projects beyond the tip of the acicular lobe. Each face of the parapodia has two rounded papillae near the mid-line; other papillae are absent. The skin is somewhat wrinkled.

Four rows of macrotubercles are present; each macrotubercle is spherical and lacks a terminal papilla. Papillae are scattered on the ventrum and along the rows of macrotubercles on the dorsum.

All setae are composite; each has a slender appendage and a long, slender shaft.

S. longipalpa resembles S. corrugata and the other species discussed in relation to S. corrugata in that all these species have two pairs of lateral antennae and four rows of macrotubercles. It differs from the other species in this group in that both pre- and postsetal lobes are present; whereas both lobes, or at least the postsetal ones, are absent in the other species.

Distribution: Off New England to Brazil in depths from 196-2223 m.

Family GLYCERIDAE

Glycera mimica Hartman, 1965

Glycera mimica Hartman, 1965, p. 97.

New Records: Ch 87 (568); A 73 (367); A 58 (17); Ch 103 (20); GH 3 (3); A 62 (28); A 66 (76); A 64 (61); A 63 (10); A 65 (5); HH 3 (10); A 71 (5); A 95 (6); A 70 (2); Ch 100 (2); A 93 (1); A 120 (1); A 118 (12); A 119 (6).

Distribution: Slope and abyssal depths, 97 to 5023 m; Bermuda rise, 1135 to 2223 m.

Glycera tesselata Grube, 1863

Glycera tesselata Hartman, 1950, p. 77.

Record: A 58 (2).

Remarks: Prostomial frontal antennae are greatly prolonged; parapodia have two short presetal and two much longer postsetal lobes. The pharyngeal papillae are tall and slender so that the everted proboscis appears villose.

Distribution: Abyssal depth, 2000 to 2075 m; cosmopolitan.

Glycera spp.

New Records: Ch 89 (1); Ch 105B (21); Ch 76 (3); A 72 (9); A 126 (3); A 69 (1); Ch 84 (2); A 109 (2); A 121 (2); A 125 (3); A 122 (1); Ch 83 (fgm); A 155 (6).

Distribution: Slope and abyssal depths, 196 to 5000 m; equatorial region, 4825 m.

Family GONIADIDAE

Glycinde profunda, new species

(Plate 4, Figs. c-e)

Glycinde sp., Hartman, 1965, p. 99.

Records: Ch 76 (3); A 126 (1); A 70 (1); Ch 84 (1); KK 4 (3); A 121 (3, TYPE); A 122 (6); A 120 (12); Ch 34 (1); A 155 (8).

Description: The pigment pattern consists of paired, quadrate segmental patches, separated medially by a narrow, pale stripe and by segmental lines; the ventrum has three rows of similar patches, the median one broadest; lateral lines are pale and parapodia are pigmented like the dorsum. The body is long, linear and tapers forward to the slender, tapering prostomium, which is paler than the rest of the body. Length is 12 to 18 mm

and width 0.9 to 1.2 mm in its widest, or posterior, part. The body consists of 40 anterior uniramous setigers and about 28 posterior biramous segments; it is abruptly wider at segment 41.

The prostomium is long, conical, smooth, narrowest in front where the two pairs of biarticulated antennae are attached (Fig. c). Eyes are lacking. A midventral shallow groove extends throughout its length. The first segment is a complete ring with a pair of small neuropodia resembling those farther back but smaller. Parapodia increase in size posteriorly; all have composite spinigers in which the articulation is slightly heterogomph and the appendage is longer than wide, with minutely denticulate cutting edge. Dorsal and ventral cirri are broad, triangular to somewhat foliose, and the presetal lobe exceeds the acicular and postsetal lobes in length and size. Notopodia are first present from segment 40 or 41; each has simple, capillary setae and a single, embedded yellow acicula. At the origin of notopodia, the superiormost setae of neuropodia are prolonged (Fig. d) and the lower ones are gradually shorter-appendaged. All have heterogomph to nearly homogomph articulation, and slender appendages with denticulate cutting edge; an inferiormost neuroseta is shown in Fig. e.

The proboscis is covered with yellow, falcate spines in paired rows; those of area II (see Hartman, 1950, p. 46, for terminology) are largest and conspicuously falcate, with entire tip; subdistal rows are distally bifid, with the accessory tooth smaller and remote from the distal tooth. Pharyngeal processes on areas I and III to VI are low, inconspicuous mounds or are lacking. A long, basal area of the everted proboscis is smooth, lacking processes.

Glycinde profunda differs from known species of the genus in having a smooth, non-annulated prostomium with four short,

New Records: Ch 89 (28); Ch 105B (7); ?A 118 (100).

Remarks: Subacicular hooks are present from setiger 9 and occur singly in a fascicle. Individuals from Sta. A 118 have branchiae present from setiger 4, instead of 6 or 7, hence the questionable identity.

Distribution: Shelf and slope depths, 196 to 530 m; questionably Bermuda rise, 1135-1153 m.

Nothria textor, new species

(Plate 10, Figs. a-k)

Records: A 126 (6); Ch 84 (17); A 109 (2); A 125 (10); A 123 (1); Ch 100 (2); A 118 (45, TYPE); A 119 (72).

Description: Small, short, broad, ovigerous individuals occupy short, flat tubes constructed of fragments of translucent pteropod shells and not much longer than the enclosed animal. The specimen is conspicuous for the greatly prolonged first parapodia, which are directed forward (Fig. a). An ovigerous individual measures 4.3 mm long by 0.84 mm wide at the sixth, or widest, segment, and 0.5 mm wide at the first setiger; segments number about 16. The body tapers posteriorly to a narrow pygidium.

The prostomium is broadly rounded in front and nearly straight posteriorly; its frontal antennae are short and oval. Each of the five occipital tentacles has a short, smooth ceratophore, and a long, cirriform style; the median one is longest and extends back to about setiger 5; the outer lateral pair is shortest. Eyes are lacking. The peristomium has a pair of slender, smooth cirri inserted near the anterior end of the segment; each is about as long as the peristomium. Maxillae (Fig. c) are typical of the genus. Mandibles (Fig. b) have oblique, dentate cutting edges and long, free ends.

The first parapodium extends forward to the ends of the outer lateral occipital tentacles. Its setigerous lobe is distally expanded into a longer posterior, and a shorter, slenderer, anterior lobe; its dorsal cirrus is inserted near the midlength of the lobe and the ventral cirrus near the base of the parapodium. The first setiger is penetrated by three very long, composite falcigers, their bases penetrating only the first parapodial segment, and their distal ends terminating in a bifid tip covered by a rounded hood (Fig. d).

The second parapodia are less modified than the first; they are directed nearly laterally and are unique for having a thick fascicle of many pectinate or comb setae (Fig. h), each with the distal end flaring and inrolled; these setae are present in setigers 2 and 3 only. They are accompanied by slender setae (Fig. g) and broadly limbate setae (Fig. j) numbering five to nine in a fascicle, and about as many composite falcigers in which the appendage is short and distally bifid (Fig. f). Rodlike acicula are yellow, distally abruptly slenderer (Fig. i); they may project from the parapodium for a considerable distance. Simple, subacicular hooks are first present from setiger 7, number usually one or two in a fascicle; each is distally bifid (Fig. e).

Far posterior parapodia have small, short-appendaged composite falcigers with bifid tip (Fig. k); they occur singly in a fascicle. Calciferous glands are present in setigers 4 to 7. The alimentary tract of some individuals is distended with linear bundles of pteropod shells.

Nothria textor is allied to N. conchylega (Sars); both construct flat tubes and have greatly prolonged first parapodia, composite setae and subacicular hooks. The first differs from the second in being much smaller and having the first segment more prolonged; pectinate setae are present in only two, instead

of nine to twelve segments. N. textor occurs in greater depths than N. conchylega.

The specific name refers to the weaving together of shell fragments in constructing the tubes.

Distribution: Abyssal depths, 3806 to 4892 m; Bermuda rise, 1135 to 2223 m.

Nothria spp.

Nothria spp., Hartman, 1965, p. 106.

New Records: Ch 87 (12, jv); A 73 (11); A 64 (1); Ch 78 (2, fgm); A 155 (1).

Distribution: Slope and abyssal depths, 1102 to 4825 m; equatorial region, 4825 m.

Onuphis quadricuspis Sars, 1872

Onuphis quadricuspis Hartman, 1965, p. 107.

New Record: A 118 (45).

Distribution: Bermuda rise, 1135-1153 m; off Norway and northeast Atlantic Ocean, in deep water.

Family EUNICIDAE

Eunice norvegica (Linnaeus, 1767)

Eunice pennata Hartman, 1965, p. 115.

New Records: ?Ch 87 (18, jv); A 73 (5); Ch 103 (5).

Remarks: The synonymy of Eunice pennata (Müller, 1776) and Eunice norvegica (Linnaeus, 1767) is long since established.

Distribution: Slope depths, 1102 to 2022 m; western Europe.

Eunice sp.

Record: A 58 (2).

Distribution: Deep slope, 2000 ± 75 m.

Family LUMBRINERIDAE

Key to Species

1. With parapodial branchiae 2
1. Without branchiae 4
2. Branchiae palmately divided . . . . . Ninoe gayheadia
2. Branchiae simple or tufted 3
3. Branchiae of two kinds, simple parapodial, and eversible from the body wall . . . . . Ninoe dibranchia
3. Branchiae of a single kind, simple parapodial . . . . . Ninoe brevipes
4. Hooded hooks distally bifid 5
4. Hooded hooks distally multidentate 6
5. Bifid hook with accessory tooth at right angles to the shaft . . . . . Lumbrineris crassicephala
5. Bifid hook with accessory tooth oblique to the shaft . . . . . Lumbrineris paradoxa
6. Acicula black; hooded hooks simple . . Lumbrineris fragilis
6. Acicula yellow or translucent; hooks simple or composite 7
7. Hooded hooks composite, present from first or second setiger . . . . . Lumbrineris latreilli
7. Hooded hooks simple, present from first or later segment 8
8. Simple hooded hooks present from first or second setiger . . . . . Lumbrineris near tenuis
8. Simple hooded hooks not present before setiger 8-15 . . . . . Lumbrineris atlantica

Lumbrineris atlantica (Kinberg, 1865)

Lumbrineris atlantica Hartman, 1965, p. 116.

New Records: A 58 (10); A 66 (21); A 72 (6); A 64 (8); A 63 (5); A 65 (4); A 95 (16).

Remarks: The prostomium is conical, thick and longer than wide. Acicula and setae are yellow. Maxilla I is falcate, II has 4 teeth on a side; III and IV have one tooth each; the carriers are longer than wide; each is triangular and lacks lateral incision. Simple hooded hooks are first present from setiger 7 to 15; each is distally multidentate, with the main tooth a large fang at right angles to the shaft and surmounted by four to six very small teeth in a row at the edge of a broad base. Posterior parapodia have short lobes throughout.

Distribution: Abyssal depths, 2000 to 3753 m; Brazil.

Lumbrineris crassicephala Hartman, 1965

Lumbrineris crassicephala Hartman, 1965, p. 117, pl. 20.

New Records: Ch 87 (1); GH 3 (1); A 71 (1); A 95 (6); Ch 85 (6).

Remarks: The prostomium is prolonged, depressed and conical. Acicula are black and setae are fuscous. Hooded hooks are present from the first setiger; each is distally bifid with the accessory tooth at right angles to the shaft. Pointed setae are broadly limbate for a short distance; each terminates in a long slender tip.

Distribution: Slope and abyssal depths, 1102 to 3834 m.

Lumbrineris fragilis (Müller, 1776)

Lumbrineris fragilis Hartman, 1965, p. 118.

New Record: Ch 87 (60).

Remarks: Specimens are large, measure to 60 mm long. Acicula are black. Hooded uncini are first present from setiger 21 to 41, and continue through the rest of the body. The maxillary formula is 1 + 4 + 2 + 1. Postsetal lobes are short and triangular, but not branchial.

Distribution: Slope depths, 530 to 1102 m; North Atlantic and Arctic oceans.

Lumbrineris latreilli Audouin and Milne Edwards, 1834

Lumbrineris latreilli Hartman, 1965, p. 118.

New Records: Ch 89 (52); Ch 105B (3); Ch 87 (130); A 73 (596); Ch 103 (26); A 62 (34); A 71 (2).

Distribution: Slope and abyssal depths, 196 to 4773 m; off western and southern Europe; cosmopolitan.

Lumbrineris paradoxa (Saint-Joseph, 1888)

Lumbrineris paradoxa Hartman, 1965, p. 119.

New Record: A 66 (14).

Distribution: Abyssal depth, 2802 m; north and east Atlantic Ocean, in deep water.

Lumbrineris near tenuis (Verrill, 1873)

Lumbrineris tenuis Hartman, 1942, p. 54.

Lumbrineris tenuis Hartman, 1944b, p. 340, pl. 17.

Records: Ch 105B (696+); Ch 87 (2 large, 28 jv).

Diagnosis: The body is long, slender, terete; parapodia differ little from anterior to posterior ends except that the postsetal lobe in posterior segments is prolonged and obliquely erect. The prostomium is conical and a little longer than wide. Simple, hooded uncini are present from the first or second

setiger. Setae and acicula are yellow or translucent. The maxillary formula is 1 + 5 + 1 + 1.

These specimens differ from typical Lumbrineris tenuis in having hooded hooks present from the first or second instead of the sixteenth parapodium. Maxilla II has five teeth. Posterior postsetal lobes are only slightly prolonged. The pygidium terminates in four, short, conical papillae. The stem originates from Massachusetts and New Jersey in littoral depths, sand; the present specimens come from slope depths.

Distribution: Slope depths, 530 to 1102 m.

Lumbrineris, sp. A

Record: A 118 (42).

Diagnosis: Small, slender individuals measure 4.5 mm long by 0.5 mm wide and consist of more than 25 setigers; a tail end is lacking. The prostomium is thick, conical and longer than wide. Acicula and setae are yellow. Simple hooded hooks are present from setiger 4; each hook is distally multidentate. The maxillary formula is 1 + 4 + 1 + 1. Parapodia have short postsetal lobes throughout. These specimens differ from Lumbrineris impatiens (Claparède, 1868) in being much smaller and having maxillary III with only one tooth.

Distribution: Bermuda rise, 1135-1153 m.

Lumbrineris, sp. B

Record: A 119 (5).

Remarks: These individuals differ from Lumbrineris, sp. A (above), in that the maxillary formula is 1 + 2 + 1 + 1 instead of 1 + 4 + 1 + 1. Hooded uncini are simple, have a large fang surmounted by three small teeth in a row, the teeth diminishing in size distally. Acicula are yellow.

Distribution: Bermuda rise, 2095-2223 m.

Lumbrineris spp.

Records: Ch 103 (1); Ch 76 (2); A 95 (1); A 69 (1); A 70 (6); A 124 (1); Ch 84 (16); KK 4 (2); A 121 (2); A 125 (2, fgm); A 122 (7); A 123 (1); Ch 100 (11); Ch 83 (3); A 93 (2); A 120 (18); Ch 34 (1); A 155 (5).

Remarks: Most specimens are short or macerated fragments.

Distribution: Abyssal depths, 2022 to 5023 m; equatorial region, 4825 m.

Ninoe brevipes (McIntosh, 1903), new combination
(Plate 11, Fig. a)

Lumbriconereis brevipes McIntosh, 1903, p. 147.
Lumbrineris brevipes Pettibone, 1963, p. 260 (in part).

Records: Ch 87 (58); A 73 (55); A 58 (1); ?GH 4 (1); A 62 (5); A 66 (fgm); A 64 (6); A 63 (1); HH 3 (1); A 95 (1); Ch 78 (5); JJ 1 (1); ?Ch 84 (fgm); A 155 (1).

Description: Specimens are pale or white, with black embedded acicula. Length of 77 anterior segments is 26 mm and width 2 or 3 mm. The prostomium is long, conical, depressed and about twice as long as wide at the base; a deep nuchal pouch is present at its middorsal base. The peristomium comprises two smooth rings, of which the first is the longer and the second one is as long as the first setiger. Parapodia are plain, lateral extensions and nowhere conspicuous. A small digitate lobe, with a vascular loop (hence branchial), is present from about setiger 10 to 30 or slightly beyond (Fig. a). The black acicula show through the body wall most noticeably in posterior segments, three to five accompanying the fascicle of pale setae. Acicula are distally prolonged and end in curved tips which project from

the parapodia.

