THE POLYCHÆTOUS ANNELIDS DREDGED IN 1908 BY MR. OWEN BRYANT OFF THE COASTS OF LABRADOR, NEWFOUNDLAND, AND NOVA SCOTIA.

By J. Percy Moore,

Of the Zoological Department of the University of Pennsylvania, Philadelphia.

Our knowledge of the Polychæta of Labrador is very meager, being based almost entirely upon two imperfect lists published by Prof. A. S. Packard in 1863 and 1867, respectively. The second and more complete list embraces 28 species of Polychæta, the determination of several of which is doubtful, though some of the identifications have been verified by Professor Verrill. It was, of course, not to be expected that the Labrador coast would furnish many novelties in this group, but that the fauna would be similar to that of the better-known waters adjacent.

Beginning with Fabricius, in 1780, the Polychæta fauna of Greenland has had many able students down to our own time, and this group of animals is better known in few regions than in this. The ranges of many species, first made known from the waters of Greenland and northern Europe, have been found to extend to the American coast at the region about the Bay of Fundy and the waters surrounding Nova Scotia. Stimpson, Verrill, and Webster and Benedict have described the rich fauna of the former, and McIntosh, in a series of papers, has recorded especially the results of the dredgings of Whiteaves in the Gulf of St. Lawrence. Both regions, while yielding a considerable number of forms peculiar to the American coast, have exhibited a facies essentially Arctic.

It was to be presumed, therefore, that the Labrador Polychæta would belong chiefly to Arctic species, with some additions from the more southern fauna. Packard's lists had already furnished a basis for this expectation, to which the present collection affords welcome confirmation. Fortunately, the bulk of the collection comes from Labrador, where additions to our knowledge were most to be desired. Of the 51 species recorded, 38 are from the coast of Labrador, and only 7 of these appear in Packard's lists, leaving 31 as probably new to that region. The remaining 13 species were dredged mostly off

Cape Sable, Nova Scotia; 6 species have not previously been reported from American waters. In the following list it will be understood that where the name of the Province is omitted the locality is in Labrador.

Family SILLIDÆ.

AUTOLYTUS LONGISETOSUS (Œrsted) Malmgren.

A single male epitoke taken in the tow net off Egg Harbor, August 10, agrees closely with the descriptions and figures of this northern species given by Œrsted, Malmgren, and Verrill. The number of segments (30) in the caudal region is, however, greater, but their total length bears about the same proportion to the other regions. There are 6 setigerous segments in the anterior and 30 in the middle or swimming region. Notocirri of the anterior region bear a large dorsal basal gland, probably represented in Œrsted's figure as a thickening of this region. Some confusion exists in the American records of this species. Verrill reports it from Massachusetts Bay.

Family PHYLLODOCIDÆ.

PHYLLODOCE MUCOSA Œrsted.

Port Manvers, August 21, 30 fathoms, sticky mud; halfway between Cape Mugford and Hebron, August 23, 60 fathoms, mud and sand. This species resembles very closely *P. pulchella* Malmgren and *P. catenula* Verrill. From the latter, so common on the New England coast, it differs in the form of the notocirri and especially in the greater number and smaller size of the papillæ of the basal division of the proboscis. The nuchal papilla, so generally overlooked in members of this genus, is present. The only published American Atlantic record is that of Webster and Benedict for Eastport.

PHYLLODOCE, species.

Off Beachy Island, between Flint Island and Cape Mugford, August 22, 80 fathoms, soft mud. A young specimen 18 mm. long; resembles *P. pulchella* rather more closely than *P. mucosa*, except in the relative length of the seta appendages.

Family POLYNOIDÆ.

HARMOTHOE IMBRICATA (Linnæus) Malmgren.

Egg Harbor, August 10, 7 fathoms, mud; Shoal Tickle, southeast of Nain, August 15; 20 miles northeast of Nain, August 20; Komatoroic Bay, north of Nakoak, August 28, 5 fathoms, rocky; off St. Lawrence Harbor, Placentia Bay, Newfoundland, September 29; St.

Pierre Harbor, October 1, 5 fathoms, rock and gravel; Browns Bank, off Cape Sable, Nova Scotia, October 8, 45 fathoms; 43 miles west by south from Cape Sable, October 8, 110 fathoms, gravel.

