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DEEP-WATER POLYCHAETES FROM A TRANSECT OFF CENTRAL OREGON

by

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The polychaete fauna of Oregon has been studied very little. The only large survey to date was by Hartman and Reish (1950); a few additional records can be found scattered in expedition reports. A list of polychaetes from shelf areas identified by Donald J. Reish was published by Carey (1972). The present material was collected to characterize bathyal and abyssal environments off Oregon. The polychaete fraction of this material was treated first by Hancock (1969); later, parts of the material were reviewed by the senior author, and descriptions and illustrations were added.

The samples were taken in a transect from Yaquina Bay, Oregon, extending about 320 km offshore. The depth ranged from 100 to 2900 m. The permanent stations, each visited a variable number of times, are referred to as NAD stations. NAD stations with numbers below nine are in waters shallower than 200 m; those with numbers above 20 are on the Cascade Abyssal Plain. The intermediate stations are on a steep slope. Figure 1 shows the position of the transect; the insert is a depth profile. Details on the stations can be found in the station list.

A total of one hundred and forty-two species of polychaetes are reported upon here. One hundred thirty-five have been identified to species and named; another seven cannot be identified to species but belong to genera not otherwise represented. Thirty-seven families are represented. One, the TOMOPTERIDAE, contains exclusively pelagic members, and the present specimens must either have been caught in the water column or have been brought in during the screening process.

Hartman and Reish (1950) reported 136 species from intertidal areas and shallow water off Oregon. Thirteen of these species have also been found in the present study. Carey (1972) reported 102 species from shelf depths off Oregon; his study was based in part on the same material treated here.¹ Synonyms have been eliminated as much as possible, as have differences of opinion on the identity of certain species. In view of the very limited investigations in Oregon, the number of species known from Oregon compares favorably with the number known in Washington and California (see Bause and Hobson, 1974; Hartman, 1968 and 1969).

The bathymetric distribution of the species in the present material demonstrates the presence of a distinct deep-slope fauna, as well as a shelf fauna, off Oregon. A few species are limited to the shelf region only (*Naineris uncinata*; *Polydora brachycephala*; *Travisia*, near *gigas*; and *Artacamella hancocki*). All others are limited to waters deeper than 200 m. This paper treats only two NAD stations from the upper slope (200 — 800 m), each of which was sampled only once. In contrast, stations farther down the slope are more numerous and were sampled more frequently. (See Fig. 1 and the Station List). The material is probably adequate for deep-slope depths, given the limitations of the sampling gear, screenings, and sample processing specified by Hancock (1969). However, the report is not adequate for the upper slope and shelf. Therefore, no bathymetric subdivisions can be indicated except for a distinct separation between the shelf fauna and the deep-slope fauna, since less than 10% of the species have been found in both areas.

The best-represented families are: PARAONIDAE, SPIONIDAE, and LUMBRINERIDAE (11 species each); ONUPHIDAE (10 species); AMPHARETIDAE (9 species); CAPITELLIDAE and MALDANIDAE (7 species each); ORBINIIDAE, OPHELIIDAE, and PHYLLODOCIDAE (6 species each), PILARGIIDAE and TEREBELLIDAE (5 species each). The number of cirratulid species reported is very low. More distinct taxa appear to be present, but current taxonomic practice does not allow species identification in most cirratulid genera.

¹All species currently known from Oregon are listed in Table 1.

The familial composition of the deep-water fauna closely resembles that reported from other areas (Hartman, 1965; Hartman and Fauchald, 1971; Fauchald, 1972a). At the species level, it is very similar to the fauna reported from western Mexico (Fauchald, 1972a) in similar depths and to the bathyal fauna of some of the open trenches and basins off southern California.

Characteristic of the deep-water polychaete fauna is the dominance of paraonids, spionids, lumbrinerids, and onuphids. The ampharetids are usually more important than the terebellids; however, members of the terebellid subfamily POLYCIRRINAE are present in large numbers in deep water, but are usually poorly reported because of difficult taxonomic problems. This paper is no exception in this regard. The sigalionids are usually more important than the polynoids; this is also the case in the present material, but both families are poorly represented, and no conclusive statements can be made. Three taxa are characteristic in many ways of deeper water but always represented by only one or a few species, include the sternaspids, fauveliopsids, and trichobranchids. These three families are represented by large numbers of specimens off Oregon and, despite the low species numbers, characterize the deep-water samples if abundance is considered.

New genera are described in the families SCALIBREGMIDAE, FLABELLIGERIDAE, and AMPHARETIDAE. All three genera are strikingly different from previously described taxa. New species are described in the PARAONIDAE, COSSURIDAE, SPIONIDAE, OPHELIIDAE, PHYLLODOCIDAE, HESIONIDAE, AMPHINOMIDAE, ONUPHIDAE and FAUVELIOPSIDAE.

Keys to species within each family are given, but no family key has been constructed, since such a key was recently published (Fauchald, 1977). The keys are constructed solely to distinguish among species reported in the present study. They will not segregate species reported in the present study from other species, described or undescribed. In some instances, characters used in the keys may be generally valid at the generic level only, but are sufficient in the present context to distinguish species included.

Most of this material and a series of additional samples were discussed by Hancock (1969). Since this document was unpublished, the authors ask that it not be quoted and that species mentioned in that document not be cited except after an examination of the material, since some incomplete identifications and a few erroneous identifications have been discovered.

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ORDER ORBINIIDA

FAMILY ORBINIIDAE HARTMAN, 1942

KEY TO SPECIES

- 1a. Prostomium anteriorly truncate or rounded *Naineris uncinata*
 b. Prostomium anteriorly sharply pointed 2
 2a. Thoracic setae all simple capillaries 3
 b. Thoracic setae of at least two different kinds 4
 3a. Thorax with 11 setigers; first branchiae abdominal in position *Haploscoloplos kerguelensis*
 b. Thorax with 16 setigers; first branchiae on one of the last thoracic setigers *Haploscoloplos elongatus*
 4a. First three thoracic setigers with brush-tipped setae *Califia mexicana*
 b. Brush-tipped setae absent 5
 5a. Last thoracic setigers with a few thick, harpoon-shaped neurosetae in addition to the capillaries
 *Phylo nudus*
 b. Last thoracic setigers without harpoon-shaped neurosetae *Scoloplos (Leodamas)*, near *mazatlanensis*.

Califia mexicana Fauchald, 1972

Califia mexicana Fauchald, 1972a, pp. 164-166, pl. 33, figs. a-e.

Records: AD-6, NAD-17 (2); AD-74, NAD-14 (1).

Remarks: Members of the genus *Califia* were reviewed by Fauchald (1972a). *C. mexicana* has branchiae limited to about 10 setigers. The first setigers have spherical postsetal lobes and lack simple dentate setae.

Occurrence: Bathyal depths off western Mexico.

Haploscoloplos elongatus (Johnson, 1901)

Scoloplos elongata Johnson, 1901, pp. 412-413, pl. 10, figs. 105-110.

Haploscoloplos elongatus: Hartman, 1969, pp. 19-20, 5 figs.; Hartman and Reish, 1950, p. 26; Fauchald, 1972a, p. 166; Carey, 1972, p. 438.

Record: AD-41, NAD-21 (1).

Remarks: The present specimen agrees with *H. elongatus* as defined by Hartman (1969). The first pair of branchiae is on setiger 14.

Occurrence: Common in shallow water from Alaska to southern California.

Haploscoloplos kerguelensis (McIntosh, 1885)

Scoloplos kerguelensis McIntosh 1885, pp. 355-356, pl. 43, figs. 6-8, pl. 22A, fig. 19.

Haploscoloplos kerguelensis: Fauchald, 1972a, pp. 166-167, pl. 34, figs. a-b.

Records: AD-7, NAD-16 (2); AD-149, NAD-15 (1).

Remarks: The present specimens have about 11 thoracic setigers and the first branchiae are on one of the abdominal setigers. They thus agree with *H. kerguelensis*.

Occurrence: Appears to be widespread in deep water (Fauchald, 1972a).

Naineris uncinata Hartman, 1957

Naineris uncinata Hartman, 1957, pp. 301-302, pl. 38, figs. 1-8; Hartman, 1969, pp. 31-32, 6 figs.

Record: AD-97, NAD-4 (4).

Remarks: The present specimens have double neuropodial postsetal lobes in posterior thoracal setigers. All other species recorded from the Americas have exclusively simple postsetal lobes on the thorax.

Occurrence: Alaska to southern California. Intertidal in the northern part of the range and submerged in lower latitudes.

Phylo nudus (Moore, 1911)

Aricia nuda Moore, 1911, pp. 311-315, pl. 21, figs. 172-176.

Phylo nudus: Hartman, 1969, pp. 39-40, 4 figs.; Carey, 1972, p. 439.

Records: AD-56, NAD-25 (1); AD-148, NAD-12 (1).

Remarks: Members of the genus *Phylo* have thick acicular spines in posterior thoracic setigers. *P. nudus* differs from congeners from the Americas in the lack of a ventral fringe usually present on these same setigers.

Occurrence: Bathyal depths off southern California.

Scoloplos (Leodamas), near mazatlanensis Fauchald, 1972

Scoloplos (Leodamas) mazatlanensis Fauchald, 1972a, pp. 169-171, pl. 35, figs. a-c.

Record: AD-7, NAD-16 (2).

Remarks: The present specimen differs from *Scoloplos (Leodamas) mazatlanensis* as originally described in having 14 rather than 15, thoracic setigers. It does not otherwise differ from that species as described.

FAMILY PARAONIDAE CERUTTI 1909*

KEY TO SPECIES

- 1a. Median antenna absent2
- b. Median antenna present4
- 2a. Modified setae present in postbranchial neuropodia*Tauberia gracilis*
- b. Modified setae absent3
- 3a. Branchiae absent*Paraonella abranchiata*
- b. Five pairs of branchiae present*Paraonella cedroensis*
- 4a. Modified setae absent5
- b. Modified setae present8
- 5a. Antenna barely reaches the tip of the prostomium6
- b. Antenna reaches at least the second setiger7
- 6a. Maximally, 20 pairs of branchiae present*Aedicira antennata*
- b. At least 40 pairs of branchiae present*Aedicira pacifica*
- 7a. Postbranchial postsetal lobes long and thread-like*Aedicira longicirrata*
- b. Postbranchial postsetal lobes short and stubby*Aedicira oregonensis*
- 8a. Modified setae notopodial*Cirrophorus* sp.
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- b. Antenna unbranched11
- 11a. Modified setae distally aristate.*Allia hartmani*
- b. Modified setae without aristae*Allia crassicapitis*

Acesta lopezi Berkeley and Berkeley, 1956

Aricidea lopezi Berkeley and Berkeley, 1956, p. 542, figs. 1-3; Hartman, 1969, pp. 59-60, 3 figs.

Aricidea (Acesta) lopezi lopezi: Strelzov, 1973, pp. 102-104, fig. 44.

Aricidea ? lopezi: Fauchald, 1972a, p. 179.

Records: AD-11, NAD-15 (1); AD-17, NAD-17 (3); ?AD-44, NAD-22 (1); AD-65, NAD-21 (1).

Remarks: The concept of the species is accepted as defined by Strelzov (1972); the described subspecies, *rubra* (Hartman 1963) and *rosea* Reish (1968), are here considered separate species; thus the subspecific designation used by Strelzov has been eliminated.

Occurrence: May be widespread, but has been confused with similar species. Western Mexico and southern California in bathyal depths and in shelf depths in western Canada.

*The many subgenera described in this family by Stelzov (1973) are here considered as distinct genera (see also Fauchald, 1977).

Aedicira antennata (Annenkova, 1934)

Aricidea antennata Annenkova, 1934, p. 658, figs. 2, 36.

Aedicira antennata: Fauchald, 1972a, pp. 175-176.

Aricidea (Allia) quadrilobata: Strelzov, 1973, pp. 88-91, figs. 13 and 37 (*partim*).

Aricidea uschakowi: Carey, 1972, p. 439.

Records: AD-6, NAD-17 (1); AD-9, NAD-21 (2); AD-110, NAD-21 (4).

Remarks: Strelzov (1973) combined a series of species that have comparatively long, slender antennae and lack modified setae. In all of these forms, the neurosetae in postbranchial setigers are somewhat more sharply tapered than those in more anterior setigers and those in the notopodia. The relative lengths of the antennae vary, as do the development of the postsetal lobes and the number of pairs of branchiae. Without more precise data, the proposed combinations are unacceptable. The present specimens agree with the specimens designated *Aedicira antennata* from western Mexico.

Occurrence: Cold-water areas of the northern Pacific as far south as western Mexico in slope depths.

Aedicira longicirrata Fauchald, 1972

Aedicira longicirrata Fauchald, 1972a, pp. 176-177, pl. 36, fig. a.

Records: AD-6, NAD-17 (1); ?AD-7, NAD-16 (2).

Remarks: *Aedicira longicirrata* has very long, cirriform postsetal lobes in postbranchial setigers; the long, soft postbranchial neurosetae are gently tapering. The specimens from AD-7 have the long postsetal lobes, but all postbranchial setae have been broken.

Occurrence: Bathyal depths off western Mexico.

Aedicira oregonensis, new species

Records: AD-6, NAD-17 (1) (pl. 1, fig. 1); AD-16, NAD-13 (1); AD-17, NAD-17 (1); AD-18, NAD-23 (1); AD-89, NAD-22A (1); AD-139, NAD-24 (26, HOLOTYPE, Poly 1162, PARATYPES Poly 1163); AD-150, NAD-26 (10).

Descriptions: The holotype is an incomplete specimen with 80 setigers; it is 9 mm long and 0.5 mm wide, excluding setae. Anterior segments are narrow; postbranchial segments are approximately as long as they are wide. The body is evenly tapered posterior to the branchial region. The specimen is yellow and has no color patterns.

The prostomium (Fig. a) is broadly rounded; the antenna is clavata and sits on a slightly elevated base. Parapodia consist of low welts in prebranchial and branchial regions; they are indistinct, aside from the emerging setal bundles, in postbranchial setigers. Postsetal lobes are present from setiger 2 to about setiger 15 or 16; the lobes increase in size up to setiger 8 or 9 and thereafter decrease. They are narrow and digitate where best developed.

Pairs of branchiae are present on setigers 6 to 15; each branchia is thick; some have a tapering tip, but most are bluntly rounded distally.

All setae are moderately long, slender capillaries in both rami.

Aedicira oregonensis is characterized by the low number of pairs of branchiae. The only other member of the genus (see Fauchald, 1972a for a review) with less than 20 pairs of branchiae is *A. belgicae* (Fauvel, 1936, pp. 29-31, fig. 3), which may be a *Paraonis* species rather than of *Aedicira* because the median antenna appears to be absent (Strelzov, 1973, pp. 68-69).

Occurrence: Bathyal areas off central Oregon, hence the specific name. Detailed data for the type locality can be found in the Station List.

Aedicira pacifica (Hartman, 1944)

Aricidea pacifica Hartman, 1944b, pp. 316-317, pl. 27, figs. 8-9.

Aricidea pacifica: Hartman, 1969, pp. 53-54, 3 figures.

Aricidea (Aedicira) pacifica: Strelzov, 1973, pp. 66-68, pl. 17, fig. 3; text fig. 25.

Records: AD-7, NAD-16 (2); AD-17, NAD-17 (7); AD-65; NAD-21 (1); AD-86, NAD-21 (2); AD-110, NAD-21 (1); AD-139, NAD 24 (5); AD-149, NAD-15 (4); AD-154, NAD-26 (10).

Remarks: *Aedicira pacifica* has up to 60 pairs of branchiae. The antenna is long and slender. The postsetal lobes are long and slender, at least through the branchial region. The postbranchial neurosetae are abruptly tapered, often with a distinct bend.

Occurrence: Intertidal areas off southern California and shelf depths in the northwest Pacific Ocean.

Allia crassicapitis (Fauchald, 1972), new combination

Aricidea crassicapitis Fauchald, 1972a, pp. 177-179, pl. 37, figs. g-h.

Records: AD-6, NAD-17 (2); AD-9, NAD-21 (2); AD-19, NAD-22 (2); AD-33, NAD-21 (2); AD-41, NAD-21 (2); AD-65, NAD-21 (1); AD-86, NAD-21 (2); AD-110, NAD-21 (2); AD-139, NAD-24 (4); AD-150, NAD-26 (1).

Remarks: The present species belongs to the genus *Allia* in that the neuropodial capillary setae are thicker than the notopodial ones in postbranchial setigers. The modified setae lack aristae. The present specimens agree well with the species as originally defined.

Occurrence: Western Mexico in bathyal and abyssal depths.

Allia hartmani (Strelzov, 1968)

Aedicira hartmani Strelzov, 1968, pp. 80-81, fig. 3a-d.

Allia hartmani: Strelzov, 1973, pp. 80-81, pl. 17, fig. 5, text fig. 33.

Record: AD-13, NAD-18 (1).

Remarks: The neurosetae are slightly less distinctly aristate than as described (Strelzov, 1973).

Occurrence: Shelf depths in the Barents Sea.

Allia ramosa (Annenkova, 1934)

Aricidea ramosa Annenkova, 1934, pp. 657-658, fig. 3a.

Aricidea (Allia) ramosa: Strelzov, 1973, pp. 82-83, fig. 34.

Aedicira ramosa: Hartman, 1969, pp. 55-56, 1 fig.

Records: AD-13, NAD-18 (1); AD-141, NAD-11B (1); AD-149, NAD-15 (1).

Occurrence: Sea of Japan to Southern California in bathyal depths.