The maxillary formula is 1 + 3 + 1 + 1, as originally described. Specimens from Sta. Ch 78 are maculate, the dorsum marked with splashes of rust-colored pigment; others are not so marked.

This species is newly referred to Ninoe because it has parapodial branchiae; they are present between segments 10 and 30. The prostomium has posterior pouches characteristic of the genus Ninoe. N. brevipes differs from N. fusca Moore (1911, p. 285) in that the second has a small papilla in the nuchal pouch and the anterior margin of the peristomium is crenulated; maxilla II has 2 teeth.

Distribution: Slope and abyssal depths, 1102 to 4825 m; northeast Atlantic Ocean.

Ninoe dibranchia, new species

(Plate 11, Figs. b, c)

Records: Ch 87 (1, TYPE); A 66 (2); ?A 126 (2 large, 2 jv); Ch 85 (2).

Description: Length of a larger specimen is 20 mm for 92 setigers; width is to 3 mm; a tail end is lacking. The prostomium is conical, slightly depressed, about as long as broad. A deep pouch occurs at its posterior margin in middorsal position. The lower lip forms a triangular field extending through the two rings of the peristomium; it has ten crenulations at its anterior margin. The peristomium consists of two smooth, equally long rings. The first setiger has limbate setae and composite hooks in vertical series. The hooks number four to eight and are in the middle of the row. Acicula are pale or yellow and setae are somewhat dusky. Compound hooks are present from the first through the fifteenth setiger, then are replaced by simple hooded

hooks. Composite hooded hooks have an appendage longer than wide and distally multidentate (Fig. c); the distal ends resemble those of the simple hooks (Fig. b).

A small, triangular lobe with vascular loop, in supra-acicular position, is first present from parapodium 25; this lobe enlarges slightly farther back and resembles a similar lobe in Ninoe brevipes (above). Accessory branchiae, forming papillated tufts, occur in median and posterior segments; each of the tufts has a vascular loop. The tufts emerge from the ventral ends of neuropodia and are continued posteriorly through segment 39 (a posterior end is lacking); they appear to be retractile, as shown by the variable degree to which they are extended; when completely withdrawn, they appear as a slightly rugose surface below the neuropodium.

The mandibular apparatus was examined by dissection. Mandibles are present and only slightly calcified. Maxillary formula is 1 + 2 + 1 + 1; maxilla II has two short, thick, blunt, widely separated teeth.

Ninoe dibranchia differs from N. brevipes in having two kinds of branchiae; acicula and setae are yellow and maxilla II has two teeth.

Distribution: Slope and abyssal depths, 1102 to 3834 m.

Ninoe gayheadia Hartman, 1965

Ninoe gayheadia Hartman, 1965, p. 121.

Ninoe spp., Hartman, 1965, p. 122.

New Records: A 109 (1); II 2 (fgm); NN 1 (12); Ch 33 (10).

Distribution: Slope and abyssal depths, 520 to 4950 m.

Family ARABELLIDAE

Key to Species

1. Maxillae reduced; parasitic in other polychaetes . . . . . Haematocleptes leaenae
1. Maxillae well developed; not parasitic 2
2. Posterior parapodia with prolonged presetal and postsetal lobes . . . . . Drilonereis longa
2. Posterior parapodia without prolonged setal lobes . . . . . Drilonereis falcata minor

Drilonereis sp.

Drilonereis sp., Hartman, 1965, p. 124.

New Records: Ch 105B (1); A 58 (2).

Distribution: Slope depths, 530 to 2000 m.

Genus Haematocleptes Wirén, 1886

Type H. terebellidis Wirén, 1886

Haematocleptes Wirén is transferred from family LUMBRINERIDAE to ARABELLIDAE (Fauchald, 1970) because the maxillary apparatus has a long, unpaired piece attached ventrally to the slender, paired carriers (Hartman, 1944a, p. 170); in the LUMBRINERIDAE the carriers are short, broad and lack an unpaired piece. The mandibles consist of a pair of flat pieces approaching medially but not fused. The prostomium is longer than wide and depressed. Parapodia are seemingly uniramous; the reduced notopodium is represented by an embedded aciculum in a short, fleshy lobe; the larger neuropodium has a postsetal lobe, an embedded aciculum, and several slender, distally pointed, simple setae.

Haematocleptes differs from other arabellids in having a greatly reduced pharyngeal apparatus; forceps and maxillary

pieces are reduced to two pairs of minute, bifid plates. The prostomium lacks eyes. Parapodia lack projecting acicular spines. A single species, H. terebellidis Wirén, endoparasitic in Terebellides stroemii Sars, has been described. A second species, H. leaenae, new species, comes from the body cavity of another terebellid (Leaena minima, see below).

Haematocleptes differs from Oligognathus Spengel, 1881, parasitic in Bonellia (echiuroid), in having two maxillae, each of which is distally bifid instead of entire. It also differs from Labidognathus Caullery, 1914, which has three pairs of maxillae, each unidentate.

Haematocleptes leaenae, new species

(Plate 12, Figs. a-d)

Record: Ch 87 (3, TYPE).

Description: The body is pale, white, linear and tapers slightly posteriorly; it is smooth, glistening and somewhat depressed; the ventrum has a longitudinal median groove. Length attains 8 mm, width less than 1 mm and setigers number more than 100. The prostomium is a simple, broadly conical lobe without eyes. The peristomium consists of two simple, smooth rings. Setigers are short, uniformly uniannular, with lateral parapodia; each has slender, pointed setae and simple, embedded acicula.

The maxillary apparatus is greatly reduced, inconspicuous, and its parts fragile and minute. The largest are the mandibles and carriers. Each of the mandibles is a triangular piece (Fig. d); the two approach medially but do not fuse. Maxillae have long carriers completely fused medially to resemble a simple, long brown stem, 40 to 50 times as long as wide. The unpaired ventral piece is slender and shorter. Maxillae are reduced to a pair of small, hard, dark brown pieces free from the carriers;

the two on a side are so closely appressed as to lie over one another; under high magnification, each can be seen to have two marginal teeth (Fig. c).

Parapodia are simple, compact, with short presetal and slightly longer postsetal lobes, between which the yellow acicula and setae project; they are best seen by removing the lobes from the body wall. When the fascicle is laid bare, a thick ventral and a slenderer dorsal aciculum and several much slenderer setae are exposed (Fig. b). H. leaenae was taken from the body cavity of Leaena minima (see below).

H. leaenae approaches Haematocleptes terebellidis Wirén (1886), from western Sweden, in its general body plan. The two differ in that the first has maxillae distally bifid, the second has them entire; the first has shorter postsetal lobes than the second; the first is parasitic in a terebellid, the second in a trichobranchid polychaete. The first originates from the northwestern Atlantic Ocean, in slope depths, the second off Sweden, in 130 m.

Distribution: Slope depth, 1102 m.

Family DORVILLEIDAE

Dorvillea rudolphi anoculata Hartman, 1965

Dorvillea rudolphi anoculata Hartman, 1965, p. 124.

New Records: Ch 105B (1); Ch 87 (7); A 73 (5); GH 3 (1); A 118 (9).

Distribution: Slope and abyssal depths, 97 to 2478 m; Bermuda rise, 1135-1153 m.

Dorvillea sp.

Record: A 122 (1).

Distribution: Abyssal depth, 4833 m.

Genus Ophryotrocha
Claparède and Metschnikow, 1869

Ophryotrocha sp.

Records: Ch 103 (20); A 66 (2); A 95 (11).

Remarks: An ovigerous specimen, from Sta. A 95, measures 3 mm long by 0.5 mm wide and consists of 28 setigers; the black jaws are visible in three anterior segments.

Distribution: Abyssal depth, 2022 to 3753 m.

Protodorvillea sp.

Protodorvillea sp., Hartman, 1965, p. 127.

New Record: A 73 (1).

Distribution: Slope depth, 1330-1470 m.

dorvilleid

Record: Ch 85 (fgm).

Distribution: Abyssal depth, 3834 m.

Family ORBINIIDAE

Califia schmitti (Pettibone, 1957)

Califia schmitti Hartman, 1965, p. 127.

New Records: Ch 87 (fgm); A 73 (8); A 58 (1); Ch 99 (1).

Distribution: Slope and abyssal depths, 1330 to 5000 m.

Haploscoloplos fragilis intermedius Hartman, 1965

Haploscoloplos fragilis intermedius Hartman, 1965, p. 128.

New Record: A 73 (29).

Distribution: Slope depth, 1330 m.

Haploscoloplos spp.

Records: A 66 (2); A 95 (2); A 120 (2); Ch 81 (1).

Remarks: Most specimens are fragments or juveniles; they have only pointed setae in thoracic neuropodia as is characteristic of the genus; branchiae are first present from setiger 6 (Sta. A 95) or not before setiger 18 (Sta. A 66).

Distribution: Abyssal depths, 2802 to 5042 m.

Microrbinia linea Hartman, 1965

Microrbinia linea Hartman, 1965, p. 129.

New Records: Ch 89 (3); ?A 71 (3); A 70 (7).

Distribution: Slope and abyssal depths, 196 to 4680 m.

Phylo felix Kinberg, 1866

Phylo felix Hartman, 1965, p. 130.

New Records: Ch 89 (3); Ch 105B (fgm).

Distribution: Slope depths, 196 to 530 m; Brazil; eastern Pacific Ocean.

Scoloplos spp.

Records: Ch 87 (11); A 62 (2); A 66 (17); A 64 (7); ?A 65 (1); A 70 (8); Ch 84 (1, fgm); A 125 (1); Ch 80 (1); ?A 119 (1).

Remarks: More than one species may be included. Specimens from Sta. A 66 have branchiae present from setiger 4; the thorax consists of 10 setigers and one transitional segment; the prostomium is long, triangular and lacks eyes, and the peristomium is a large, smooth ring merging with the first setiger. Abdominal neuropodia have thick, projecting spines as is characteristic of the subgenus *Leodamas* Kinberg. In some specimens such neuropodial spines are absent. All specimens have thoracic neuropo-

dial spines, allying them with Scoloplos.

Distribution: Slope and abyssal depths, 1102 to 4970 m; Bermuda rise, 2095-2223 m.

orbiniid, unknown genus and species

(Plate 11, Figs. d-f)

scalibregmids, Hartman, 1965, p. 185 (in part).

Record: OO 2 (fgm).

Description: A small fragment consists of 9 thoracic and 15 abdominal setigers; it measures 5.3 mm long; a short posterior end is lacking. The body is slender, broadest in midthoracic segments and linear in abdominal segments. The prostomium is broadly rounded in front, as in Naineris, and lacks eyes. The slightly everted, pouchlike proboscis projects forward under the prostomium. The first visible segment, or peristomium, is about twice as long as the prostomium and has a pair of short, papillar lobes (Fig. d) inserted far forward, in dorsolateral position; this is not known in other members of the family.

The second segment is the first setigerous; it is as long as the peristomium and somewhat wider; its parapodia are biramous and lateral, with setae long and pointed. The third segment is less than half as long as the preceding, but wider; a slender digitate notopodial cirrus is emergent above the setal fascicle, and a similar cirrus below the neurosetae; all other thoracic parapodia are similar to the second one. Most thoracic setae are slender, distally pointed and laterally crenulated (Fig. e). Shorter, slightly thicker furcate setae (Fig. f) are first present from notopodia 5; they increase to two or three in a fascicle and continue in abdominal segments. Each is distally bifurcate, with the tines unequally long and distally truncate; the shaft is roughly spinous for a distance surpassing the length of

the tines.

Long, simple, straplike branchiae, exceeding the postsetal lobes in length, are present from the first abdominal, or tenth, setiger. Each is inserted above and within the base of the dorsal cirrus; the two of a pair leave a broad middorsum exposed.

The specimen is unique for having peristomial cirri; thoracic furcate spines are already present in thoracic segments, and branchiae are limited to abdominal segments. The specimen grossly resembles Orbiniella drakei Hartman (1967, pl. 34) from Drake Passage, off Cape Horn, but the north Atlantic specimen is an ORBINIINAE instead of a PROTOARICIINAE, having only one anterior asetigerous segment.

Distribution: Abyssal depth, 4667 m.

Family PARAONIDAE

Aedicira belgicae (Fauvel, 1936)

Aedicira belgicae Hartman, 1965, p. 133.

New Records: Ch 87 (60); A 73 (22); Ch 103 (1); A 62 (2); A 63 (1); A 65 (2); A 95 (3); Ch 78 (1); A 118 (14); A 119 (10).

Remarks: The prostomium is broadly rounded in front and trilobed; its antenna may be very long, extending back through the branchial region, or much shorter. Setae are present from the first visible segment. Branchiae occur from setiger 4, and number eight to 31 pairs; they diminish in size posteriorly. Largest sized individuals and maximum numbers occur in slope depths.

Distribution: Slope and abyssal depths, 300 to 4950 m; Bermuda rise, 1135 to 2223 m; Antarctic and North Atlantic Oceans, in deep water.

Aedicira parva, new species

(Plate 13, Figs. a-c)

Records: Ch 105B (8); Ch 87 (143); A 73 (90, TYPE); A 58 (1); A 95 (13); A 121 (3); Ch 100 (10); Ch 83 (3).

Description: Mature individuals measure 3 to 4 mm long by 0.6 mm wide and consist of 28 to 36 segments. The pre- and post-branchial segments are cylindrical; branchial segments are short and separated by deep segmental grooves. The prostomium is sub-triangular, depressed and about as wide as long; it has a pair of red eyes at postectal margins, and a short or long whiplike median antenna reaching back through the first four segments, inserted slightly behind the prostomial midlength; the antenna is inflated basally and tapers at the tip (Fig. a). The first segment is the first setigerous; its ventrum forms the lower lip. Thoracic parapodia are biramous and lateral; the first is the smallest and its setae entirely slender, limbate, distally pointed. Second and third segments resemble the first but are increasingly larger; each notopodium has a slender dorsal cirrus behind the spreading setal fascicle. Neuropodia are larger than notopodia, have more numerous setae which are most conspicuous in setigers 3 to 9.

Branchiae are first present from setiger 4 and continue on 11 (or on 8 to 12) segments; median branchiae are largest and the two posterior pairs are smallest. Each is broadest at mid-length, somewhat flattened and marginally fimbriated; the tip is slenderer and tapers to an acute tip. The last two pairs of branchiae are distally surpassed by the long, slender dorsal cirrus.

Abdominal segments have reduced parapodial lobes, ventro-lateral in position, near the posterior end of the segment.

Their notopodia are reduced, with a prolonged, very slender dorsal cirrus; setae are all very slender and capillary (Fig. c). Neuropodia are larger than notopodia, have similar though thicker capillary setae (Fig. b); each has an attenuated tip which is absent in inferiormost setae.

Aedicira parva differs from other species of the genus in its much smaller size, in having prostomial eyes, and in its long, tapering antenna; its branchial arrangement differs also. Abdominal neurosetae are of two kinds: longer, distally attenuate, and slender capillaries.

Distribution: Slope and abyssal depths, 530 to 5000 m.

Aricidea abranchiata Hartman, 1965

Aricidea abranchiata Hartman, 1965, p. 136.

New Record: A 73 (20).

Remarks: Branchiae are absent; posterior neuropodia have aristate, acicular spines and capillary setae, in alternating rows.

Distribution: Slope depth, 1330 m.

Aricidea neosuecica Hartman, 1965

(Plate 13, Figs. d-f)

Aricidea neosuecica Hartman, 1965, p. 137.

New Records: Ch 87 (78); Ch 103 (6); A 66 (18); Ch 76 (1); A 72 (3); ?A 64 (4); A 65 (8); A 71 (10); Ch 84 (3).

Diagnosis: The body is broadest in segments 3 to 6, then tapers posteriorly. The prostomium is trilobed, has a large median and a pair of smaller lateral parts. The median antenna is short, clavate, inserted near the postmedian end of the middle lobe (Fig. d). Parapodia are first present from the first postoral segment; setae are in biramous fascicles, surpassed in size

and length by the setae of the second segment. A small dorsal cirrus is visible from the first parapodia and increases in size thereafter. Branchiae are first present from setiger 4 and continue posteriorly on eight to 11 segments; those of the antero-median region are largest, and those farther back diminish in size; all terminate in a short, slender filament (Fig. d). The dorsal cirrus remains long, slender, filiform, to the posterior end of the body.