This widely distributed species appears to be common throughout the region represented. The usual marked variations in color, marginal ciliation, and papillation of the elytra occur. Packard reports this species as common along the coast of Labrador. It is probable that he did not fully differentiate this from other species of Polynoidæ.

LÆNILLA GLABRA Malmgren.

Egg Harbor, August 10, 7 fathoms, mud. A single example among several of the last, from which it is distinguishable only upon careful examination. Apparently not previously recorded from the American coast.

EUNOE ŒRSTEDI Malmgren.

Browns Bank, off Cape Sable, Nova Scotia, October 8, 40–45 fathoms, rocky and sandy; 20 miles east of Cape Sable, October 7, 70 fathoms, fine sand; about 40 miles west by south from Cape Sable, October 8, 76 fathoms, black gravel. The elytral papillæ are large and usually rough, generally conical, but in some cases bifid or even trifid. On our coast this species occurs as far south as Crab Ledge, off Chatham, Massachusetts, and is common in Casco Bay, Maine.

ANTINOE SARSI Kinberg.

Halfway from Cape Mugford to Hebron, August 23, 60 fathoms, mud and sand. Five typical examples like those occurring on the coasts of northern Europe and Greenland. Known as far south as Casco Bay.

GATTYANA CIRROSA (Pallas) McIntosh.

Egg Harbor, August 10, 7 fathoms, mud; Shoal Tickle, southeast of Nain, August 15; off Beachy Island, between Flint Island and Cape Mugford, August 22, 80 fathoms, soft mud; halfway between Cape Mugford and Hebron, August 23, 60 fathoms, mud and sand; outside of Hebron, August 25, 60 fathoms, gravel; Browns Bank, off Cape Sable, Nova Scotia, October 8, 40 fathoms, rocky and sandy.

Except under date of August 23, when four specimens were taken, single examples only of this species occur in the collections from each locality. From *G. amondseni* in this collection they are readily distinguished by the broader, more depressed form and by the elytra, which have larger and rougher papillæ and much longer marginal cilia; considerable numbers of cilia, not exhibited in Malmgren's figures, are scattered over the dorsal surface also.

GATTYANA AMONDSENI (Malmgren) McIntosh.

Halfway from Cape Mugford to Hebron, August 23, 60 fathoms, mud and sand; off Fish Island, August 25, 75 fathoms, mud; 1 mile north of Battle Harbor, September 14, 50 fathoms, fine sand. These specimens are of a nearly uniform pale gray or brownish gray color and in structural characters agree closely with Malmgren's figures. This and the preceding species are found southward to Provincetown, Massachusetts, and Andrews has reported a specimen of *G. cirrosa* even at Beaufort, North Carolina.

EUPOLYNOE ANTICOSTIENSIS McIntosh.

Egg Harbor, Huntington Island, August 8, 7 fathoms, mud; off Fish Island, outside of Hebron, August 25, 75 fathoms, mud; 1 mile north of Battle Harbor, September 14, 50 fathoms, fine sand.

As its name indicates, this very clearly characterized species was originally described by McIntosh from the Gulf of St. Lawrence and up to the present has not been recorded elsewhere. A single example was taken at each station, and the label accompanying that first recorded bears the interesting memorandum "Worm with row of phosphorescent spots on each side," thus adding this species to the list of known luciferous Polynoidæ.

The dark spot on the elytra mentioned by McIntosh lies at the anterior side of the isthmus of an ∞-shaped, unpigmented spot bounded by the curved brown bands, which, however, may not fully inclose it, but leave it continuous antero-laterally with the colorless covered portion of the elytra. Each segment is marked on the dorsum by a narrow, transverse, greenish stripe and often by a pair of small brown spots.

The proboscis protruded on one specimen measures 5.5 mm. long, 3 mm. wide, and 3.5 mm. deep, with 9 dorsal and 9 ventral orificial papillæ and 4 short, stout, pale-brown jaws of the usual form, but shorter than in most related species.

LEPIDONOTUS SQUAMATUS (Linnæus) Kinberg.

Browns Bank, off Cape Sable, Nova Scotia, October 8, 140 fathoms, rocky and sandy.