Cirrophorus, species indeterminate

Record: AD-150, NAD-26 (1).

Remarks: The present specimen is too poorly preserved to allow closer identification.

Paraonella abranchiata, new species
(Plate I, Figs. b-c)

Records: AD-7, NAD-16 (3); AD-10, NAD-26 (2, HOLOTYPE, Poly 1164, PARATYPE, Poly 1165); AD-154, NAD-26 (3).

Description: The holotype is a complete specimen, with approximately 70 setigers; it is 5 mm long and 0.25 mm wide, excluding setae. The body is cylindrical, yellowish, and lacks color patterns.

The prostomium (fig. b) is triangular in outline, with a raised dorsomedian diamond-shaped area; it is slightly concave ventrally. All anterior setigers are similar; each is biramous, and a distinct digitate notopodial postsetal lobe is present. These lobes increase slowly in length posteriorly and, near the far posterior end, are nearly as long as the body is wide. Branchiae are absent, hence the specific name. The pygidium (fig. c) is a swollen ring with five distinct anal cirri. One pair is on either side of the anal opening, distal and slightly dorsal in relation to the rest of the animal. A single, midventral cirrus is present, and basally on the ventral side is a pair of rather short, slender cirri. All cirri are digitate or slightly clavate.

All setae are long, slender capillaries.

Paraonella abranchiata agrees with *Paraonella* Strelzov (1973, p. 146) in lacking an antenna and modified setae in either ramus. It differs from all members of the genus in also lacking branchiae. The pygidial appendages resembled those of some species of *Cirrophorus* (see Strelzov, 1973, figs. 49 and 51).

Occurrence: Bathyal depths off central Oregon; data for the type locality can be found in the Station List.

Paraonella cedroensis (Fauchald, 1972), new combination

Paraonides cedroensis Fauchald, 1972a, pp. 181-182.

Record: AD-17, NAD-17 (1).

Remarks: This species belongs to the genus *Paraonella* (Strelzov, 1973, p. 146). It was differentiated from similar species by Fauchald (1972a). It most closely resembles the genotype of *Paraonella*, *P. nordica* (Strelzov, 1968, pp. 75-76, fig. 1) in that both have few pairs of branchiae limited to anterior setigers. The two can be separated by the long postbranchial postsetal lobes in *P. cedroensis*; these lobes are the same length on both pre- and postbranchial setigers in *P. nordica*. Furthermore, *P. nordica* has six pairs of branchiae, starting on setiger 5; *P. cedroensis* has five pairs, starting on setiger 4.

Occurrence: Western Mexico in bathyal depths.

Tauberia gracilis (Tauber, 1879)

Aonides gracilis Tauber 1879, p. 115.

Paraonis gracilis oculata: Carey, 1972, p. 439.

Paraonis gracilis: Fauchald, 1972a, p. 183.

Tauberia gracilis: Strelzov, 1973, pp. 127-133, figs. 54-57.

Records: AD-6, NAD-17 (4); AD-9, NAD-21 (5); AD-13, NAD-18 (1); AD-16, NAD-13 (1); AD-18, NAD-23 (1); AD-41, NAD-24 (1); AD-43, NAD-22 (1); AD-141, NAD-118 (1); AD-148, NAD-12 (1); AD-149, NAD-15 (157); AD-154, NAD-26 (2).

Remarks: *Tauberia gracilis* is the most abundant paraonid in the present material. The initial appearance and the number of pairs of branchiae are somewhat variable. Smaller specimens have branchiae starting on setiger 5 and usually have about six pairs. Larger specimens have the first branchiae on either setiger 6 or 7 and maximally have 15 pairs; the number is usually around 12 pairs.

This variability is well within the boundaries defined previously for this species. Species of this genus were well defined by Strelzov (1973).

Occurrence: Apparently nearly worldwide in colder waters.

FAMILY COSSURIDAE DAY, 1963

KEY TO SPECIES

- 1a. Tentacle inserted on setiger 4 *Cossura modica*
- b. Tentacle inserted on setiger 3 2
- 2a. Body darkly pigmented; enlarged setae in both notopodial and neuropodial fascicles *Cossura brunnea*
- b. Body pale; enlarged setae in neuropodial fascicles only *Cossura rostrata*

Cossura brunnea Fauchald, 1972

Cossura brunnea Fauchald, 1972a, pp. 208-210, pl. 41, figs. a-c.

Records: AD-7, NAD-16 (1); AD-9, NAD-21 (1); AD-65, NAD-21 (1); AD-119, NAD-22 (1); AD-141, NAD-118 (4); AD-149, NAD-15 (9).

Remarks: *Cossura brunnea* can be differentiated from the very similar *C. candida* Hartman (1955, pp. 44-45, pl. 1, figs. 1-5) by a dark brown pigmentation on most of its segments. *C. candida* is pale colored. Enlarged setae are present in both fascicles in *C. brunnea*, and are limited to the neuropodial fascicles in *C. candida*.

Occurrence: Bathyal depths off western Mexico.

Cossura modica, new species
(Plate 1, Fig. d)

Records: AD-17, NAD-17 (4); AD-32, NAD-19 (1); AD-141, NAD-118 (35, HOLOTYPE AHF Poly 1158, PARATYPES AHF Poly 0000).

Description: The type is an incomplete specimen with 35 setigers. It is 6 mm long and 0.5 mm wide, excluding setae. The body is cylindrical, anteriorly tapering, and white.

The prostomium (Fig. d) is conical and approximately as long as it is wide. The two peristomial segments are equal in length; each is approximately as long as the prostomium.

The first setiger has a single ramus; all other parapodia are biramous. Each notopodium has two distinct fascicles of setae emerging at different angles to the long axis of the parapodium; all are slender, evenly tapering capillaries. The longer setae are in a bundle of two or three; the shorter, in a bundle of about 20 in anterior setigers; the number of setae in each fascicle decreases posteriorly.

Each neuropodium also has two fascicles of setae. The smaller bundle has two or three evenly tapering setae closely resembling those in the notopodium. In the first 15 to 20 setigers, the larger fascicle has thick, abruptly tapering, marginally limbate setae. These thick setae are replaced posteriorly by slender capillaries. All capillary setae from both rami are distally pilose.

The tentacle is attached on setiger 4; when complete, it reaches to setiger 20.

The genus *Cossura* was reviewed by Fauchald (1972a). The present species belongs to the group that has two complete peristomial segments. The only other species in this group that has the tentacle inserted posterior to setiger 3 is *C. alba* Hartman (1967, p. 119), which has smooth limbate noto- and neurosetae in all setigers. The present species has both limbate and capillary setae; in addition, all of the capillary setae are distally pilose.

Occurrence: Off the central Oregon coast in bathyal depths. Detailed data can be found in the Station List.

Etymology: The name refers to the unremarkable appearance of this worm (*modicus* Latin = ordinary, commonplace).

Cossura rostrata Fauchald, 1972

Cossura rostrata Fauchald, 1972a, pp. 211-212, pl. 41, figs. f-h, pl. 42, fig. a.

Records: AD-7, NAD-17 (6); AD-9, NAD-21 (5); AD-32, NAD-19 (2); AD-33, NAD-21 (3); AD-41, NAD-21 (3); AD-44, NAD-22 (1); AD-65, NAD-21 (10); AD-86, NAD-21 (7); AD-87, NAD-21 (4); AD-110, NAD-21 (3); AD-119, NAD-22 (9); AD-139, NAD-24 (6); AD-141, NAD-118 (40); AD-149, NAD-15 (24); ?AD-150, NAD-26 (2 juveniles); AD-154, NAD-26 (2).

Remarks: *C. rostrata* has two peristomial segments; the tentacle is inserted on the third setiger, and the first setiger has a neuropodial fascicle of setae only. The neuropodial fascicles have thick, abruptly tapering setae in anterior setigers; such setae are missing from the notopodial fascicles.

Occurrence: Western Mexico in bathyal depths.

This variability is well within the boundaries defined previously for this species. Species of this genus were well defined by Strelzov (1973).

Occurrence: Apparently nearly worldwide in colder waters.

Family Chaetopteridae Malmgren, 1867
Phyllochaetopterus limicolus Hartman, 1960.

Phyllochaetopterus limicolus Hartman 1960, pp. 120-122, pl. 10, figs. 3-5; Hartman, 1969, pp. 215-216, 3 figs.

Records: AD-41, NAD-21 (1); AD-89, NAD-22A (1 and tubes); AD-119, NAD-22 (1); AD-141, NAD-11B (1); ?AD-149, NAD-15 (1, postlarva).

Remarks: *Phyllochaetopterus limicolus* can most easily be separated from *Spiochaetopterus costarum* (Claparède, 1870; see Hartman, 1969, pp. 219-220, 6 figs.), which is also common in deep-water coastal samples, by the number of segments in the midbody region. *P. limicolus* has only two setigers in the intermediate region; *S. costarum* has at least 30. The chisel-shaped seta of setiger 4 is distally smooth in *P. limicolus* and crenulate in *S. costarum*. These characters will not separate *P. limicolus* from other species of *Phyllochaetopterus*.

Occurrence: Deep shelf and bathyal depths off southern California.

FAMILY SPIONIDAE, GRUBE, 1850

KEY TO SPECIES

- 1a. Fifth setiger with modified setae. *Polydora brachycephala*
 b. Fifth setiger without modified setae 2
 2a. Branchiae present 3
 b. Branchiae absent 6
 3a. Branchiae present on a large number of segments *Scolelepis foliosa*
 b. Branchiae limited to about 10 anterior setigers 4
 4a. All branchiae cirriform 5
 b. First and last pair of branchiae bipinnate *Prionospio anuncata*
 5a. Four pairs of branchiae; neuropodial hooks first present from setiger 22 *Minuspio minor*
 b. At least six pairs of branchiae; neuropodial hooks first present from setiger 12 or 13
 *Minuspio cirrifera*
 6a. First setiger with capillary setae only *Spiophanella pallida*
 b. First setiger with large curved hooks in addition to the capillary setae 7
 7a. Frontal horns long and slender, eyes absent *Spiophanes anoculata*
 b. Frontal horns short or absent; eyes present 8
 8a. Median and posterior notopodial lobes foliose *Spiophanes berkeleyorum*
 b. Median and posterior notopodial lobes cylindrical or threadlike 9
 9a. Hooded hooks present from about setiger 25; each hook quadridentate *Spiophanes fimbriata*
 b. Hooded hooks first present from setiger 15; each hook tridentate *Spiophanes kroeyeri*

Minuspio cirrifera (Wirén, 1883)

Prionospio (?) *cirrifera* Wirén, 1883, pp. 409-410.

Minuspio cirrifera: Foster, 1971, pp. 108-112, figs. 262-275.

Records: AD-9, NAD-21 (11); AD-43, NAD-22 (1).

Remarks: Foster's (1971) concept of *Minuspio cirrifera* appears to be somewhat broader than is acceptable. The present specimens have six pairs of cirriform branchiae; hooded hooks are present in the neuropodia from setiger 12 or 13, and each is distally multidentate. The branchiae are digitate rather than filiform.

Occurrence: May be widely dispersed, but appears to have been confused with several similar species.

Minuspio minor, new species

(Plate 2, Figs. c-d)

Record: AD-13, NAD-18 (2, HOLOTYPE, Poly 1152, PARATYPE Poly 1153).

Description: The holotype is an incomplete specimen with 29 setigers. It is 5 mm long and 0.3 mm wide, excluding setae. The body is cylindrical and slightly inflated anteriorly, with the anterior end appearing to be truncately tapering toward the ventral side.

The prostomium (Fig. c) is an elongated flattened keel, with the transverse anterior end as broad as the width of the specimen. The peristomium has a pair of flattened, distally rounded wings which are held erect over the posterior part of the prostomium. The first parapodium is incomplete, with the notopodium missing. The neuropodial postsetal lobe is flattened and directed dorsally; it covers the base of the peristomial wings. All other parapodia are biramous. Anterior notopodia have triangular, elongated postsetal lobes; more posteriorly, these lobes become lower and distally rounded or truncate. They are distinct and foliose in all setigers. Neuropodial postsetal lobes are similar in all setigers; each is foliose and distally truncate.

Four pairs of cylindrical branchiae are present on setigers 2 to 5. Each is slender and distally tapering. The anteriormost pair is slightly shorter than the others; all other pairs are similar in length.

Anterior setigers have only slender capillary setae; pilose genital spines are present ventrally in each neuropodial fascicle from setiger 8 or 9. Neuropodial hooks (Fig. d) are first present from setiger 22; notopodial hooks are absent from both specimens. Each hook is double-hooded and distally quadridentate, with a thick proximal fang and three slender teeth distally.

Minuspio minor resembles *M. chilensis* (Hartmann-Schröder, 1962) in that both have reduced first setigers without notopodia. All other species of the genus have complete first setigers. *M. chilensis* has eyes, while *M. minor* does not. *M. chilensis* has six pairs of branchiae, and *M. minor* has four. Lateral wings are indistinct on the peristomium in *M. chilensis* and distinct in *M. minor*. Hooks are first present from setiger 13 in *M. chilensis*, later in larger specimens; similar-sized specimens of *M. minor* have hooks from setiger 22. Both species have quadridentate hooks.

Occurrence: Bathyal depths off central Oregon. Detailed locality data can be found in the Station List.

Minuspio, species A

Records: AD-9, NAD-21 (16); AD-13, NAD-18 (2); AD-17, NAD-17 (3); AD-33, NAD-21 (1); AD-65, NAD-21 (5).

Remarks: All of these specimens belong to the same species. All lack branchiae, and the branchial scars are not sufficiently distinct to allow complete identification. They are referred to *Minuspio* since they resemble *M. cirrifera* in most external characteristics. However, the hooded hooks are bidentate rather than multidentate as in *M. cirrifera*; the first neuropodial hooks are present from about setiger 15 or 16 in most specimens.

Polydora brachycephala Hartman, 1936

Polydora brachycephala Hartman, 1936, pp. 48-49, figs. 3-5; Hartman, 1969, pp. 129-130, 3 figs.

Record: AD-68, NAD-6 (1).

Remarks: This single specimen agrees with *Polydora brachycephala* in that it has nearly straight, distally bidentate hooded hooks. The prostomium is deeply bifid and is hooded by large wings developed from the peristomium. The shape of the modified setae of setiger 5 agrees with the illustration given by Hartman (1969).

Occurrence: Intertidal and shallow subtidal areas in central California.

Prionospio anuncata Fauchald, 1972

Prionospio (Prionospio) anuncata Fauchald, 1972a, pp. 193-194, pl. 39, figs. a-e.

Records: ?AD-6, NAD-17 (3); AD-16, NAD-13 (2); AD-17, NAD-17 (2); AD-86, NAD-21 (1); AD-141, NAD-11B (9); AD-149, NAD-21 (7).

Remarks: *Prionospio anuncata* was separated from similar species which also have four pairs of branchiae, the first and last bipinnate and the second and third smooth, on the late first occurrence of the hooded hooks in the neuropodia. The first hooks are present in setigers 25 to 27 in the present specimens.

Occurrence: Western Mexico in bathyal depths.

Scoelepis foliosa (Audouin and Milne Edwards, 1833)

Aonis foliosa Audouin and Milne Edwards, 1833, pp. 402-403, pl. 8, figs. 9-13.

Nerine foliosa: Fauvel, 1927, pp. 34-35, fig. 11a-f.

Scoelepis foliosa: Pettibone, 1963, p. 92 (in part); Foster, 1971, p. 65 (in part).

Record: AD-38, NAD-11 (1).

Remarks: *S. foliosa occidentalis* Hartman (1961, p. 90) appears to be separable from the main form of this species as indicated by Hartman (1961). Thus, the synonymy suggested by Pettibone and Foster is accepted only in part.

Occurrence: Probably widespread, but may have been confused with similar species.

Spiophanella, new genus

Spionid species without branchiae and without enlarged, curved hooks in the first setigers. Anterior parapodia with well-developed noto- and neuropodial postsetal lobes; median and posterior setigers with reduced lobes. Notopodia with capillary setae only; neuropodia in median and posterior setigers with hooded multidentate hooks.

Genotype: *Spiophanella pallida* (Hartman, 1960, as *Spiophanes pallidus*, pp. 118-119, pl. 10, figs. 1-2).

Spiophanella agrees with *Spiophanes* in the lack of branchiae and in the distribution of hooded hooks; it differs most markedly in the lack of enlarged hooks in the first setigers.

Spiophanella pallida (Hartman, 1960)

Spiophanes pallidus Hartman, 1960, pp. 118-119, pl. 10, figs. 1-2; Hartman, 1969, pp. 187-188, 2 figs; Fauchald, 1972a, pp. 199-200.

Records: AD-6, NAD-17 (1); AD-33, NAD-21 (1); AD-55, NAD-25 (1); AD-150, NAD-26 (1).

Remarks: Fauchald (1972a, p. 199) remarked that the characteristic *Spiophanes* hooks could not be recognized in specimens from western Mexico. This was thought to be due to the poor condition of the available specimens. An examination of the type material and of additional material from southern California has shown that hooks are consistently absent in this species. Pettibone (1962, p. 85) suggested that this species might be a member of *Prionospio*. The lack of branchiae precludes that, but, as suggested by Pettibone, the species definitely does not belong to *Spiophanes*.

Occurrence: Southern California and western Mexico in bathyal depths.

Spiophanella anoculata Hartman, 1960

Spiophanes anoculata Hartman, 1960, p. 118; Hartman, 1969, pp. 179-180, 2 figs.; Fauchald, 1972a, p. 198.