Setae through branchial segments are slender, capillary (Fig. e). Thicker curved, acicular spines occur singly in a neuropodium from setiger 19, with longer, slender capillary setae; they increase in number to four or five in a series, in posterior segments; all are alike, distally curved (Fig. f) and thicker than other setae.

Most specimens are pale, some have black specks in segmental arrangement across the dorsum, forming rows at the anterior end of the segment; or the specks may be continued on other parts of the body.

Distribution: Slope and abyssal depths, 1102 to 4749 m; southern California.

Aricidea suecica Eliason, 1920

Aricidea suecica, anoculate, Hartman, 1965, p. 137.

New Records: A 73 (27); A 58 (13); GH 3 (3); A 62 (1).

Remarks: Branchiae number 10 or 12 to 25 pairs; they are first present from setiger 4. Postbranchial neurosetae are of two kinds; some are thick, sigmoid and lack arista; others are capillary.

Distribution: Slope and abyssal depths, 97 to 2496 m; northwestern Europe.

Aricidea tetrabranchia, new species

(Plate 13, Figs. g-k)

Records: Ch 87 (67); A 73 (476, TYPE); A 58 (1); Ch 103 (17); A 62 (10); A 66 (1); A 63 (7); A 95 (9); ?A 155 (4).

Description: The body is broad, rectilinear, depressed; it is pale with massed black specks in the ocular regions, across the dorsum of anterior segments, and on parapodia between the rami, especially in the abdominal region. A small, complete specimen measures 7 mm long by 0.6 mm wide and consists of 60 setigers; others range from 5 to 7 mm long by 1.2 to 3 mm wide without, and 2 to 4 mm with setae, in the branchial region. Segments number 52 to 100 or more; they are unusually broad and short, with width/length ratio about 10/1 in branchial segments, diminishing posteriorly. Segments are uniannulate, with distinct segmental grooves. The prostomium is broad, truncate in front, and consists of five lobes; a large median part is somewhat set off from the smaller lateral parts by oblique grooves (Fig. g). A prostomial antenna is lacking, but a low mound, believed to represent its base, can be seen near the postmedian position. The lateral parts of the prostomium are continued ventrally to form the sides of the oral aperture (Fig. h); the lower lip is formed by the anterior margin of the first setigerous segment.

The first segment has well developed biramous, setal fascicles which increase in size posteriorly; its dorsal cirrus is minute. The second and lateral setigers have increasingly longer dorsal cirri, which are continued posteriorly through branchial and abdominal segments; each is very slender and threadlike in postbranchial segments.

Branchiae are first present from setiger 4 and number only four pairs; all are similar, flattened, directed over the dorsum;

they are longer than their accompanying dorsal cirri. The body is broadest in the branchial region. Parapodia are small, papillar, and have inconspicuous lobes. Notosetae are long, slender, smooth capillaries. Neurosetae are similarly long, slender but more numerous; those in postbranchial segments are prolonged and resemble natatory setae; they are accompanied by shorter capillary setae. In far posterior segments, behind setiger 40, neuropodia have acicular spines accompanied by slender capillary setae (Fig. j); each spine is curved, falcate (Fig. k), most conspicuous in the lower end of the fascicle, where they number eight or ten in a fascicle; the capillary setae are much longer and about a fourth as thick as the spines.

The posterior end tapers and terminates in three ventral, cirriform processes with the median one shortest (Fig. i). Ovigerous individuals have thick, white, podial glandular areas in postbranchial segments.

This species bears a gross resemblance to Aedicira belgicae (above) in having a broad, lobed prostomium, flat depressed body, and pointed setae through a long region. It differs in having acicular spines in posterior neuropodia; branchiae are present on only four segments.

Distribution: Slope and abyssal depths, 1102 to 3753 m; questionably equatorial region, 4825 m.

Aricidea spp.

Aricidea spp., Hartman, 1965, p. 138.

New Records: Ch 89 (8); A 69 (fgm); A 125 (3); A 122 (3); ?Ch 100 (1); A 120 (18).

Remarks: A fragment from Sta. Ch 100 is unique for having a short, median antenna inserted on the anterior third of the prostomium; a pair of nuchal papillae is visible at postlateral

margins of the prostomium. Setae are present from the first visible segment and branchiae from setiger 4.

Distribution: Slope and abyssal depths, 196 to 5018 m.

Paradoneis abranchiata Hartman, 1965

Paradoneis abranchiata Hartman, 1965, p. 139.

New Records: A 66 (18); A 64 (2); A 63 (6); A 65 (6); A 95 (4); ?A 69 (1).

Distribution: Abyssal depths, 2000 to 4850 m.

Genus Paraonides Cerruti, 1909

Type P. neapolitana Cerruti, 1909

The prostomium is long, conical and lacks an antenna. The first segment is setigerous. Branchiae are present from setiger 4 and number nine to eleven pairs. Setae are entirely capillary in notopodia and neuropodia, or limbate setae occur from about parapodium 12; all setae terminate in tapering points.

Paraonides monilaris, new species

(Plate 14, Figs. a-c)

Records: A 72 (1); A 95 (165); A 126 (200, TYPE); Ch 85 (4); Ch 84 (4); A 125 (3); A 155 (5).

Description: Complete individuals are small and threadlike; length is 3.8 to 8 mm, width about 0.23 mm, and segments number to 71. The first segment is setigerous and biramous; its parapodia are lateral. The prostomium is a short, depressed, semicircular lobe without eyes, or eyes vaguely present (Fig. a). Branchiae are absent. Segments are moniliform, wider than long, and their setae are directed laterally in slender fascicles. All setae are long, slender and capillary. A small, slender,

notopodial lobe or dorsal cirrus is present from the second setiger; it increases in length to setigers 3 to 8, then diminishes through a long region, and is again conspicuous in posterior segments, where it is directed laterally (Fig. b). Ventral cirri are lacking. The posterior end terminates in a ring with a pair of digitiform lateral processes and a similar midventral one (Fig. c).

Paraonides monilaris differs from P. neapolitana Cerruti in lacking branchiae; the prostomium is short and semicircular instead of long and conical; setae are capillary instead of partly limbate. Specimens from Sta. A 155 differ from others in having dark patches (shown in Fig. a), resembling simple eyespots, at the sides of the prostomium; in other respects they agree with the others.

Distribution: Abyssal depths, 2864 to 4825 m; equatorial region, 4825 m.

Paraonides rubriceps, new species

Records: Ch 87 (177, TYPE); A 66 (40); A 65 (5); A 95 (1).

Description: All specimens are small and threadlike; they are conspicuous for the reddish brown color of the prostomium, hence the specific name. Length is 3 mm, width 0.2 mm, and segments number more than 46; a tail end is lacking. The first three segments are setigerous and abranchiate; the next five to eleven segments are branchial and are followed by 36 or more postbranchial segments. The prostomium is depressed, conical; its anterior end is reddish brown, fading posteriorly. A pair of nuchal slits is visible at its outer posterior margins; eyes are absent. The first 14 segments have the largest setal fascicles; thereafter setae diminish in number and length. Branchiae are first present and large on setiger 4, and abruptly absent

from setigers 6 to 12.

Abdominal notopodia have long, slender dorsal cirri which continue long throughout the body; the corresponding setigerous lobes are reduced and inconspicuous. Notosetae are few in a fascicle, and shorter than the accompanying more numerous neurosetae; the latter number six to ten in a bundle. All setae are capillary and smooth along their cutting length.

P. rubriceps differs from the branchiate P. cerruti in lacking prostomial eyes; setae are capillary instead of partly limbate. It differs from P. monilaris in having branchiae.

Distribution: Slope and abyssal depths, 1102 to 3753 m.

Paraonis cornatus Hartman, 1965

Paraonis cornatus Hartman, 1965, p. 140.

New Records: Ch 105B (98); A 73 (2); A 58 (14); GH 3 (1); A 63 (7); A 65 (2); A 71 (9).

Distribution: Slope and abyssal depths, 400 to 2946 m.

Paraonis gracilis (Tauber, 1879)

Paraonis gracilis Hartman, 1965, p. 141.

New Records: Ch 89 (14); Ch 105B (140); Ch 87 (28); A 63 (4).

Remarks: Branchiae are present from setiger 4, or not before setiger 7 (in Sta. Ch 105B); they number 8 to 12 pairs.

Distribution: Shelf and abyssal depths, 97 to 2891 m.

Paraonis gracilis, aristate, Hartman, 1965

Paraonis gracilis, aristate, Hartman, 1965, p. 142.

New Record: A 95 (12).

Distribution: Abyssal depth, 3753 m.

Paraonis reductus Hartman, 1965

Paraonis reductus Hartman, 1965, p. 142.

New Records: Ch 87 (2); A 73 (32); A 58 (21); A 62 (1); A 63 (1); A 71 (3); Ch 85 (1); ?A 93 (2).

Remarks: The body is red, the anterior end pale. The first segment is setigerous. Branchiae are first present from setiger 7 or 8 and number seven to thirteen pairs; all are small and increase in size only slightly posteriorly. Abdominal segments are short, moniliform. Their neuropodia have thick, curved acicular spines. One individual with an everted pouchlike proboscis shows it to be ciliated. Posterior neuropodia have up to five curved, distally pointed acicular spines accompanied by very slender capillary setae. The corresponding notopodia are smaller and have only slender capillary setae. Some individuals are ovigerous.

Distribution: Slope and abyssal depths, 1102 to ?5007 m.

Paraonis uncinatus Hartman, 1965

Paraonis uncinatus Hartman, 1965, p. 142.

New Records: Ch 105B (2); Ch 87 (12); A 66 (7); A 65 (3); A 71 (2); A 95 (35); A 122 (1); Ch 100 (3); A 118 (142); A 119 (2).

Remarks: Some individuals seem to lack branchiae, or they have fallen away.

Distribution: Slope and abyssal depths, 530 to 4892 m; Bermuda rise, 1135 to 2223 m.

paraonids

paraonids, Hartman, 1965, p. 143.

New Records: A 66 (58); Ch 85 (7); Ch 99 (fgm); A 119 (10).

Distribution: Abyssal depths, 2802 to 4977 m; Bermuda rise, 2095 to 2223 m.

Family APISTOBRANCHIDAE

Apistobranchus typicus (Webster and Benedict, 1887)

Apistobranchus typicus Hartman, 1965, p. 145.

New Record: Ch 105B (14).

Distribution: Slope depth, 530 m.

Family SPIONIDAE

Laonice antarcticae Hartman, 1953

Laonice antarcticae Hartman, 1965, p. 147.

New Records: Ch 87 (409); Ch 103 (30); A 72 (1).

Distribution: Slope and abyssal depths, 1102 to 2864 m.

Laonice cirrata (Sars, 1851)

Laonice cirrata Hartman, 1965, p. 148.

New Record: A 73 (205).

Distribution: Slope depth, 1470-1330 m.

Laonice spp.

Records: Ch 89 (5); HH 3 (fgm); A 95 (5); Ch 100 (1).

Distribution: Slope and abyssal depths, 196 to 2892 m.

Polydora sp.

Records: Ch 89 (27); Ch 85 (fgm).

Distribution: Slope and abyssal depths, 196 to 3834 m.

Prionospio cirrifera Wirén, 1883

Prionospio cirrifera Hartman, 1965, p. 150.

New Records: Ch 105B (140).

Distribution: Slope and abyssal depths, 530 to 2900 m; Bering sea; Pacific Ocean; cosmopolitan.

Prionospio ehlersi Fauvel, 1928

Prionospio ehlersi Hartman, 1965, p. 151.

New Record: Ch 87 (2).

Distribution: Slope depth, 1102 m; eastern mid-Atlantic Ocean.

Prionospio steenstrupi Malmgren, 1867

Prionospio steenstrupi Hartman, 1965, p. 152.

New Records: A 66 (20); A 63 (2); HH 3 (2); A 71 (2); A 95 (242); ?A 93 (9).

Distribution: Slope and abyssal depths, 200 to 5007 m; northwestern Europe, in deep water.

Prionospio spp.

Prionospio spp., Hartman, 1965, p. 152.

New Records: Ch 89 (57); Ch 87 (166); A 73 (98); A 58 (3); Ch 103 (9); A 62 (1); A 66 (4); Ch 76 (8); A 72 (1); A 64 (7); A 63 (5); A 65 (22); HH 3 (47); A 126 (6); Ch 85 (2, fgm); A 70 (9); A 121 (4); ?A 125 (4); A 122 (12); Ch 100 (38); Ch 83 (1); A 120 (12); A 118 (1); A 119 (14).

Distribution: Slope and abyssal depths, 196 to 5023 m.

Spiophanes kroyeri Grube, 1860

Spiophanes kroyeri Hartman, 1965, p. 153.

New Records: Ch 89 (1); Ch 105B (1); Ch 87 (37); A 73 (217); A 62 (36); A 66 (301); ?A 72 (8); A 65 (19); A 71 (1); A 95 (140); ?Ch 78 (3).

Distribution: Slope and abyssal depths, 196 to 3828 m; Greenland; Arctic Ocean; northeastern Europe, in deep water.

Spiophanes spp.

Records: A 58 (4); Ch 103 (2); A 64 (48); A 63 (23); A 126 (1); Ch 84 (100); A 122 (20); ?Ch 100 (3); A 120 (22); A 155 (6).

Distribution: Abyssal depths, 2000 to 5023 m; equatorial region, 4825 m.

spionids, unidentified

spionids, Hartman, 1965, p. 155.

New Records: Ch 87 (50); A 73 (3); A 66 (1); A 71 (22); A 69 (7, fgm); A 70 (2); A 121 (10); A 122 (5); Ch 83 (1); A 120 (1); Ch 81 (fgm); A 118 (1); A 119 (1); A 155 (5).

Distribution: Slope and abyssal depths, 1102 to 5042 m; Bermuda rise, 1135-2223 m; equatorial region, 4825 m.

?spionid, unknown

?spionid, Hartman, 1965, p. 154, pl. 29.

New Record: Ch 84 (1).

Distribution: Abyssal depth, 4747 m.

Family MAGELONIDAE

Magelona capax Hartman, 1965

Magelona capax Hartman, 1965, p. 158, pl. 31.

New Record: Ch 84 (3).

Distribution: Abyssal depth, 4747 m.

Magelona spp.

Magelona sp., Hartman, 1965, p. 159.

New Records: A 95 (18); A 126 (1); A 121 (1); A 122 (1); KK 1 (1); ?Ch 83 (2).

Distribution: Abyssal depths, 3753 to 5000 m.

Family DISOMIDAE

Disoma watsoni Fauvel, 1916

Disoma watsoni Hartman, 1965, p. 159.

New Records: Ch 105B (1); Ch 87 (60); A 73 (38); A 58 (15); Ch 103 (20); A 95 (1).

Remarks: Most individuals are small to minute. One, from Sta. A 58, is posteriorly complete; its pygidium is bounded by a fascicle of brown, slender cirri directed back; acicular spines are black.

Distribution: Slope and abyssal depths, 530 to 3753 m; Nova Scotia, in deep water.

Disoma spp.

Records: A 126 (3, fgm); A 70 (fgm); Ch 84 (fgm); A 125 (1); A 124 (fgm).

Distribution: Abyssal depths, 3806 to 4862 m.

Family POECILOCHAETIDAE

Poecilochaetus bermudensis Hartman, 1965

Poecilochaetus bermudensis Hartman, 1965, p. 160, pl. 32.

New Record: A 119 (1).

Distribution: Bermuda rise, 2095-2223 m.

Poecilochaetus fulgoris Claparède, 1875

Poecilochaetus fulgoris Hartman, 1965, p. 161, pl. 33.

New Records: Ch 87 (9); A 73 (5).

Remarks: The legend of Plate 33 (loc. cit.) should read: a, anterior end of body in dorsal view, x 31; b, anterior end, in ventral view, x 30; c, acicular spine and seta, from second parapodium, x 288; d, second parapodium, in anterior view, x 62; e, parapodium 14, in posterior view, x 62; f, parapodium 7, in posterior view, x 62.

Distribution: Slope depths, 823 to 1470 m; western Europe, in deep water.

Poecilochaetus spp.

Poecilochaetus sp., Hartman, 1965, p. 162.

New Records: Ch 103 (fgm); A 64 (fgm); Ch 100 (1); A 120 (fgm).