Curiously enough, this species, usually so plentiful and ubiquitous on all northern coasts, is represented by a single example only, a specimen about 25 mm. long with bright brick-red elytral papillæ. Packard reports this species as common all along the Labrador coast from the littoral zone to 20 fathoms. It ranges at least to Virginia, and probably beyond.

Family APHRODITIDÆ.

LÆTMONICE FILICORNIS Kinberg.

Off Sable Island, Nova Scotia, 75 miles W.N.W., October 5, 75 fathoms, fine sand. A single fine specimen, which, however, was not sufficiently closely studied to determine if it is really distinct from *L. armata* Verrill, of the New England coast and Gulf Stream slope, which many European students of the Polychaeta consider to be identical. Ehlers considers *L. armata* to be a synonym of *L. kinbergi* Baird, and records the species from the West Indian region. McIntosh reports *L. filicornis* from the Gulf of St. Lawrence and Verrill *L. armata* from the Gulf of Maine, Georges Banks, etc.

Family NEPHTHYDIDÆ.

NEPHTHYS CÆCA (Fabricius) Œrsted.

Egg Harbor, August 10, 7 fathoms, mud; Shoal Tickle, near Nain, August 15; Port Manvers, August 21, 30 fathoms, sticky mud; off Beachy Island, between Flint Island and Cape Mugford, August 22, 80 fathoms, soft mud; half way between Cape Mugford and Hebron, August 23, 60 fathoms, mud and sand; 1 mile north of Battle Harbor, September 14, 50 fathoms, fine sand.

Typical examples of this circumboreal species occur in considerable numbers on both muddy and sandy bottoms. Those from the first-mentioned habitat are chiefly of small size and are more or less deeply pigmented. Those taken on sandy bottoms are colorless, like the representatives of the species in southern New England, which likewise occur on sandy or stony bottoms exclusively. Packard records this species from Labrador, and it is common at Eastport, as reported by both Ehlers and Webster and Benedict.

NEPHTHYS INCISA Malmgren.

East of Cape Sable 55 miles, October 6, 85 fathoms, mud. Several specimens of this species, so abundant on the soft, muddy bottoms of Buzzards Bay, Massachusetts, where it was formerly erroneously identified with *N. ingens* Stimpson. It is common in northern Europe also. From *N. cæca* it is readily distinguished by its much shorter, prismatic body and deeply incised parapodia, as well as differences in papillation of the proboscis and characters of the setigerous rami and setae.

Family NEREIDÆ.

NEREIS PELAGICA Linnæus.

Cock Capelin, Gready Harbor, August 8, 20 miles E.S.E. of Cape Sable, Nova Scotia, October 7, 70 fathoms, fine sand; 14 miles south

of Cape Sable, October 7, 45 fathoms, rocky; Browns Bank, off Cape Sable, October 8, 40–45 fathoms, rocky and sandy.

A single specimen from the Labrador station; common off Cape Sable. Reported by Packard. Circumboreal and south to Beaufort, North Carolina.

Family LUMBRINERIDÆ.

LUMBRINERIS FRAGILIS (Müller).

Port Manvers, August 21, 30 fathoms, sticky mud. Two fragments of anterior ends of a large *Lumbrineris* are referred, with some doubt, to this species. They are 4–5 mm. in diameter, with a faint, narrow brown band on the dorsum of each segment. The form of the head, parapodia, etc., agree with this species. The jaws closely resemble McIntosh's figure, have five obscure teeth on the large right maxilla (II) and four, more distinct ones, on the left. Two hooded crochets appear in the parapodia at XX and two acute limbate setæ remain in the middle of the bundle at LXXV, but have disappeared at XCV. Intermediate forms of setæ occur. Common and generally distributed north of Cape Cod, as well as in European waters, but rare south of Cape Cod.

LUMBRINERIS HEBES Verrill.

Shoal Tickle, southeast of Nain, August 15; off Beachy Island, between Flint Island and Cape Mugford, August 22, 80 fathoms, soft mud.

Two incomplete examples, which agree with Verrill's description in every respect, except that a single acute limbate seta persists in the bundles as far as XL or L, while in examples of this species from southeastern Massachusetts limbate setæ seldom occur beyond somite XX to XXIV.

This species, common throughout the length of the New England coast, has not before been reported north of Eastport, where it was taken by Webster and Benedict.

Family ONUPHIDÆ.

NOTHRIA CONCHYLEGA (Sars) Malmgren.