Records: AD-6, NAD-17 (1); AD-9, NAD-21 (6); AD-17, NAD-17 (1); AD-41, NAD-21 (2); AD-139, NAD-24 (4); AD-149, NAD-15 (1); AD-150, NAD-26 (26); AD-154, NAD-26 (24).

Remarks: *Spiophanes anoculata* has long, slender frontal horns and has reduced notopodia in the first setiger. The neuropodial hooded hooks are bidentate.

Occurrence: Slope depths off southern California and western Mexico.

Spiophanes berkeleyorum Pettibone, 1962

Spiophanes berkeleyorum Pettibone, 1962, pp. 78-83, figs. 1-4.

Record: AD-65, NAD-21 (1).

Remarks: *Spiophanes berkeleyorum* closely resembles *S. kroyeri*. The posterior and median postsetal notopodial lobes are flat and foliose in *S. berkeleyorum* and are digitate in *S. kroyeri*.

Occurrence: Shelf and bathyal depths off Washington and western Canada.

Spiophanes fimbriata Moore, 1923

Spiophanes fimbriata Moore, 1923, pp. 179-182; Hartman, 1969, pp. 183-184, 4 figs; Fauchald, 1972a, p. 199.

Record: AD-148, NAD-12 (1).

Remarks: *Spiophanes fimbriata* resembles *S. kroyeri* closely, but can be separated on the basis of the quadridentate, rather than tridentate, hooks and by the fact that these hooks first occur from setiger 15 in *S. kroyeri* and from about setiger 25 in *S. fimbriata*. The two species are frequently considered synonymous (see Pettibone, 1962, p. 85).

Occurrence: Bathyal depths off central and southern California.

Spiophanes kroyeri Grube, 1860

Spiophanes kroyeri Grube, 1860, pp. 88-89, pl. 5, fig. 1; Söderström, 1920, pp. 240-243, figs. 150-152; Fauchald, 1972b, p. 99, fig. 4c-d.

Records: AD-6, NAD-17 (1); AD-7, NAD-16 (1); AD-9, NAD-21 (4); AD-11, NAD-15 (1); AD-17, NAD-17 (4); AD-32, NAD-19 (2); AD-65, NAD-21 (1); AD-119, NAD-22 (1); AD-148, NAD-12 (1).

Remarks: The present specimens are small and delicate compared to shallow-water specimens reported as this species as are specimens from Norway (Fauchald, 1972b). *S. kroyeri* can be separated from *S. berkeleyorum* by the shape of the notopodial postsetal lobes in median and posterior setigers. These are digitate in *S. kroyeri* and foliose in *S. berkeleyorum*. The hooks are quadridentate in *S. fimbriata* and are tridentate in *S. kroyeri*.

Occurrence: May be widespread, but have been confused with similar species.

FAMILY CIRRATULIDAE CARUS, 1863

KEY TO SPECIES

- 1a. All setae capillary2
 b. At least some spines present in addition to the capillary setae3
 2a. Anterior and posterior segments short and crowded; median setigers monilate*Tharyx*, near *monilaris*
 b. All setigers shorter than wide; none monilate*Tharyx*, near *multifilis*
 3a. Neuropodial spines present from the first setiger*Chaetozone*, near *corona*
 b. Neuropodial spines present from a median setiger*Chaetozone setosa*

Genera and species of the bipalpatate cirratulids are currently under revision. The concepts indicated by the key above are inadequate to cover the number of taxa involved. The conservative approach appears to be best to avoid adding new names to the literature before the revisions have been completed.

Chaetozone, near *corona* Berkeley and Berkeley, 1941

Chaetozone spinosa var. *corona* Berkeley and Berkeley, 1941, pp. 45-46.

Chaetozone corona: Hartman, 1969, p. 235-236, 3 figs.

Record: AD-154, NAD-26 (7).

Remarks: The present specimens agree with *C. corona* in the shape of the anterior end and in the presence of neuropodial spines from the first setiger. However, the spines remain single in all setigers and do not form cinctures around the posterior end as in *C. corona*.

Chaetozone setosa Malmgren, 1867

Chaetozone setosa Malmgren, 1867, p. 206, pl. 15, fig. 84; — Hartman, 1969, pp. 241-242, 3 figs.

Records: AD-6, NAD-17 (5); AD-13, NAD-18 (1); AD-74, NAD-14 (1); AD-148, NAD-12 (1); AD-149, NAD-15 (1).

Remarks: *Chaetozone setosa* has both notopodial and neuropodial spines present from a median setiger; the spines increase in number until they form cinctures around the posterior end. Notopodial spines start a few setigers posterior to the neuropodial ones. The spines are interspersed with capillary setae even in far posterior setigers.

Occurrence: The northern hemisphere, possibly cosmopolitan.

Cirratulus, species indeterminable

Record: AD-7, NAD-16 (7).

Remarks: The present specimens have tentacles arising from the same setiger as the first branchiae. The tentacular cirri are limited to one segment, as is characteristic of the genus *Cirratulus*. The specimens are too incomplete to allow complete identification.

Tharyx, near *monilaris* Hartman, 1960
(Plate 2, Figs. a-b)

Tharyx monilaris Hartman 1960, pp. 127-128, pl. 12, figs. 1-2; Hartman, 1969, pp. 261-262, 2 figs.

Records: AD-7, NAD-16 (4); AD-9, NAD-21 (16); AD-16, NAD-13 (1); AD-17, NAD-17 (1); AD-18, NAD-23 (6); AD-33, NAD-21 (12); AD-43, NAD-22 (1); AD-44, NAD-22 (4); AD-65, NAD-21 (15); AD-86, NAD-21 (38); AD-89, NAD-22A (6); AD-110, NAD-21 (4); AD-119, NAD-22 (30); AD-139, NAD-24 (29); AD-141, NAD-11B (394); AD-149, NAD-15 (14); AD-150, NAD-26 (15); AD-154, NAD-26 (6).

Remarks: Nearly all specimens listed above agree with the illustrations in Hartman (1969) and have serrated setae. The specimen from AD-16 resembles the others closely in all characters, but the setae are smooth (fig. b). Both forms agree with *T. monilaris* in the structure of the anterior end (Fig. a) and in the relative proportions of the segments. More than one species may be contained in the current material, and perhaps none of these belong to *T. monilaris*.

Tharyx, near *multifilis* Moore, 1909

Tharyx multifilis Moore, 1909, pp. 267-268, pl. 9, figs. 43; Hartman, 1969, pp. 263-264, 1 fig.

Records: AD-6, NAD-17 (3); AD-9, NAD-21 (23); AD-13, NAD-18 (4); AD-17, NAD-17 (9); AD-32, NAD-19 (1); AD-41, NAD-21 (18); AD-44, NAD-22 (1); AD-86, NAD-21 (10); AD-105, NAD-12 (3); AD-110, NAD-21 (10); AD-119, NAD-22 (7); AD-139, NAD-24 (3); AD-148, NAD-12 (2); AD-149, NAD-15 (1); AD-150, NAD-26 (6); AD-154, NAD-26 (3).

Remarks: *Tharyx multifilis* is generally rather large, with a highly arched dorsum and long, smooth setae. The present specimens agree in that the setae are long, the segments are crowded in all setigers, and the animals are generally larger than those considered above as *T.*, near *monilaris*. They differ from *T. multifilis* in that the dorsum is less strongly arched than usual. More than one species may be involved.

FAMILY CAPITELLIDAE GRUBE, 1862

KEY TO SPECIES

- 1a. Thirteen thoracic setigers present; all have pointed setae only *Dasybranchus glabrus*
- b. Eleven thoracic setigers present; some may have uncini 2
- 2a. All 11 thoracic setigers with pointed setae only 3
- b. Posterior thoracic setigers with uncini at least in the neuropodia 5
- 3a. Notopodial tori fused in the mid-line in median and posterior setigers
..... *Notomastus (Notomastus) abyssalis*
- b. Notopodial tori separate in all setigers 4
- 4a. Uncini with one major fang and a crest of teeth in a single row; nephridial pores limited to the thorax *Notomastus (Clistomastus) tenuis*
- b. Uncini with one major fang and crests of teeth in double rows; nephridial pores present on the abdomen as well as on the thorax *Notomastus (Notomastus) ?magnus*
- 5a. Thoracic uncini limited to the neuropodia 6
- b. Thoracic uncini present in both rami *Heteromastus ?filiformis*
- 6a. First six neuropodia with pointed setae; first setiger with notopodia only *Neoheteromastus lineus*
- b. First eight neuropodia with pointed setae only; first setiger biramous
..... *Notomastus (Notomastus) precocis*

Dasybranchus glabrus Moore, 1909

Dasybranchus glabrus Moore 1909, pp. 280-281, pl. 9, fig. 58; Hartman, 1969, pp. 371-372, 2 figs.

Records: AD-44, NAD-22 (1); AD-141, NAD-11B (2); AD-149, NAD-15 (2).

Remarks: *Dasybranchus glabrus* has 13 thoracic setigers; all have capillary setae only. All abdominal setigers have uncini. Branchiae are two- or three-lobed.

Occurrence: Central and southern California in shelf and slope depths.

Heteromastus ?filiformis (Claparède, 1864)

Capitella filiformis Claparède, 1864, pp. 509-510, pl. 4, fig. 10.

Heteromastus filiformis: Hartman, 1969, pp. 377-378, 5 figs.

Record: AD-89, NAD-22A (1).

Remarks: The present specimen agree with *Heteromastus* in that the first five thoracic setigers have pointed setae and the last six have long-handled hooks. The species cannot be identified safely since most of the abdomen is missing.

Neoheteromastus lineus Hartman, 1960

Neoheteromastus lineus Hartman 1960, p. 138; Hartman, 1969, pp. 389-390, 2 figs; Fauchald, 1972a, p. 243.

Records: AD-6, NAD-17 (4); AD-41, NAD-21 (1); AD-44, NAD-22 (1); AD-65, NAD-21 (1); AD-119, NAD-22 (1); AD-149, NAD-15 (3).

Remarks: *Neoheteromastus lineus* has the first setiger incomplete with only the notopodia present. The first seven setigers have pointed setae; setiger 8 has neuropodial uncini and notopodial pointed setae; the remaining three thoracic setigers have uncini in both rami. The anterior part of the body lacks areolation.

Occurrence: Bathyal depths off western Mexico and southern California.

Notomastus (Clistomastus) tenuis Moore, 1909

Notomastus tenuis Moore, 1909, pp. 277-278, pl. 9, fig. 55.

Notomastus (Clistomastus) tenuis: Hartman, 1969, pp. 397-398, 5 figs.; Hartman and Reish, 1950, p. 40; Fauchald, 1972a, p. 248.

Records: AD-16, NAD-13 (1); AD-32, NAD-19 (1).

Remarks: The present specimens agree with *N. (C.) tenuis* in most characters. The patches of eyespots are indistinct in both specimens.

Occurrence: Shelf and bathyal depths from western Canada to southern California and western Mexico.

Notomastus (Notomastus) abyssalis Fauchald, 1972

Notomastus (Notomastus) abyssalis Fauchald, 1972a, pp. 248-249, pl. 51, figs. d-g.

Records: NAD-17 (2); AD-139, NAD-24 (9).

Remarks: *Notomastus (Notomastus) abyssalis* has 11 thoracic setigers, all with capillary setae. The abdominal notopodia approach each other and fuse medially in posterior abdominal setigers. Uncini are present in all rami, but the tori are poorly developed and are usually barely raised above the surface of the body in the posterior part of the abdomen.

Occurrence: Western Mexico in bathyal depths.

Notomastus (Notomastus) ?magnus Hartman, 1947

Notomastus magnus Hartman 1947, pp. 412-415, pl. 50, figs. 1-6.

Notomastus (Notomastus) magnus: Hartman, 1969, pp. 401-402, 6 figs.

Records: AD-6, NAD-17 (1); AD-7, NAD-16 (2).

Remarks: These specimens resemble *N. (N.) magnus* in the structure of the anterior end and in the details of the uncini. They are all posteriorly incomplete, however, so the presence and structure of the branchiae could not be determined.

Notomastus (Notomastus) precocis Hartman, 1960

Notomastus precocis Hartman 1960, pp. 139-140.

Notomastus (Notomastus) precocis: Hartman, 1969, pp. 403-404; Fauchald, 1972a, pp. 251-252.

Records: AD-9, NAD-21 (1); AD-18, NAD-23 (1); AD-65, NAD-21 (1); AD-89, NAD-22A (1); AD-141, NAD-11B (12); AD-148, NAD-12 (8); AD-149, NAD-15 (14).

Remarks: *Notomastus (Notomastus) precocis* has pointed setae in all 11 thoracic notopodia, but uncini are present in the last three thoracic neuropodia. The abdominal notopodia approach each other, but remain distinct even in the hindmost setigers.

Occurrence: Bathyal depths off southern California and western Mexico.

FAMILY MALDANIDAE MALMGREN, 1867

KEY TO SPECIES

- 1a. Anus dorsal2
 b. Anus terminal6
 2a. Anterior neuropodia with rostrate hooks or setae absent in the anteriormost neuropodia3
 b. Anterior neuropodia with single acicular spines5
 3a. First setiger with an anteriorly directed, quadrilobate collar *Maldane monilata*
 b. First setiger without a collar4
 4a. Anal plaque with three furcate anal cirri *Asychis ramosus*
 b. Anal plaque marginally weakly crenulate, often nearly smooth *Maldane cristata*
 5a. Cephalic plaque present *Clymaldane laevis*
 b. Cephalic plaque absent *Notoproctus pacificus*
 6a. At least two anterior segments with collars; rostrate hooks in double rows ... *Rhodine bitorquata*
 b. Only one anterior segment with collar; rostrate hooks in single rows *Nicomache lumbricalis*

Asychis ramosus Levenstein, 1961

Asychis ramosus Levenstein, 1961, pp. 165-166, fig. 9a-c; Fauchald, 1972a, p. 258.

Records: AD-9, NAD-21 (2); ?AD-43, NAD-22 (posterior end only); ?AD-65, NAD-21 (posterior end only); AD-86, NAD-21 (1); AD-105, NAD-12 (4); AD-110, NAD-21 (1); AD-148, NAD-12 (9); AD-154 NAD-26 (1).

Remarks: The prostomium is posteriorly covered by a deep hood, as in members of the genus *Maldane*, but the median keel is short and poorly developed, as in members of *Asychis*. The posterior end has a deep funnel bordered marginally by three usually branched anal cirri.

Occurrence: Sea of Okhotsk and off western Mexico in bathyal depths.

Clymaldane laevis Fauchald, 1972

Clymaldane laevis Fauchald, 1972a, pp. 259-260, pl. 53, figs. a-d.

Records: AD-6, NAD-17 (3); AD-17, NAD-17 (2).

Remarks: *Clymaldane laevis* has both cephalic and anal plaques. The anus is distinctly dorsal, making *C. laevis* a member of the subfamily Maldaninae. The first four neuropodia have single thick spines. Other maldanins either lack neurosetae in the first setigers or have normal rostrate hooks.

Occurrence: Deep-water areas off western Mexico.

? *Lumbriclymene*, species indeterminable

Record: AD-32, NAD-19 (anterior fragment).

Remarks: The present specimen has the long, slender body and relatively short, somewhat expanded anterior end illustrated for *Lumbriclymene lineus* by Hartman (1969, p. 455), but it cannot be identified safely because the posterior end is missing.

Maldane cristata Treadwell, 1923

Maldane cristata Treadwell, 1923, pp. 9-10, figs. 5-8; Hartman, 1969, pp. 457-458, 4 figs.; Fauchald, 1972a, pp. 262-263.

Records: AD-44, NAD-22 (1); AD-149, NAD-15 (1).

Remarks: *Maldane cristata* has a deep pocket formed posteriorly on the prostomium. The keel is high and distinct, and the anterior end completely lacks collars.

Occurrence: Deep-water areas from Panama to southern California.

Maldane monilata Fauchald, 1972

Maldane monilata Fauchald, 1972a, pp. 263-265, pl. 54, figs. c-g.

Records: AD-6, NAD-17 (1); AD-32, NAD-19 (3).

Remarks: *Maldane monilata* resembles *M. sarsi* Malmgren, 1865 (Hartman, 1969, pp. 461-462, 5 figs) in that the posterior rim of the prostomium barely covers the prostomial keel and forms at best a shallow pocket. *M. monilata* has a well-developed, quadripartite anterior collar on the first setiger; collars are absent in *M. sarsi*.

Occurrence: Off western Mexico and Panama in bathyal depths.

Nicomache lumbricalis (Fabricius, 1780)

Sabella lumbricalis Fabricius, 1780, pp. 374-375.

Nicomache lumbricalis: Hartman, 1969, pp. 465-466, 3 figs.

Record: AD-6, NAD-17 (8).

Remarks: *Nicomache lumbricalis* has an anal funnel, but a cephalic plaque is absent. The first three neuropodia have single spines; the body is reddish brown, without color patterns in life. The species can be separated from its more common Pacific congener, *N. personata* Johnson, 1901 (Hartman, 1969, pp. 467-468, 3 figs.), by the presence of two pre-anal asetigerous segments in the former; the latter has only a single pre-anal asetigerous segment. *N. personata* is also anteriorly mottled with white pigment.

Occurrence: Widespread in the northern hemisphere in shelf and upper bathyal depths.

Notoproctus pacificus (Moore, 1906)

Lumbriclymene pacifica Moore, 1906, pp. 246-248, pl. 12, figs. 40-42.

Notoproctus pacificus: Hartman, 1969, pp. 469-470, 3 figs.

Record: AD-6, NAD-17 (37); AD-7, NAD-16 (14).

