4-14.

Type.—Cat. No. 18958, U.S.N.M. A small specimen, incomplete posteriorly. Length, 20 mm.; width, 2 mm., including parapodia. Number of somites, 80.

Head (fig. 4) with five tentacles, median unpaired and intermediate paired of equal length, reaching to edge of prostomium. Lateral pair arising anteriorly to intermediate and equal to two-thirds of their length. Eyes dark brown, small, in usual position. Peristomium of two segments, equaling in total length the greatest length of the prostomium. No tentacular cirri.

Jaws (fig. 5) light brown, touched with dark brown at certain points. Maxillae borne on long basal portion; curvature slight. Great dental plates with five and six large teeth. Median unpaired short, with five or six teeth and irregular surface posteriorly. Proximal paired, similar to unpaired. Distal paired, simple dark brown

plates. Mandibles (fig. 6) frail, dark brown, with lighter dental plate marked by rows of concentric striations.

Gills beginning on twentieth parapodium as a single filament at base of large dorsal cirrus. Increasing rapidly to several filaments, the greatest number being five posteriorly (fig. 8).

Anterior parapodia (fig. 7) with large blunt ventral cirrus and large conical dorsal cirrus. Three acicula, two dark brown, one light; all with blunt terminations. Dorsal setae tuft composed of simple capillary setae (fig. 9). Ventral setae tuft composed of three types. First variety (fig. 10), compound with long pointed termination. Second variety (fig. 11), compound with shorter pointed termination. Third variety (fig. 12), compound with bidentate, protected termination.

Posterior parapodia (fig. 8) with small ventral cirrus and more slender dorsal cirrus. Gill, arising from base of dorsal cirrus, so situated as to resemble the digits of a hand. Two setae tufts, the dorsal composed of simple capillary (fig. 9), the ventral of simple capillary and compound (fig. 10). Acicula three; one dark brown with blunt ending, situated between the setae tufts (fig. 13); two bidentate (fig. 14), with shield, situated in ventral half of parapodium.

Collected from station D5301, China Sea, near Hongkong, surface temperature 84°.

Genus RHAMPHOBRACHIUM Ehlers.

RHAMPHOBRACHIUM PACIFICA, new species.

Plate 49, figs. 15-23.

Type.—Cat. No. 18959, U.S.N.M. An incomplete specimen, 40 mm. in length; width 12 mm. anteriorly, decreasing to 8 mm. posteriorly. Number of somites, 76. Color dull gray with purple head.

Head (fig. 15) provided with seven tentacles, the median anterior pair or subtentacula being globose. Antero-lateral pair 3 mm. in length, including basal joint. Postero-lateral pair 3.5 mm. including basal joint. Median unpaired tentacle broken. Tentacular cirri two, borne on anterior edge of peristomium, scarcely reaching anterior border of head.

Jaws (fig. 16) brownish lavender. Maxillae borne on basal piece; curvature moderate. Deeply notched posteriorly and ventrally for muscle attachment. Great dental plates notched in same manner. Left provided with nine teeth and irregular notch posteriorly; right with five large teeth. Unpaired plate long, with six large teeth. Lateral anterior paired plates dissimilar in shape, with seven and eight teeth. Mandibles (fig. 17) light brown, with white dental plate anteriorly.

Parapodia of first three somites lengthened and drawn forward on each side of head. Ehlers (1887) figures two long hooks to each of these parapodia. The Pacific form has an irregular number of hooks extruded. Upon dissection it was found that these parapodia contained from 18 to 20 retracted hooks. Most of them were broken. Figure 18 shows the distal end of a complete hook. Dorsal cirri long on first three parapodia, resembling tentacles in form and size. Moderately long on fourth; gradually decreasing to tenth. Gills appearing at base of dorsal cirrus on eleventh parapodium as single, heavy, brown process. Ventral cirri reduced to transversely elongated elevations on ventral surface of somite. Gills (fig. 16) rapidly increasing to four and five processes. Dorsal cirrus small and subordinated, bearing a small ventral process.

Acicula of two varieties. Two (fig. 20) light yellow with blunt termination situated in midst of setae tuft. Varying number of second type (fig. 23) with bidentate, protected termination, situated ventral to blunt variety.

Setae of two varieties. Dorsal setae (fig. 21) chisel-shaped. Middle setae (fig. 22) simple capillary, with slight indication of wing.

Type collected at station D5656, Olang Point, Basa Island, 484 fathoms, gray mud bottom, temperature 41.2°.

There is in the collection a decolorized specimen of this species, which, however, differs from the specimen described in the increased number of acicula, which may be as many as five in the anterior parapodia. The form is 44 mm. in length, incomplete. The retractor muscles of the hooks, with hooks attached, may be seen protruding for 9 mm. posteriorly, showing that the hooks are 50 mm. long.

Specimen collected at station D5348, Point Tabonan, Palawan Passage, 375 fathoms, coral and sand bottom, temperature 56.4°.

Family GLYCERIDAE.

Genus GLYCERA Savigny.

GLYCERA NANA Johnson.

Glycera nana JOHNSON (1901) p. 411, pl. 10, fig. 103.

Very small specimen from San Miguel Harbor, Ticao Island. Similar but poorly preserved specimen from station D5149, Sirun Island, 10 fathoms, coral and shell bottom.

Fifth setigerous somite similar in lamellae and type of setae, but with ventral setae tuft particularly large. Sixth somite similar to fifth.

Also collected at station D5209, Taratara Island, 20 fathoms, green mud bottom.

GLYCERA POSTEROBRANCHIA, new species.

Plate 51, figs. 3-8.

Type.—Cat. No. 18960, U.S.N.M. An incomplete specimen, 75 mm. in length, not including extruded proboscis. Width, 3 mm. anteriorly, gradually increasing to 5 mm. posteriorly. Length of pharynx, 8 mm. Number of somites, 90; terminal portion lost. Color of specimen, light brown. Dorsal surface marked by brown longitudinal line. Mid-ventral line, characterized by longitudinal flattened area, 0.5 mm. in width. Somites two-ringed, the rings being of equal circumference throughout.

Head (fig. 3) 2.5 mm. in length, or equal in length to first eight somites. Number of rings in head not distinguishable. Four small papillae at end. Extruded proboscis large, equaling the first 37 somites in length. Cuticle covered with two kinds of papillae. Minute sucker-like type covering whole surface. Large, blunt, conical type on proximal end. Jaws (fig. 4) with lateral appendage for muscle attachment.

Parapodia gradually increasing in size and length posteriorly. Anterior parapodia (fig. 5) with long, conical dorsal and ventral lobes. Dorsal cirrus a rounded tubercle. Ventral cirrus similar in shape to dorsal lobe of ventral division. Posterior parapodia (fig. 6) elongate, divided into one dorsal and two ventral rami, the ventral lobe of the ventral ramus equaling the dorsal ramus in length. Ventral cirrus similar in shape to dorsal lobe of ventral ramus. Dorsal cirrus a small pointed tubercle. Gills beginning on twenty-fifth somite as small knobs at dorsal base of parapodia lateral to dorsal cirrus, gradually increasing (fig. 6) until they appear as long rugose, finger-like processes.

Setae of two kinds. Dorsal (fig. 7), simple capillary with finely serrate edge. Ventral (fig. 8), compound with finely serrated blade.

Collected at station D5375, Tayabas Light, Marinduque Island, 107 fathoms, green mud bottom.

Family SPIONIDAE.

Genus AONIDES Claparède.

AONIDES DIVERAPODA, new species.

Plate 51, figs. 9-12.

Two specimens, one with tentacular cirri missing. Both well preserved anteriorly. Greatest width, 3 mm. The perfect one is the type, Cat. No. 18961, U.S.N.M.

Prostomium (fig. 9) blunt anteriorly, extending forward over mouth; prolonged posteriorly as long, sinuous nuchal ridge as far as

anterior border of third setigerous somite. Nuchal or unpaired cirrus prominent, arising anterior to nuchal ridge. Peristomium forming two lateral lobes, one on each side of the mouth, reaching beyond prostomium in expansion, but not showing from the dorsal surface in contraction. Tentacular cirri attached at each side of prostomium at base of peristomial lobes; 10 mm. in length—that is, a little more than three times greatest width of body.