Egg Harbor, August 10, 7 fathoms, mud; outside of Hebron, August 25, 60 fathoms, gravel; same, August 26, 80 fathoms; off St. Lawrence Harbor, Placentia Bay, Newfoundland, September 29; Browns Bank, off Cape Sable, Nova Scotia, October 8, 45 fathoms; same, 110 fathoms, gravel. From one to four, mostly richly colored examples, at each station. On muddy bottoms the tubes are covered with fragments of shells; on gravelly bottoms with flat bits of rock. This species is well known throughout the northern North Atlantic and occurs as far south as Chatham, Massachusetts.

Family ARICIIDÆ.

SCOLOPLOS ARMIGER (Müller) Blainville.

Off Beachy Island, between Flint Island and Cape Mugford, August 22, 80 fathoms, soft mud; 1 mile north of Battle Harbor, September 14, 50 fathoms, fine sand.

Small incomplete specimens, representing the anterior end only, from these stations agree very closely with the published descriptions and figures of this species. They are much contracted and the anterior branchiæ are very minute, but appear to begin on somite XIII in all cases. Several of the anterior segments are lightly banded on the dorsum with brown; *S. acutum* Verrill is very closely related, if not, indeed, identical, with this northern European species and occurs in southern New England. Webster and Benedict regard it as the same as *S. armiger* which they report from Eastport.

Family CIRRATULIDÆ.

CIRRATULUS CIRRATUS (Müller) Malmgren.

Shoal Tickle, southeast of Nain, August 15. A single much contracted specimen about 30 mm. long and filled with eggs. There are seven or eight conspicuous eye-spots on each side of the prostomium, arranged in a pair of slightly curved oblique lines, converging, but not meeting, in front. This is another of the species reported by Packard.

CHÆTOZONE SETOSA Malmgren.

Off Beachy Island, between Flint Island and Cape Mugford, August 22, 80 fathoms, soft mud.

Four small imperfect specimens 8–15 mm. long agree with Malmgren's description and figures except that they possess a pair of long, stout tentacular cirri (sometimes called palpi) and a larger number of branchial filaments (notocirri). The posterior spines are also more slender and elongated than in the adults. In these respects they agree exactly with examples found at Eastport by Webster and Benedict. The tentacular cirri of many Cirratulidæ are known to be extremely caducous, and this, together with the fact that many become epitokous (recently discovered by Caullery), has caused much confusion and unnecessary multiplication of genera.

Family AMPHARETIDÆ.

SABELLIDES BOREALIS Sars.

Halfway between Cape Mugford and Hebron, August 23, 60 fathoms, mud and sand.

A fine specimen, 60 mm. long and more than 3 mm. in maximum width; segments 29, 14 setigerous. Notocirri begin on XIX and ex-

tend to XXIX, inclusive. Caudal cirri 1.5 mm. long. Branchiæ shorter than in Malmgren's figure and his figures of uncini imperfect in that they fail to show the double series of marginal teeth; those examined have 4 teeth in each series. Tentacles ciliated. The tube is moderately firm with collapsable ends, formed of fine silt, and measures 170 mm. long by 5 mm. in diameter. Not previously reported from the American coast.

SAMYTHA SEXCIRRATA Sars.

Port Manvers, August 21, 30 fathoms, sticky mud.

Two specimens (the largest 22 mm. long, found in a soft mucoid tube) appear to belong to this species, but exhibit several peculiarities. There are only 16 setigerous segments instead of the typical 17; this count is reliable for one specimen, but the other is macerated about the middle, and it is possible that a seventeenth may bear setæ. There are 12 post-setigerous segments, and the pygidium is 4-lobed, with a pair of ventral cirri. One has three pairs of branchiæ arranged typically in a transverse rank on a ridge. On the other the rank is crowded and irregular and on the right side an additional gill—making 7 in all—quite similar to the others arises behind them. The uncini have the marginal teeth in two alternating series of five or six each. Verrill reports this species from several localities on the northern New England coast.

Family AMPHICTENIDÆ.

PECTINARIA (CISTENIDES) HYPERBOREA (Malmgren).