Remarks: *Notoproctus pacificus* builds a stiff tube with a yellowish lining plastered with large sand grains, foraminiferans, etc. The anterior end lacks of cephalic plaque; an anal plaque is present and marginally smooth, with two pre-anal asetigerous segments.

Occurrence: From western Canada and Alaska to southern California in shelf and bathyal depths.

Rhodine bitorquata Moore, 1923

Rhodine bitorquata Moore, 1923, pp. 223-225, pl. 18, fig. 30; Hartman, 1969, pp. 483-484, 3 figs.; Fauchald, 1972a, pp. 267-268.

Record: AD-148, NAD-12 (1).

Remarks: *R. bitorquata* has rostrate hooks in two rows in most neuropodia and well-developed collars around at least two, often three, segments near the anterior end. The tubes, which are not covered with debris or sand grains, are smooth, usually copper-colored and very brittle.

Occurrence: From western Mexico to Canada from shelf to bathyal depths.

FAMILY OPHELIIDAE MALMGREN, 1867

KEY TO SPECIES

- 1a. Body long and slender, with distinct ventral and lateral grooves2
- b. Body grub-shaped, without distinct grooves3
- 2a. Anal cone and cirri absent*Ophelina pallida*
- b. Long, cylindrical anal cone present; anal cirri absent*Ophelina* sp. A.
- 3a. Maximally 25 setigers present4
- b. At least 27 setigers present5
- 4a. Eighteen setigers present*Travisia oregonensis*
- b. Twenty-four or 25 setigers present*Travisia brevis*
- 5a. More than 30 setigers present*Travisia*, near *gigas*
- b. Twenty-seven setigers present*Travisia foetida*

Ophelina pallida (Hartman, 1960)

Ammotrypane pallida Hartman, 1960, pp. 133-135, pl. 14, fig. 3; Hartman, 1969, pp. 321-322, 1 fig.; Fauchald, 1972a, pp. 235-236.

Records: AD-42, NAD-21 (2); AD-141, NAD-11B (3).

Remarks: *O. pallida* lacks anal cirri and an anal cone; branchiae are first present from setiger 2 and are absent in the last four crowded setigers.

Occurrence: Bathyal depths off southern California and western Mexico.

Ophelina species A.

Record: AD-86, NAD-21 (1).

Remarks: The present specimen is rather poorly preserved and cannot be described without additional material. It has a long, closed anal cylinder which is nearly smooth distally, and perhaps gently lobed. Branchiae are present from setiger 3 and are present, as far as can be determined, on all subsequent setigers. The species does not agree with descriptions of any species from the Pacific Ocean.

Travisia brevis Moore, 1923

Travisia brevis Moore, 1923, pp. 220-221; Hartman, 1969, pp. 343-344, 1 fig.; Hartman and Reish, 1950, p. 37; Fauchald, 1972a, p. 237.

Records: AD-6, NAD-17 (3); AD-9, NAD-21 (2); AD-17, NAD-17 (2); AD-18, NAD-23 (1); AD-43, NAD-22 (1); AD-44, NAD-22 (1); AD-86, NAD-21 (1).

Remarks: *Travisia brevis* can be separated from the other species in the genus that are found off central Oregon on the basis of the number of setigers. Fully mature specimens never have more than 24 to 25 setigers. The parapodial lappets are poorly developed even in posterior setigers. There are two asetigerous pre-anal segments.

Occurrence: Alaska to western Mexico in shelf and slope depths.

Travisia foetida Hartman, 1969

Travisia foetida Hartman, 1969, pp. 345-346, 3 figs.; Fauchald, 1972a, pp. 237-238, pl. 49, fig. d.

Records: AD-33, NAD-21 (2); AD-65, NAD-21 (1).

Remarks: *Travisia foetida* has 27 setigers; the first segment is smooth, rather than papillated. The nuchal organs are deeply embedded in the first setiger and are attached to the prostomium by two epidermal ridges. In other species of *Travisia* these organs are attached directly to the posterior margin of the prostomium.

Occurrence: Western Mexico and southern California in shelf and slope depths.

Travisia, near *gigas* Hartman, 1938

Travisia gigas Hartman, 1938, pp. 103-105, figs. 46-48; Hartman, 1969, pp. 347-348, 3 figs.

Record: AD-96, NAD-4 (2).

Remarks: The present specimens agree with *Travisia gigas* in that they have about 40 setigers, the posterior ones bearing very large parapodial lobes. They differ in that they are completely covered with pustules that are distinctly larger than those of shallow-water specimens of *T. gigas*.

Travisia oregonensis, new species
(Plate 2, Figs. e-f)

Records: AD-7, NAD-16 (2 HOLOTYPE, Poly 1154, PARATYPE, Poly 1155); AD-149, NAD-15 (1, PARATYPE, Poly 0000).

Description: The holotype is a complete specimen, 10 mm long and 3 mm wide excluding setae. It is spindle-shaped and consists of 18 setigers and five asetigerous posterior segments. A narrow peristomial ring is present. All parts of the body apart from the prostomium and pygidium, are covered with large tubercles. The tubercles are distinctly larger in the posterior half of each segment in the anterior half of the body, and are in indistinct rows.

The prostomium (Fig. e) is a short, smooth cone with two posteriolateral extensions over the anterior part of the peristomium. The peristomium is a very short ring, poorly demarcated from the first setiger.

All setigers are biramous, with slender, marginally dentate capillary setae in both rami. Supra- and subpodial swellings are present in the last three or four setigers, but are not distinctly set off from the rest of the segment. Anterior setigers, back to setiger 10, are vaguely two-ringed; all others consist of a single ring only. Branchiae are present on all but the first and last setigers so that in all, 16 pairs of branchiae are present. Each is thick, digitate, and distinctly ringed.

The pygidium (fig. f) has a short, cylindrical anal cone that is deeply furrowed dorsally. About five distinct furrows can be seen. The distal margin has five or six lobes.

Travisia oregonensis has fewer setigers when sexually mature than any other species of *Travisia*. The structure of the pygidium differs from that in any other species of *Travisia* on the Pacific coast. The genus is under revision by Dr. Stuart L. Santos.

Occurrence: Two areas off central Oregon in bathyal depths. Details of the type localities can be found in the Station List.

FAMILY SCALIBREGMIDAE MALMGREN, 1867

Mucibregma, new genus

Scalibregmids with T-shaped prostomium and one peristomial segment branchiae and furcate setae absent. Setae include acicular spines and long, slender, pliable capillary setae.

Mucibregma resembles the scalibregmids mainly in the structure of the prostomium and the general lack of specializations of the anterior end. The family is rapidly becoming a catch-all for simply structured polychaetes (Fauchald, 1977). A revision by Kudenov and Blake (1978) indicates that *Mucibregma* would fit in their system as a separate subgroup (C) under section II of the family.

Mucibregma spinosa, new species

(Plate 3, Figs. a-b)

Record: AD-6, NAD-17 (1, HOLOTYPE, Poly 1146).

Description: The holotype, and only known specimen, is posteriorly incomplete; it consists of 17 setigers and is 8 mm long and 1.7 mm wide, excluding setae. The whole body was encased in a tough mucus membrane attached anteriorly to large glands on the peristomium. The body is dorsoventrally flattened, and the parapodia are prominent in the posterior half of the fragment.

The prostomium (Fig. a) is T-shaped, with the two frontolateral corners projecting above and distinctly set off from the rest. Ventrally, appears as a flattened triangular plate; dorsally, it is set off from the peristomium by a distinct furrow, and the space between the two is marked by a small lens-shaped depression. The peristomium is very wide and strongly muscular. The mouth opening is anteriorly directed, with a widely expanded, scoop-shaped, smooth lower lip (Fig. 6). Both the dorsal and ventral sides of the peristomium are covered by a large mucus gland. Ventrally, the gland is interrupted by a smooth, ovate muscular pad on the lower part of the lower lip. Dorsally, the gland is continued posteriorly as a girdle onto the first setiger.

All parapodia are biramous. The notopodia are larger than the neuropodia in the first few setigers; farther posteriorly, both branches are equal in size. Noto- and neuropodia are similar in shape; each is a thick, distally truncate lobe, and distinct pre- and postsetal lobes are absent. There are no dorsal or ventral cirri in any setiger.

Setae include thick, distally blunt, simple spines in all parapodia; additionally, each noto- and neuropodium has one (maximally two) long, slender, very pliable, simple capillary seta.

Mucibregma spinos can be separated from other scalibregmids as indicated for the genus.

Occurrence: Off central Oregon in bathyal depths. Details of the type locality can be found in the Station List.

Scalibregma inflatum Rathke, 1843

Scalibregma inflatum Rathke, 1843, p. 184, pl. 9, figs. 15-21; Hartman, 1969, pp. 313-314, 4 figs.

Records: AD-6, NAD-17 (5); AD-18, NAD-23 (1); AD-33, NAD-21 (1).

Remarks: *Scalibregma inflatum* has an inflated anterior end with a T-shaped prostomium and a long, often ragged-appearing, posterior end. Arborescent branchiae are present on four anterior setigers. Setae include capillaries and, basally in each fascicle, a series of short furcate spines. Thick acicular spines are absent.

Occurrence: The northern hemisphere, mainly in shallow water, but previous records from bathyal depths have been noted from California.

FAMILY PHYLLODOCIDAE, WILLIAMS, 1851

KEY TO SPECIES

- 1a. Anterior neuropodia with large, inflated setae; other neuropodia with slender, composite spinigers *Chaetoparia careyi*
- b. All neurosetae slender, composite spinigers 2
- 2a. Two pairs of tentacular cirri present *Lugia abyssicola*
- b. Four pairs of tentacular cirri present 3
- 3a. Ventral tentacular cirri strongly flattened *Pterocirrus imajimai*
- b. Ventral tentacular cirri cylindrical or clavate 4
- 4a. Prostomium with four antennae *Protomystides occidentalis*
- b. Prostomium with five antennae 5
- 5a. Parapodia uniramous *Eumida*, near *fusigera*
- b. Parapodia biramous *Austrophyllum exsiliium*

Austrophyllum exsiliium Fauchald, 1972

Austrophyllum exsiliium Fauchald, 1972a, pp. 47-48, pl. 5, figs. a-d.

Records: AD-6, NAD-17 (1); AD-7, NAD-16 (1); AD-9, NAD-21 (1); AD-18, NAD-23 (1); AD-59, NAD-11 (1).

Remarks: Uschakov (1972, pp. 163-164) reviewed the genus *Austrophyllum*. As suggested by Fauchald (1972a, p. 46), *Eulalia sphaerocephala* Levenstein (1961) was referred to this genus. This species closely resembles *A. exsiliium*. The two can be separated as follows: the inferior frontal antennae are strongly clavate in *A. exsiliium*, and slender in *A. sphaerocephala*; the dorsum has three or four dark transverse bands in *A. exsiliium*, and is grey with a greenish tinge in *A. sphaerocephala*.

Occurrence: Bathyal depths off the tip of Baja California, Mexico.

Chaetoparia careyi, new species (Plate 4, Figs. a-g)

Record: AD-119, NAD-2 (1, HOLOTYPE, Poly 1143).

Description: The holotype and only known specimen is posteriorly incomplete; it is 2.2 mm long and 0.25 mm wide, excluding setae. It consists of 18 setigers. The anterior end is truncate, and the body tapers evenly posteriorly. The parapodia are long compared to the width of the body, so the worm appears ragged. The color is light ochre, with scattered red dots at the bases of the parapodia, especially in posterior setigers.

The prostomium (Fig. a-b) is anteriorly truncate and is bent ventrad. The frontal antennae are widely separated. Each is subulate and is about as long as the width of the prostomium; the ventral pair is longer than the dorsal pair. The first segment is asetigerous and is represented only by a single tentacular cirrus. The cirrostyles have mostly been lost, but since the cirrophores remain, the pattern can be determined. The second segment is setigerous and has a distinct acicular lobe and both dorsal and ventral cirri. The third segment has biramous parapodia; the notopodia are very large and directed laterad, the neuropodia are short and directed ventrad. Ventral cirri are missing on this segment; dorsal cirri are present. A single tentacular cirrus, representing the dorsal cirrus of the second segment, is present; all other tentacular cirri have been lost. The first and second segments are completely fused to the prostomium; the third segment is separated from the rest of the anterior end by a deep incision.

Normal parapodia (Fig. c) have long, conical acicular lobes; the ventral cirri are digitate on segment 4; the cirri are clavate or distally inflated on all other segments. The ventral cirrus reaches beyond the tip of the acicular lobe in all segments. The dorsal cirri are lost in most setigers; those present are rectangular in outline; they are attached along one of the short sides and reach to the tip of the acicular lobe.

All setae in the first setiger (Figs. d-e) are of one kind; each is thick, subdistally inflated, and has a distinct tab on one side; a distinct, smooth pennon is attached below the level of the tab. All setae in the second, biramous, setiger (Fig. f) are similar. Each is very stout, distally slightly inflated, and obliquely truncate, with the distal margin distinctly dentate. All other setigers have similar compound setae (Fig. g), with long smooth appendages and distally dentate shafts; the teeth on the shaft are all of similar size.

The genus *Chaetoparia* is known for one species only, *C. nilssoni* Malmgren (Uschakov, 1972, pp. 143-145, pl. 14, figs. 5-10). The present species agrees with the genus in that it has the first two setigers completely fused to the prostomium and the first few setigers have modified setae. It differs from *C. nilssoni* in having the parapodia of the third segment greatly enlarged, and in having different kinds of setae in the first and second setigers. The species is named for Dr. Andrew G. Carey, Jr., who made it possible for us to study these collections.

Geographical Occurrence: One locality off central Oregon.

Eumida, near *fusigera* (Malmgren, 1865)

Sige fusigera Malmgren, 1865, p. 100, pl. 14, fig. 27.

Eumida fusigera: Uschakov, 1972, pp. 156-157, pl. 10, figs. 8-10.

Record: AD-17, NAD-17 (1).

Remarks: The present specimen agrees with *Eumida fusigera sensu* Uschakov (1972), except that the parapodia are about twice as long as illustrated by Uschakov (1972, pl. 10, fig. 9). This difference is not significant enough to warrant a separate status for the single specimen.

Lugia abyssicola Uschakov, 1972

Lugia abyssicola Uschakov, 1972, pp. 116-117, pl. 1, figs. 1-5.

Record: AD-9, NAD-21 (1).

Remarks: The genus *Lugia* is characterized by having the first segment modified with tentacular cirri, whereas the second segment has a normal neuropodial lobe with setae and ventral cirri, and only the dorsal cirri are modified as tentacular cirri. It differs from *Mystides* in having dorsal cirri on the third segment.

Occurrence: Abyssal depths off Japan.

Protomystides occidentalis (Ditlevsen, 1917)

Mystides occidentalis Ditlevsen, 1917, p. 62, pl. 4, figs. 8, 11, 15.

Protomystides occidentalis: Uschakov, 1972, p. 126, pl. 3, figs. 7-9.

Records: AD-86, NAD-21 (2); AD-110, NAD-21 (1).

Remarks: The two specimens from AD 86 were found together in the empty tube of a *Spiochaetopterus* species.

Occurrence: The Davis Strait off Greenland in bathyal depths.

Pterocirrus imajimai Uschakov, 1972

Pterocirrus imajimai Uschakov, 1972, pp. 162-163, pl. 9, figs. 11-14.

Records: AD-6, NAD-17 (2); ?AD-89, NAD-22A (1); ?AD-149, NAD-15 (1).

Remarks: The genera of phyllodocids with flattened ventral tentacular cirri were reviewed by Uschakov (1972). There may be some doubt as to some of the conclusions drawn, but it appears to be best for the time being to follow Uschakov's definitions. The specimens from AD-6 agree fully with this species; they have elongated, pointed dorsal cirri, and the median antenna is attached at the posterior end of the prostomium. The specimens from AD-89 and AD-149 had lost all dorsal cirri, but otherwise closely resembled the present species.

Occurrence: Off Japan and Baja California in abyssal depths.

FAMILY POLYNOIDAE MALMGREN, 1867

Eucranta anoculata (Moore, 1910), new combination

Antinoe anoculata Moore, 1910, pp. 358-361, pl. 30, figs. 34-40.

Antinoella anoculata: Hartman, 1968, pp. 39-40, 7 figs.

Records: AD-148, NAD-12 (2); AD-149, NAD-15 (1).

Remarks: The genus *Eucranta* Malmgren, 1865, was erected for a single species, *E. villosa*. One species from the Antarctic, *E. mollis* (McIntosh, 186; see Monro, 1936, pp. 100-101), originally described in *Eupolynoe*, was moved to *Eucranta* by Bergström (1916, pp. 294-295). The present species agrees with *Eucranta* in that it has 15 pairs of elytra; prostomial peaks are present but are poorly developed; the notosetae are at least as thick as the neurosetae, and the latter are partially deeply and equally cleft at the tip, so that the proximal and distal teeth of the bidentate setae are of approximately the same length.

E. villosa Malmgren (1865) and *E. villosa notialis* Monro (1936, p. 901, fig. 11a-h) have long slender elytral papillae on the posterior half of each elytron. *E. mollis* and *E. anoculata* have only short tubercles or papillae. *E. mollis* has two pairs of eyes; *E. anoculata* has no eyes.

Occurrence: Southern and central California in bathyal depths.

Harmothoe, species indeterminable

Records: AD-6, NAD-17 (1); AD-7, NAD-16 (3).

Remarks: These specimens are incomplete and lack elytra; they agree with *Harmothoe* in the structure of the prostomium and the setae, but cannot be completely identified. They all belong to one species.