First setigerous somite (fig. 9) with two dorsal conical cirri and dorsal setae tuft of simple capillary setae. Ventral cirrus lamelliform. Ventral setae tuft fan-shaped, composed of single row of heavy, simple setae of two kinds—long, tapering, oar-like setae arranged alternately with shorter, cylindrical, blunt setae.

Second setigerous somite with dorsal setae tuft of pale, fine, capillary setae. Ventral tuft of very heavy, dark-brown setae (fig. 10) in a row similar to ventral tuft of first setigerous somite, but with only three or four (curved) capillary setae. Dorsal cirrus lacking. Dorsal lamella pointed, with apex directed dorso-posteriorly. Ventral lamella rounded, beneath ventral setae tuft.

Third setigerous somite with dorsal lamella similar to but less pointed than that of second setigerous somite. Ventral lamella equal in size and form to dorsal lamella. Dorsal setae tuft, composed of simple capillary setae. Ventral tuft composed of similar setae ventrally, but of heavier, spinous setae dorsally (fig. 11).

Fourth setigerous somite with dorsal and ventral lamellae similar to preceding. Dorsal setae simple capillary. Ventral setae tuft composed of simple capillary setae ventrally and curved, spinous setae (fig. 12) dorsally, differing from spinous setae in preceding somite in size and curvature.

Fifth setigerous somite similar in lamellae and type of setae, but with ventral setae tuft particularly large. Sixth somite similar to fifth.

Specimen collected at station D5209, Taratara Island, 20 fathoms, green mud bottom.

Family CIRRATULIDAE.

Genus CIRRATULUS Lamarck.

CIRRATULUS ZEBUENSIS McIntosh.

Cirratulus zebuensis McINTOSH (1885), p. 384.

Capillary setae very finely serrated. Hooks absent anteriorly, present in middle and posterior regions.

Specimen collected from station D5304, China Sea near Hongkong, 34 fathoms, blue mud bottom.

Genus **AUDOUINIA** Quatrefages.**AUDOUINIA POLYTRICHA** Schmarda.

Cirratulus polytricha SCHMARDA (1861), p. 58, pl. 27, fig. 214.

Audouinia polytricha SCHMARDA, Ehlers (1901), p. 266.—GRAVIER (1907), pl. 10.

Specimen collected at station D5760, Tinakta Island, 12 fathoms, sand bottom.

Family **TEREBELLIDAE**.Genus **POLYMNIA** Malmgren.**POLYMNIA CONGRUENS** Marenzeller.

Polymnia congruens MARENZELLER (1884), p. 207 (sep. p. 11), pl. 2, fig. 3.

A large complete specimen agreeing in character of gills, setae, and uncini with Marenzeller's specimen, but with tentacles intact, forming a large tangled mass equal to two-thirds the length of the body. Tube also present, composed of Foraminifera shells, etc., adhering to a very fragile membrane.

Collected at Nasugbu, Luzon Reef.

Genus **PISTA** Malmgren.**PISTA FASCIATA** Marenzeller.

Pista fasciata MARENZELLER (1884), p. 202 (sep. p. 6), pl. 1, fig. 4.

Terebella (Phyzelia) fasciata EHRENBERG, Grube (1869).

Using the interpretation of *P. fasciata* as given by Marenzeller (1884) and McIntosh (1885) one specimen in the collection is referred to this species. As only one branchial process (anterior right) remained attached to the specimen, nothing can be said as to the comparative size of these organs. The form of the body and the structure of the uncini agreed with the descriptions given by Marenzeller and McIntosh.

Collected at station D5536, Apo Island, 279 fathoms, green mud bottom, temperature 53.5°.

Genus **TEREBELLA** Linnaeus.**TEREBELLA PARVABRANCHIATA** Treadwell.

Terebella parvabbranchiata TREADWELL (1906), p. 1175, fig. 71.

Using the uncini as diagnostic character, this form is referred to the above species. Although in very poor condition, the specimen possesses three pairs of gills (with manner of branching as in *T. parvabbranchiata*), thus verifying Treadwell's remarks regarding the Hawaiian form. The tentacles were too badly mutilated for description.

Collected at station D5536, Apo Island, 279 fathoms, green mud bottom, temperature 53.5°.

TEREBELLA (LANICE), species.

Fragmentary. Identification based upon tube and uncini.

Collected at station D5589, Mabul Island, 260 fathoms, fine gray sand, gray mud bottom, temperature 45.7°.

TEREBELLA (LOIMIA) VARIEGATA Ehrenberg Grube.

Terebella variegata EHRENBERG, Grube (1878), p. 227, pl. 13, fig. 3.

Tentacles missing.

Collected at Makasser Island.

TEREBELLA (LOIMIA) MONTAGUI Grube.

Terebella montagui GRUBE (1878), p. 224, pl. 12, fig. 3,

Loimia montagui MARENZELLER (1884), p. 205 (sep. p. 9), pl. 2, fig. 1.

A fragmentary specimen of this species, having no tentacles and only two abdominal somites, was found in the collection. It agreed with Grube's description of the species in having six-toothed uncini consistently throughout the body. No trace was found of the seventh small tooth described by Marenzeller. Gills as figured by Marenzeller.

Collected at station D5157, Tinakta Island, 18 fathoms, fine sand and shell bottom.

LOIMIA, species.

Large form having seven-toothed uncini. As the specimen was incomplete—that is, the tentacles were lacking—it seemed unwise to describe it as a new species.

Collected at station D5157, Tinakta Island, 18 fathoms, fine sand and shell bottom.

Family AMPHARETIDAE.

Genus AMPHICTEIS Grube.

AMPHICTEIS PHILIPPINARUM Grube.

Amphicteis philippinarum GRUBE (1878), p. 207, pl. 11, fig. 7.

Specimen fragmentary but possessing all four branchial processes. The longest of these is 10 mm., or equal in length to the first nine setigerous somites.

Collected at station D5609, Binang Unang Island, 1092 fathoms, green mud bottom, temperature, 36.3°.

Genus MELINNA Malmgren.

MELINNA DUBITA, new species.

Plate 51, figs. 13-16.

Type.—Cat. No. 18957, U.S.N.M. Fragmentary but possessing important diagnostic characters. Sixteen somites present. Length, exclusive of gills and tentacles, 15 mm.; greatest width (across third somite), 7 mm.

Prostomium directed anteriorly and slightly ventrally, ending in folded upper lip. Tentacles of two kinds. Posterior (figs. 13-14) six in number, arising together from the dorsal surface of the prostomium just behind the upper lip. Greatest length of a complete posterior tentacle, 15 mm. These tentacles are deeply grooved along one side—a condition not easily seen because of coiling. Anterior tentacles (fig. 13) with diameter equal to one-third that of posterior tentacles, arising in two groups of seven on each side of upper lip; varying in length from 3 to 7 mm.

“Buccal segment” or lower lip (fig. 13) largely covered by following somite, but showing as an oval pad just ventral to the mouth opening. Dorso-lateral extremities of lower lip arising immediately in front of the origin of the gills.

Next four somites forming a collar-like structure with prominently developed lateral region extending obliquely from ventral to dorsal surface. Free edge of first somite lying immediately beneath the lower lip. First two somites marked ventrally (fig. 13) by row of fine setae (fig. 16). Third somite with similar setae ventrally, and delicate tuft of similar but larger capillary setae dorsally. Fourth somite similar to third, but with prominent seta tuft dorsally (fig. 14). Third somite plainly continuous dorsally (fig. 14), forming an inconspicuous or else strongly retracted post-branchial ridge. No trace of the hooks figured by Marenzeller (1874) for *M. adriatica* was found.

Gills stout, tapering, and curved distally (two are broken in fig. 14); eight in number, arising from the second and third somites. Most anterior gills situated internally on second somite. Other gills situated externally on second and third somites.