Egg Harbor, August 10, 7 fathoms, mud; off Beachy Island, between Flint Island and Cape Mugford, August 22, 80 fathoms, soft mud; halfway between Cape Mugford and Hebron, August 23, 60 fathoms, mud and sand. The tubes measure from 9 to 72 mm. long, the largest being 9 mm. in diameter at the mouth. The worms have 12 or rarely 13 pairs of paleæ, and the uncini sometimes have 4 instead of 3 large hooks. Though common in Greenland waters, this species is new to the American coast, though it seems probable that some of the records of the closely similar *P. granulata* may refer to this species. *P. granulata* is reported by Packard as common in Labrador, and is recorded from all parts of the New England coast, especially northward.

Family TEREBELLIDÆ.

AMPHITRITE INTERMEDIA Malmgren.

About 40 miles west by south from Cape Sable, Nova Scotia, October 8, 76 fathoms, black gravel. A single specimen 65 mm. long. Verrill has recorded this species from the northern New England coast.

LEÆNA ABRANCHIATA Malmgren.

Egg Harbor, August 10, 7 fathoms, mud. An incomplete specimen in a portion of tube constructed of small shell fragments. There are 11 fascicles of setæ on one side, 10 on the other. The only record of this species on our coasts is the doubtful one in Verrill's check list.

AXIONICE FLEXUOSA (Grube) Malmgren.

Nain, August 18, 7 fathoms, mud; off Beachy Island, between Flint Island and Cape Mugford, 80 fathoms, soft mud; southeast from Burin, Placentia Bay, Newfoundland, September 28, 110 fathoms, rocks and pebbles.

A single specimen of the worm was taken at the station last recorded. At the other stations the characteristic, hard, sandy, regularly flexuous tubes were noted. Another addition to the American fauna.

NICOLEA ZOSTERICOLA (Œrsted) Malmgren.

Egg Harbor, August 10, 7 fathoms, mud. A female, barely 18 mm. long, and having 40 segments, 15 of which are setigerous; contains numerous large eggs. A still smaller male has the sexual cirri already developed. The female has two pairs, the male one pair and an unpaired one, of small little-branched gills. It is possible that these may be small specimens of *N. arctica*, from which species they differ only in their smaller size and slightly developed gills. Webster and Benedict give the only previous record for the American coast, their specimens having been taken at Eastport.

THELEPUS CINCINNATUS (Fabricius) Leuckart.

Near Egg Harbor, August 10, 20 fathoms, rocks; Shoal Tickle, near Nain, August 15; outside Hebron, August 26, 80 fathoms, gravelly; 14 miles south of Cape Sable, Nova Scotia, October 7, 45 fathoms, rocky; Browns Bank, off Cape Sable, October 8, 40–45 fathoms, rocky and sandy; about 40 miles west by south from Cape Sable, October 8, 76 fathoms, black gravel; about 43 miles west by south from Cape Sable, October 8, 110 fathoms, gravel.

This well-known and widely distributed species, originally described from Greenland waters, and known on our coasts southward as far as the banks off Marthas Vineyard and Block Island, occurs generally in the region covered by these explorations. The characteristic tubes are frequently dredged, especially on the gravelly bottoms off Cape Sable. The muddy bottoms off much of the Labrador coast are unfavorable to its presence.

TEREBELLIDES STRŒMI Sars.

Egg Harbor, August 10, 7 fathoms, mud; halfway between Cape Mugford and Hebron, August 23, 60 fathoms, mud and sand; 55 miles east of Cape Sable, Nova Scotia, October 6, 85 fathoms, mud.

A species of wide distribution and frequent occurrence, known on our coast as far south as Vineyard Sound, where it was discovered by Verrill.

Family MALDANIDÆ.

LUMBRICLYMENE, species?

Off Cape Sable, Nova Scotia, 14 miles south, October 4, 45 fathoms, rocky. The anterior ten segments with a color pattern like Arwidssons figure of *L. cylindricauda* but with differently shaped crochets.

PRAXILLELLA GRACILIS (Sars) Verrill.

Egg Harbor, August 8, 7 fathoms, mud. The head and anterior ten setigerous segments of a large individual 70 mm. long and 5 mm. in diameter. Except that the number of uncini in anterior setigerous segments (II–IV) is greater, it agrees fully with descriptions of specimens from northern Europe.

PRAXILLELLA PRÆTERMISSA (Malmgren) Verrill.