FAMILY SIGALIONIDAE MALMGREN, 1867

KEY TO SPECIES

- 1a. A single median antenna present *Pholoe caeca*
- b. Three antennae present 2
- 2a. Notopodial fimbriae in a group of six near the base on the posterior face .. *Neoleanira racemosa*
- b. Four or five fimbriae in a row at the distal end of each notopodium *Neoleanira areolata*

Neoleanira areolata (McIntosh, 1885)

Leanira areolata McIntosh, 1885, p. 151-153, pl. 21, fig. 3, pl. 25, figs. 8, 9, pl. 13A, fig. 1.

Neoleanira areolata: Pettibone, 1970, pp. 372-376, figs. 5-6.

Sthenolepis areolata: Fauchald, 1972a, pp. 33-34, pl. 1, fig. i.

Records: AD-33, NAD-21 (1); AD-64, NAD-21 (1).

Remarks: The present specimens agree with *N. areolata* as reviewed by Pettibone (1970).

Occurrence: Bathyal depths from southern California to Japan.

Neoleanira racemosa (Fauchald, 1972)

Sthenolepis racemosa Fauchald, 1972a, p. 34-36, pl. 2, figs. a-d.

Records: AD-9, NAD-21 (11); AD-17, NAD-17 (1); AD-18, NAD-23 (1); AD-32, NAD-19 (1); AD-41, NAD-21 (1); AD-110, NAD-21 (3); AD-119, NAD-22 (1).

Remarks: The median antenna, not mentioned in the original description, is as long as that of *N. areolata*.

Occurrence: Western Mexico in bathyal depths.

Pholoe caeca Uschakov, 1950
(Plate 3, Figs. d-f)

Pholoe minuta caeca Uschakov, 1950, p. 166; Uschakov, 1955, p. 165.

Records: AD-6, NAD-17 (1); AD-17, NAD-17 (1); AD-141, NAD-11B (1).

Remarks: *Pholoe caeca* has never been illustrated; illustrations of the anterior end and setal structures (Figs. d-f) are here added. In addition to the lack of eyes indicated by Uschakov (1950), the species also differs from *P. minuta* (Fabricius, 1780; see Hartman-Schröder, 1971, pp. 79-80, fig. 24) in the proportions of the anterior end. The prostomium is considerably more elongated than as illustrated for *P. minuta* (Fauvel, 1923, fig. 44c; Hartman-Schröder, 1971, fig. 24a).

The differences are here considered to be of specific value.

Occurrence: Sea of Okhotsk in bathyal depths.

FAMILY HESIONIDAE SARS, 1862

Gyptis hians, new species (Plate 5, Figs. a-c)

Records: AD-22, NAD-11 (2, HOLOTYPE, Poly 1144, PARATYPE, Poly 1145); AD-29, NAD-11 (2); AD-139, NAD-24 (3).

Description: The holotype is an incomplete specimen with 27 setigers; it is 10 mm long and 2.5 mm wide, excluding setae. It is yellowish and lacks color patterns; eyes are absent.

The prostomium (Fig. a) is wider than long in both type specimens, but it is probably distorted by the everted pharynx. It has a pair of smooth, slender, lateral antennae and a short, nearly button-shaped median antenna, attached well behind the frontal margin. The palps are about the same length as the lateral margin. The palps are about the same length as the lateral antennae; each is biarticulated and is about twice as stout as the frontal antennae. Eight pairs of tentacular cirri are present. The styles have been lost in most; those that are present are slender and smooth.

Parapodia (Fig. d) are greatly elongated and are large compared to the size of the body; both rami are well developed. The notopodium has a pointed acicular lobe with the tip superior to the end of the aciculum; the dorsal cirrus is long and smooth. The neuropodial acicular lobe is longer than the notopodial one and has a distinct, inferior digitate prolongation; a presetal pocket is present on the inferior edge of the lobe. The ventral cirrus is long and slender and reaches beyond the tip of the acicular lobe.

All notosetae (Figs. b-e) are long, slender, marginally dentate setae with the teeth in two rows; each seta is internally camerated. Neurosetae (Fig. e) are long, slender composite falcigers. Each appendage is marginally serrated and has a short hood. The tip is curved and is distinctly unidentate in all setigers.

The everted pharynx is basally smooth; distally it is widely flared (thus the specific name) and terminates in numerous papillae.

Gyptis hians resembles *G. brunnea* (Hartman, 1961, pp. 69-70, pl. 5, figs. 1-4) from California. Both have well-developed notopodial rami with numerous setae. Both have the anterior margin of the eversible pharynx studded with numerous papillae, and both have the same general body shape. *G. hians*, however, has marginally serrated, camerated notosetae, and parapodial rami that are distally prolonged into digitate tips. Furthermore, the neurosetae are distally entire rather than bidentate as in *G. brunnea*.

Occurrence: Bathyal depths off central Oregon. Detailed data for the type locality can be found in the Station List.

Ophiidromus, species indeterminate

Record: AD-6, NAD-17 (1).

Remarks: The specimen is poorly preserved; it appears to differ from the commonly occurring shallow-water species, *O. pugettensis*.

FAMILY PILARGIIDAE SAINT-JOSEPH, 1899

KEY TO SPECIES

- 1a. Emergent notopodial spines straight *Synelmis*, near *klatti*
 b. Emergent notopodial spines curved 2
 2a. Antennae distinctly longer than the palps 3
 b. Antennae shorter than the palps 4
 3a. Median antenna distinctly longer than the lateral ones; notosetae absent ... *Sigambra tentaculata*
 b. Median antenna about as long as the lateral ones; notosetae present in most setigers
 *Sigambra setosa*
 4a. Notopodial hooks first present from setigers 3 to 7 *Ancistrosyllis*, near *groenlandica*
 b. Notopodial hooks first present from setiger 18 *Ancistrosyllis breviceps*

Ancistrosyllis breviceps Hartman, 1963
 (Plate 3, Fig. c)

Ancistrosyllis breviceps Hartman, 1963, pp. 13-16, fig. 1a-d; Pettibone, 1966, p. 168; Fig. 1, a-d; Hartman, 1968, pp. 375-376, 4 figs.

Records: AD-42, NAD-21 (1); AD-139, NAD-24 (1); AD-141, NAD-11B (1).

Remarks: One of the present specimens has the pharynx everted (fig. c). It consists of an anterior part with about 14 thick marginal lobes and a papillose posterior part. These papillae are in five to six irregular rows on the ventral side of the pharynx and are irregularly dispersed on the dorsal side.

Occurrence: Bathyal and deep-shelf areas off southern California.

Ancistrosyllis, near *groenlandica* McIntosh, 1879

Ancistrosyllis groenlandica McIntosh, 1879, pp. 502-503, pl. 65, figs. 3, 20; Pettibone, 1966, pp. 16-168, fig. 3, a-l.

Records: AD-6, NAD-17 (1); AD-9, NAD-21 (1); AD-41, NAD-21 (3) AD-110, NAD-21 (2); ?AD-119, NAD-22 (1 juvenile).

Remarks: The present specimens agree with *Ancistrosyllis groenlandica sensu* Pettibone (1966) in most characters; however, the integument is smooth or wrinkled rather than papillose, and the first hooks are present on segments 3 to 7, depending on the size of the specimen, rather than from 4 to 6 as in *A. groenlandica*. The differences are small, and the material is poorly preserved. Better material will be needed in order to document the presence of this species off Oregon.

Sigambra setosa Fauchald, 1972

Sigambra setosa Fauchald, 1972a, pp. 62-64, pl. 7, figs. a-c.

Records: AD-7, NAD-16 (1); AD-139, NAD-24 (1); AD-149, NAD-15 (1).

Remarks: *Sigambra setosa* belongs to a group of species that has hooks present from anterior setigers; it differs from other members of this group in that notosetae are present in all setigers and the median antenna is distinctly longer than the lateral ones.

Occurrence: The upper end of the Gulf of California in bathyal depths.

Sigambra tentaculata (Treadwell, 1941)

Ancistrosyllis tentaculata Treadwell, 1941, pp. 1-3, figs. 1-3.

Sigambra tentaculata: Pettibone, 1966, pp. 182-186, figs. 14-15; Hartman, 1968, pp. 391-392, 3 figs.

Record: AD-7, NAD-16 (1).

Remarks: The present specimen lacks notosetae; hooks are present from setiger 4; and the median antenna is distinctly longer than the lateral ones.

Occurrence: Known from a wide depth range down to bathyal depths, from both the Atlantic and Pacific coasts of North and South America.

Synelmis, near *klatti* (Friedrich, 1950)*Glyphohesione klatti* Friedrich, 1950, pp. 171-173, figs. 1-2.*Synelmis klatti*: Pettibone, 1966, p. 191; Hartman-Schröder, 1971, pp. 144-145, fig. 49a-e.

Record: AD-154, NAD-26 (1).

Remarks: The present specimen agrees with *Synelmis* as this genus was defined by Pettibone (1966). It resembles *S. klatti*, but is too poorly preserved for complete identification.

FAMILY SYLLIDAE GRUBE, 1850

Sphaerosyllis, near *californiensis* Hartman, 1966*Sphaerosyllis californiensis* Hartman, 1968, pp. 453-454, 7 figs.

Record: AD-6, NAD-17 (1).

Remarks: The present specimen resembles *Sphaerosyllis californiensis*; however, the eyes are less well developed and are not lensed, and the serrated anterior falcigers are considerably more slender and less distinctly serrated than in *S. californiensis*.

FAMILY NEREIDAE JOHNSTON, 1845

Ceratocephale loveni Malmgren, 1867*Ceratocephale loveni* Malmgren 1867, pp. 61-2, pl. 5, fig. 33; Hartman, 1952, p. 15; Hartman, 1960, p. 95.

Record: AD-7, NAD-16 (1).

Remarks: The specimen belongs to the stem species, rather than to the subspecies *pacifica* Hartman, 1960, in that the jaws have 11 teeth and the furcate ventral cirri are absent on at least the first setiger. Furthermore, the posterior parapodia are relatively shorter than in the subspecies and are more as they are in the main form.

Occurrence: May have been confused with similar related species. Is widely dispersed in the northern hemisphere in lower shelf and bathyal depths.

FAMILY GLYCERIDAE GRUBE, 1850

KEY TO SPECIES

- 1a. Parapodia with two postsetal lobes *Glycera robusta*
 b. Parapodia with a single postsetal lobe *Glycera profunda*

Glycera profunda Chamberlin, 1919*Glycera profunda* Chamberlin, 1919, pp. 350-352, pl. 64, figs. 2-6; Fauchald, 1972a, pp. 103-104, pl. 22, figs. a-g.

Records AD-7, NAD-16 (1); AD-9, NAD-21 (1); AD-65, NAD-21 (1); AD-141, NAD-11B (1); AD-149, NAD-15 (2).

Remarks: *G. profunda* was redefined by Fauchald (1972a) and distinguished from the very similar *G. capitata* Ørsted, 1844 and *G. branchiopoda* Moore, 1911. It has a single postsetal lobe in all setigers; the pharyngeal organs are smooth and are either tall and slender, or wide and foliose. The posterior parapodia have strongly prolonged parapodial bases.

Occurrence: Gulf of California in bathyal depths.

Glycera robusta Ehlers, 1868

Glycera robusta Ehlers, 1868, pp. 656-658, pl. 24, figs. 31-32; Hartman, 1968, pp. 627-628, 4 figs.; Hartman and Reish, 1950, p. 20.

Record: AD-9, NAD-21 (1).

Remarks *Glycera robusta* has two postsetal lobes; the pharyngeal organs have transverse ridges and the branchiae, which are not retractile, form small blisters on the parapodial bases.

Occurrence: Japan to southern California in shelf depths.

FAMILY GONIADIDAE KINBERG, 1866

KEY TO SPECIES

- 1a. Prostomium smooth *Bathyglycinde cedroensis*
 b. Prostomium distinctly annulated *Goniada brunnea*

Bathyglycinde cedroensis Fauchald, 1972

Bathyglycinde cedroensis Fauchald, 1972a, pp. 107-108, pl. 23, figs. h-n.

Records: AD-9, NAD-21 (2); AD-33, NAD-21 (2).

Remarks: The genus *Bathyglycinde* was defined by Fauchald (1972a) for three species with smooth prostomia, and with pharyngeal organs similar to those in *Glycinde* but missing from areas I and VI as these areas were defined by Hartman (1950, pp. 45-47). The notosetae are all fine capillaries. *B. cedroensis* differs from *B. lindbergi* (Uschakov, 1955, p. 176, fig. 49g-l) in that it has large and foliose rather than small and digitate ventral cirri and the postsetal lobes are longer than the presetal ones in *B. cedroensis* and of the same length in *B. lindbergi*.

Occurrence: Bathyal depths off Baja California, Mexico.

Goniada brunnea Treadwell, 1906

Goniada brunnea Treadwell, 1906, p. 1174, figs. 67-70; Hartman, 1950, pp. 17-19, pl. 1, figs. 1-6, pl. 4, fig. 1, text fig. 1; Hartman and Reish, 1950, p. 21; Fauchald, 1972a, pp. 111-112.

Records: AD-6, NAD-17 (3); AD-7, NAD-16 (2); AD-9, NAD-21 (3); AD-17, NAD-17 (1); AD-33, NAD-21 (2); AD-44, NAD-22 (1); AD-89, NAD-22A (1); AD-110, NAD-21 (1); AD-141, NAD-11B (1); AD-148, NAD-12 (1); ?AD-149, NAD-15 (1); AD-154, NAD-26 (1).

Remarks: The species is accepted here as redefined by Hartman (1950). The number of micrognaths varies as indicated by Hartman, and the size varies as well.

Occurrence: Widely dispersed horizontally and vertically in the eastern Pacific Ocean.

FAMILY NEPHTYIDAE GRUBE, 1850

KEY TO SPECIES

- 1a. Interramal cirri involute; palps simple *Aglaophamus*, near *eugeniae*
 b. Interramal cirri recurved; palps double *Nephtys cornuta*

Aglaophamus, near *eugeniae* Fauchald, 1972

Aglaophamus eugeniae Fauchald, 1972a, pp. 82-84, pl. 14, figs. a-e.

Record: AD-139, NAD-24 (1).

Remarks: The present specimen agrees with *A. eugeniae* in the structure of the parapodia and in the absence of notopodial cirri on setiger 1. It differs in that the prostomium is square rather than rounded, and in that the first interramal cirri are present from setiger 13 rather than from setigers 8 to 10. The shape of the prostomium is somewhat variable in the nephtyids, but is usually not as variable as seen here.

Similarly, the first occurrence of the interramal cirri may vary somewhat, unless they first occur in one of the first three or four setigers, but they usually do not vary as much as would be suggested by considering the present specimen a member of *A. eugeniae*.

Nephtys cornuta Berkeley and Berkeley, 1945

Nephtys cornuta Berkeley and Berkeley, 1945, pp. 328-330, figs. 2-4; Fauchald, 1972a, p. 90.

Records: AD-16, NAD-13 (4); AD-141, NAD-11B (6); AD-149, NAD-15 (5).

Remarks: The subspecies *fransiscana* described by Clark and Jones (1955) may not be separable from the main form, as indicated by Hartman (1968, p. 581). The species is characterized by its bifid palps; however, the parapodial lobes have been poorly described, and the variation in structure was not noted. It appears best to retain the two concepts separately for the time being.

Occurrence: Shelf and bathyal areas in the northeastern Pacific Ocean.

FAMILY TOMOPTERIDAE GRUBE, 1848

Tomopteridae, indeterminable

Records: AD-139, NAD-24 (2); AD-141, NAD-11B (fragments).

Remarks: These specimens and fragments of pelagic polychaetes must either have been caught by the gear on its way up or down through the water or have come in with the water used for screening the samples.

FAMILY AMPHINOMIDAE SAVIGNY, 1818

Paramphinome pacifica new species
(Plate 6, Figs. a-d)

Records: AD-6, NAD-17 (1); AD-7, NAD-16 (6); AD-18, NAD-23 (1); AD-19, NAD-22 (1); AD-65, NAD-21 (4); AD-86, NAD-21 (1); AD-89, NAD-22A (1); AD-90, NAD-22 (1, HOLOTYPE, Poly 1157), AD-110, NAD-26 (1); AD-119, NAD-22 (7), AD-139, NAD-24 (8); AD-150, NAD-21 (7).

Description: The type is a complete specimen with 37 setigers. It is 11 mm long and 2 mm wide, excluding setae. The anterior part of the body is inflated. The anterior end is truncate, and the body tapers evenly to the posterior end. The body is yellowish and lacks color patterns; there are no eyes.

The prostomium (Fig. a) has a quadrangular posterior part continued posteriorly as a ridge. The anterior part of the prostomium is semicircular and has two pairs of antennae; the medial pair is digitate and sessile, and the outer pair is somewhat longer. Each antenna is attached to a short ceratophore. The first setiger, which is complete, has very long dorsal and ventral cirri.

All the other parapodia (Fig. d) are similar. In each, the two rami are well separated; the notopodial lobe is short and blunt and has a long, posteriorly attached dorsal cirrus; the neuropodium is somewhat more prominent, usually truncate in outline, and the ventral cirrus is attached distinctly ventrally. Dorsal and ventral cirri are both slender.

Branchiae include five or six pairs, starting on setiger 3; each is dichotomously branched. The very smallest specimens had three pairs of branchiae, but none of the 36 specimens examined had any more than six pairs.