Distribution: Abyssal depths, 2022 to 5023 m.

poecilochaetid

Records: A 121 (1); A 118 (1).

Remarks: A fragment from Sta. A 121 is unique in having giant limbate setae present in setigers 2 to 7; it may represent an unknown genus and species.

Distribution: Abyssal depth, 4800 m; Bermuda rise, 1135-1153 m.

Family HETEROSPIONIDAE

Heterospio longissima Ehlers, 1875

Heterospio longissima Hartman, 1965, p. 163, pl. 30.

New Records: A 66 (1); A 72 (1); A 65 (1); A 71 (18); A 95 (14); Ch 85 (2).

Distribution: Abyssal depths, 2802 to 3834 m; North Atlantic Ocean, in deep water.

Family CHAETOPTERIDAE

Phyllochaetopterus sp.

Phyllochaetopterus sp., Hartman, 1965, p. 164.

New Records: Ch 87 (9); A 73 (2, fgm); A 58 (tube); Ch 103 (3); A 62 (1); A 64 (3); A 65 (2); A 95 (2); Ch 85 (2, fgm).

Distribution: Slope and abyssal depths, 1102 to 3834 m.

?Telepsavus sp.

Record: Ch 100 (2, tubes).

Remarks: Fragments of annulated tubes, resembling those of Telepsavus costarum Claparède, recorded from cosmopolitan areas, are represented; the identity is questionable because no animals are present.

Distribution: Abyssal depth, 4892-4743 m.

Family CIRRATULIDAE

Chaetozone gayheadia Hartman, 1965

Chaetozone gayheadia Hartman, 1965, p. 166.

New Records: Ch 105B (62); Ch 87 (192).

Diagnosis: The body is short, spindle-shaped, broadest in its anterior third, and tapers to a slender pygidium. Segments number 36 to 38. The first five setigers are uniannulate, and thereafter segmental grooves are obscure. Most of the lateral branchiae have fallen away but those that remain are attached above the notopodial bases. The prostomium is equitriangular, narrowest in front, and has diffuse eyespots at its posterior margin, or they are so faded as to be invisible. The first three segments are smooth, apodous rings. A pair of lateral cirri emerges from a groove between the third and fourth (first

setigerous) segments. Parapodia are broadly uniramous; setae emerge from low, papillar parapodia. The first setiger has pointed setae in both rami and one or two acicular spines in neuropodia. Notopodia of setigers 2 to 8 have longest and most numerous setae, in flowing series directed laterally. Thereafter the capillary setae are sparser but continue to the end of the body. Acicular spines are present in notopodia from setigers 15-17 and continue in sparse numbers, accompanied by capillary setae.

In the original account (Hartman, 1965, p. 166), the phrase "lacking a prostomium" should be deleted.

Distribution: Slope depths, 530 to 2022 m; greatest concentrations in 1102 m.

Chaetozone setosa Malmgren, 1867

Chaetozone setosa Hartman, 1965, p. 166.

Chaetozone ?setosa Hartman, 1965, p. 167.

New Records: Ch 105B (37); A 95 (9); ?Ch 100 (10); NN 1 (7); ?A 119 (2).

Distribution: Slope and abyssal depths, 530 to 4950 m; questionably Bermuda rise, 2095-2223 m.

Chaetozone spp.

Records: A 62 (1); A 66 (3); A 72 (1); A 63 (11); A 95 (8); ?A 126 (fgm); Ch 85 (3); A 69 (2); Ch 84 (30); KK 4 (1); A 121 (2); A 122 (30); ?Ch 100 (11); Ch 83 (fgm); A 120 (16); A 155 (1).

Remarks: All individuals are small or fragmented. Some have long, natatory setae in setigers 6 to 26. Acicular spines occur in neuropodia from about setiger 6 to the end of the body. Specimens from Sta. A 121 are flecked with black.

Distribution: Abyssal depths, 2496 to 5023 m; equatorial region, 4825 m.

Tharyx annulosus Hartman, 1965

Tharyx annulosus Hartman, 1965, p. 167, pl. 34.

New Records: Ch 105B (78); Ch 87 (1); A 66 (20); A 65 (18); HH 3 (50); A 95 (8); Ch 85 (3); JJ 1 (27); JJ 3 (9).

Distribution: Slope and abyssal depths, 530 to 4540 m.

Tharyx marioni (Saint-Joseph, 1894)

Tharyx marioni Hartman, 1965, p. 169.

New Records: Ch 87 (196); ?A 73 (20); A 58 (28); Ch 103 (35); A 62 (28); A 66 (70); A 63 (23); A 65 (4); A 71 (12); Ch 84 (6); Ch 100 (32); Ch 83 (20); A 93 (13); A 120 (32).

Remarks: Individuals from Sta. A 83 have long, slender capillary setae; two others, from Sta. Ch 87, have large nematodes in the body cavity.

Distribution: Slope and abyssal depths, 1102 to 5023 m; western Europe; cosmopolitan.

Tharyx nigrorostrum, new species

(Plate 15, Figs. a-b)

Records: Ch 87 (1); A 126 (1); ?KK 4 (1); A 125 (100, TYPE); A 119 (1).

Description: A complete specimen measures 4.2 mm long by 1.8 to 2 mm wide in the anterior third or widest part of the body; segments include 4 anterior, 5 broad median, and 9 slenderer posterior setigers, a total of 18. The anterior end or prostomium is diffusely black; the rest of the body lacks color. The broad, anteromedian region is distended with large ova (Fig. a). The prostomium is broadly rounded and depressed when the

pouchlike proboscis is partly everted. The prostomium is weakly separable from the buccal region except where the latter forms the lower lip at the anterior end of the first segment. The three segments of the buccal region are smooth and form a neck-like region preceding the first setiger. The first four setigers are equally short, have long, slender notosetae and neurosetae, with the first the longest. The first setiger differs from the next three in having a pair of short branchiae inserted immediately above the notopodia. The body is abruptly broader from segments 4 through 7, and its setal fascicles are widely spaced. Dorsal branchiae are inserted immediately above the notopodial base. The last nine setigers are slender and shorter than the others; they taper to a slender pygidium without anal processes (Fig. b). Setae are entirely long and capillary.

Tharyx nigrorostrum differs from other species of the genus in having few setigers; the prostomium is dark at the tip and lacks eyes; the first four setigers are set off from those farther back by their much smaller size.

Distribution: Slope and abyssal depths, 1102 to 4825 m; Bermuda rise, 2095-2223 m.

Tharyx spp.

Tharyx spp., Hartman, 1965, p. 170.

New Records: Ch 89 (9); Ch 105B (31); A 73 (85); GH 3 (4); Ch 76 (1); A 64 (2); A 126 (3, fgm); A 69 (2); A 121 (3); A 122 (8); ?A 124 (2); A 118 (2); A 119 (5); A 155 (10).

Distribution: Slope and abyssal depths, 196 to 4826 m; Bermuda rise, 1135 to 2223 m; equatorial region, 4825 m.

cirratulids

cirratulids, Hartman, 1965, p. 170.

New Records: Ch 87 (7); A 73 (7); A 58 (fgm); A 62 (1); A 95 (44); A 70 (1); A 155 (1).

Distribution: Slope and abyssal depths, 1102 to 4825 m.

Family COSSURIDAE

Cossura longocirrata Webster and Benedict, 1887

Cossura longocirrata Hartman, 1965, p. 170.

New Records: Ch 89 (1); Ch 105B (22); Ch 87 (65); A 73 (2); A 58 (17); A 66 (5); A 63 (1); A 65 (1); A 95 (4); Ch 84 (3); A 121 (12); A 125 (5); A 122 (50).

Distribution: Slope and abyssal depths, 97 to 5023 m; off New England, shelf and slope depths.

Cossura sp.

Record: A 124 (2, fgm).

Distribution: Abyssal depth, 4862 m.

Family FLABELLIGERIDAE

Flabelligerids, or cage-worms, typically have the first several segments modified or equipped with prolonged setae which project forward to form a cage. Prostomial and peristomial parts are retractile into the pharyngeal region when the setae are directed forward; they are exposed when the setae are thrust outward or back as a wide-open funnel; then the small prostomium, with a pair of long, thick grooved palpi and paired series of dorsolaterally inserted branchiae, is visible. Branchiae may be of one kind, numbering four to many pairs, or they may be of two kinds, some thick, others slender; or the entire branchial base may be extended as a median lobe with the attached filaments. The surface epithelium is papillated; it may be covered by a

translucent tough to gelatinous sheath, through which the setae and papillae project. Parapodia are biramous, their setae are simple and cross-barred, or partly composite, with falcate appendage. This definition applies best to species of shallow-water genera, Pherusa, Flabelligera, Brada and Diplocirrus. It is inadequate for deep-water flabelligerids, which differ in some major features. For example, Fauveliopsis McIntosh has a smooth, glistening epithelium; cephalic appendages and a cephalic cage are absent, and setae are smooth, acicular, lacking cross-bars. Flabelligella Hartman also lacks a cage and papillated epithelium. Buskiella McIntosh, Ilyphagus Chamberlin and Therochaeta Chamberlin are unknown in their pharyngeal structures.

At least thirteen species in seven genera are represented in the deepwater samples taken in the North Atlantic; some named earlier (Hartman, 1965) are emended below; others are new.

Brada villosa (Rathke, 1843)

Brada villosa Hartman, 1965, p. 174.

New Record: Ch 105B (12).

Distribution: Off New England, slope depth, 530 m; northern and western Europe.

Fauveliopsis McIntosh, 1922, emended

Type F. challengeriae McIntosh, 1922

This genus is known for one species and record, from the Australian Antarctic Ocean in 3530 m. The prostomium is reduced, the cephalic region blunt, and the posterior end tapers slightly and terminates in a pair of short papillae. Length of body is 17 mm and setigers number 33. The epithelium is pale, iridescent, smooth, and segments are uniannulate; the body resembles a

small earthworm. Biramous parapodia are present from the first visible segment, with one or two simple acicular setae in each ramus; anteriormost setae are more curved than those far back. A clavate papilla is located between notopodia and neuropodia.

In these respects the characters are non-flabelligerid and may ultimately be considered characteristic of an unnamed family allied to the FLABELLIGERIDAE. This combination of characters has now been found in at least three other species, coming from abyssal depths of the North Atlantic Ocean. They may be summarized as follows: Body with smooth, glistening epithelium, or somewhat scabrous but not papillated. Cephalic region absent. Prostomium a simple, anterior lobe medially incised. Segments uniannulate, with biramous lateral parapodia from the first segment, each with few, acicular smooth setae; a clavate papilla between the rami. Segments few, numbering 16 to 50 or more. Four species are congeneric.

Key to Species

1. Body short, linear, epithelium glistening; setigers number 16 . . . . . *brevis*
1. Body longer, segments number more than 20; epithelium smooth or scabrous 2
2. Epithelium scabrous; segments number 25 to 32 . . . . *scabra*
2. Epithelium smooth, glistening; segments otherwise 3
3. Body narrowest in anterior end and broadest medially; setigers number 33 . . . . . *challengeriae*
3. Body linear; setigers number 20 to 47 . . . . . *glabra*

Fauveliopsis brevis (Hartman, 1965), new combination

(Plate 16)

Brada brevis Hartman, 1965, p. 172.

New Records: A 73 (38); Ch 103 (21); A 62 (19); A 66 (25); A 72 (2); A 64 (59); A 63 (3); A 95 (3); A 126 (5); Ch 85 (4); Ch 100 (7); Ch 83 (1); A 93 (2).

Remarks: The segmental count is constant at 16 setigers (Plate 16). The epithelium is smooth, without trace of surface papillae. The anterior end, seen by translucency, shows no trace of an eversible cephalic structure such as characterizes species of Brada. Segmental lines are indistinct. Parapodia are biramous, have simple, papillar podia widely separated from each other, each with simple setae; a thicker, falcate spine is medial and there is a much slenderer seta at outer ends of each fascicle. A subglobular papilla separates the rami.

Distribution: Slope and abyssal depths, 1330 to 5007 m.

Fauveliopsis glabra (Hartman, 1960), new combination

Brada glabra Hartman, 1965, p. 173.

New Records: Ch 76 (12); A 64 (1); A 63 (6); HH 3 (1); A 95 (10); A 70 (27); Ch 100 (3); A 118 (19).

Remarks: This species resembles a stiff, linear oligochaete. The epithelium is smooth and iridescent. Length ranges from 7 to 9.2 mm, width about 1.1 mm, and setigers range from 20 to 47. The first segment is a smooth ring without setae; other segments have biramous parapodia. In some specimens the body is thickest in the anterior third but in most it is simply linear. Inter-ramal papillae are subspherical, nearer the notopodium than the neuropodium. Setae number one to three in a fascicle, with the thickest one medial and the slenderest in outer position. The last four segments are shorter than others and have most numerous setae, numbering three to five thick spines directed postlaterally.

It is referred to Fauveliopsis because it lacks a cephalic

cage and has a close resemblance to other species of the genus.

Distribution: Slope and abyssal depths, 530 to 5023 m; Bermuda rise, 1330 to 2223 m.

Fauveliopsis scabra, new species

(Plate 17, Figs. a, b)

Records: Ch 105B (188); Ch 87 (29); A 73 (10); Ch 103 (13); A 62 (1); Ch 76 (32); A 72 (1); A 95 (1); A 126 (4); A 69 (7); Ch 84 (155, TYPE); A 109 (1); KK 4 (1); A 125 (10); A 120 (1); A 118 (90); A 119 (2); A 155 (3).

Description: The body is long and linear, or inflated in front; it is slenderest in postmedian segments. As segmental lines are obscure, segmental intervals are best seen where setae emerge. The epithelium is scabrous, appears dull gray under low magnification; but when magnified it is seen to be transversely rugose, with each segment crossed by six to eight irregular wavy ridges; the last six segments have, in addition, a few widely scattered oval papillae, most noticeable at dorsolateral positions; the parapodial ring is slightly longer than the other six or seven making up a segment. Total length is up to 10.1 mm or only 5-7 mm; width at widest, or anterior, part is 0.7 to only 0.3 mm postmedially. Segments number 25 to 32. The anterior end is truncate. The small broad prostomium is visible between the projecting parapodial spines of the first segment. A small semicircular lower lip is largely concealed by the prostomium.

Notopodia and neuropodia are lateral to ventrolateral in the posterior region. Each ramus has two kinds of setae, acicular and capillary. The acicular setae number one or two in a fascicle in medial positions and there are one or three capillary setae in distal positions. Acicular setae are similar throughout except that those farthest back are somewhat the

thickest (Fig. b). The pygidium is a terminal vent without processes.

F. scabra differs from other species of the genus in its scabrous epithelium, in its higher segmental count, and in its habitat, which is nestling in the coils of dead scaphopod shells.

Distribution: Slope and abyssal depths, 530 to 5023 m; Bermuda rise, 1135 to 2223 m; equatorial region, 4825 m.

Flabelligella cirrata, new species

(Plate 18, Figs. a-c)

Records: D 1 (3); Ch 105B (15, TYPE).

Description: The body is long, linear, translucent, with ova shining through the epithelium in the anterior inflated end. The surface is lightly papillated all over; the papillae are small and widely spaced. The body measures 5 to 6 mm long and less than 1 mm across; it consists of 17 to 24 setigerous segments. The prostomium is a simple, semicircular, fleshy lobe brown at the tip. It is followed by the ventral oral aperture and the smooth peristomial ring. A pair of long, cirriform appendages (Fig. a) is inserted between the peristomium and the first setigerous segment, in line with the parapodia; they extend distally beyond the prostomium and are easily lost, as shown by most specimens which retain only their scars of attachment. The second segment is the first setigerous; its parapodia are lateral, smaller than those following; the notopodium is inconspicuous, has one or two very slender capillary setae, and the neuropodium has a transverse series of composite spinigers. This arrangement continues posteriorly, with parapodia becoming proportionately larger. The first four segments are narrower than those following; the next five are inflated, and in some specimens the body cavity contains large ova, centered along the ven-

tral side. The next nine to twelve segments are again slenderer, cylindrical, with the setal fascicles near the posterior end, and the last setiger has setal fascicles near the following segmental groove; its setae are directed posteriorly. No special pygidial processes have been seen.

Notosetae are entirely slender, capillary and inconspicuous; their convex margins have small, widely spaced spines (Fig. c). Neurosetae are composite falcigers; appendages are longest in superior setae, and shortest in inferior setae (Fig. b); the longest appendages are about three times as long as the shortest.