Pinnulae beginning on fifth somite. Second and third pinnulae larger than first, gradually decreasing until on the sixteenth somite they occur as blunt, medianly directed processes. Dorsal setae simple capillary, unequal in length, borne on truncated, papillae-like processes. Uncini (fig. 15) pectinate in form, with four large teeth above the ligament process.

Tube composed of tough inner membrane and thick outer coating of fine brown mud. Total diameter, 13 mm. Lumen, 5 mm.

As only 16 setigerous somites are present, it is impossible to tell how many there would be in a complete specimen. This form is doubtfully placed in the genus *Melinna*, as the presence of two kinds of tentacles suggests that it may belong to a new but similar genus. The present interpretation is based upon the marked resemblance in form between this specimen and Marenzeller's *M. adriatica*.

Type collected at station D5513, Camp Overton Light, Mindanao, 505 fathoms, gray mud and fine sand bottom, temperature 52.8°.

Family CAPITELLIDAE.

Genus NOTOMASTUS Sars.

NOTOMASTUS LATERICEUS Sars.

Notomastus latericeus Sars, Fauvel (1914), p. 250, pl. 10, fig. 14; pl. 22, fig. 20.

Specimen incomplete posteriorly. Differing slightly from Fauvel's description in the length of the peristomium—a condition probably due to differences in preservation. Proboscis not extruded.

Collected at station D5100, Corregidor Light, off Luzon, 35 fathoms, gray sand bottom.

Family OPHELIIDAE.

Genus AMMOTRYPANE Rathke.

AMMOTRYPANE AULOGASTER Rathke.

Ammotrypane aulogaster RATHKE, Fauvel (1914), p. 243, pl. 22, figs. 5-7.

Collected at station D5178, Point Origon, 73 fathoms, fine sand bottom.

Family CHLORHAEMIDAE.

Genus STYLAROIDES Delle Chiaji.

STYLAROIDES, species.

Fragmentary specimen collected at station D5207, Badian Island, 35 fathoms, green mud and sand bottom.

STYLAROIDES ATENTACULA, new species.

Plate 52, figs. 1-4.

Type.—Cat. No. 18962, U.S.N.M. Specimen, 70 mm. in length; width anteriorly, 3 mm.; greatest width (through middle region), 7 mm.; width posteriorly, 5 mm. As the post-middle region of the body is distorted by drying, it is impossible to determine how far posteriorly the broad region extends.

Intersegmental grooves indistinct anteriorly, but more conspicuous posteriorly. Cuticle covered with papillae covered with fine silt in anterior and middle regions of the body. No attempt has been made in the figure to represent this condition.

Apparently everted proboscis-like structure (fig. 1), consisting of heavy basal portion and narrower distal portion, freely open at the end, extending from the mouth opening. Distal end ragged around opening. Epidermis of entire structure thrown into fine longitudinal folds.

First six somites provided with long capillary setae (figs. 1-2). Ventral setae beginning on third somite (in this specimen). Absence of anterior ventral tufts may be due to breaking. Setae not clear in middle region. Posterior somites provided with small tufts of heavy, gold-colored dorsal setae (fig. 3) of the cross striated type. Ventral setae (fig. 4) long, slender, and attenuated, also of the cross striated type. Heavier setae appear dorsally on the thirty-first from the last somite. They are all broken off short in this specimen.

The absence of tentacles suggested the name of *S. atentacula*, but as breakage seems to have occurred in all parts of the body this may be erroneous.

Type collected at station D5140, Bagacay Point, between Cebu and Leyte, 385 fathoms, green mud bottom.

Family SABELLIDAE.

Genus HYPsicOMUS Grube.

HYPsicOMUS PHAEOTAENIA Schmarda.

Sabella phaeotaenia SCHMARDA (1861), p. 35, pl. 22, fig. 88.

Hypsicomus phaeotaenia MARENZELLER (1884), p. 212 (sep. p. 16), pl. 3, fig. 3.

Genus SABELLA Linnaeus.

SABELLA (BRANCHIOMMA) ACROPHTHALMOS Grube, variety.

Plate 52, figs. 5-6.

Sabella acrophthalmos GRUBE (1878), p. 258.

Two specimens of this were taken similar to Grube's description of *S. acrophthalmos* in all respects except the number of thoracic somites. The two specimens differ somewhat with respect to the termination of the gills. One has the ends strongly rolled over, as observed by Grube, and a very delicate purplish eye spot. The other has the gills straightened out and provided with a large prominent eye spot, which is divided externally by the shaft of the rachis. [See *Branchiomma vesiculosum* Montagu as interpreted by McIntosh (1885).]

Avicula uncini with faintly serrated crest (fig. 5). Pennoned setae comparatively large (fig. 6).

Collected from reef opposite Cebu.

SABELLA SECUSOLUTUS, new species.

Plate 52, figs. 7-13.

Type.—Cat. No. 19013, U.S.N.M. Incomplete posteriorly, only four abdominal somites being present. Eight thoracic somites including collar fascicle, the eighth being, however, thoracic in character on the right side and abdominal on the left. Total length, not including gills, 11 mm. Length of gills, including basal portion, 38 mm. Width of thorax, 5 mm.

Collar low, widely separated on back (fig. 7) and split ventrolaterally (fig. 8). Ventral ends prolonged into lappets overlapping in the mid-line (fig. 8). Gills born on high basal portion, enlarging just proximad to the base of the radioles (figs. 7-8). Radioles 26 on each side joined by basal membrane 26 mm. in height. Membrane region same color as rest of body—yellowish brown. Radioles lighter and irregularly banded with reddish brown pigment. Tips of radioles naked for distance of 1.5 mm. No external appendages. No eyes. Tentacles 4 mm. in length. Distal portion attenuated and pigmented reddish brown. The ventral surface of the head bears a two-lobed prominence which has been injured. It is merely indicated in figure 8.

Capillary setae of thorax of two kinds. First variety (fig. 9) slender, without wing. Second variety (fig. 10) stout with prominent, subterminal wing. Thoracic uncini avicular with serrated crest and short basal portion. Pennoned setae (fig. 12) simple, spatulate, without attenuated point. Capillary setae of abdominal region (fig. 13) similar to second variety of the thoracic region but with narrower wing and longer point. Abdominal uncini similar to those of thorax.

Type collected at station D5113, Sombrero Island, 159 fathoms, dark green mud bottom.

Family HERMELLIDAE.

Genus TETRERES Caullery.

TETRERES TREADWELLI, new species.

Plate 52, figs. 14-23.

Type.—Cat. No. 18964, U.S.N.M. Specimen in good condition and complete anteriorly, but having only 2 mm. of the caudal region. Total length, 26 mm.; width, 4 mm.

Cephalic region greatly developed, being 7 mm. in length ventrally, sloping down to 3 mm. in length dorsally. Peristomium deeply

split medianly, thus being divided into two peduncles (figs. 14-15), supporting on their anterior ends the opercular region, the latter consisting of two slightly concave elliptical areas, each surrounded by a single row of paleae. Paleae of the simple unserrated type, but of two varieties. Median paleae (fig 16), golden in color, resembling in form the simple acicula of Leodicidae. Outer paleae (fig. 17) pale in color, with termination narrow and more attenuated than that of the median paleae. Moderately long conical opercular papillae, 11 on each side, situated external to the paleae. Opercular region diverging slightly dorsally, the posterior limits being provided with large, dark brown hooks opposite each other (fig. 14). Filiform branchiae borne on median opposing faces of the peduncles, and on seven oblique ridges on the ventro-lateral surface of the peduncles (figs. 15-18). Gill filaments, seven to eight on each ridge. First four ridges on each side marked with distinct black pigment spot (fig. 18). Large median cirrus (fig. 14) deeply pigmented distally, arising dorsally between the hooks and extending dorso-ventrally between the peduncles for a distance of 4 mm. Mouth situated ventrally; bounded dorsally by a pair of deeply grooved palps, 0.5 mm. in width, laterally by two large, flat, labial processes (fig. 15), and ventrally by the lower lip. Prominent conical cirrus (fig. 15) situated on each side lateral to labial processes, provided at the base with a fascicle of simple capillary setae (fig. 19).