Notosetae include a superior fascicle of very stout spines with fine reverse dentition, and an inferior fascicle of longer, somewhat slenderer, completely smooth spines. Neurosetae (Figs. b-e) include a few thick, subdistally inflated spines, with a spur and a denate portion, distally ending in a curved, thickened knob. Additionally, each fascicle contains many long, slender, marginally dentate setae and one or two long, slender, smooth setae in addition to the arrow-headed, thick acicula.

Paraphinome pacifica resembles *P. jeffreysii* (McIntosh, 1867; see Hartman-Schröder, 1971, p. 31). It differs most markedly in having four rather than five antennae, and even fully grown forms never have more than six pairs of branchiae. *P. jeffreysii* has up to 12 pairs of branchiae.

Occurrence: Several stations in depths ranging from 1800 to 2900 m off central Oregon. Detailed data for this type locality can be found in the Station List.

FAMILY ONUPHIDAE KINBERG, 1865

KEY TO SPECIES

- 1a. Peristomial cirri absent; tube hyaline and quill-like. *Hyalinoecia stricta*
- b. Peristomial cirri present; tube other than hyaline and quill-like 2
- 2a. At least some branchiae pectinate 3
- b. Branchiae absent or, if present, simple and strap-like 4
- 3a. Simple tridentate hooks present in some anterior setigers *Onuphis vexillaria*
- b. Simple tridentate hooks absent *Onuphis profundi*
- 4a. Branchiae absent *Nothria mixta*
- b. Branchiae present 5
- 5a. Branchiae present from setiger 1 *Nothria iridescens*
- b. Branchiae first present from a later setiger 6
- 6a. Composite hooded hooks tridentate 7
- b. Composite hooded hooks bidentate 9
- 7a. Ceratophores nearly smooth *Nothria mexicana*
- b. Ceratophores distinctly annulated 8
- 8a. Distal tooth of composite hooks distinctly longer than the other teeth; branchiae from setiger 5 *Nothria geophiliformis*
- b. Distal tooth of composite hooks approximately as long as the other teeth; branchiae from setiger 4 *Nothria pallida*
- 9a. Tube flattened and covered with shell fragments; branchiae not present before setiger 10 *Nothria conchylega occidentalis*
- b. Tube cylindrical and covered with fine mud particles; branchiae present before setiger 10 *Nothria lepta*

Hyalinoecia stricta Moore, 1911

Hyalinoecia tubicola stricta Moore, 1911, pp. 280-282, pl. 18, figs. 96-97.

Hyalinoecia stricta: Fauchald, 1968, pp. 16-17, pl. 3, figs. f-k; Fauchald, 1972a, p. 120.

Record: AD-110, NAD-21 (1).

Remarks: The present specimen agrees with the species as reviewed by Fauchald (1972a). It is the first record of the species north of Point Conception, California.

Occurrence: Deep water from southern California to Panama.

Nothria conchylega occidentalis Fauchald, 1968

Nothria conchylega occidentalis Fauchald, 1968, pp. 20-21, pl. 5, figs. a-n.

Record: AD-30, NAD-11 (1).

Remarks: The subspecies differs from the main form in that the anterior hooded setae are simple rather than composite, and the postsetal lobes are auricular in two setigers rather than in only one.

Occurrence: From southern California to Colombia in shelf depths.

Nothria geophiliformis (Moore, 1903)

Nothria geophiliformis Moore, 1903, pp. 445-448, pl. 25, figs. 57-59.

Nothria geophiliformis: Fauchald, 1968, p. 22, pl. 6, figs. a-d.

Record: AD-16, NAD-13 (1).

Remarks: *Nothria geophiliformis* has branchiae from setiger 5, the first setiger has a low, transverse presetal lobe and on the hooded hooks the distal tooth is greatly prolonged and projects beyond the edge of the hood. Records of this species from Spain (Ibañez, 1972 and 1973) need to be confirmed, especially since the population appears to have a different habitat from the one previously reported.

Occurrence: Japan to Baja California, Mexico in shelf and slope depths. May be present in intertidal sand flats in Spain.

Nothria iridescens Johnson, 1901)

Nothria iridescens Johnson, 1901, p. 408, pl. 8, figs. 86-87, pl. 9, figs. 88-92.

Nothria iridescens: Fauchald, 1968, p. 24, pl. 7, fig. a (in part); Hartman and Reish, 1950, p. 23; Fauchald, 1972a, pp. 124-125.

Onuphis iridescens: Hobson, 1971, pp. 533-535, fig. 3a-d, 4a-c.

Record: AD-148, NAD-12 (1).

Remarks: *Nothria iridescens* is here accepted as restricted by Fauchald (1972a) and Hobson (1971).

Occurrence: Shelf and slope depths from British Columbia to western Mexico.

Nothria lepta (Chamberlin, 1919)

Onuphis lepta Chamberlin, 1919, pp. 290-295, pl. 45, figs. 1-7.

Nothria lepta: Fauchald, 1972a, pp. 125-126.

Records: AD-9, NAD-21 (1); AD-18, NAD-23 (3); AD-44, NAD-22 (3); AD-53, NAD-26 (1); AD-110, NAD-21 (1); AD-119, NAD-22 (1); AD-139, NAD-24 (1); AD-154, NAD-26 (1).

Remarks: The present specimens agree with *Nothria lepta* in the structure of the anterior end, the first occurrence of the subacicular hooks, and the construction of the first setigers. They differ from the species as reviewed by Fauchald (1972a) in that the first branchiae are present on setigers 7 to 10 rather than on setiger 6 as described.

Occurrence: Slope depths off Panama and Baja California.

Nothria mexicana Fauchald, 1968

Nothria mexicana Fauchald, 1968, pp. 25-26, pl. 7, figs. b-e; Fauchald, 1972a, pp. 126-127.

Records: AD-6, NAD-17 (1); AD-17, NAD-17 (3); AD-105, NAD-12 (3); AD-148, NAD-12 (2); AD-150, NAD-26 (2); AD-154, NAD-26 (1).

Remarks: *Nothria mexicana* resembles *N. geophiliformis* in most characters, but differs in having long, nearly smooth occipital ceratophores and capillary setae that are finely pilose, rather than limbate.

Occurrence: The central American Trench and off Baja California, Mexico in slope depths.

Nothria mixta, new species
(Plate 7, Figs. a-f)

Records: AD-139, NAD-24 (3, HOLOTYPE, Poly 1150, PARATYPES, Poly 1151).

Description: The holotype is an anterior fragment of 19 setigers; it is 8 mm long and 1 mm wide, excluding setae. The other specimens are longer, but are less well preserved. The anterior part of the body is cylindrical; the body is very strongly flattened dorsally from setiger 6. The specimens are yellow and lack color patterns; there are no eyes.

The prostomium (Fig. a) is distinctly wider than it is long, with a pair of short, ovate frontal antennae that are directed ventrad. There are five short occipital antennae. The inner lateral ones are the longest and reach setiger 3; the median and outer lateral ones reach setiger 2. The ceratophores have approximately four distinct annulations, of which the distal-most is the longest. All ceratostyles are tapering.

The first parapodia (Fig. d) have rounded acicular lobes; the presetal lobes are short and truncate; the digitate postsetal lobes are broadly attached. The dorsal and ventral cirri are digitate; the dorsal cirrus is somewhat longer than the ventral one. A distinct cirrophore was not visible. Ventral cirri are cirriform in the first three setigers and pad-shaped from setiger 4.

Anterior setigers have hooded pseudo-composite hooks (Figs. b-c); each has a sharply pointed hood distally and is bi- or tridentate. The teeth decrease evenly in size from the most distal one and form a wide angle with the shaft. Subacicular hooks (Fig. e) are present from setiger 12 in all specimens; each hook is distally bidentate, with the subdistal tooth at a nearly right angle to the shaft of the seta. Pectinate setae (Fig. f) are present in median setigers. Each is distally slightly oblique and has about 20 teeth; the marginal teeth are not markedly longer than the others.

Branchiae are absent. The jaw apparatus was not dissected on the few available specimens.

Abranchiate species of *Nothria* were reviewed by Fauchald (1968, p. 27; 1974, p. 18). Of the species listed by Fauchald (1968), none has both bi- and tridentate hooks in anterior setigers, as does *N. mixta*. It most closely resembles species in the group with tridentate hooded hooks and can be separated from them as indicated below.

The pectinate setae have 10 teeth in *N. notialis* (Monro, 1930, pp. 129-131, fig. 48) and in *N. pygidialis* Fauchald (1968, pp. 26-27, pl. 7, figs. l-m), and 20 or more teeth in *N. fiordica* Fauchald (1974, pp. 15-18, fig. 1a-f) and in *N. mixta*. In *N. fiordica* subacicular hooks are present from setiger 16 and each hook has the teeth at an obtuse angle with the shaft. In *N. mixta* subacicular hooks are present from setiger 12, and each hook has the teeth at right angles to the shaft. The species name refers to the presence of both bi- and tridentate anterior hooks.

Occurrence: One locality off central Oregon. Details can be found in the Station List.

Nothria pallida Moore, 1911

Nothria pallida Moore, 1911, pp. 256-259, pl. 15, figs. 24-28, figs. 35-37; Fauchald, 1972a, p. 127.

Records: AD-6, NAD-17 (1); AD-7, NAD-16 (3); AD-17, NAD-17 (1); AD-149, NAD-15 (1); AD-150, NAD-26 (1).

Remarks: *Nothria pallida* has branchiae from setiger 4; it has tridentate hooded hooks, and the ventral cirri are pad-shaped from setiger 5.

Occurrence: Southern and central California in slope depths.

Onuphis profundus Fauchald, 1968

Onuphis profundus Fauchald, 1968, pp. 40-41, pl. 10; Fauchald 1972a, pp. 133-134, pl. 26, fig. a.

Records: AD-6, NAD-17 (3); AD-18, NAD-23 (1); AD-33, NAD-21 (1); AD-88, NAD-22A (1); AD-89, NAD-22A (1); AD-139, NAD-24 (1); AD-150, NAD-26 (1).

Remarks: *Onuphis profundus* has branchiae from setiger 6 or 7. Subacicular hooks are first present from setigers 17 to 22 (in the present specimens, most frequently from setigers 20 to 22). The composite anterior hooded hooks are tridentate and the ventral cirri are pad-shaped from setiger 8.

Occurrence: Slope depths off western Mexico.

Onuphis vexillaria Moore, 1911

Onuphis vexillaria Moore, 1911, pp. 266-269, pl. 17, figs. 69-76; Fauchald, 1968, p. 43; Fauchald, 1972a, p. 134.

Records: AD-9, NAD-21 (2); AD-19, NAD-22 (1); AD-44, NAD-22 (2); AD-53, NAD-26 (1); AD-55, NAD-25 (3); AD-65, NAD-21 (1); AD-86, NAD-21 (4); AD-88, NAD-22A (1); AD-110, NAD-21 (3); AD-145, NAD-23 (2); AD-154, NAD-26 (1).

Remarks: *O. vexillaria* has a few large, tridentate simple hooks on some of the anterior setigers in addition to the usual composite hooks. These simple hooks, called "acicular hooks" by Hartman (1944a, pp. 68-69), are about twice as thick as the other hooded hooks and usually appear to be somewhat inflated compared with the other hooks. They are usually present on only a few setigers. In the present material they are regularly present on setigers 5 and 6 and, in most specimens, also on setiger 7. They are always absent from setiger 8 and later.

Branchiae are first present from setiger 5; subacicular hooks are present from setiger 50 in fully grown specimens; the ventral cirri are pad-shaped from setiger 8 or 9.

Occurrence: Southern California and western Mexico in slope depths.

FAMILY EUNICIDAE SAVIGNY, 1818

KEY TO SPECIES

- 1a. Maximally 8 branchial filaments in each branchia; distal tooth of composite hooks curved *Eunice kobiensis*

 b. Maximally 16 branchial filaments in each branchia; distal tooth of composite hooks straight *Eunice segregata*

Eunice kobiensis McIntosh, 1885

Eunice kobiensis McIntosh, 1885, pp. 278-280, pl. 38, figs. 12-13, pl. 20A, figs. 1-3; Fauchald, 1969, pp. 4-6, fig. 2.

Eunice longicirrata: Hartman and Reish, 1950, p. 23 (not Webster, 1884).

Records: AD-6, NAD-17 (1); AD-7, NAD-16 (1); AD-13, NAD-18 (1); AD-86, NAD-21 (1).

Remarks: *Eunice kobiensis* was separated from other similar species by Fauchald (1969), who demonstrated that what had been called *E. kobiensis* from the eastern Pacific Ocean in fact belonged to three species. The present specimens have branchiae from setiger 3 to setigers 26, 27, 37 and 37, respectively, and have a maximum of seven branchial filaments. A very small specimen has subacicular hooks present from setiger 13; the other specimens have these hooks present from setigers 24 to 34. The structure of the anterior appendages and of the dorsal cirri closely resembles the conditions in the type specimen.

Gustus (1972) attempted to demonstrate that the characters used to separate the species listed by Fauchald (1969) were invalid because of too much intra- and interpopulation variation. Her statistical argument is unconvincing due to inadequate materials, and the species are here considered separable.

Occurrence: Japan and northeastern part of the Pacific Ocean in shelf and slope depths.

Eunice segregata (Chamberlin, 1919)

Leodice segregata Chamberlin 1919, pp. 237-240, pl. 54, figs. 1-5, in part.

Eunice segregata: Fauchald, 1969, pp. 6-8, fig. 3; Fauchald, 1972a, pp. 143-144.

Records: AD-6, NAD-17 (1); AD-17, NAD-17 (1).

Remarks: The present specimens have branchiae from setiger 3 to setigers 38 and 42, respectively. The maximal number of branchial filaments is 16. Subacicular hooks are first present from setigers 38 and 46, respectively.

Occurrence: Southern California to Panama in slope and bathyal depths.

FAMILY LUMBRINERIDAE MALMGREN, 1867

KEY TO SPECIES

- 1a. Branchiae present9
 b. Branchiae absent2
 2a. Composite hooded hooks present3
 b. Composite hooded hooks absent6
 3a. Acicula black4
 b. Acicula yellow5
 4a. A single median nuchal papilla present; both pre- and postsetal lobes prolonged in posterior setigers *Lumbrineris eugeniae*
 b. Paired lateral nuchal pits present; only postsetal lobes prolonged in posterior setigers *Lumbrineris index*
 5a. Both pre- and postsetal lobes prolonged in posterior setigers *Lumbrineris cruzensis*
 b. Neither pre- nor postsetal lobes prolonged in any setiger *Lumbrineris*, near *latreilli*
 6a. Acicula black7
 b. Acicula yellow8
 7a. Both pre- and postsetal lobes prolonged in posterior setigers *Lumbrineris bicirrata*
 b. Neither pre- nor postsetal lobes prolonged in any setiger *Lumbrineris moorei*

- 8a. Simple hooks present from setiger 1; both pre- and postsetal lobes prolonged in posterior setigers *Lumbrineris*, near *laguna*
 b. Simple hooks first present from setiger 21; neither pre- nor postsetal lobes prolonged in any setiger *Lumbrineris*, near *abyssicola*
 9a. Branchiae branched *Ninoe longibranchia*
 b. Branchiae simple, short postsetal knobs 10
 10a. Hooded hooks first present from a median setiger (setigers 45-74) *Ninoe fusca*
 b. Hooded hooks first present from setiger 1 *Ninoe fuscoides*

Lumbrineris, near *abyssicola* Uschakov, 1950

Lumbrineris abyssicola Uschakov, 1950, p. 195, fig. 27.

Record: AD-65, NAD-21 (1).

Remarks: The present specimen has short parapodial lobes in all setigers. The acicula are yellow, and simple hooded hooks are present from setiger 21. The setae are very long compared with the width of the body. The specimen differs from *L. abyssicola* in that the latter has hooded hooks present from one of the first setigers. The anterior end has been crushed, so the jaw structure could not be studied.

Lumbrineris bicirrata Treadwell, 1929

Lumbrineris bicirrata Treadwell, 1929, pp. 1-3, figs. 1-7.

Lumbrineris bicirrata: Fauchald, 1970, pp. 77-78, pl. 10, figs. e-g; Hartman and Reish, 1950, p. 24; Fauchald, 1972a, p. 147.

Records: AD-149, NAD-15 (2); AD-150, NAD-26 (1).

Remarks: *Lumbrineris bicirrata* has unidentate maxillae III, prolonged posterior pre- and postsetal lobes and black acicula; composite setae are absent.

Occurrence: Shelf depths from Washington to western Mexico; one bathyal locality off Baja California, Mexico.

Lumbrineris cruzensis Hartman, 1944

Lumbrineris cruzensis Hartman, 1944, pp. 165-166, pl. 17, figs. 263-269; Fauchald, 1970, pp. 83-84, pl. 12, figs. g-j; Fauchald, 1972a, p. 149.

Records: AD-141, NAD-11B (2); ?AD-149, NAD-15 (1).

Remarks: *Lumbrineris cruzensis* has a rounded prostomium, prolonged pre- and postsetal lobes in posterior setigers, composite setae in some anterior setigers and yellow acicula. Maxilla III is unidentate.

Occurrence: British Columbia to western Mexico in shelf and bathyal depths.

Lumbrineris eugeniae Fauchald, 1970

Lumbrineris eugeniae Fauchald, 1970, pp. 87-89, pl. 13, figs. c-f; Fauchald, 1972a, pp. 149-150, pl. 29, figs. a-b.

Records: AD-6, NAD-17 (1); AD-9, NAD-21 (1).