F. cirrata differs from other species of the genus in having a scalibregmidlike body, with a thick, inflated thoracic region and a slender, cylindrical abdominal one. The first segment has a pair of cirriform appendages, which is unknown for any other flabelligerid; it resembles the similar processes in some cirratulids, but its composite neuropodial falcigers are clearly those of Flabelligella.

Distribution: Slope depths, 466 to 530 m.

Flabelligella minuta Hartman, 1965

Flabelligella minuta Hartman, 1965, p. 176, pl. 37.

New Records: A 66 (2); A 119 (8); A 155 (1).

Distribution: Abyssal depth, 2802 m; equatorial region, 4825 m.

Flabelligella papillata Hartman, 1965

Flabelligella papillata Hartman, 1965, p. 177, pl. 18.

New Records: A 73 (43); A 126 (2); A 118 (25); A 119 (12); A 155 (10).

Distribution: Slope and abyssal depths, 1330 to 3806 m; Bermuda rise, 1135 to 2223 m; equatorial region, 4825 m.

Flabelligella sp.

Records: A 64 (fgm); Ch 100 (1).

Distribution: Abyssal depths, 2886 and 4892 m.

Genus Flabelligera Sars, 1829

Flabelligera sp.

(Plate 18, Fig. d)

Record: A 119 (1).

Description: A small, ovigerous individual is 4.16 mm long by 0.52 mm wide and consists of 12 setigers. It is covered by a transparent sheath through which the long epithelial papillae and setae project. The anterior end has a sparse setigerous cage and a tuft of long, uniform papillae directed forward. Setae are slender, all of one kind; notosetae have a tapered tip and multiarticulate shaft; the distal bars are longer than wide and the basal ones closely spaced. Neurosetae are similar but have a falcate tip (Fig. d). Both notopodia and neuropodia have long, cirriform papillae at their outer ends, and similar long papillae are dispersed over the surface of the body.

The single mature specimen may represent an unknown species; it is unique for its small size; parapodial setae have a smooth distal end and the midlength is crossed by a few long bars, whereas the base of the shaft is closely barred.

Distribution: Bermuda rise, 2095-2223 m.

Ilyphagus octobranchus Hartman, 1965

Ilyphagus octobranchus Hartman, 1965, p. 178, pl. 39.

New Records: Ch 105B (230); Ch 87 (191); A 72 (2); A 126 (3); Ch 84 (7); A 121 (2); A 125 (1); A 118 (2).

Remarks: Some specimens, from Sta. Ch 105B, are ovigerous.

Greatest concentrations are in slope depths.

Distribution: Slope and abyssal depths, 300 to 4825 m; Bermuda rise, 1135-1153 m.

Ilyphagus sp.

Records: A 73 (9); Ch 103 (3); ?Ch 76 (4); A 64 (15); ?Ch 85 (2); A 69 (1); A 122 (2); Ch 100 (4); A 155 (3).

Distribution: Slope and abyssal depths, 1330 to 4892 m; equatorial region, 4825 m.

Therochaeta collarifera (Ehlers, 1887)

Therochaeta collarifera Hartman, 1965, p. 180.

New Records: Ch 89 (1); Ch 105B (20).

Distribution: Slope depths, 196 and 530 m; off Florida, in deep water.

flabelligerids

flabelligerids, Hartman, 1965, p. 180.

New Records: Ch 87 (fgm); A 73 (4); A 62 (2); JJ 1 (1); A 93 (fgm); A 155 (7).

Remarks: Small, perhaps immature, specimens are represented; some are covered with a sandy sheath which is easily torn away from the papillated surface of the body. Palpi are large, broad, transversely wrinkled. Oral tentacles are numerous and all of one kind. Setae are slender, distally pointed and transversely barred.

Distribution: Slope and abyssal depths, 1102 to 5007 m; equatorial region, 4825 m.

Family SCALIBREGMIDAE

Key to Species

1. Neuropodia with composite spinigers *Scalispinigera cirrata*
1. Neuropodia with simple setae 2
2. Posterior segments with dorsal and ventral cirri 3
2. Posterior segments without dorsal and ventral cirri . . . 6
3. Some anterior segments with branchiae 4
3. Anterior segments without branchiae 5
4. First segment with acicular spines *Sclerobregma branchiata*
4. First segment with capillary setae . . . *Scalibregma inflata*
5. First 3 segments with capillary setae . . . . . *Pseudoscalibregma parva*
5. First 3 segments with acicular setae . . . . . *Pseudoscalibregma aciculata*
6. First 2 segments with acicular setae . . . . . *Asclerocheilus beringianus*
6. First 3 segments with acicular setae . . . . . *Asclerocheilus intermedius*
6. First several segments with capillary setae 7
7. Prostomium quadrate, with a pair of long frontal antennae . . . . . *Scalibregmella antennata*
7. Prostomium anteriorly rounded, without antennae . . . . . *Neolipobranchius glabrus*

Asclerocheilus beringianus Uschakov, 1955

Asclerocheilus beringianus Hartman, 1965, p. 181.

New Records: ?A 122 (1); A 120 (1).

Distribution: Abyssal depths, 4833 and 5018 m; Bering Sea in deep water.

Asclerocheilus intermedius (Saint-Joseph, 1894)

Asclerocheilus intermedius Hartman, 1965, p. 181.

New Records: A 64 (2); A 118 (4).

Distribution: Slope and abyssal depths, 1135 and 2886 m; western Europe, in deep water.

Asclerocheilus sp.

Record: KK 4 (2, fgm).

Distribution: Abyssal depth, 4773 m.

Genus Neolipobranchius, new genus

Type N. glabrus, new species

The body is simple, maggotlike, inflated through its anterior two-thirds and slenderer farther back. The prostomium is a simple, conical lobe without appendages or eyes. The first two or three segments are complete rings without setae. The body consists of about 21 setigers and the posterior end terminates in a simple pygidium without processes. Parapodia are reduced to minute, biramous papillar lobes from which the simple setae project in ventrolateral fascicles. Setae are limbate to capillary; furcate setae are absent. Branchiae and cirri are absent. A single species is known.

Neolipobranchius is allied to Lipobranchius Cunningham and Ramage (1888, p. 655) in that the body is maggotlike, the prostomium is simple, without eyes; branchiae, dorsal and ventral cirri are lacking, and acicular spines are absent. It differs from the latter in that the prostomium is entire in the first, bilobed in the second; segments are uniannulate in the first, triannulate in the second; furcate setae are absent from the first, present in the second; the pygidium lacks papillae in the

first, and has papillae in the second.

Neolipobranchius glabrus, new species

(Plate 19)

Record: JJ 1 (16, TYPE).

Description: Length of body ranges from 2 to 3.5 mm; width is 0.7 to 0.8 mm, and segments number 21; they include 16 inflated anterior and five slenderer posterior ones which taper to a simple pygidium. The prostomium is a small, conical lobe in front of the oral slit; it lacks processes and eyes. The proboscis appears to be a smooth, eversible pouch. The ventral mouth marks the anterior margin of the first segment; this is an entire ring, as are the next two segments. All are faintly rugose longitudinally, and best developed in the first three or four segments. The posterior half of the body is nearly smooth, or the epithelium may be somewhat wrinkled through contraction (Plate 19). Parapodia are inconspicuous throughout, present as slight papillar mounds without cirri, from which the setae project. All setae are simple, slender and capillary. Furcate setae have not been identified. The anal end is smoothly rounded, lacks attached processes. The most characteristic scalibregmid feature is the longitudinal striations in the anterior end of the body. In most respects the species is aberrant, through loss of parts.

Distribution: Abyssal depth, 4436 m.

Pseudoscalibregma aciculata Hartman, 1965

Pseudoscalibregma aciculata Hartman, 1965, p. 182, pl. 41.

New Records: A 58 (2); A 62 (6); A 66 (1); ?A 72 (14); A 121 (3); Ch 100 (1).

Remarks: Specimens from Sta. A 58 have dark to black dorsal

and ventral cirri, terminating in a pale distal filament.

Distribution: Abyssal depths, 2000 to 4892 m.

Pseudoscalibregma parva (Hansen, 1878)

Pseudoscalibregma parvum Hartman, 1965, p. 183.
scalibregmid, Hartman, 1965, p. 185 (in part).

New Records: Ch 105B (29); Ch 87 (6); A 73 (6); A 58 (3); Ch 103 (3); GH 3 (5); A 62 (97); GH 1 (9); HH 3 (2); A 71 (1); A 70 (1).

Remarks: Some individuals, from Sta. Ch 105B, are ovigerous. Greatest concentrations come from slope depths. A specimen from Sta. Ch 12, earlier named as a scalibregmid, is here referred to P. parva.

Distribution: Slope and abyssal depths, 300 to 4680 m; off northwest Europe, in deep water.

Pseudoscalibregma sp.

Record: A 62 (11).

Distribution: Abyssal depth, 2496 m.

Scalibregma inflata Rathke, 1843

Scalibregma inflatum Hartman, 1965, p. 183.

New Record: A 64 (1).

Distribution: Abyssal depth, 2886 m; Norway; cosmopolitan.

Genus Scalibregmella, new genus

Type S. antennata, new species

The body is long, linear and lacks surface marks. The prostomium is quadrate, has a pair of long, cirriform frontal antennae and a pair of nuchal organs at postectal margins; eyes

are absent. The eversible proboscis is muscular; when everted, it terminates in a vertical slit bounded by a circlet of short crenulations. The first segment is setigerous, with setae in biramous fascicles. Parapodia are inconspicuous lobes, without dorsal or ventral cirri. Setae emerge from the distal end of a papillar elongation; they are slender, distally pointed, smooth capillary in both rami. Furcate setae occur in notopodia in sparse numbers. The posterior end is unknown.

Scalibregmella differs from other scalibregmids in lacking dorsal and ventral cirri, in having a pair of long prostomial antennae instead of short or no antennae, in lacking setal spines, and in having a nearly smooth epithelium. A single species is named.

Scalibregmella antennata, new species

(Plate 20, Fig. a)

Records: A 125 (1); A 122 (1); Ch 99 (1); A 120 (2, TYPE).

Description: An anterior fragment with 16 setigers measures 5 mm long by 0.74 mm wide; the everted proboscis (Fig. a) is cylindrical; another damaged, larger individual, from Sta. A 125, is 7.6 mm long for 13 setigers. The surface of the body is smooth or somewhat wrinkled but lacks rugosities. Segmental lines are obscure; segmental intervals are distinguished by the laterally projecting parapodia. The small prostomium is quadrate and lacks eyes; there are a pair of cirriform frontal antennae directed forward and a pair of conspicuous, everted nuchal organs at postectal margins; they are less conspicuous when the proboscis is not everted. The withdrawn proboscis is cylindrical and lies in setigers 3 to 5; it terminates distally in a slit bounded by about 14 short crenulations.

The first setiger is shortest but otherwise resembles those

farther back; its setal fascicles resemble the following ones except that the notosetae, numbering six to eight in a fascicle, are distally curved, the shaft thicker than in setae farther back, the tips longer, more tapering; cutting edges are smooth. The first eight or nine segments have most numerous and conspicuous setae; farther back the fascicles are slenderer and setae are increasingly shorter, but notosetae are longer than neurosetae throughout. A single pair of furcate setae was found, in setiger 5; each is short and slightly thicker than other setae; the tines are unequally long. The posterior end remains unknown.

Distribution: Abyssal depth, 4825 and 5023 m.

Genus Scalispinigera Hartman, 1967

Type S. oculata Hartman, 1967

Scalispinigera is known through only one species, coming from the Antarctic Peninsula (Hartman, 1967, p. 134). The body is linear, depressed, and the epithelium is weakly areolated. The prostomium is broadly rectangular and has eyes. The first segment lacks parapodia; all other segments have biramous parapodia without dorsal and ventral cirri. Notosetae are entirely slender capillary, and neurosetae are composite spinigers. A second species comes from the northwest Atlantic Ocean, resembling the Antarctic one except that it lacks prostomial eyes and has dorsal and ventral cirri.

Scalispinigera bears the same relation to other SCALIBREGMIDAE that Flabelligella (see above) does to the FLABELLIGERIDAE; both have composite spinigers instead of simple setae in neuropodia.

Scalispinigera cirrata, new species

(Plate 20, Figs. b-d)

Record: Ch 103 (2, TYPE).

Description: The larger, damaged specimen measures 6.0 mm long by 0.6 mm wide and consists of 32 setigers; a smaller, more perfect one is 2.8 mm long by 0.5 mm wide and consists of 29 setigers. The body is depressed, linear and tapers posteriorly; it appears scabrous under high magnification. The prostomium is broadly rounded in front, wider than long, and has a pair of very small ventrolateral antennae directed outward (Fig. b). The first visible segment is a smooth, short ring with minute papillar dorsal and ventral cirri. The second segment is the first with setae but they are smaller than those following. Parapodia increase in size gradually within several segments; all are similar in having fleshy notopodia and neuropodia and short, blunt dorsal and ventral cirri (Fig. c), each tipped with black or dark pigment. Parapodial lobes are short, thick, and extend only slightly beyond the ends of the cirri. Notosetae are entirely slender and capillary; they number 10 to 15 in a fascicle in anterior segments. Neurosetae are composite falcigers; they number 25 or more in a spreading fascicle. Each has a heterogomph articulation and a long, tapering appendage which is spinous along the cutting edge (Fig. d). Median and posterior parapodia resemble those in front except that their lobes increase slightly and are directed increasingly postlaterally.

The posterior end terminates in a small pygidium with a pair of minute slender lateral processes, and a similar midventral one. The collection contains a silt-covered, slender tube which may have contained the larger, ovigerous individual.

Distribution: Deep slope depth, 2022 m.

Sclerobregma branchiata Hartman, 1965

Sclerobregma branchiata Hartman, 1965, p. 184, pl. 42.

New Records: A 73 (41); Ch 103 (14).

Remarks: Specimens from Sta. A 73 have dark dorsal and ventral cirri.

Distribution: Slope and abyssal depths, 400 to 2500 m.

scalibregmids

scalibregmid, Hartman, 1965, p. 185.

New Records: A 66 (fgm); A 122 (1); Be 4 (1); A 119 (1).

Distribution: Slope and abyssal depths, 400 to 4833 m; Bermuda rise, 1700 to 2223 m.

Family OPHELIIDAE

Ammotrypane abranchiata (Støp-Bowitz, 1948)

Ammotrypane abranchiata Hartman, 1965, p. 186.

New Records: Ch 105B (59); Ch 87 (266); A 73 (329); A 62 (1); A 66 (30); Ch 76 (10); A 64 (10); A 63 (5); A 65 (5); A 71 (2); A 95 (25); A 119 (1).

Distribution: Slope and abyssal depths, 300 to 4540 m; Bermuda rise, 2095-2223 m; northwestern Europe in deep water.

Ammotrypane ?aulogaster Rathke, 1843

Ammotrypane aulogaster Fauvel, 1927, p. 133, fig. 47.

Record: A 69 (3).

Remarks: Three small specimens differ from typical A. aulogaster (see Fauvel, 1927, p. 133) in lacking branchiae in some median segments; branchiae in posterior segments are greatly reduced; the anal funnel is scooplike and open below.

Distribution: Abyssal depths, 4663 m; cosmopolitan.

Ammotrypane aulogastrella, new species

(Plate 21, Figs. a-c)

Ammotrypane sp. A, Hartman, 1965, p. 188.

Records: Ch 89 (1); GH 4 (1); A 62 (8); A 66 (1); A 72 (9, TYPE); A 64 (9); A 65 (1); A 95 (1); JJ 1 (2); A 70 (35); Ch 84 (32); A 121 (46); A 125 (2); A 122 (11); KK 1 (1); A 124 (1); Ch 100 (7); NN 1 (2); LL 1 (2); Ch 83 (1); MM 1 (1); A 93 (2); A 120 (1); Ch 34 (32); A 155 (5).