Somite II provided laterally with four conical cirri (fig. 18), the most dorsal being the longest and constituting the first of the dorsal branchiae. Somites III, IV, V, VI bearing ventrally papilla-like tori, having two types of setae. Largest type (fig. 20) paddle-shaped with frayed termination. Smaller type (fig. 21), simple capillary setae, alternating with the paddle-shaped setae. Somites III, IV, V, and VI bearing dorsally stout rectangular pinnulae, with setae similar to figure 20, but three times larger. Branchiae arising medianly to bases of rectangular pinnulae.

First nine abdominal somites bearing branchiae dorsally and uncinigerous ruffle-like tori laterally, the latter ending ventrally in a small free lobe overlying a ventral tubercle and small setae tuft.

Uncini (fig. 22) pectinate with double row of seven teeth each. Ventral setae of two kinds—delicate capillary and slightly heavier spinous (fig. 23).

Ventral tori decreasing gradually in size from the tenth through the seventeenth. Occurring as long stalked processes from the eighteenth through the twenty-fifth.

Tube of fine white stones, Foraminifera shells and bits of red coral cemented together.

Type collected at station D5109, Corregidor Light off Luzon, 10 fathoms, coral bottom.

This species bears a close resemblance to *T. nesiotes* Chamberlin.¹ The distinctive features are the presence of only seven branchial plates, the presence of gills on the inner surfaces of the peduncles and the pointed character of the nuchal hooks.

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EXPLANATION OF PLATES.

PLATE 46.

Myrianida tereseta.

- FIG. 1. Dorsal view of head $\times 15$.
2. Parapodium $\times 50$.
3. Ventral seta $\times 475$.

Iphione fustis.

4. Dorsal view of head $\times 30$.
5. Elytron $\times 23$.
6. Cirrus-bearing parapodium $\times 22$.
7. Terminal fifth of dorsal seta $\times 350$.
8. Terminal portion of ventral seta $\times 350$.

Panthalis adumbrata.

9. Dorsal view of head $\times 15$.
10. Elytron $\times 10$.
11. Parapodium $\times 10$.
12. Terminal portion of dorsal seta $\times 350$.
13. Terminal portion of middle seta $\times 350$.
14. Ventral seta $\times 350$.

PLATE 47.

Lagisca oculescens.

- FIG. 1. Dorsal view of head $\times 14$.
2. Elytron $\times 10$.
3. Spike from median edge of elytron $\times 350$.
4. Cirrus-bearing parapodium $\times 15$.
5. Terminal portion of dorsal seta $\times 350$.
6. Ventral seta of first type $\times 350$.
7. Ventral seta of second type $\times 350$.

Nereis (Leptonereis) inermis.

8. Dorsal view of head $\times 20$.
9. Posterior view of right seventh parapodium $\times 25$.
10. Posterior view of right twenty-ninth parapodium $\times 25$.
11. Setose seta of first type from seventh parapodium $\times 350$.
12. Setose seta of second type from seventh parapodium $\times 350$.

Nereis (Heteronereis) caeruleis.

- FIG. 13. Dorsal view of head $\times 13$.
 14. Conventional dorsal view of pharynx $\times 10$.
 15. Conventional ventral view of pharynx $\times 10$.
 16. Thirteenth left parapodium $\times 25$.

PLATE 48.

Nereis (Heteronereis) caeruleis.

- FIG. 1. Anterior view of fifty-second right parapodium $\times 16$.
 2. Natatory seta from fifty-second right parapodium $\times 350$.
 3. Setose seta from fifty-second right parapodium $\times 350$.
 4. Falcate seta from thirteenth right parapodium $\times 350$.

Nephtys mirasetis.

5. Dorsal view of head and proboscis $\times 13$.
 6. Posterior view of fifty-sixth parapodium $\times 26$.
 7. Barred seta $\times 350$.
 8. Bidentate serrated seta $\times 350$.

Euphrosyne tripartita.

9. Dorsal view of caruncle and tentacle $\times 26$.
 10. Typical gill $\times 30$.
 11. Ventral seta $\times 350$.
 12. Dorsal seta $\times 350$.

Hermodice distincta.

13. Dorsal view of head and caruncle $\times 10$.
 14. Anterior view of sixteenth right parapodium $\times 9$.
 15. Dorsal seta $\times 350$.

Notopygus hispida.

16. Dorsal view of head and caruncle $\times 10$.

PLATE 49.

Notopygus hispida.

- FIG. 1. Posterior view of right eighth parapodium $\times 12$.
 2. Simple dorsal seta $\times 55$.
 3. Bifid ventral seta $\times 55$.

Marphysa digitibranchia.

4. Dorsal view of head $\times 20$.
 5. Dorsal view of jaw apparatus $\times 41$.
 6. Ventral view of left mandible $\times 47$.
 7. Anterior view of right seventeenth parapodium $\times 50$.
 8. Posterior view of left eightieth parapodium $\times 50$.
 9. Dorsal seta $\times 350$.
 10. Ventral seta Type I $\times 350$.
 11. Ventral seta Type II $\times 350$.
 12. Ventral seta Type III $\times 350$.
 13. Blunt aciculum $\times 350$.
 14. Toothed aciculum $\times 350$.

Rhamphobrachium pacifica.

- FIG. 15. Dorsal view of head and anterior somites $\times 6$.
 16. Ventral view of jaw apparatus $\times 11$.
 17. Ventral view of right mandible $\times 10$.
 18. Distal end of hook $\times 270$.
 19. Posterior view of right thirteenth parapodium $\times 16$.
 20. End of aciculum $\times 350$.
 21. Chisel-shaped dorsal seta $\times 350$.
 22. Capillary seta $\times 350$.
 23. Ventral aciculum $\times 350$.

PLATE 50.

Leodice levibranchia.

- FIG. 1. Dorsal view of head $\times 5$.
 2. Ventral view of jaws $\times 7$.
 3. Left mandible $\times 7$.
 4. Anterior view of left ninth parapodium $\times 20$.
 5. Anterior view of left seventieth parapodium $\times 25$.
 6. Compound ventral seta $\times 350$.
 7. Simple dorsal seta $\times 350$.
 8. Pectinate seta $\times 350$.

Leodice articulata.

9. Dorsal view of head $\times 15$.
 10. Dorsal view of jaw $\times 24$.
 11. Anterior view of left fifteenth parapodium $\times 35$.
 12. Compound ventral seta $\times 350$.

Leodice accrescens.

13. Dorsal view of head $\times 9$.
 14. Dorsal view of jaws $\times 8$.
 15. Ventral seta $\times 350$.
 16. Ventral view of right mandible $\times 6$.

PLATE 51.

Leodice accrescens.

- FIG. 1. Anterior view of right ninetieth parapodium $\times 22$.
 2. Anterior view of right two hundred and forty-seventh parapodium $\times 22$.

Glycera posterobranchia.

3. Dorsal view of head and proboscis $\times 2.3$.
 4. Jaw showing appendage for muscle attachment $\times 20$.
 5. Anterior view of fifth right parapodium $\times 35$.
 6. Anterior view of sixty-second left parapodium $\times 35$.
 7. Dorsal seta from sixty-second parapodium $\times 350$.
 8. Ventral seta from sixty-second parapodium $\times 350$.

Aonides diverapoda.

- FIG. 9. Portion of anterior end $\times 15$.
 10. End of heavy seta from second setigerous somite $\times 350$.
 11. Spinous ventral seta from third setigerous somite $\times 350$.
 12. Spinous ventral seta from fourth setigerous somite $\times 350$.

Melinna dubita.

13. Ventral view of anterior end $\times 5$.
 14. Dorsal view of anterior end $\times 5$.
 15. Uncinus from thirteenth somite $\times 350$.
 16. Seta from second somite $\times 350$.

PLATE 52.

Stylaroides atentacula.

- FIG. 1. Side view of anterior end $\times 5$.
 2. Anterior capillary seta $\times 350$.
 3. End of dorsal posterior seta $\times 350$.
 4. End of ventral posterior seta $\times 350$.