Remarks: *Lumbrineris eugeniae* has a single median eversible nuchal papilla. The pre- and postsetal lobes are prolonged in posterior setigers; acicula are black. Composite setae are present in some anterior setigers. The setae are strongly prolonged. The prostomium is very long, with nearly parallel sides and a bluntly truncate anterior end.

Occurrence: Bathyal depths off western Mexico.

Lumbrineris index Moore, 1911

Lumbrineris japonica index Moore, 1911, pp. 288-289, pl. 19, figs. 119-127.

Lumbrineris index: Hartman, 1944, pp. 162-163, pl. 12, figs. 254-256; Fauchald, 1972a, p. 150.

Record: AD-30, NAD-11 (3).

Remarks: This species has black acicula, prolonged postsetal lobes in posterior setigers, and composite setae in the first setigers. Maxilla III has two teeth.

Occurrence: Central and southern California in shelf and bathyal depths.

Lumbrineris, near *lagunae* Fauchald, 1970

Lumbrineris lagunae Fauchald, 1970, pp. 92-94, pl. 15, figs. a-e.

Records: AD-110, NAD-21 (1); AD-139, NAD-24 (1).

Remarks: The present specimens agree with *L. lagunae* in that they have yellow acicula, and simple hooded hooks are present from the first setiger. The pre- and postsetal lobes may be prolonged in posterior setigers. Maxilla III has a single tooth. The postsetal lobes in anterior setigers are triangular, not broadly rounded as in *L. lagunae*. The degree of prolongation of the pre- and postsetal lobes in posterior setigers could not be assessed fully, since both specimens were incomplete posteriorly.

Lumbrineris, near *latreilli* Audouin and Milne Edwards, 1834

Lumbrineris latreilli Audouin and Milne Edwards, 1834, pp. 168-170, pl. 3B, figs. 13-15.

Lumbrineris latreilli Fauchald, 1970, pp. 94-97, pl. 15, figs. f-h.

Records: AD-11, NAD-15 (1); AD-141, NAD-11B (1); AD-149, NAD-15 (1).

Remarks: The present specimens agree with *L. latreilli sensu* Fauchald (1970). As pointed out by Fauchald (1974, p. 24), species in this complex have been confused and are difficult to separate. The present material is neither extensive enough nor well enough preserved to permit a more complete description.

Lumbrineris moorei Hartman, 1942

Lumbrineris moorei Hartman, 1942, pp. 116-118, fig. 12a-b and g; Fauchald, 1970, p. 102; Fauchald, 1972a, p. 153.

Records: AD-6, NAD-17 (1); AD-9, NAD-21 (3).

Remarks: *Lumbrineris moorei* has prolonged anterior setae. Simple hooded hooks are present from about setiger 25, and the posterior parapodial lobes are short. Acicula are black, and maxilla III has a single tooth.

Occurrence: Bathyal depths off southern California and western Mexico.

Ninoe fusca Moore, 1911

Ninoe fusca Moore, 1911, pp. 285-288, pl. 19, figs. 110-118; Hartman, 1968, pp. 781-782, 7 figs.; Fauchald, 1970, pp. 116-117; Fauchald, 1972a, p. 156.

Records: AD-6, NAD-17 (1); AD-33, NAD-21 (2); AD-44, NAD-22 (1); AD-65, NAD-21 (3).

Remarks: *Ninoe fusca* has a central nuchal pocket. Branchiae are present from the first setiger and are limited to some (usually about 40) anterior setigers. Hooded hooks are present from a median setiger, between setigers 45 and 75. The acicula are black, and the bases of the setae are dusky.

Occurrence: Southern California and western Mexico in bathyal and abyssal depths.

Ninoe fuscoides Fauchald, 1972

Ninoe fuscoides Fauchald, 1972a, pp. 156-158, pl. 31, figs. a-f.

Records: AD-6, NAD-17 (2); AD-9, NAD-21 (2); AD-16, NAD-13 (3); AD-17, NAD-17 (6); AD-32, NAD-19 (2); AD-89, NAD-22A (1); AD-139, NAD-24 (1); AD-154, NAD-26 (1).

Remarks: *Ninoe fuscoides* has branchiae and branchial distribution similar to that found in *N. fusca*. However, the hooded hooks are present from the first setiger, or at least before setiger 5, and maxilla II has four, rather than two, teeth as in *N. fusca*. The acicula are black and the setae are basally dusky.

Occurrence: Central American trench and off Baja California, Mexico, in bathyal and abyssal depths.

Ninoe longibranchia Fauchald, 1972

Ninoe longibranchia Fauchald, 1972a, pp. 158-160, pl. 32, figs. a-g.

Records: AD-6, NAD-17 (1); AD-7, NAD-16 (1); AD-13, NAD-18 (2); AD-16, NAD-13 (2); AD-141, NAD-11B (3); AD-149, NAD-15 (5).

Remarks: *N. longibranchia* has branchiae only on a few anterior setigers, and the superiormost filament is cirriform and nearly twice as long as all others. The maximum number of branchial filaments is six. *N. gemmea* Moore, 1911, with which this species has been confused, has branchiae from setiger 4 to about setiger 50 and maximally has three branchial filaments (Hartman, 1968, p. 783; Fauchald, 1970, p. 117).

Occurrence: Bathyal depths off western Mexico.

FAMILY ARABELLIDAE HARTMAN, 1944

Drilonereis falcata Moore, 1911

Drilonereis falcata Moore, 1911, pp. 298-299, pl. 20, figs. 150-154; Fauchald, 1970, pp. 135-136, pl. 21, fig. g; Fauchald, 1972a, p. 161.

Records: AD-6, NAD-17 (1); AD-16, NAD-13 (1); AD-141, NAD-11B (1).

Remarks: In *Drilonereis falcata*, maxilla I is proximally dentate, and mandibles are present.

Occurrence: Shelf areas off California and bathyal depths off western Mexico.

FAMILY DORVILLEIDAE CHAMBERLIN, 1919

Dorvillea batia Jumars, 1974

Dorvillea batia Jumars, 1974, pp. 115-117, fig. 6.

Record: AD-149, NAD-15 (1).

Remarks: *D. batia* has poorly developed anterior appendages. It has smooth setae which are distally spinigerous rather than falcigerous, as is usual in *Dorvillea*.

Occurrence: San Diego Trough, California in bathyal depths.

FAMILY STERNASPIDAE CARUS, 1863

Sternaspis fossor Stimpson, 1853

Sternaspis fossor Stimpson 1853, p. 29, fig. 19; Hartman, 1969, pp. 351-352, 1 fig.

Sternaspis scutata; Hartman and Reish, 1950, p. 38.

Records: AD-9, NAD-21 (1); AD-32, NAD-19 (1); AD-33, NAD-21 (7); AD-64, NAD-21 (1); AD-110, NAD-21 (2); AD-119, NAD-22 (1); AD-141, NAD-11B (2); AD-148, NAD-12 (1); AD-149, NAD-15 (3).

Remarks: *Sternaspis fossor* is hardly separable from the older *S. scutata*, as noted by Hartman (1969). The present specimens have the skin papillae concentrated on posterior setigers. The number of setal bundles associated with the shield varies from nine to 14; the lower numbers are on two small specimens. Above a certain size level, it appears that the number of setal bundles varies independently of the size of the specimen, as remarked by Fauchald (1972a, p. 238).

Occurrence: Both sides of the Americas is shelf and bathyal depths.

FAMILY OWENIIDAE RIOJA, 1917

Myriochele, species indeterminable

Records: AD-44, NAD-22 (no specimen recovered); AD-74, NAD-14 (1).

Remarks: The specimen from station AD-44, previously identified as *Myriochele heeri*, was not recovered; the other specimen is too poorly preserved to allow complete identification.

FAMILY FLABELLIGERIDAE SAINT-JOSEPH, 1894

KEY TO SPECIES

- 1a. Large simple hooks present in posterior parapodia *Uncopherusa bifida*
 b. Posterior parapodia without large simple hooks 2
 2a. Body anteriorly inflated with a tapering posterior end; all setae capillaries of similar thickness .
 *Diplocirrus micans*
 b. Body more or less cylindrical; neurosetae distinctly thicker than the notosetae
 *Brada pluribranchiata*

Brada pluribranchiata (Moore, 1923)

Stylarioides pluribranchiata Moore, 1923, pp. 222-223.

Brada pluribranchiata: Hartman, 1969, pp. 279-280, 7 figs; Fauchald, 1972a, p. 216.

Record: AD-9, NAD-21 (2).

Remarks: *Brada pluribranchiata* has a poorly developed setal cage. It is covered with large papillae with long, slender tips. The neurosetae are characteristically abruptly tapered along the mid-length, with a long, slender, usually flexible tip.

Occurrence: Deep shelf and bathyal depths off southern California.

Diplocirrus micans Fauchald, 1972

Diplocirrus micans Fauchald, 1972a, pp. 218-219, pl. 44, figs. a-c.

Record: AD-7, NAD-16 (1).

Remarks: In the present specimen the noto- and neurosetae are similar throughout the body, with the exception of the prolonged setae of the cephalic cage. The dorsum has a very sparse covering of papillae, most of which are so small as to be visible only microscopically.

Occurrence: Bathyal depths off western Mexico.

Pherusa, species indeterminable

Records: AD-41, NAD-21 (1); AD-148, NAD-12 (fragment).

Remarks: The specimen from station AD-41 is large and complete, but all setae are broken so it cannot be identified. The posterior fragment from AD-148 has the bidentate setae of certain species of *Pherusa* and the papillar investment characteristic of members of this genus.

Uncopherusa, new genus

Cephalic cage formed from one setiger; setae include smooth capillaries, bifid hooded hooks, and greatly expanded, curved hooded hooks in the posterior end. Number of pairs of branchiae unknown; body partly covered with papillae.

The genera resembling *Pherusa* were reviewed by Fauchald (1972a). *Uncopherusa* belongs to this group of genera, but differs sharply in the setal distribution and in the kind of setae present. The very large hooks on the posterior end appear to be unique in the family. Hartman (1965, pp. 154-155, pl. 29) described the posterior end of what she thought might be a spionid. The structure of the setae closely resembles that found in *Uncopherusa*.

Uncopherusa bifida, new species
(Plate 6, Figs. e-h)

Record: AD-89, NAD-22A (1, HOLOTYPE, Poly 0000).

Description: The holotype and only known specimen is complete with 30 setigers. It is 4.5 mm long and 0.3 mm wide excluding setae. The body is cylindrical and somewhat thickened anteriorly and posteriorly. The first few segments are crowded, the median segments are elongated, and the posterior segments are again crowded. Dorsally, the peristomium is produced into a somewhat flattened lip that projects over the retractable anterior end. The anus, which is terminal, is guarded by four short anal cirri.

The first setiger (Fig. e) forms the cage. The notopodia are wholly dorsal and approach each other medially. The neuropodia are anteroventral to the notopodia and are directed forward. The notopodia are completely reduced in the second setiger. All other setigers have complete parapodia. The neuropodia have a distinct postsetal lip which is especially pronounced in anterior parapodia. In setigers 3 to 5, the notopodia are somewhat dorsal in position; other parapodia except the far posterior ones are strictly lateral. Far posterior parapodia are very low and are essentially marked only by the emergence of the setae. In this region the body (Fig. l) is somewhat pustulate, and the neuropodia are directed ventrad, and the notopodia dorsad.

The anterior part of the body is encrusted with sand covering short papillae; such encrustations and papillae are also present on the parapodial bases in the remainder of the body and on the whole posterior end.

The notopodial cage setae are short and conical and form a spreading fascicle over the posterior part of the peristomium. The neuropodial cage setae are about one half as thick as the notopodial ones and at least three times as long, and they form a close fascicle on either side of the anterior end. Setigers 2 to 10 have only smooth, tapering capillary setae. Anterior fascicles are dense, including more than 20 setae per fascicle; posteriorly they become increasingly sparse. Each neuroseta is curved, nearly geniculate; notosetae are straight. The remainder of the notopodia contain these smooth, straight, capillary setae in decreasing numbers so that in the last few segments only one or two setae are present. Neuropodia from setiger 11 on contain one or a few bent, distally bifid hooded hooks (Fig. g). These are usually accompanied by one or a few simple capillary setae. From setiger 24 they are replaced by a single, very large; double-curved bidentate hooded hook (Fig. h) in each segment; the last hook, in setiger 30, is about one half the size of the others and is considerably less curved. These hooks are all directed anteroventrad.

Uncopherusa bifida differs from other members of the family as indicated above for the genus.

Occurrence: One locality off central Oregon in bathyal depths. Details of the type locality can be found in the Station List.

FAMILY FAUVELIOPSIDAE HARTMAN, 1971

KEY TO SPECIES

- 1a. Body with 41 setigers *Fauveliopsis magna*
- b. Body with 33 setigers *Fauveliopsis glabra*
- c. Body with 26 setigers *Fauveliopsis armata*

Fauveliopsis armata, new species (Plate 7, Figs. g-i)

Records: AD-6, NAD-17 (5, HOLOTYPE, Poly 1160; PARATYPES, Poly 1161); AD-7, NAD-16 (8); AD-87, NAD-21 (2); AD-89, NAD-22A (1).

Description: The holotype (Fig. g) is a complete specimen with 26 setigers; it is 4.5 mm long and 1 mm wide at the widest. The body is generally cylindrical, increasing slowly in width to the posterior one-fourth; anterior and posterior ends are abruptly tapered.

The anterior end (Fig. i) has a short median lobe projecting barely beyond the rest of the anterior end; the peristomium forms a raised rim laterally on either side of this prostomial lobe. The first setiger is wholly lateral, but the setae are directed anteriad. The first 9 or 10 setigers are marked by slightly raised, smooth welts on either side. The notopodia are more or less dorsal; the neuropodia are fully lateral. More posteriorly the parapodia are marked only by the emergence of the setae. Each parapodium consists of a single spine and a capillary seta in each ramus; between the rami, usually close to the base of the notopodium, is a single large, pear-shaped papilla.

Far anterior and posterior hooks (Fig. h) are strongly curved and about twice as thick as those in median setigers. The capillary setae are relatively thick and strongly tapered in all setigers.

The number of setigers in the fully adult specimens (eggs could be seen in some) varies between 23 and 26 in the present specimens; smaller specimens (less than 3 mm in length) have fewer setigers.

The anterior end of the body, including the first 10 setigers, has a rugose epithelium; the parapodial welts are smooth. The rest of the body is completely smooth and nearly translucent.

The species of *Fauveliopsis* can be grouped on the maximal number of setigers present in the adults. *Fauveliopsis challengeriae* McIntosh (1922, pp. 5-7, pl. 2, figs. 1-8, pl. 3, fig. 2) and *F. glabra* (Hartman, 1960, pp. 129-130, pl. 14, figs. 1-2) have 33 setigers. *F. brevipoda* Hartman (1971, p. 1422) has 28, *F. armata* has 23 to 36 setigers. Finally, *F. brevis* (Hartman, 1965, p. 172), *F. hartmani* Levenstein (1970), 229, fig. 2a-b) and *F. brattegardii* Fauchald (1972b, p. 101, fig. 4a-b) have 16 setigers. One species, *F. scabra* Hartman and Fauchald (1971, pp. 117-118, pl. 17, figs. a-b), reported with varying numbers of setigers from 25 to 32 has been found in material from the deep Atlantic Ocean. This species differs from the others in that the anterior rather than the posterior end is inflated, and the whole epithelium is rugose and warty. The other species are generally smooth, only partially or rarely rugose, and the posterior end is inflated.

Fauveliopsis armata most closely resembles *F. brevipoda* in number of setigers. In *F. brevipoda* (as *F. brevis* in Hartman, 1967, p. 123, pl. 37, figs. a-b) the notopodial spines are slenderer than the neuropodial ones in all setigers; the spines are of similar thickness in both rami in *F. armata*.

Occurrence: Bathyal depths off central Oregon. Detailed data for the type locality can be found in the Station List.

Fauveliopsis glabra (Hartman, 1960)

Brada glabra Hartman, 1960, pp. 129-130, pl. 14, figs. 1-2.

Fauveliopsis glabra: Hartman, 1969, pp. 283-284, 2 figs.

Records: AD-74, NAD-14 (3); ?AD-110, NAD-21 (1).

Remarks: *Fauveliopsis glabra* has been distinguished above from other species from this area. The specimen from station AD-110 is fragmentary and cannot be completely identified.

Occurrence: Southern California in deep shelf and bathyal depths.

Fauveliopsis magna, new species

Record: AD-9, NAD-21 (1, HOLOTYPE, Poly 1149).

Description: The holotype and only known specimen is complete (41 setigers), and is 11 mm long and about 1.2 mm wide. The body is taeniata and abruptly truncate anteriorly. It is the widest near the posterior one-fourth and tapers evenly to a short, unadorned pygidium. The anal opening is terminal.

All parapodia are biramous; the first two are directed forward; all others are lateral and have the two rami well separated. An ovate interramal papilla is present in all setigers. Each of the first 30 parapodia has a single curved spine and a single capillary seta in each ramus. The spines in the first two setigers are strongly curved and directed forward. The other spines are gently curved. The last 11 setigers have increasing numbers of setae so that in the most posterior setigers a total of three spines and two or three capillary setae may be present in each ramus.

The surface of the whole animal is covered with very small, trim, papillae in scattered arrangement, making the surface appear velvety rather than glistening, as is usual in members of this genus.

Fauveliopsis magna is characterized by a very large number of setigers, 41, compared with the other species (see listing above in the discussion of *F. armata*) and by the presence of increasing numbers of setae in far posterior setigers.

Occurrence: One locality in bathyal depths off central Oregon; complete station data can be found in the Station List.