Description: The body is long, spindle-shaped and tapers posteriorly; its surface is smooth and glistening. The dorsum is convex and the ventrum flat, with a longitudinal midventral groove throughout its length (Fig. a). Each segment is minutely multiannulated, with six or seven narrow rings. Length of body ranges from 15.5 to 22.5 mm, width 1 to 2 mm, and setigers number 28 to 33. Largest ovigerous specimens, from Sta. A 72, measure 34 to 40 mm long and have up to 36 setigers. The last segment is followed by six to nine annuli lacking parapodia (Fig. c). The anterior end or prostomium is long, triangular and terminates in a spherical palpode (Fig. a); eyes are lacking. Small, papillar organs may be everted. The first parapodia are lateral and present in front of the ventral mouth. The second parapodia are also lateral and slightly behind the line marking the mouth. One individual, from Sta. A 66, has an everted proboscis which is long, ligulate, smooth dorsally, and crenulated ventrally into many folds in paired series, with those of a side separated medially by a longitudinal groove.

Branchiae number seven to ten pairs; the first are on setiger 4, where they are as large as, or smaller than, those farther back; they continue to setiger 10 to 13, then are abruptly absent. Parapodia are small and inconspicuous; each is biramous,

with long, delicate fascicles of capillary setae in each ramus.

The pygidium terminates in an anal scoop open ventrally; its lateral margins are smooth (Fig. c) or bounded by eight to ten short papillae at the outer edges, nearer the posterior end; they are easily lost.

A. aulogastrella differs from A. aulogaster in that it lacks branchiae in its posterior half; they are present from setiger 4 or later, and present on only seven to ten segments; the last setiger is followed by six to nine annuli without parapodia.

Distribution: Slope and abyssal depths, 196 to 5023 m; equatorial region, 1500 to 4825 m.

Ammotrypane chaetifera Hartman, 1965

Ammotrypane chaetifera Hartman, 1965, p. 187.

New Records: A 73 (34); A 64 (2); A 71 (1); A 95 (3); A 70 (6); Ch 84 (1); A 121 (5); A 125 (15); A 122 (26); Ch 100 (4); Ch 83 (2); A 93 (2).

Remarks: This species is allied to A. cylindricaudatus (see below) in that the last few setigers are enlarged to form a compact setigerous pad. Branchiae are few, limited to some anterior and some posterior segments. It is consistently smaller, measuring usually 12 mm long or less, instead of to 20 mm or more; setigers number 26 instead of 34; branchiae include 2 anterior and 3 posterior pairs, instead of 6 or more anterior and more posterior pairs.

Distribution: Slope and abyssal depths; 1330 to 5007 m; equatorial region, 1500 m.

Ammotrypane cylindricaudatus Hansen, 1878

Ammotrypane cylindricaudatus Hansen, 1882, p. 36, pl. 6.
Ammotrypane cylindricaudatus Hartman, 1965, p. 188.

New Records: Ch 89 (1); Ch 105B (67); Ch 87 (12); A 73 (8); A 58 (2); Ch 103 (2); GH 3 (2); A 62 (2); Ch 76 (10); A 125 (2).

Remarks: Length from 20 to 50 mm; setigers number from 28 to 34. Branchiae are present on setigers 2 to 5 or to 13, absent on median segments, and again present on far posterior segments; the last four setigers lack them, and are modified as a stiff, setigerous pad. The anal funnel is as long as the last seven segments and closed as a cylinder; the upper edge is slightly longer and overhangs the lower posterior edge. A specimen with everted proboscis, from Sta. Ch 105B, shows a long ligulate process without lateral prolongations; it is smooth ventrally but depressed.

Distribution: Slope and abyssal depths, 196 to 4825 m, with peak numbers in 530 to 2862 m; northeast Atlantic Ocean, in deep water.

Ammotrypane spp.

Records: Ch 103 (3); A 66 (5); A 64 (7); Ch 78 (20); Ch 85 (35); A 109 (10); A 121 (5); A 125 (13, jv); A 122 (33); A 124 (1); Ch 99 (2, fgm); A 120 (4); A 118 (1); A 119 (1); A 155 (4).

Distribution: Abyssal depths, 2022 to 5023 m; Bermuda rise, 1135-2223 m; equatorial region, 4825 m.

Genus *Ammotrypanella* McIntosh, 1879

Ammotrypanella arctica McIntosh, 1879

Ammotrypanella arctica McIntosh, 1879, p. 505, pl. 65.
Ammotrypanella arctica Fauvel, 1914, p. 246, pl. 22.

Records: A 66 (3); A 70 (23); Ch 84 (4); A 121 (46); A 125 (55); A 122 (25); A 123 (6); A 124 (1); Ch 100 (8); Ch 80 (7); A 120 (1).

Remarks: The body is large, measures 24 to 50 mm long by 2 mm wide in front, and consists of about 42 setigers. The anterior end is slightly inflated or cylindrical, with a longitudinal midventral groove, from setiger 12 to the pygidium. The prostomium is short, conical, has a small palpode and lacks eyes. Large nuchal organs are visible in front of the first parapodia, which are lateral and in line with the ventral mouth. The first setae are shorter than those following; setae increase in length to the fifth setiger, after which they remain more or less constant in length. The first 18 setigers lack branchiae; setigers 19 to 24 and 32 to 35 have branchiae, whereas setigers 25 to 31 and 36 to 42 lack them.

Branchiae are simple, ligulate and longest in the posterior fourth of the body. The posterior end terminates in a slender, cylindrical tube as long as the last 12 setigers; its posterior open end is bounded by a trim circlet of about 40 equally small papillae; the tube is crossed by an equal number of closely spaced annulations.

Small, immature individuals measure about 6 mm long by 0.5 mm wide and consist of 37 setigers. The first eight setigers are the shortest and have the most conspicuous setae. A larger specimen, from Sta. A 121, measures 15 mm long by 2 mm wide and consists of 42 setigers; it has 23 prebranchial, 9 branchial, and 10 postbranchial setigers. The last eight parapodia have prolonged setae, and the ventral and lateral longitudinal grooves are best developed in the posterior fourth of the body.

Ammotrypanella arctica was first named from Davis Strait, Greenland, in 1785 fms. In the present collections, largest individuals come from depths exceeding 4800 m.

Distribution: Abyssal depths, 2802 to 5023 m; Arctic Ocean, in deep water; off Azores.

Genus Kesun Chamberlin, 1919

Kesun gravieri (McIntosh, 1908), new combination

Travisia gravieri Hartman, 1965, p. 191.

New Records: Ch 87 (286); A 73 (224); A 58 (3); Ch 103 (60); GH 3 (4); A 62 (15); A 66 (11); Ch 76 (34); A 72 (63); A 64 (24); A 65 (5); A 71 (2); A 95 (4); Ch 84 (3); A 121 (1); A 125 (1); A 122 (2); A 155 (1).

Remarks: This species lacks branchiae, and is therefore transferred from Travisia to Kesun Chamberlin.

Distribution: Slope and abyssal depths, 1000 to 4833 m; equatorial region, 4825 m; north Atlantic Ocean, in deep water.

Ophelia profunda Hartman, 1965

Ophelia profunda Hartman, 1965, p. 189, pl. 35.

New Record: A 118 (12).

Distribution: Bermuda rise, 1135-1153 m.

Tachytrypane jeffreysii McIntosh, 1879

Tachytrypane jeffreysii Hartman, 1965, p. 190.

New Records: A 62 (1); A 66 (3); A 64 (6); A 95 (1); Ch 84 (1); A 109 (1).

Distribution: Abyssal depths, 2496 to 4850 m; Davis Strait, Greenland, abyssal.

opheliid

Records: A 120 (1); Ch 81 (fgm).

Distribution: Abyssal depths, 5018 to 5042 m.

Family STERNASPIDAE

Sternaspis sp.

Records: Ch 76 (2); A 65 (1).

Distribution: Abyssal depths, 2862 and 2891 m.

Family CAPITELLIDAE

Genus *Barantolla* Southern, 1921

Barantolla near *americana* Hartman, 1963

Barantolla americana Hartman, 1963, p. 59.

Records: A 58 (1); A 66 (3); A 95 (5).

Description: All specimens are small, slender, posteriorly incomplete. The largest, from Sta. A 58, is a fragment of 22 setigers and measures 9 mm long by 0.5 mm wide. The surface epithelium is smooth and the segments uniannulate. The prostomium is a small, globular to subtriangular lobe without eyes. The first segment is a smooth ring about as long as the first setiger. The thorax merges almost imperceptibly with the abdomen, with the transition marked by a slight constriction. The partly everted proboscis is globular and coarsely papillated.

The first setiger has biramous parapodia; its setae are slightly limbate and distally pointed; they are present through six setigers. Notopodium 7 has both pointed setae and long-handled uncini, whereas its neuropodium has uncini only. Thoracic segments number 12, of which 11 are setigerous. The thoracic formula may be expressed: prostomium + peristomium + $\frac{6\ s}{6\ s}$ + $\frac{1\ \text{mixed}}{1\ u}$ + $\frac{4\ u}{4\ u}$, where *s* refers to setae, *u* to uncini, and *mixed* to the presence of both setae and uncini. Abdominal parapodia are biramous, with long-handled uncini.

The present specimens differ from *B. americana* Hartman

(1963, p. 59), described from submarine canyons of California, in that they have six instead of eight thoracic neuropodia with setae, and the last 4, instead of only 3, have uncini.

Distribution: Abyssal depths, 2000 to 3753 m; off southern California, 260 to 976 m.

Genus Capitella Blainville, 1828

Capitella near capitata (Fabricius) 1780

Capitella capitata Hartman, 1947, p. 404.

Capitella capitata Hartman, 1961, p. 330.

Records: A 58 (1); A 64 (4, fgm); Ch 84 (2); A 125 (2).

Diagnosis: Small, linear, pale specimens measure about 8 mm long for 21 segments; a posterior end is lacking. Some specimens have the abdomen speckled with black. The prostomium is depressed, semicircular, rounded in front and lacks eyes. The peristomium is a smooth ring without setae. The first setiger is biramous, with notosetae and neurosetae, and they are continued through the next six segments. Setigers 8 and 9 are modified, with genital spines in notopodia; their neuropodia have long-handled uncini. Four anterior ends from Sta. A 64 have nine thoracic setigers, none with genital spines; in other respects they agree with the other specimens.

They disagree with typical Capitella capitata in that the surface epithelium of posterior thoracic and anterior abdominal segments is covered with long papillae in dispersed arrangement.

Distribution: Abyssal depths, 2000 to 4825 m; cosmopolitan.

Capitella aberranta, new species

(Plate 11, Figs. g, h)

Record: A 124 (1).

Description: A small, complete specimen measures 1.9 mm long by 0.3 mm wide in the midthoracic or widest part of the body; it consists of nine thoracic and 12 abdominal segments. Large ova are present in the first six segments of the abdomen. The posteriormost segments taper to a simple, narrow pygidium without appendages. The prostomium is a simple depressed lobe without eyes or other visible structures. The first segment is a smooth ring shorter than the next or first setigerous segment. Biramous parapodia are present from the second segment (Fig. g). The first five setigers have spreading fascicles of narrowly limbate, distally curved setae in notopodia and neuropodia. Setigers 6 to 9 are gradually narrower and have modified notosetae in transverse rows, numbering five to nine in a row, in dorsolateral position (Fig. h); those of a segment are widely separated middorsally. The corresponding neuropodia have normal, long-handled uncini numbering about as many as the notosetae, in transverse series. All abdominal notopodia and neuropodia have long-handled uncini.

The modified posterior thoracic notosetae are unique among the capitellids; each seta is distally expanded and terminates in a slender projection (Fig. h).

Distribution: Abyssal depth, 4862 m.

Genus Dasybranchus Grube, 1850

Dasybranchus sp.

Record: A 95 (18).

Remarks: The lot contains six large and twelve small individuals, all with the typical setal formula. The thorax is areolated and the abdomen smooth or transversely wrinkled. The thorax has 13 segments, with the first one a smooth ring; the

next 12 have pointed setae in notopodia and neuropodia. Each of the first nine abdominal segments has a short, digitate lobe or branchia, lateral to the notopodia and widely separated from the ridge of neuropodial uncini, which are ventrolateral.

Distribution: Abyssal depth, 3753 m.

Heteromastus filiformis (Claparède, 1864)

Heteromastus filiformis Hartman, 1965, p. 193.

New Records: Ch 105B (116); Ch 87 (175); A 73 (93); A 58 (6); A 63 (5); ?A 70 (1).

Distribution: Slope and abyssal depths, 97 to 4680 m; western Europe; cosmopolitan.

Genus Leiochrides Augener, 1914

?Leiochrides sp.

Record: A 126 (2).

Remarks: The thorax consists of 12 thoracic setigers, characteristic of the genus Leiochrides (see Hartman, 1947, p. 429); only anterior fragments are available.

Distribution: Abyssal depth, 3806 m.

Notomastus latericeus Sars, 1851

Notomastus latericeus Hartman, 1965, p. 194.

New Records: Ch 87 (28); ?A 73 (31); ?A 58 (14); ?Ch 103 (40); GH 3 (8).

Remarks: These specimens resemble N. latericeus through their thoracic segments; the presence of abdominal branchiae has not been confirmed because most specimens are either broken or fragmented.

Distribution: Slope and abyssal depths, 200 to 4360 m;

western Europe; cosmopolitan.

Notomastus teres Hartman, 1965

Notomastus teres Hartman, 1965, p. 194.

New Records: Ch 87 (10); A 73 (67); A 65 (3).

Remarks: The body is long, linear and smooth. The thorax consists of a simple first segment; the second has notosetae only and the next nine have capillary setae in notopodia and neuropodia. The last thoracic segment has capillary setae in notopodia and long-handled uncini in neuropodia. This formula differs slightly from that first described in that the last two thoracic neuropodia have long-handled uncini.

Distribution: Slope and abyssal depths, 467 to 2891 m.

Notomastus spp.

Notomastus sp., Hartman, 1965, p. 195.

New Records: Ch 89 (6); Ch 87 (5); A 62 (154); A 63 (1); A 71 (3); Ch 84 (1); A 122 (4); ?A 123 (1); ?A 124 (1); ?A 120 (2); A 118 (7); A 119 (1); A 155 (4).

Distribution: Slope and abyssal depths, 196 to 5023 m; Bermuda rise, 1135 to 2223 m; equatorial region, 4825 m.

capitellid

Record: A 122 (4).

Distribution: Abyssal depth, 4833 m.

Family MALDANIDAE

Asychis biceps (Sars, 1861)

Asychis biceps Hartman, 1965, p. 199.

New Records: Ch 105B (39); Ch 87 (85).

Distribution: Slope depths, 530 and 1102 m; northwestern Europe.

Clymenura borealis (Arwidsson, 1907)

Clymenura borealis Hartman, 1965, p. 200.

New Records: Ch 105B (731); Ch 87 (75); A 73 (64); A 58 (7); A 62 (1); A 66 (7); A 95 (37); ?A 126 (fgm); Ch 85 (2); ?A 125 (1); ?Ch 100 (1).

Remarks: Most specimens are fragmented; determination is based chiefly on the presence of the fleshy, midventral, triangular pad on setiger 8, and the anal plaque surrounded by a few long and more numerous short papillae arranged in a circlet. Some of the records may refer to C. polaris (Théel), which is not easily distinguished from C. borealis when specimens are imperfect.

Distribution: Slope and abyssal depths, 400 to 4892 m; northwestern Europe.

Clymenura sp.

Clymenura sp., Hartman, 1965, p. 201.

New Records: A 72 (1); Ch 84 (fgm); A 155 (2).

Distribution: Abyssal depths, 2864 to 4769 m; equatorial region, 4825 m.

Genus Isocirrus Arwidsson, 1907

Isocirrus planiceps (Sars, 1872)

Isocirrus planiceps Arwidsson, 1907, p. 137, pls. 3, 8, 11.

Records: ?A 69 (2, fgm); A 70 (9); ?Ch 84 (10, fgm); ?A 125 (2); Ch 80 (3).

Remarks: Most specimens are tails or fragments. The anal

plaque is trim and bounded by an evenly crenulated margin. The cephalic plaque is plain, nearly circular and at right angles to the axis of the body.

Distribution: Abyssal depths, 4663 to 4970 m; northwestern Europe.

Isocirrus sp.

Records: ?A 109 (fgm); A 122 (2).

Distribution: Abyssal depths, 4750 and 5000 m.

Lumbriclymene sp.

Lumbriclymene sp., Hartman, 1965, p. 202.

New Records: ?Ch 105B (1); A 62 (2); A 66 (13); ?A 70 (1).

Distribution: Slope and abyssal depths, 530 to 4680 m.