Egg Harbor, August 10, 7 fathoms, mud. Represented by a caudal end 1.3 mm. in diameter. The caudal funnel bears 15 very regular, bluntly pointed papillæ as long as one-third of the diameter of the funnel and an umpaired neural filament nearly twice as long. Both this and the preceding species have been reported by Verrill and others from the northern New England coast.

PRAXILLELLA, species?

One mile north of Battle Harbor, September 14, 50 fathoms, fine sand. A much contracted caudal end consisting of four short achætous segments and an anal funnel exactly like Arwidssons *P. affinus* (Taf. fig. 147), but with 36 short, blunt, regular marginal papillæ, which become somewhat shorter and more crowded dorsally; the unpaired ventral one in the neural line about twice as long as the others. Crochets unknown.

MALDANE SARSI Malmgren.

Shoal Tickle, near Nain, August 15; Port Manvers, August 21, 30 fathoms, sticky mud. From the first recorded station comes one and from the second twenty or more fragments of anterior ends, including the head, and from one to ten setigerous segments. The

diameter is from 0.8 to 3.2 mm. The only obvious feature in which these specimens differ from typical examples of the species is the elevation into a ridge of the transverse glandular bow on the dorsum behind the fifth fascicles of setæ. An abundant circumboreal species well known from the coast of northern New England.

Family CHLORHÆMIDÆ.

BRADA GRANULATA Malmgren.

Halfway between Cape Mugford and Hebron, August 23, 60 fathoms, mud and gravel; off Fish Island, outside of Hebron, August 25, 75 fathoms, mud; outside of Hebron, August 26, 80 fathoms, gravel.

These are stout grub-shaped worms measuring 40–45 mm. long and 9–13 mm. in diameter, with 21–23 setigerous segments. There is little doubt that they belong to Malmgrens species, but it seems probable that this is identical with *B. sublevis* Stimpson described from the Bay of Fundy in 1853, as has been suggested already by Webster and Benedict.

TROPHONIA ASPERA Stimpson.

Egg Harbor, August 10, 7 fathoms, mud; Nain, August 18, 7 fathoms, mud; Port Manvers, August 21, 30 fathoms, sticky mud; off Beachy Island, between Flint Island and Cape Mugford, August 22, 80 fathoms, soft mud; outside of Hebron Harbor, August 25, 60 fathoms, gravel. One specimen from each station; a complete one has 32 segments and a length of 45 mm. A tuft of seven rather thick tentacles, having a length equal to one-half the body diameter, is exposed on one side. The setæ of the first three segments are very long, and the first five tufts of notopodials are directed forward. This is one of the species reported by Packard.

FLABELLIGERA AFFINUS Sars.

Egg Harbor, August 10, 7 fathoms, mud; outside Hebron, August 26, 80 fathoms, gravelly; 55 miles east of Cape Sable, Nova Scotia, October 6, 85 fathoms, mud. One specimen from each station, 22 to 60 mm. long. This species and the next are European forms well known on our coast as far south as Casco Bay.

Family SCALIBREGMIDÆ.

SCALIBREGMA INFLATUM Rathke.

Off Cape Sable, Nova Scotia, 55 miles east, October 6, 85 fathoms, mud. One much macerated specimen.

Family STERNASPIDÆ.

STERNASPIS FOSSOR Stimpson.

Off Cape Sable, Nova Scotia, 55 fathoms east, September 6, 85 fathoms, mud.

These specimens are identical with some collected near the type locality by Dr. Harold S. Colton. They differ greatly from the southern New England species which has long gone under Stimpson's name, but which I am unable to distinguish from Mediterranean examples of *S. scutata* (Ranzani). *S. fossor* has seven segments between the genital pores and the anterior margin of the caudal shields, which have obscure ridges and a bright ferruginous color. The cuticle is more or less densely pilose, especially behind the genital pores, where most of the cutaneous papillæ become aggregated in a regular row of low tufts on many of the segments; above the region of the caudal shield they become longer and almost filamentous. Southern specimens, in striking contrast, have eight segments between the genital pores and the caudal shield and the cuticle is nearly smooth. The ranges of these two species on our coasts can not now be stated.

Family ERIOGRAPHIDÆ.

MYXICOLA STEENSTRUPI Kroyer.