Sabella (Branchiomma) acrophthalmos.

5. Avicular uncinus $\times 350$.
 6. Pennoned seta $\times 350$.

Sabella secusolutus.

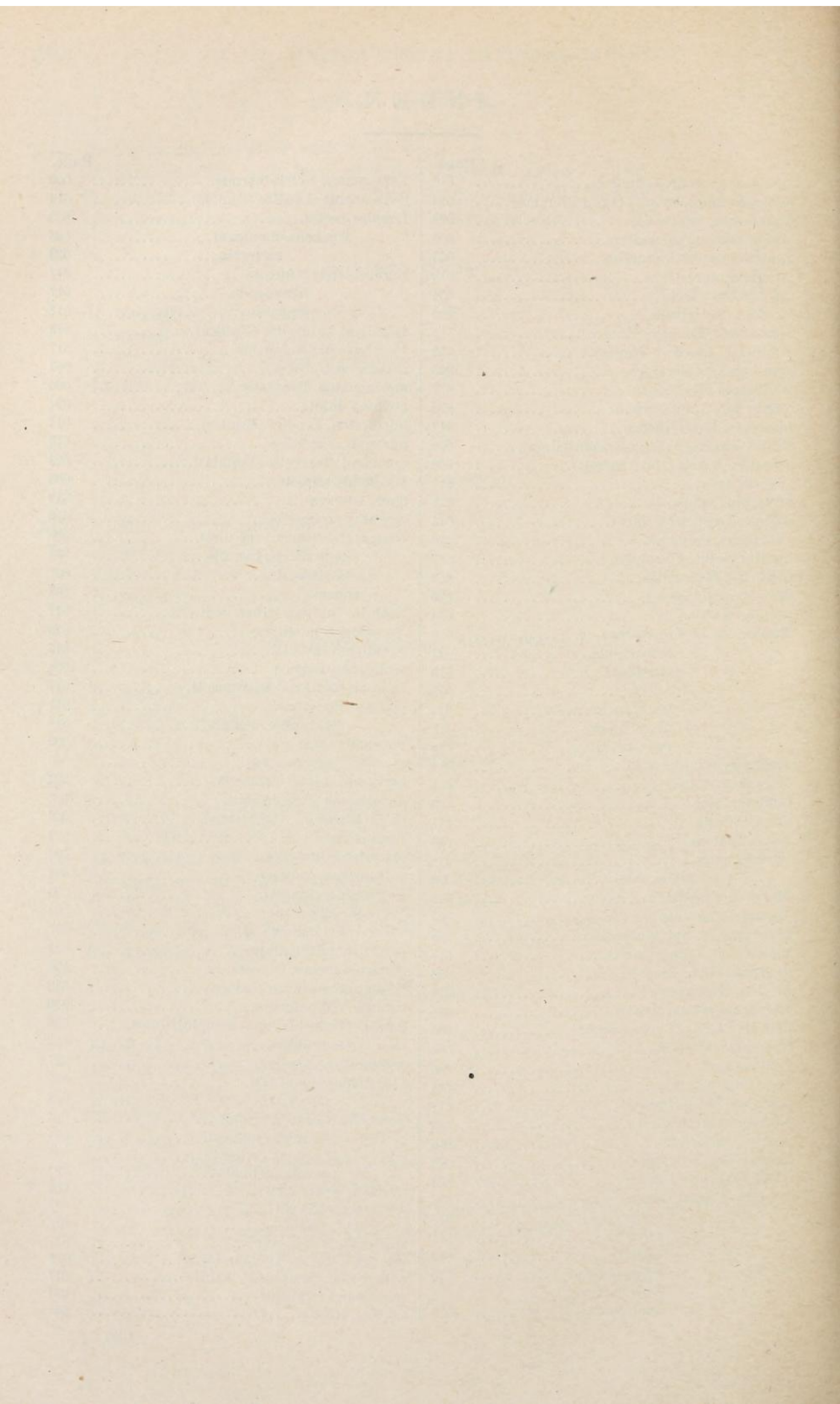
7. Dorsal view of anterior end $\times 6$.
 8. Ventral view of anterior end $\times 6$.
 9. Capillary seta of Type I from third setigerous somite $\times 350$.
 10. Capillary seta of Type II from third setigerous somite $\times 350$.
 11. Avicular uncinus from third setigerous somite $\times 350$.
 12. Pennoned seta from third setigerous somite $\times 350$.
 13. Abdominal seta $\times 350$.

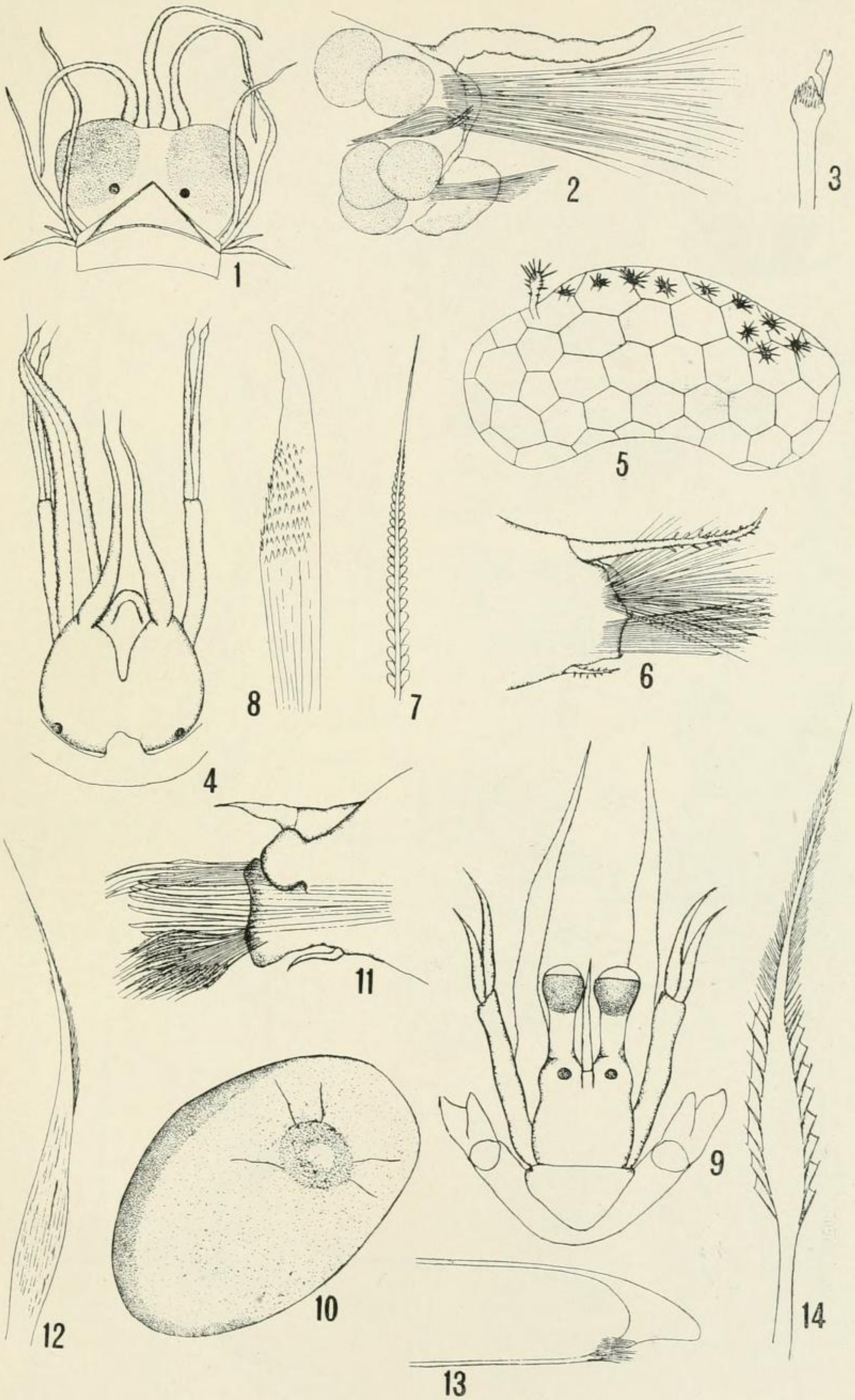
Tetreres treadwelli.