Maldane sarsi Malmgren, 1865

Maldane sarsi Hartman, 1965, p. 203.

New Records: Ch 105B (8, jv); Ch 87 (38); A 73 (1); A 65 (2); ?A 95 (1); JJ 1 (2).

Distribution: Slope and abyssal depths, 97 to 4436 m; cosmopolitan.

Nicomache lumbricalis (Fabricius, 1780)

Nicomache lumbricalis Hartman, 1965, p. 204.

New Records: A 58 (2, fgm); Ch 103 (1).

Distribution: Slope and abyssal depths, 500 and 4997 m; northwestern Europe.

Genus *Notoproctus* Arwidsson, 1907, expanded

Type *N. oculatus* Arwidsson, 1907

Notoproctus Arwidsson was referred to the subfamily LUMBRI-

CLYMENINAE by Arwidsson (1907, p. 4) although it departs from typical members of this subfamily in having cephalic and caudal plaques; the anal pore is dorsal instead of terminal. In these respects it is like Maldane Grube, subfamily MALDANINAE, from which it differs in having a primitive instead of a highly evolved head and anal plaque. In the genotype the body consists of a limited number of segments; they include 19 setigers, one presetigerous, and three postsetigerous segments, or a total of 23 segments. The anterior end is a flat disk with entire, beveled margin. Nuchal organs are wide open and crescentic, located on the dorsal half of the plaque. Conspicuous glandular bands encircle some of the anterior segments. The four anteriormost setigers have modified acicular spines, usually singly in a fascicle; all other setigers have rostrate neurosetae.

The genus is small, with fewer than ten species assigned to it; they come chiefly from worldwide areas, in deep water. The most abundant form from abyssal depths of the northwest Atlantic Ocean differs from other species in that the anteriormost neuropodia lack acicular spines and have instead typical rostrate spines, numbering one or two in a fascicle; in other respects it agrees with the definition of the genus.

Notoproctus abyssus, new species

(Plate 22, Figs. a-d)

Records: ?A 73 (1); A 95 (41); A 126 (1000+, TYPE); ?Be 3 (2, fgm).

Description: No mature specimen is unbroken; most individuals consist of anterior and posterior ends, broken in a midregion where the epithelium is soft and thin, only slightly muscularized. All are very slender and threadlike; no color or pigment pattern remains. Length of a larger individual approaches

20 mm; width is 0.4 mm in the anterior or widest parts and segments include at least 15 setigers in addition to one presetigerous and two postsetigerous segments, or a total of 18. Thick glandular bands encircle setigers 1 to 7; they are widest on the ventrum of setigers 4 to 6. The first six and the last five setigers are the shortest, and others are prolonged, delicate and more or less macerated. The prostomium (Fig. a) is a smooth, truncate, slightly oblique disk with entire, smooth margin; it lacks eyes. The paired nuchal organs are crescentic and extend from the middle to the dorsolateral edge of the plaque, where they turn back toward the first segment. This is a smooth ring, forming the lower lip ventrally and continuous with the plaque more dorsally. The second segment is the first setigerous; its anterior third is glandular; its notopodia are low papillar, with few slender setae. Most specimens show no neuropodium, but an embedded rostrate spine occurs occasionally. The second setiger resembles the first but is slightly longer; each of its notopodia has one to three slender setae, and its neuropodia one or two projecting rostrate setae. The third and fourth setigers are similar to the second, except that they increase in length posteriorly. The next two segments are still glandular and each is two or three times as long as wide; rostrate spines in neuropodia number two or three in a row. From setiger 7 the segments prolong greatly and segmental lines are obscure; setal ridges are near the anterior end of the segment and continue so to near the posterior end of the body. Notosetae are few in a fascicle and rostrate spines continue to number only three to five in a row. Posterior ends usually consist of three to five setigers, with each segment diminishing in length and the last two segments the shortest, each a smooth ring. The pygidium (Fig. b) is a plain, oblique plaque with smooth margin, and the anal pore is middorsal.

Rostrate spines (Fig. c) are present from the first neuropodium, number only one or two in a fascicle; each has a large fang surmounted by three or four teeth in a row, and two or three beardlike tufts attached below the base of the large fang, directed so as to encircle the fang. These setae resemble the rostrate setae from more posterior segments (Fig. d).

N. abyssus differs from other species of the genus in having rostrate setae instead of acicular spines in the first few setigers. Setigers number only 15, instead of 18 or 19. Preanal asetigerous segments number two, instead of three or more.

The tube is translucent, mucoid, sparsely covered with silt and bits of debris; it is easily removed from the occupant.

Distribution: Slope and abyssal depths, from 1330 m, and under the Gulf Stream; questionably off Bermuda in 1700 m.

Notoproctus oculatus Arwidsson, 1907

Notoproctus oculatus, anoculate, Hartman, 1965, p. 205.

New Records: A 58 (16); A 64 (17).

Remarks: Each of the first four setigers has a thick, acicular spine in each neuropodium, typical of the stem species; eyes are lacking.

Distribution: Abyssal depths, 2000 to 2886 m.

Praxillella gracilis (Sars, 1861)

Praxillella gracilis Hartman, 1965, p. 206.

New Records: Ch 87 (4, tails); GH 3 (1).

Distribution: Slope and abyssal depths, 1102 and 2478 m.

Praxillella praetermissa (Malmgren, 1866)

Praxillella praetermissa Hartman, 1965, p. 206.

New Records: ?A 58 (3, tails); Ch 103 (3, anterior ends);

?GH 3 (1); A 66 (1); A 95 (1).

Distribution: Abyssal depths, 2000 to 4950 m.

Praxillella spp.

Praxillella spp., Hartman, 1965, p. 206.

New Records: ?Ch 76 (4); A 64 (4); A 69 (1); A 70 (8); Ch 83 (2).

Distribution: Abyssal depths, 2862 to 5000 m.

Rhodine sp.

Rhodine sp., Hartman, 1965, p. 207.

New Records: A 95 (fgm); A 126 (2); Ch 84 (1).

Remarks: Two specimens, from Sta. A 126, are black speckled.

Distribution: Abyssal depths, 3753 to 4769 m.

maldanids

maldanids, Hartman, 1965, p. 207.

?Axiothella sp., Hartman, 1965, p. 200.

New Records: Ch 89 (10, fgm); Ch 105B (5, fgm); Ch 87 (fgm); A 73 (fgm); A 58 (2); A 62 (9, fgm); A 66 (5, fgm); Ch 76 (19, fgm); A 65 (fgm); A 71 (3, fgm); A 95 (2, fgm); Ch 85 (10, fgm); Ch 84 (10, fgm); A 109 (5, fgm); A 121 (fgm); A 123 (fgm); Ch 80 (1); Ch 99 (fgm); A 70 (fgm); Ch 83 (2, fgm); A 93 (fgm); A 120 (4, fgm); A 118 (1); A 119 (2); A 155 (5).

Distribution: Slope and abyssal depths, 196 to 5023 m; Bermuda rise, 1135 to 2223 m; equatorial region, 4825 m.

Family OWENIIDAE

Genus Myriochele Malmgren, 1865

About 1700 specimens come from 22 samples, in slope to

abyssal depths. The tubes are identifiable to four main kinds; one, referred to Myriochele near heeri, is spindle-shaped, moderately short and externally obliquely or transversely striated, covered with a thin layer of sand grains if from shallower depths, or with orbicular foraminiferans if from abyssal depths; the tube is tough and difficult to tear. A second kind, here referred to Myriochele ?pygidialis, has a long, cylindrical tube, covered with a thin layer of fine sand and easily broken crosswise. A third kind has a cylindrical tube externally covered with moderately large, orbicular foraminiferans in dispersed pattern. A fourth kind has a slender, cylindrical tube covered with sand grains arranged transversely. The occurrence of these tubes does not follow a vertical zonation, for one or more kinds may occur in the same sample. The animals within are very difficult to extract, and are usually so fragmented that segmental counts are not possible, and both head and pygidial ends are imperfect. A comparison of living specimens aboard ship might reveal differences in color and details of body and tail, which are not observable in fixed materials.

Myriochele near heeri Malmgren, 1867

Myriochele near heeri Hartman, 1965, p. 208.

New Records: Ch 87 (6); Ch 103 (4); A 62 (tubes); ?Ch 76 (12); A 72 (36); A 95 (ca 100); A 126 (ca 100); Ch 85 (ca 100); A 70 (4).

Remarks: The tube is short, spindle-shaped, tapers at both ends; it is lightly covered with sand grains or small foraminiferans and transversely striated. Length of body is about 4.1 mm, width 0.2 mm and setigers number 9 to 29; the first three and last ten segments are shortest. The prostomium is a plain, rounded lobe; the posterior end is a simple, rounded pygidium.

One specimen, from Sta. 126, contains a nematode in the body cavity.

Distribution: Slope and abyssal depths, 1102 to 4680 m.

Myriochele ?pygidialis Hartman, 1960

Myriochele pygidialis Hartman, 1960, p. 149, pl. 16.

Records: Ch 89 (25); Ch 105B (103); Ch 87 (78); A 73 (161); Ch 103 (4, fgm).

Diagnosis: The body is long, linear, measures to 57 mm long, about 0.5 mm wide, and consists of a variable number of segments, ranging from 14 to about 30. The first three setigers are short and have notosetae only. The next two are longer, and the sixth and seventh setigers are greatly prolonged. Far posterior segments are again very short and crowded. The pygidium is terminal, surrounded by six to eight cirri, consisting of a pair of broad lateral cirri, and two or three pairs of slenderer but equally short, digitate ones. Uncini are distally bidentate or occasionally unidentate. The tube is long, slender, cylindrical, externally covered by fine sand grains or shell fragments; it appears transversely granular.

The identity is questioned because the tube is granular instead of prickly, and the surface of the body is not mottled.

Distribution: Slope depths, 196 to 2022 m; southern California, in basin depths, in mud.

Myriochele spp.

Records: A 62 (5); Ch 76 (ca 100); A 95 (3); A 126 (ca 100); Ch 78 (1); A 70 (35); Ch 100 (ca 50); A 93 (14); A 120 (40); A 118 (6); A 119 (ca 100). These records refer to tubes which are long, slender, cylindrical and covered with fine sand.

Records: Ch 103 (ca 100); A 62 (ca 10); Ch 76 (100); A 64

(ca 125); ?A 71 (fgm); A 126 (ca 100); Ch 85 (ca 100); Ch 78 (1); Ch 84 (2); A 125 (1); A 122 (1); A 93 (4); A 120 (25); A 118 (6). In this group the tubes are long, slender, cylindrical and covered with globular foraminiferan shells.

Records: Ch 58 (fgm); Ch 76 (ca 100); A 81 (1); Ch 80 (1); Ch 100 (50); ?Ch 99 (2, fgm); Ch 83 (2); A 81 (fgm); A 155 (1). In this group the tubes are of variable construction; none seems to contain a specimen.

Distribution: Abyssal depths, 2000 to 5023 m; Bermuda rise and equatorial region, abyssal to 4825 m.

Family BOGUEIDAE, new family

This family is erected for two genera, Boguea Hartman, 1945, and Boguella, new genus. The name is derived from Bogue Sound, North Carolina, the habitat of the genotype. The genus was originally referred to the OWENIIDAE, which it resembles in having a long, linear body. It differs from oweniids in having avicular or terebelloid uncini; they occur in single rows in anteriormost and in partly double rows in more posterior segments, instead of in multiple series as in OWENIIDAE.

Key to Genera

First 3 setigers with notosetae only . . . . . Boguea
First 4 setigers with notosetae only . . . . . Boguella

Genus Boguea Hartman, 1945

Type B. enigmatica Hartman, 1945

Boguea enigmatica Hartman, 1945

(Plate 23, Figs. h, i)

Boguea enigmatica Hartman, 1945, p. 42, pl. 7.

Remarks: The body is smooth, plain; segments number 26 to

28. The prostomium is a simple lobe without eyes, plaque or nuchal organs; the mouth is a transverse slit when the proboscis is withdrawn. The buccal segment is apodous and shorter than the second segment. Parapodia are papillar mounds from which setae project, from the second segment; the first three setigers have notosetae only; the next 23 to 25 have slender notosetae and avicular uncini in neuropodia. Uncini occur in single rows in anterior segments, and in partly double rows in posterior ones. Each uncinus terminates in a large fang surmounted by two rows of a few teeth each (Figs. h, i).

Distribution: Bogue Sound, North Carolina, in littoral mud.

Genus Boguella, new genus

Type B. ornata, new species

The body is long, linear and consists of about 21 setigers. The buccal segment is a smooth ring; the next five segments have notosetae only, and the last setigers have biramous parapodia. Anterior notosetae are slender, capillary, and neurosetae are short, avicular. Setigers 9 to 12 have modified, long, sympodial notosetae. It differs from Boguea in having five instead of three anterior uniramous parapodia; middle segments are modified with special setae.

Boguella ornata, new species

(Plate 23, Figs. a-g)

Record: A 119 (10, TYPE).

Description: Delicate, fragmented specimens were recovered from oozy mud in fragile, coiled pteropod shells; they were more or less coiled and surrounded by a weakly chitinized, easily torn tube, with the head at outer or exposed end of the shell and the

tail in its closed end. Length of entire animal is 6.5 to 7 mm and width 0.5 to 0.6 mm. The body consists of a simple, short globular prostomium (Fig. a), followed by a short buccal ring, two longer asetigerous segments, and 21 setigerous segments; an asetigerous segment precedes the pygidium; total number of segments is 25.

The depressed, globular prostomium shows no modifications; the ventral mouth is a crescentic slit. The peristomium is the shortest segment and is followed by two longer, asetigerous segments. The fourth segment is similarly long and cylindrical; its anterior end flares somewhat collarlike, and a pair of setigerous fascicles emerges in lateral position at the anterior end. The second setiger has a broadly inflated anterior margin, widest ventrally. Each of the third to seventh or eighth segments (Fig. b) has a pale, glandular region at its anteroventral end, and setal fascicles near the anterior end.

Notosetae are of three kinds: most are longer to shorter, smooth, and present throughout; setigers 9 to 12 have greatly prolonged, spinose setae. Each notosetal fascicle may have one or two long, capillary setae and two shorter, broader ones with smooth cutting edge. Spinous setae are sympodial, occur only in setigers nine to twelve, and number two to four in a fascicle. Each is greatly prolonged, with long, limbate teeth in slightly alternating rows along the sides (Figs. d, e); they recall those of some disomids, Poecilochaetus sp.

Neuropodia have transverse rows of five or six uncini, first present from setiger 5; they are in single rows in anterior segments, in partly double rows from setiger 7, and again in single rows in the last few segments. Each uncinus has a broad base, a large fang surmounted by two crescentic rows of three to six teeth (Figs. f, g).

The last six or seven segments are short, broad and the body terminates in a pair of globular processes in ventrolateral attachment and a pair of similar, smaller, medial ones; a similar papilla is middorsal, above the anal pore.

Distribution: Bermuda rise, in 2095-2223 m; in pteropod ooze.

Family SABELLARIIDAE

The SABELLARIIDAE have been identified by Mr. David Kirtley, East Carolina University, Greenville, North Carolina, who is preparing a monograph on the family.

Genus *Monorchos* Treadwell, 1926

Monorchos varians (Treadwell, 1901)

Hermella varians Treadwell, 1901, p. 210.

Records: A 95 (3); A 118 (1); ?A 126 (1); A 155 (1); Ch 85 (1).

Remarks: The species is characterized by having a single row of paleae; the inner row is replaced by a few paired spines in ventral position and a pair of much thicker dorsal hooks.

Distribution: North Atlantic and equatorial Atlantic, in abyssal depths, to 3853 m; originally off Puerto Rico.

Genus *Phalacrostemma* Marenzeller, 1895

Phalacrostemma cidariophilum Marenzeller, 1895

Phalacrostemma cidariophilum Fauvel, 1914, pp. 273-276, pl. 24, figs. 17-21, pl. 25, figs. 1-4.

Records: A 119 (1); Ch 35 Dr 12 (2).

Distribution: Off Bermuda and equatorial Atlantic, in 770 to 2223 m.

Phalacrostemma elegans Fauvel, 1911

(Plate 24, Figs. a-g)

Phalacrostemma elegans Fauvel, 1914, p. 270, pl. 24.