Browns Bank, off Cape Sable, Nova Scotia, October 8, 40 fathoms. A young specimen having a total length of 22 mm. and a maximum width of nearly 2 mm. Perfectly colorless except for segmental pairs of conspicuous lateral, small, nearly black eye-spots, arranged in a somewhat irregular series on each side. Common at Eastport and reported by Verrill from Casco Bay, Maine.

Family SABELLIDÆ.

SABELLA CRASSICORNIS Sars.

Off Sable Island, Nova Scotia, 75 miles W. N. W., October 5, 75 fathoms, fine sand. A single specimen 24 mm. long with 14 pairs of branchiæ 8 mm. long marked with five or six regular pale brown bands, at each of which, except the first, a pair of large dark-brown eye-spots is borne on the back of each rachis. The rather stiff tube is strengthened with fine sand grains. Not previously reported from our coasts, though the related *S. pavonica* is well known in New England waters.

CHONE INFUNDIBULIFORMIS Kroyer.

Same station as last. Two specimens.

CHONE, species?.

Near Egg Harbor, August 10, 20 fathoms, rocks. Portion of caudal end of a specimen 3 mm. in diameter. The abdominal uncini have much longer beaks than those of the specimens of *C. infundibuliformis*, longer, indeed, than figured for any of the North Atlantic species. They resemble those of *C. duneri* Malmgren rather more closely.

EUCHONE TUBERCULOSA (Kroyer) Malmgren.

Off Beachy Island, between Flint Island and Cape Mugford, August 22, 80 fathoms, soft mud. Two fine specimens. One is 31 mm. long, the gills being 8.5 mm., the other slightly longer. Both are colorless and both have the left ventral plate of the first abdominal segment more than twice as large as the right and extending in front of it. Tubes of fine silt, terete, 103 mm. long and 2 mm. in diameter.

EUCHONE RUBROCINCTA (Sars) Malmgren.

Egg Harbor, August 10, 7 fathoms, mud. A small specimen 12 mm. long. This is an addition to the North American fauna, but the two preceding species have been taken by Verrill in northern New England.

POTAMILLA NEGLECTA (Sars) Malmgren.

Off Cape Sable, Nova Scotia, 14 miles south, 45 fathoms, rocky; 75 miles WNW. from Sable Island, 75 fathoms, fine sand; Browns Bank, off Cape Sable, October 8, 40 fathoms, rocky and sandy.

The four specimens are larger than is usual for the species in northern European waters, having a thoracic width of 2.6–4 mm. The gills, of which there are 15 or 16 pairs, are either colorless or more or less diffusely colored with pale chestnut or orange brown. Reported by Webster and Benedict from Eastport and by Verrill from Georges Banks.

Family SERPULIDÆ.

FILOGRANA FILOGRANA Berkeley.

Browns Bank, off Cape Sable, Nova Scotia, October 8, a small group of tubes of this species, which occurs southward to Marthas Vineyard.

SPIRORBIS SPIRILLUM Linnaeus.

Egg Harbor, August 10, 7 fathoms, fine mud; Shoal Tickle, 20 miles southeast of Nain, 25 fathoms, gravel; outside of Hebron, August 25, 60 fathoms, gravel; Browns Bank, off Cape Sable, Nova Scotia, October 8, 40 fathoms, rocky and sandy. Most of the specimens are of the ascending (*lucidus*) form attached to bryozoans and

hydroids, but a few of the typical discoid form occur on *Laminaria*, etc. Reported by Packard (not as *spirillum*, but as *S. porrecta*, teste Verrill).

SPIRORBIS CANCELLATUS (Fabricius) Morch.

Egg Harbor, August 10, 7 fathoms, mud. One thick-walled, dextral tube showing carinæ, three teeth at the aperture, and series of basal pits exactly like Levinsen's figure 18. Also in Packard's list.

SPIRORBIS VALIDUS Verrill.

Egg Harbor, August 10, 7 fathoms, mud; Shoal Tickle, August 15, 25 fathoms, gravel; Komactoroic Bay, north of Nakoak, 5 fathoms, rocky. Several tubes attached to pebbles, a broken shell of *Sipho islandica*, and to bryozoans. Both discoid and ascending forms occur, and a few small ones may possibly be *S. tubæformis*. Previously known from Greenland, Grand Banks, etc.