14. Dorsal view of anterior end $\times 6$.
 15. Ventral view of anterior end $\times 6$.
 16. Termination of median palea $\times 350$.
 17. Termination of outer palea $\times 350$.
 18. Lateral view of anterior end $\times 6$.
 19. Seta from buccal fascicle $\times 350$.
 20. Anterior ventral seta $\times 350$.
 21. Anterior ventral seta alternating with the foregoing $\times 350$.
 22. Anterior uncinus (only one row of teeth shown) $\times 350$.
 23. Spinous ventral seta from abdomen $\times 350$.

I N D E X.

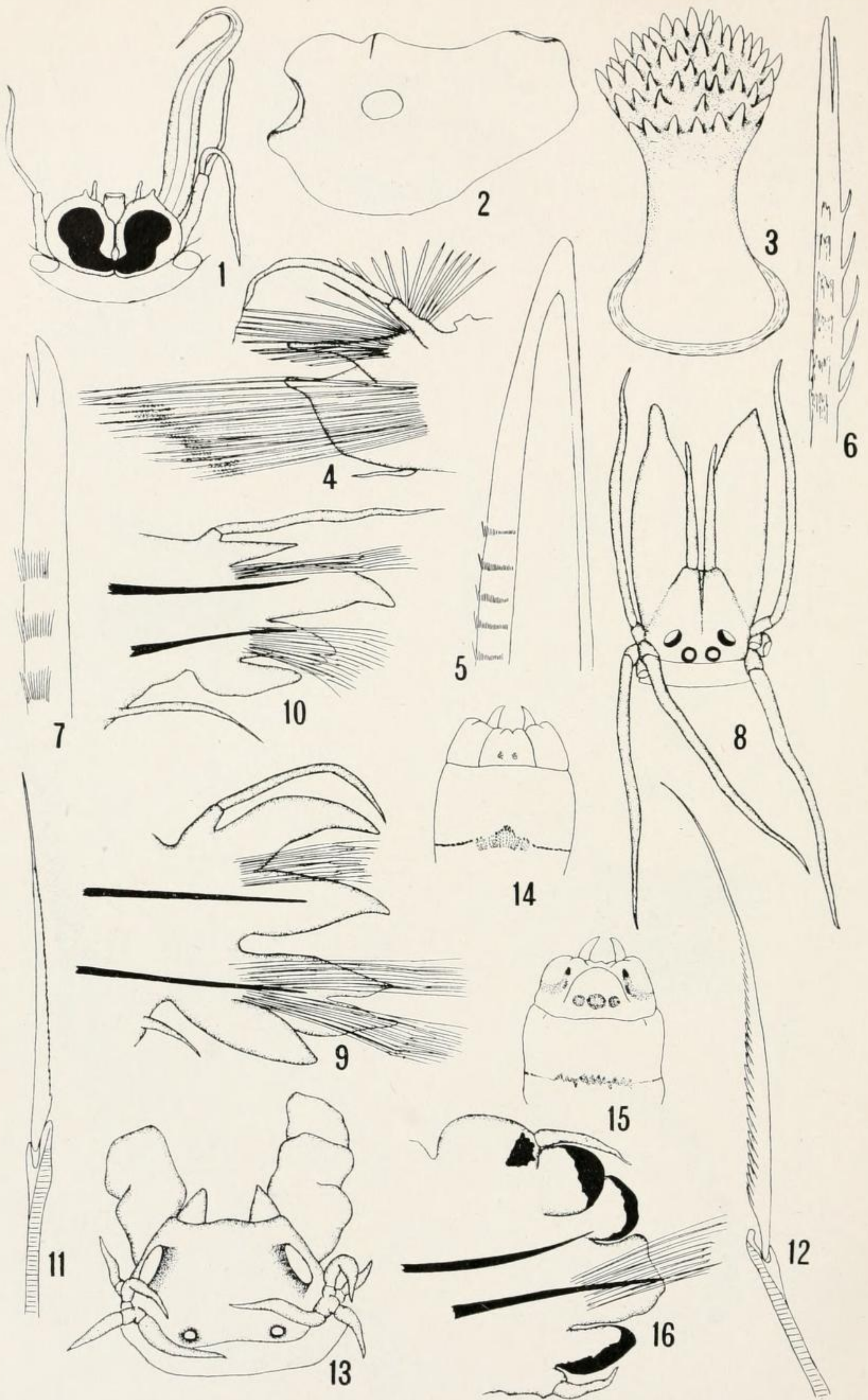
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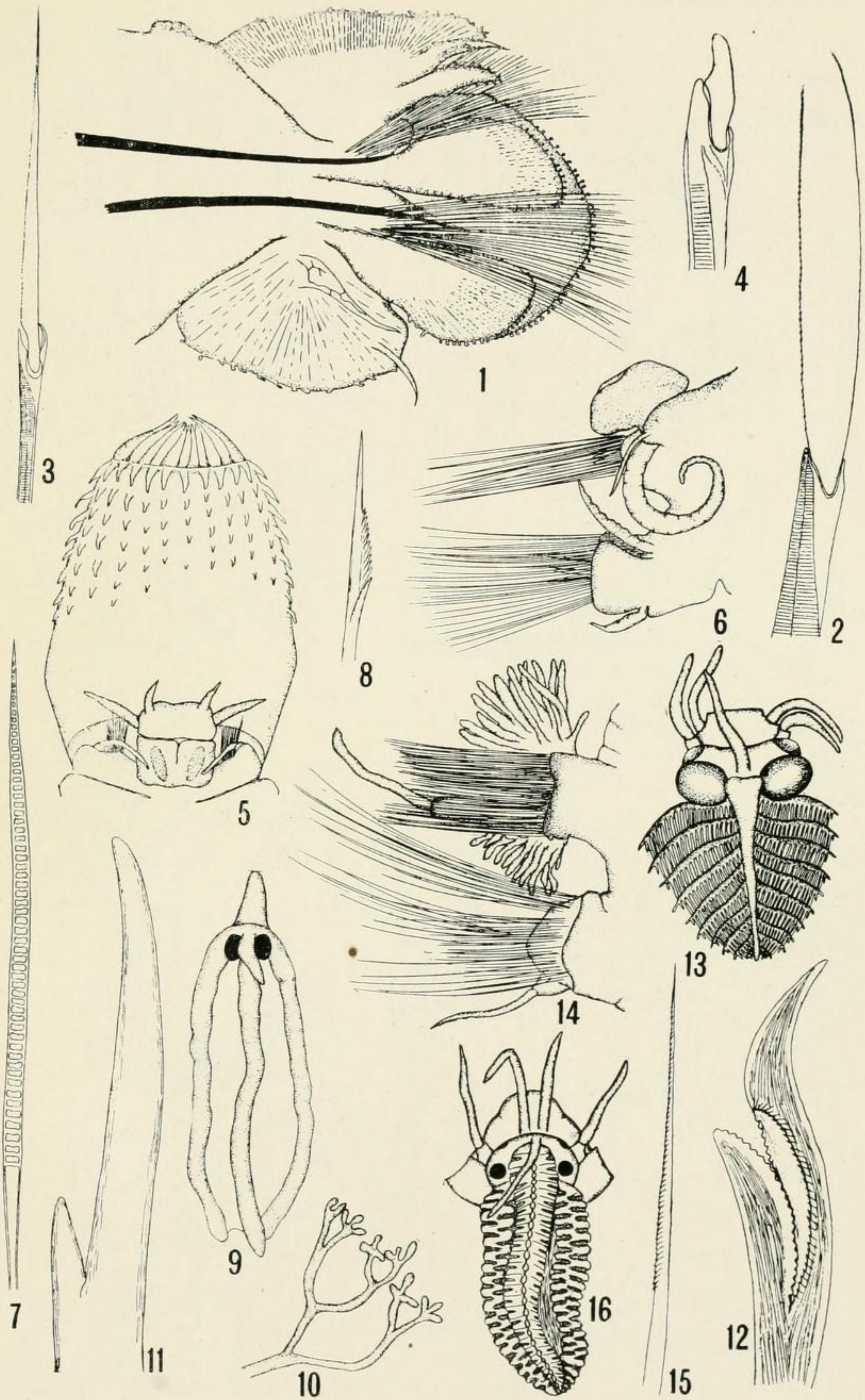
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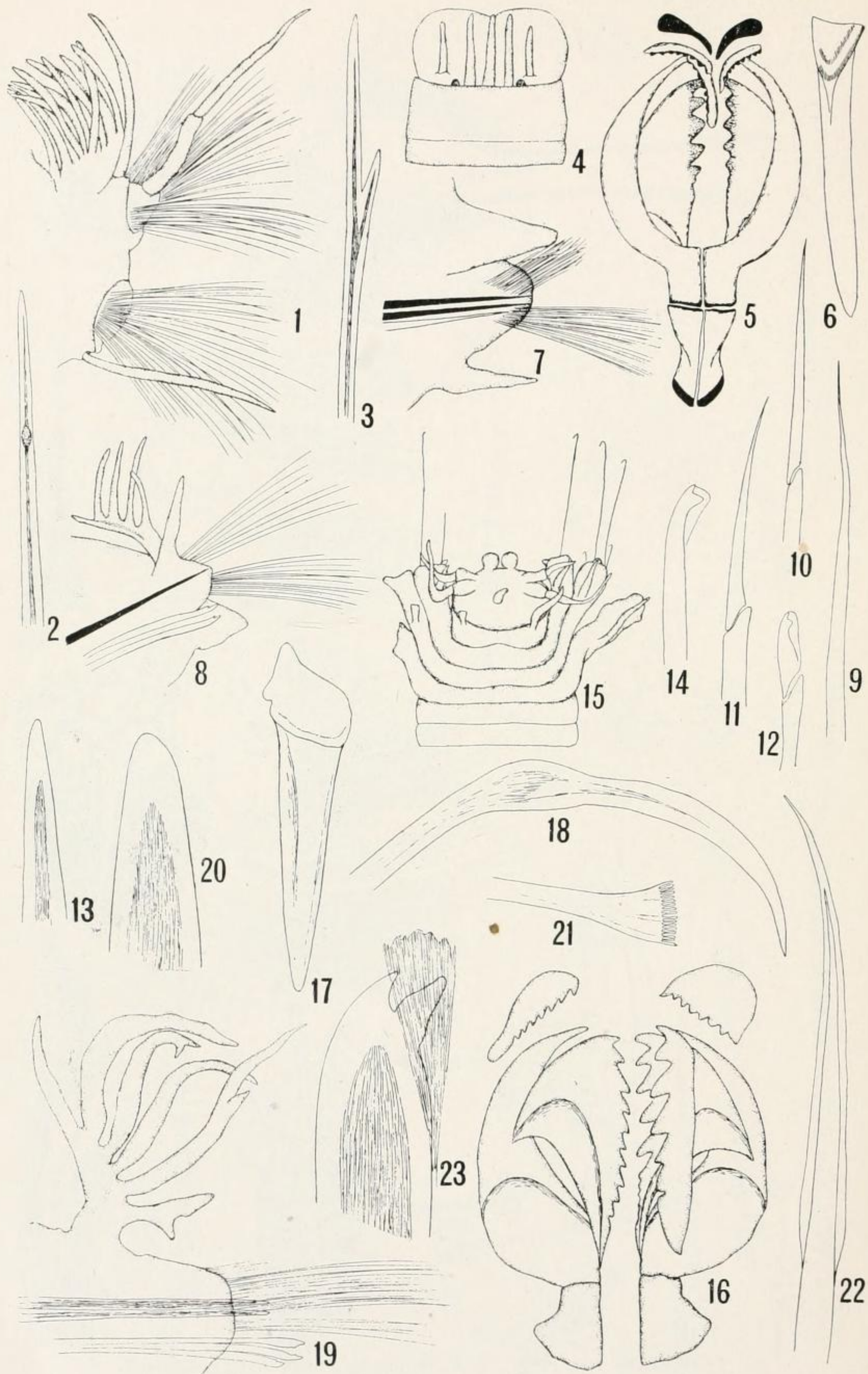
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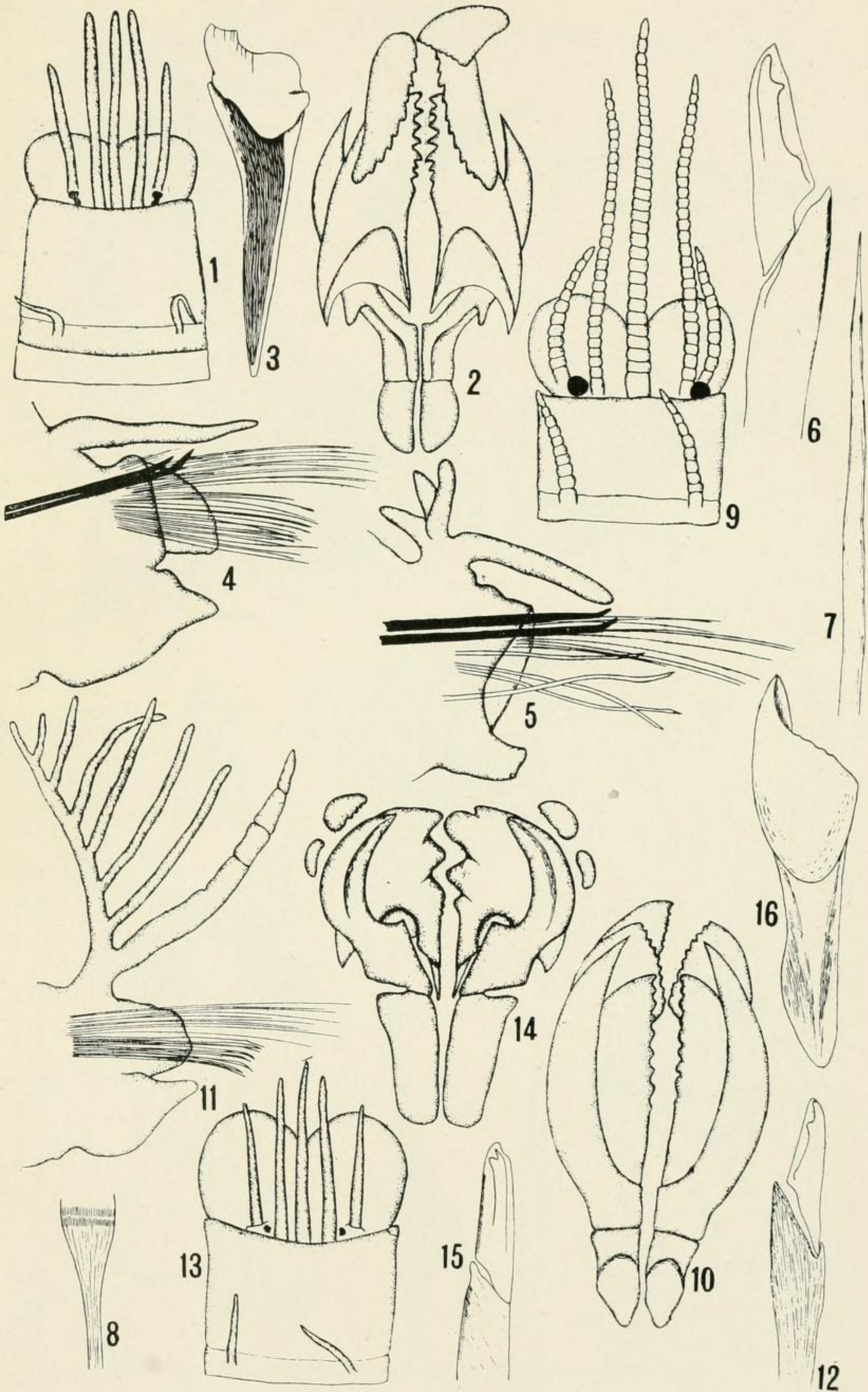