Records: Be 3 (1); Be 8 (1); A 70 (6); A 93 (fgm); A 124 (1); A 125 (1); Ch 35 Dr 12 (9); Ch 84 (5+); Ch 100 (1).

Remarks: The largest specimen comes from the deepest sample; one from Sta. A 93 measures 20 mm long by 4 mm wide in the abdomen, without tail end. Others are much smaller, measure about 4.2 mm without and 7 mm with the long opercular stalk. Branchiae are sparse around the oral area.

The peduncular stalk is medially divided; each half has a few long setae representing the encircling outer row; they terminate in a long, slender tip (Fig. a) and have transverse rows of spinelets encircling them from their exposed base (Fig. b) to near the tip (Fig. c). Nuchal hooks are yellow and of two kinds; the dorsalmost one is distally crooked (Fig. g), and the other is nearly straight (Fig. f).

Segments 1 and 2 have fascicles of fine capillary setae; the next four are parathoracic, with biramous parapodia. Abdominal segments have uncinigerous pinnules and capillary setae. Uncini are pectinate, with two rows of teeth (Fig. e), seen as a single row of nine teeth (Fig. d).

Distribution: Abyssal depths, 3753 to 4892 m; Bermuda rise, 1135 to 2223 m; first named off Madeira, Spain, in 1968 m, and more widely reported from South Africa (Day, 1963, p. 367).

sabellariid

Records: A 95 (3); A 126 (fgm); A 155 (2, with tubes).

Remarks: Only fragments are available. Opercular paleae are of two kinds; they include an encircling series of broad,

distally pointed setae, and a partial second row of three or four thick, blunt, yellow spines in middorsal position. Nuchal spines are brassy yellow curved hooks, limited to one pair at the dorsal end of the operculum.

Distribution: Abyssal depth, 3753 m; equatorial zone, 4825 m.

Family PECTINARIIDAE

pectinariid

Records: Ch 89 (2); A 62 (1).

Distribution: Slope and abyssal depths, 196 and 2496 m.

Family AMPHARETIDAE

Amage sp.

Records: Ch 89 (3); Ch 87 (1); ?Ch 81 (fgm).

Remarks: Greatest length is about 3 mm; width in the thorax or widest part is 1 mm; the body consists of 14 thoracic and more than three abdominal setigers. Branchiae number four pairs; each is slender and filiform; the middorsum is broadly exposed.

Distribution: Slope and abyssal depths, 196 to 5042 m.

Ampharete arctica Malmgren, 1866

Ampharete arctica Hartman, 1965, p. 212.

New Records: Ch 89 (20); Ch 105B (6); Ch 103 (55); ?A 66 (2); A 64 (7); A 95 (70); A 70 (39).

Distribution: Slope and abyssal depths, 97 to 4680 m.

Ampharete spp.

Records: A 73 (15); ?Ch 76 (53); A 71 (1); ?Ch 78 (10); ?A 124 (6).

Remarks: All are small, measure at most a few mm long; they consist of 14 thoracic setigers, have four pairs of branchiae inserted on an erect, basal membrane which is continuous across the middorsum. Paleae are present and conspicuous. The abdominal segments which remain have no notopodia.

Distribution: Slope and abyssal depths, 1330 to 4862 m.

Amphicteis gunneri (Sars, 1835)

Amphicteis gunneri Hartman, 1965, p. 213.

New Records: A 66 (3, fgm); A 65 (fgm).

Distribution: Abyssal, 2802 and 2891 m.

Amphicteis sargassoensis, new species

(Plate 25, Figs. a-g)

Records: A 126 (1); Ch 85 (1+); Ch 84 (5); A 125 (2); ?Ch 100 (5); Ch 80 (5); A 93 (4); A 120 (4, TYPE); Ch 81 (4); A 155 (2).

Description: Length of a large specimen is 32 mm, and width 2 mm in the thorax or widest part of the body; it consists of 17 thoracic and 15 abdominal setigers; the body tapers posteriorly to a slender pygidium. The anterior end is broadly rounded and smooth; the prostomium has a pair of transverse nuchal ridges at midlength (Fig. a). The everted oral tentacles are of one kind, each slender and smooth. Paleae are conspicuous and directed forward in stiff, oblique fascicles; each is a yellow, slightly curved spine, smooth along its length. Branchiae number four pairs, and are so inserted that the first two pairs are in front of, or in line with, the first setiger; the next pair is immediately behind the first pair, and the fourth pair is on the second setiger. Most branchiae have lost their styles, but the ones seen are long, filiform, smooth along their length, and tapering

to a slender, pointed tip. The two groups of branchiae are well separated middorsally.

The first three setigers have smooth, slender notosetae, in long linear fascicles. Neuro-uncini are first present from setiger 4, and occur in single rows through the thorax. Each uncinus is a pectinate plate with six or seven teeth in a row (Figs. d, e).

The first abdominal segment is conspicuous for the presence of an erect, broadly flaring notopodial membrane (Fig. b); the two lobes are separated middorsally and each terminates in 16 to 20 short processes. More posterior notopodia are normal, with low papillar notopodia. The corresponding neuropodia have a short, flaring membrane with avicular uncini in single rows along the margin. Each uncinus is short, avicular, with thick head and numerous teeth in several rows; the largest teeth are basal and the smallest distal (Figs. f, g). The posterior end tapers and has a pair of long, cirriform processes (Fig. c).

In its modified first abdominal segment, A. sargassoensis resembles A. sibogae Caullery (1944) from the Dutch East Indies, in great depths. The second is a larger species, measuring 50-60 mm long by 2 mm wide, instead of 32 mm long or less. Nuchal organs are conspicuous pigmented ridges forming four arcs, instead of a pair of straight transverse ridges.

Distribution: Northern end of the Sargasso Sea, in abyssal depths, 3806 to 5023 m; equatorial region, 4825 m.

Amphicteis trichophora Hartman, 1965

Amphicteis trichophora Hartman, 1965, p. 213, pl. 45.

New Records: Ch 105B (3); A 66 (1); A 71 (1).

Distribution: Slope and abyssal depths, 530 to 2946 m.

Amphicteis vestis Hartman, 1965

Amphicteis vestis Hartman, 1965, p. 215, pl. 46.

New Records: Ch 89 (25); A 66 (37); A 64 (84).

Remarks: The type specimen originates from Sta. Sl 3 (Hartman, 1965, p. 215). Most individuals are broken off at setiger 12, or in front of the vested segment. Length is about 5.2 mm and width 0.8 mm. The first abdominal notopodia have a pair of broadly oval, distally flaring lobes.

Distribution: Slope and abyssal depths, 196 to 2886 m.

Amphicteis sp.

Records: Ch 87 (20); A 73 (3); ?A 118 (6); ?A 119 (5).

Distribution: Slope depths, 1102 to 1470 m; ?Bermuda rise, 1135 to 2223 m.

Anobothrus gracilis (Malmgren, 1866)

Anobothrus gracilis Hartman, 1965, p. 216.

New Records: ?Ch 105B (1); Ch 87 (3); ?A 93 (1).

Remarks: One of the largest, from Sta. Ch 87, measures 5 mm long; the third last notopodial pair is enlarged and elevated. Another, from Sta. Ch 105B, has the last thoracic setiger so modified.

Distribution: Slope depths, 530 to 1102 m; questionably abyssal, 5007 m.

Auchenoplax crinita Ehlers, 1887

Auchenoplax crinita Hartman, 1965, p. 216.

New Record: Ch 105B (8).

Distribution: Slope depth, 530 m.

Glyphanostomum pallescens (Théel, 1883)

Glyphanostomum pallescens Hartman, 1965, p. 217.

New Records: Ch 87 (31); A 73 (2); A 66 (7); A 72 (6); A 118 (1).

Remarks: A lot of empty tubes come from the Bermuda rise, Sta. A 118; of these only one tube was found occupied.

Distribution: Slope and abyssal depths, 1000 to 2864 m.

Glyphanostomum sp.

Record: A 155 (3).

Distribution: Equatorial region, 4825 m.

Lysippe labiata Malmgren, 1866

Lysippe labiata Hartman, 1965, p. 218.

New Records: Ch 89 (36); Ch 87 (34); A 73 (2).

Distribution: Slope depths, 196 to 1470 m.

Melinna sp.

Record: Ch 103 (10).

Remarks: Paleae are absent; the dorsum has a pair of inconspicuous yellow dorsal hooks. The transverse dorsal membrane is crescentic, has about seven marginal serrations, evenly spaced across the width. The thorax consists of three anterior and 14 posterior setigers. Branchiae form a middorsally placed tuft; each is long, cirriform and tapers to the tip. These individuals differ from Melinna cristata (Sars, 1851) in having inconspicuous dorsal hooks; the dorsal membrane is crescentic, not straight, and serrations are few.

Distribution: 39° 43.6' N, 70° 37.4' W, in 2022 m.

Melinnata americana Hartman, 1965

Melinnata americana Hartman, 1965, p. 219, pl. 48.

New Records: A 58 (6); Ch 103 (1); ?A 62 (23, jv); A 72 (50); ?A 126 (1); A 70 (2); Ch 84 (10+); A 121 (ca 100); A 125 (9); A 122 (ca 100); A 123 (55); A 124 (ca 100).

Remarks: Individuals measure 4 to 6 mm long. Anteriormost segments lack needlelike fine setae. The prostomium is a broadly rounded smooth lobe and lacks eyes. The lower lip is entire. The oral cavity encloses a folded membrane with attached oral filaments. A transverse ridge crosses the dorsum, between the first and second setigerous segments. Branchiae are inserted on an elevated lobe; they number four or five pairs in a straight row; their styles are long, cylindrical, and they taper distally. Paleae are conspicuous, number 12 to 16 in a fascicle, and each is geniculate. Thoracic setae have teeth in a single row.

Distribution: Abyssal depths, 2000 to 4862 m.

melinnid

Records: Ch 87 (38); Ch 100 (1); A 93 (1).

Distribution: Slope and abyssal depths, 1102 to 5007 m.

Genus Neopaiwa, new genus

Type N. cirrata, new species

The body consists of 18 thoracic and at least 18 abdominal setigers. The prostomium is a small rectangular lobe, wider than long, and without glandular ridges or other surface structures. The oral tentacles are slender, smooth and all of one kind. The first segment is a large, smooth ring. Paleae are absent. Branchiae number three pairs and are inserted on the first three setigers. Thoracic uncini are first present from setiger 5; each

uncinus is avicular, with teeth in many rows. Thoracic notosetae are smooth, capillary to narrowly limbate. Abdominal parapodia have a short, papillar notopodium, an elevated uncinial ridge with a long cirrus, and avicular uncini in single rows.

Neopaiwa is allied to Paiwa Chamberlin (1919, p. 459) in having 18 thoracic setigers; oral tentacles are slender and smooth, and paleae are absent. It differs in having three instead of four pairs of branchiae; thoracic uncini are first present from setiger 5 instead of 6. Neopaiwa originates from the North Atlantic Ocean, Paiwa from the mid-Pacific Ocean; both are abyssal.

Neopaiwa cirrata, new species

(Plate 26, Figs. a-g)

Record: A 93 (2, fgm, TYPE).

Description: The length of 18 thoracic setigers is 12 mm, and the width in the anterior, or widest, part is 3 mm. A longer abdominal portion consisting of 16 segments and another of 18 segments measure about 13 mm long by 2 mm wide each; in both fragments the pygidium is damaged. Total number of setigers is at least 36. The anterior end is thick and tumid; the large peristomium encloses the small, rectangular prostomium (Fig. a), which has its anterior end somewhat ruffled as though capable of lateral extension. The partly everted proboscis has smooth, slender oral tentacles of one kind. The peristomium or first segment is continued around the oral aperture to form a thick, smooth lower lip. The second segment is the first setigerous; it is somewhat collarlike at its lateral margins.

The first setal fascicles are very small and inconspicuous; they emerge at the sides of the first branchial bases. The second and third pairs of fascicles are increasingly larger, located

at the sides of the second and third branchial bases. The fourth and following thoracic notopodia have similar notosetae. All are long, slender, smooth and capillary to slightly limbate. Their uncinial ridges are first present from setiger 5 and continue through 14 segments. The second uncinigerous segment (Fig. b) has a stiff fascicle of notosetae directed obliquely upward, and a long, uncinial ridge with uncini in one row. Each uncinus is avicular, with teeth in several rows (Figs. d, e). Nephridial papillae, located in depressions between notopodia and neuropodia and somewhat posterior, are visible on setigers 4, 5, and 6.

Abdominal parapodia have small, papillar notopodia without visible setae, and neuropodial pinnules have a long, cirriform superior lobe (Fig. c). Uncini are in single rows. Each uncinus is short, compact, avicular, has many teeth in several rows (Figs. f, g). The pygidium is unknown.

Distribution: Northern boundary of the Sargasso Sea, in 5007 m.

Genus Phyllampharete, new genus

Type P. longicirra, new species

The body consists of 14 thoracic and an undetermined number of abdominal setigers. Paleae are absent. The prostomium is a simple lobe without glandular ridges. Oral tentacles are smooth, numerous, and inserted on a broad membrane. Branchiae number four pairs, are inserted on setigers 1 to 4; each is foliose, supported on a short, slender base; the style is broadest at the base and tapers posteriorly. Thoracic uncini are first present from the fourth setiger, present on 11 thoracic segments. Abdominal parapodia have conical or papillar notopodia without setae, and ridgelike neuropodia with a superior, cirriform lobe; uncini

are in single rows. All uncini are thick, avicular, with compact base and many teeth in numerous rows.

Phyllampharete is allied to Grubianella McIntosh (1885), originating from the Indian Antarctic Basin, in abyssal depths. The two agree in having a thorax of 14 setigers, with 11 uncinigerous. Oral tentacles are slender and smooth. Paleae are absent. Branchiae number four pairs. Setae are present from the first branchial segments. The two differ in that Phyllampharete has a prostomium medially incised, whereas Grubianella has a pair of frontolateral papillae; abdominal neuropodia have a cirriform process in the first, which is lacking in the second; the posterior end of the body is conspicuously inflated in Grubianella, not in Phyllampharete.

Phyllampharete longicirra, new species

(Plate 27, Figs. a-d)

Record: A 120 (24, TYPE).

Description: The body consists of 14 thoracic setigers and an unknown number of abdominal segments. The tube surrounding the animal is much larger, measuring 35 to 50 mm long by 4 to 5 mm wide, and is externally covered with silt over a base of mud and disklike foraminiferans. Length of the thorax is 4 mm and width about 2 mm at the widest part. The prostomium is wider than long, medially excavate and longest at its outer ectal margins (Fig. a). Eyes or color markings are lacking. Branchiae, numbering four pairs, are of one kind; each is foliose, with a slender midrib and paired lateral flanges, supported on a short, slender stalk. The first pair is inserted most laterally; the second, third, and fourth pairs successively approach the median position, so that the paired series seem to originate from an oblique, transverse row.

Oral tentacles are smooth, numerous, all of one kind; they are inserted on a broad, spatulate membrane which is partly everted from the oral aperture. Paleae are absent.

The first setal fascicle is a small, short tuft behind the first branchial bases; the second is a larger, longer tuft, behind the second branchial base; and successive fascicles are increasingly larger, resembling those in postbranchial segments. Thoracic uncini are first present from the fourth setiger; the uncini occur in short series at the upper end of the torus. The thoracic ventrum is crossed by narrow, glandular segmentally arranged ridges.

Abdominal parapodia (Fig. b) consist of small, papillar notopodia without visible setae, and larger neuropodia, each with a long cirriform process inserted above. Uncinial tori have single rows of uncini, numbering 12 to 16 in a row.

Thoracic notosetae are of one kind, long, slightly limbate with smooth cutting edge. Thoracic uncini are short, avicular, each with many teeth in several rows (Fig. c). Abdominal uncini are similar but shorter, with a large beak and series of teeth in several rows (Fig. d). The pygidium terminates in a truncate end with a pair of long, cirriform processes.

Distribution: Northern end of Sargasso Sea, in 5018-5023 m.

Genus Samytha Malmgren, 1866

Samytha sexcirrata (Sars, 1856)

Samytha sexcirrata Hessle, 1917, pp. 113-114.

Samytha sexcirrata Ditlevsen, 1937, p. 41.

Records: Ch 89 (2); Ch 87 (12).

Diagnosis: Length is 11 mm, width 2 mm at widest part in the midthorax. Segments number 17 thoracic and 10 abdominal