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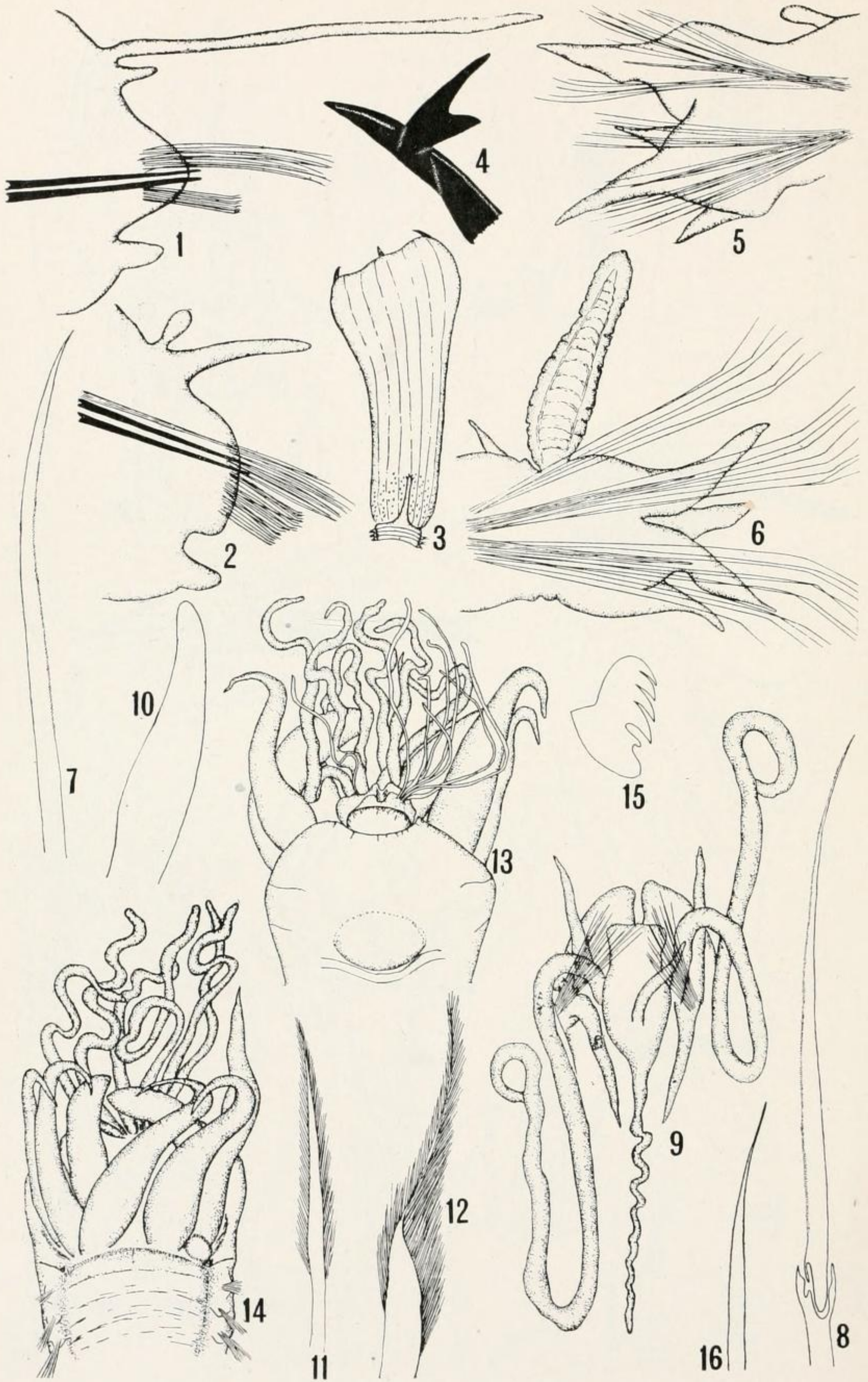
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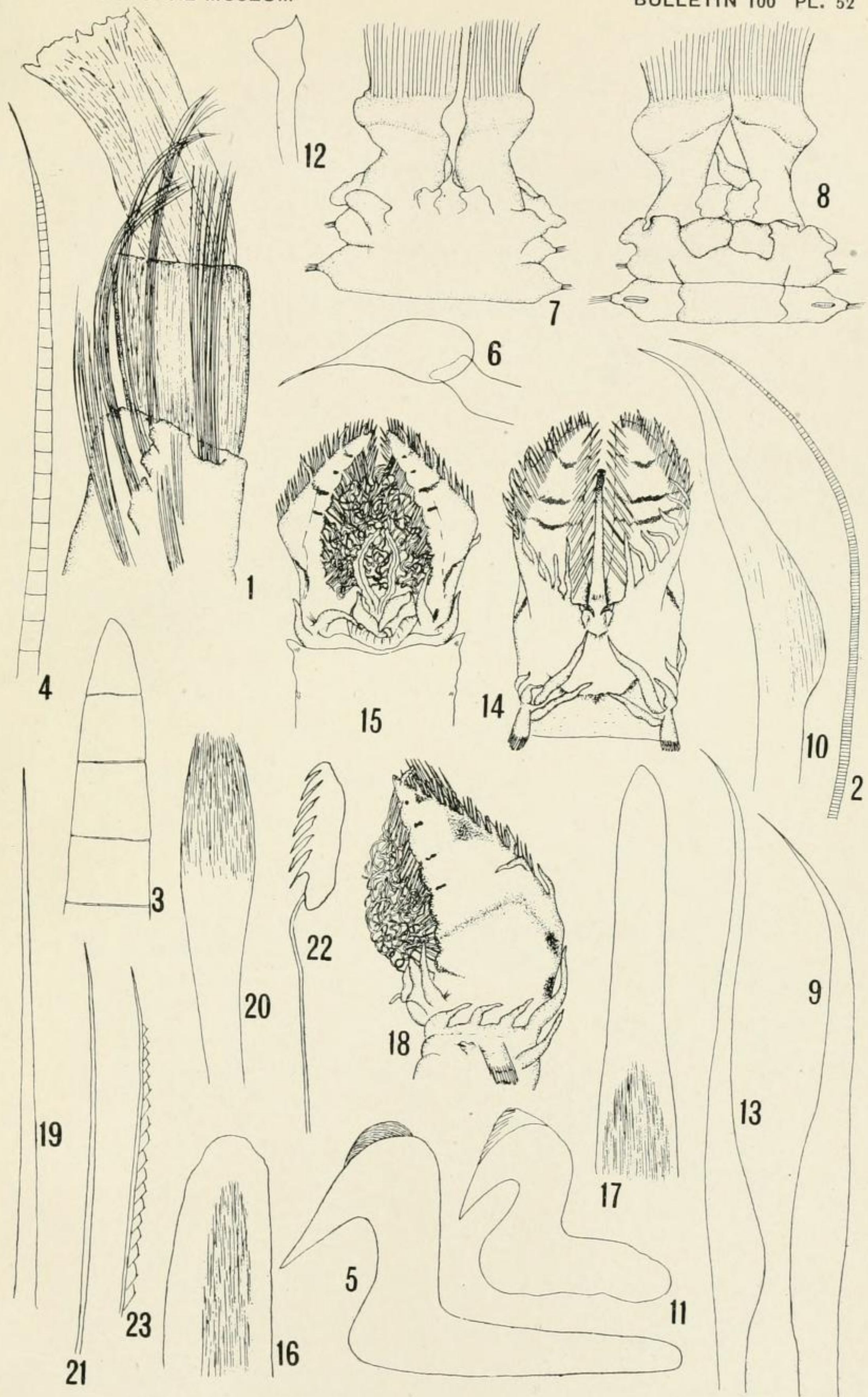
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POLYCHAETOUS ANNELIDS FROM PHILIPPINE WATERS.

FOR EXPLANATION OF PLATE SEE PAGES 633 AND 634.



POLYCHAETOUS ANNELIDS FROM PHILIPPINE WATERS.

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