FAMILY SABELLARIIDAE JOHNSTON, 1865

Phalacrostemma, species indeterminable

Record: AD-6, NAD-17 (1).

Remarks: This specimen has the two prolonged opercular penducles characteristic of the genus *Phalacrostemma*. The paleae are in a single row. The specimen is incomplete and cannot be further identified.

FAMILY PECTINARIIDAE QUATREFAGES, 1865

Cistenides, species indeterminate*Record*: AD-6, NAD-17 (1).*Remarks*: The present specimen is very poorly preserved and cannot be further identified.

FAMILY AMPHARETIDAE MALMGREN, 1867

KEY TO SPECIES

- 1a. At least some of the first setigers with needle setae. 2
 b. Needle setae absent 4
 2a. Nuchal hooks present *Melinna heterodonta*
 b. Nuchal hooks absent 3
 3a. Dorsal glandular ridge on setiger 4 present *Melinnampharete gracilis*
 b. No glandular ridge on setiger 4 *Amelinna abyssalis*
 4a. First abdominal segment with large muscular dorsal valve *Jugamphicteis paleata*
 b. First abdominal segment without dorsal modification 5
 5a. Lower lip deeply crenulated 6
 b. Lower lip smooth or irregularly wrinkled 7
 6a. Palcae absent *Amphisamytha bioculata*
 b. Palcae present *Lysippe annectens*
 7a. Fifteen thoracic setigers present; of these, 12 are uncinigerous 8
 b. Eighteen thoracic setigers present; of these, 14 are uncinigerous *Amphicteis mucronata*
 8a. The third from last notopodia elevated, with pilose setae *Anobothrus gracilis*
 b. None of the notopodia elevated, all notosetae limbate and smooth *Ampharete acutifrons*

Amelinna abyssalis Hartman, 1969*Amelinna abyssalis* Hartman, 1969, pp. 533-534, 5 figs.*Record*: AD-155, NAD-24 (1).*Remarks*: *Amelinna abyssalis* has the anterior structure of a member of the Melinninae in that the first neuropodia contain needle-like small spines. Nuchal hooks are absent. The oral tentacles are of two kinds: a single giant tentacle and numerous smaller ones.*Occurrence*: Bathyal depths off southern California.*Ampharete acutifrons* (Grube, 1860)*Amphicteis acutifrons* Grube, 1860, pp. 109-110, pl. 5, fig. 6.*Ampharete acutifrons*: Hartman, 1969, pp. 537-538, 4 figs.*Remarks*: *Ampharete acutifrons* has a sharply pointed to bluntly triangular prostomium. The branchiae are inserted in two rows of two each and the uncini have teeth in double rows.*Occurrence*: Common in North Atlantic waters; reported as far south as Monterey Bay in the eastern Pacific Ocean from shelf to bathyal depths.*Amphicteis mucronata* Moore, 1923*Amphicteis mucronata* Moore, 1923, pp. 203-206; Hartman, 1969, pp. 547-548, 1 fig.; Fauchald, 1972a, pp. 284-285, pl. 58, fig. a.*Records*: AD-6, NAD-17 (2); AD-141, NAD-11B (2); AD-149, NAD-15 (2).*Remarks*: The long mucrons on the palcal setae distinguish this species from all related species in the Eastern Pacific area. The mid-superior part of the prostomium is usually small and three-pronged.*Occurrence*: Western Canada to western Mexico in shelf and bathyal depths.

Amphisamytha bioculata (Moore, 1906)

Samytha bioculata Moore, 1906, pp. 253-255, pl. 12, figs. 52-53.

Amphisamytha bioculata: Hartman, 1969, pp. 551-552, 5 figs.

Records: AD-5, NAD-10 (1); AD-88, NAD-22A (1); AD-149, NAD-15 (31).

Remarks: *Amphisamytha bioculata* has a deeply and distinctly crenulated lower lip. The only other ampharetid from the eastern Pacific with this feature is *Lysippe annectens* (see below). The two are easily separated, since *L. annectens* has well-developed paleae and *A. bioculata* lacks setae in this segment.

Occurrence: Western Canada and southern California in shelf and bathyal depths.

Anobothrus gracilis (Malmgren, 1886)

Ampharete gracilis Malmgren 1866, p. 365, pl. 26, fig. 75.

Anobothrus gracilis: Hartman, 1969, pp. 553-554, 2 figs. (in part); Hartman and Reish, 1950, p. 42; Holthe, 1975, p. 25, fig. 2g-i, fig. 5a (not Hartman, 1965, p. 216, nor Hartman and Fauchald, 1971, p. 156).

Records: AD-6, NAD-17 (1); AD-16, NAD-13 (2); AD-50, NAD-10 (2); AD-149, NAD-15 (17).

Remarks: *Anobothrus gracilis* has the tenth pair of notopodia elevated and modified with pilose setae. The three anterior branchiae are in a straight line, and the fourth branchia is behind and medial to the others, leaving very little space between the two groups. The species has been confused with similar species with modified notopodial structures; the records from many areas are unreliable. Hartman (1965, p. 216) and Hartman and Fauchald (1971, p. 156) described specimens from the deep Atlantic Ocean with 13 rather than 12 thoracic uncinigers; these specimens are no longer considered as belonging to this species. Hartman (1969, p. 553) described specimens from California with 13 uncinigers; this is a *lapsus calami*. California specimens have 12 uncinigers, as originally described for this species.

Occurrence: North Atlantic areas and the Arctic Ocean basin; the eastern Pacific records are in part unreliable, but the species has been found in California in bathyal areas.

Jugamphicteis, new genus

Ampharetin with 18 thoracic setigers, including the paleal segment; 14 of these uncinigers. Paleae well developed. Four pairs of branchiae arranged in two rows of two branchiae each, only the medioposterior pair being distinctly associated with a segment. First abdominal segment with medially fused notopodial structures forming a valve between the thorax and the abdomen. Distinct notopodial rudiments present in some anterior abdominal segments. Thoracic uncini with teeth in single rows, abdominal ones with teeth in double rows.

Genotype: *Amphicteis sibogae* Caullery, 1944, pp. 82-83, fig. 66a-h. Additionally, *J. paleata*, described below, belongs to this genus.

Two other species of *Amphicteis*, *A. vega* Wirén, 1883, pp. 415-417, pl. 32, figs. 3-4, and *A. vestis* Hartman, 1965, pp. 215-216, pl. 46, show modified notopodial structures on anterior abdominal setigers. *A. vega* has expanded, lobate notopodia on the first three abdominal setigers; *A. vestis* has bilobed foliose notopodia on the first abdominal setigers. Neither of these two species has the characteristic valve-like structure present in *J. sibogae* and *J. paleata*, and they are here not considered congeneric with the latter two species.

Jugamphicteis paleata, new species
(Plate 8, Figs. a-g)

Record: AD-33, NAD-21 (1, HOLOTYPE, Poly 1148).

Description: The holotype and only known specimen is 37 mm long and 3.5 mm wide and consists of 33 setigers, of which 15 are in the abdomen. The body truncate anteriorly and widest near the anterior one-fifth; it tapers evenly posteriorly. The last two setigers (Fig. c) are fused with the pygidium and are distinctly inflated; two slender anal cirri are present.

The prostomium (Fig. a) is divided into two distinct parts. The mediosuperior part is deeply divided anteriorly; each part is truncate. Posteriorly, the mediosuperior part is spiralled; the edge of each spiral is formed by glandular ridges. The prostomium is distinctly depressed between the two glandular prominences. The inferioposterior part of the prostomium is a rounded cushion. Dorsally, the peristomium forms a transversely wrinkled ring. On the ventral side, the mediosuperior part of the prostomium (Fig. b)

is visible anteriorly as two blunt prominences. The inferioposterior part forms two lateral cushions; it has been set off medially as a distinct glandular cushion. The ventral part of the peristomium forms the anterior and lateral lips. The anterior lip is deeply crenulated; the lateral lips are small but distinct cushions on either side of the mouth. The anterior edge of the first setiger (paleal segment) forms the posterior lip; it is distinctly crenulated. In the roof of the mouth there is visible a distinct transverse ridge which curves posteroventrally at the corners of the mouth.

The paleal segment is expanded and directed anteriorly; the setae are supported by a low postsetal lip and a higher, rounded presetal lip. The first two postpaleal setigers have small reduced notopodia hidden below the bases of the branchiae on both sides. The third postpaleal setiger has a well-developed, cylindrical, distally truncate notopodium resembling those in the remainder of the thorax. Neuropodia are first present from the fourth postpaleal setigers; each thoracic neuropodium is a low, transverse fold.

Dorsally, the first abdominal setiger has a large valvular structure formed by the fusion of a notopodial fold from either side (Figs. d and g). In dorsal view, each fold can be identified as a crescent attached to the dorsolateral sides of each segment and with a posteriorly directed free edge. This edge is produced into about 15 digitate, blunt projections; these increasing evenly in size from the smallest, (located laterally at the base of the neuropodium) to the largest, (located dorsomedially). The folds are muscular, and the dorsomedial and posterior parts appear to be weakly sclerotized. The two folds from either side are connected by a thin, nonmuscular membrane that is connected only to the two folds and leaves the medial portion of the dorsum free.

Other abdominal segments have flattened, distally truncate neuropodia that become increasingly prolonged and narrowed in the far posterior setigers. The first three setigers following the modified one have distinct notopodial cirri; all others lack this feature.

The paleal setae are golden, stout, and distally tapered to a fine curved tip. Notopodial setae are narrowly limbate, straight, and smooth. Thoracic uncini (fig. j) are flattened and have a distinct posterior end; each has a rounded base and has six teeth in a single row along the cutting margin. The abdominal uncini (fig. e) are about half as big as the thoracic ones; each has a double row of five teeth on the cutting margin, so each uncinus has 10 teeth. The base is less curved, and the posterior bend is somewhat deeper than in the thoracic uncini. Tube was absent.

Jugamphicteis paleata differs from the genotype, *J. sibogae* (Caullery, 1944, for complete references, see above) in the structure of the anterior end. *J. sibogae* has the anterior edge of the posterior part of the prostomium as four crescentic ridges, each crescent opening posteriorly. *J. paleata* has two spiralled, ramshorn-like ridges forming the anterior edge of the posterior part of the prostomium.

Occurrence: One locality in bathyal depths off central Oregon; complete details can be found in the Staton List.

Lysippe annectens Moore, 1923

Lysippe annectens Moore, 1923, pp. 201-202, pl. 17, figs. 11-13; Hartman, 1969, pp. 563-564, 6 figs.; Fauchald 197a, p. 299.

Records: AD-9, NAD-21 (3), AD-16, NAD-13 (2); AD-65, NAD-21 (2); AD-110, NAD-21 (1); AD-148, NAD-12 (3).

Remarks: *Lysippe annectens* was distinguished in the key from the only other ampharetid known from Oregon with a crenulated lower lip. The four branchiae in *Lysippe* are in a single row and the uncini have several rows of teeth, both in the thorax and the abdomen.

Occurrence: Southern California and western Mexico in shelf and bathyal depths.

Melinna heterodonta Moore, 1923

Melinna cristata heterodonta Moore, 1923, pp. 212-213, pl. 17, fig. 25.

Melinna heterodonta: Hartman, 1969, pp. 565-566, 6 figs.; Fauchald, 1972a, pp. 303-304.

Records: AD-9, NAD-21 (2); AD-33, NAD-21 (1); AD-41, NAD-21 (1); AD-43, NAD-22 (1); AD-44, NAD-22 (2); AD-61, NAD-17 (1); AD-65, NAD-21 (2); AD-86, NAD-21 (1); AD-89, NAD-22A (1); AD-90, NAD-22 (1); AD-154, NAD-26 (1).

Remarks: *Melinna heterodonta* has 18 thoracic setigers, including those with the needle setae anteriorly. The number of lobes in the transverse membrane is variable. The membrane usually has about a dozen lobes; most frequent numbers in the present collection are 11, 12, and 14.

Occurrence: Western Mexico to central California in shelf and bathyal depths.

Melinnampharete gracilis Hartman, 1969

Melinnampharete gracilis Hartman, 1969, pp. 569-570, 7 figs.; Fauchald, 1972a, p. 308, pl. 63, fig. c.

Records: AD-6, NAD-17 (2); AD-149, NAD-15 (7).

Remarks: *Melinnampharete gracilis* belongs to the Melinninae, in that it has needle setae in anterior setigers; it differs from *Melinna* in that it lacks the transverse membrane and nuchal hooks present in the latter genus. An inflated ridge is present across the dorsum of setiger 4.

Occurrence: Western Mexico and southern California in bathyal depths.

FAMILY TEREPELLIDAE MALMGREN, 1867

KEY TO SPECIES

- 1a. Lower lip forms a large, permanently everted proboscideal organ *Artacama coniferi*
- b. Lower lip does not form a proboscideal organ 2
- 2a. Branchiae stalked; at least some anterior thoracic uncini long-handled 3
- b. Branchiae sessile filaments; all uncini short-handled *Thelepus setosus*
- 3a. All thoracic uncini long-handled *Pista fasciata*
- b. Posterior thoracic uncini short-handled *Pista ? cristata*

Artacama coniferi Moore, 1905

Artacama coniferi Moore, 1905, pp. 853-855, pl. 44, figs. 11-13; Hartman, 1969, pp. 585-586, 4 figs.; Hartman and Reish, 1950, pp. 43-44.

Record: AD-86, NAD-21 (1).

Remarks: *Artacama coniferi* has a large everted lower lip that is covered completely with fine papillae and resembles a pine cone in shape. The notopodial rudiments in the abdomen are large and foliose, as are the neuropodial lobes.

Occurrence: From western Mexico to Alaska in shelf and bathyal depths.

Pista ? cristata (O.F. Müller, 1776)

Amphitrite cristata O.F. Müller, 1776, p. 216.

Pista cristata: Hartman, 1969, pp. 615-616, 3 figs.; Holthe, 1975, p. 28, fig. 3k and 5n.

Record: AD-11, NAD-15 (1).

Remarks: The present specimen agrees with *P. cristata* in the structure of the branchiae and the distribution of the long-handled and short-handled uncini. The specimen is rather small, and the lateral lappets are not as well developed as usual in this species.

Pista fasciata (Grube, 1870)

Terebella (Phyzelia) fasciata Grube, 1870, pp. 513-514.

Pista fasciata: Hartman, 1969, pp. 621-622, 2 figs.

Record: AD-88, NAD-22A (1).

Remarks: The present specimen is small, but agrees with *P. fasciata sensu* Hartman (1969). Several distinct morphs have been subsumed under the name, and it is not clear how many distinct taxa may be involved in the current concept.

Occurrence: Possibly cosmopolitan.

Thelepus setosus (Quatrefages, 1865)

Phenacia setosa Quatrefages, 1865, pp. 376-377.

Thelepus setosus: Hartman, 1969, pp. 649-650, 6 figs.

Record: AD-149, NAD-15 (1).

Remarks: The sessile tufted branchiae are on three successive segments, with the first setae present from the second branchial segments. The uncini are in straight rows in all thoracic setigers.

Occurrence: Cosmopolitan down to bathyal depths.

FAMILY TRICHOBRANCHIDAE MALMGREN 1866

KEY TO SPECIES

- 1a. Branchiae cirriform 2
 b. Branchiae lamellate *Terebellides stroemii*
 2a. Two pairs of branchiae *Filibranchus roseus*
 b. Three pairs of branchiae *Artacamella hancocki*

Artacamella hancocki Hartman, 1955

Artacamella hancocki Hartman, 1955, pp. 49-50, pl. 3, figs. 1-6; Hartman, 1969, pp. 587-588, 6 figs.; Holthe, 1977, pp. 35-37, figs. 1-2.

Record: AD-96, NAD-4 (2).

Remarks: *Artacamella hancocki* was originally described in the family Terebellidae. Holthe (1977, pp. 35-37) pointed out that it strongly resembles *Trichobranchus* and that the similarity to *Artacama* emphasized by Hartman (1955) is superficial. While Holthe's analysis as to direction of apomorphies and plesiomorphies in the Hennigian terminology appears dubious without a more complete review of polychaete phylogeny, the general conclusion appears valid.

Occurrence: Southern California in shelf and upper slope depths.

Filibranchus roseus Malm, 1874

Filibranchus roseus Malm, 1874, pp. 99-100, pl. 1, fig. 9; Hartman, 1965, p. 227.

Trichobranchus roseus: Hartman-Schröder, 1971, pp. 493-494.

Record: AD-101, NAD-10 (1).

Remarks: *Filibranchus roseus* has two pairs of cirriform branchiae, and the first segment has large paired lateral lobes that extend toward the ventral side, but remain separated ventrally. Hartman (1965) kept the genus *Filibranchus* separate from the genus *Trichobranchus*, with which it is usually synonymized. The separation appears to be justified. The type species is poorly known, and it is possible that both the specimens from the deep Atlantic reported by Hartman and the present specimen should be considered distinct species.

Occurrence: Shallow water off Sweden and bathyal depths in the Atlantic Ocean off New England.

Terebellides stroemii Sars, 1835

Terebellides stroemii Sars, 1835, pp. 48-50, pl. 13, fig. 31; Hartman, 1969, pp. 653-654, 7 figs.; Hartman and Reish, 1950, p. 44; Fauchald, 1972a, pp. 324-325.

Records: AD-6, NAD-17 (4); AD-7, NAD-16 (1); AD-89, NAD-22A (1); AD-149, NAD-15 (1); AD-154, NAD-26 (1).

Remarks: *Terebellides stroemii* has characteristically lamellate branchiae in which all the stems appear to have fused medially. The prostomium is a large folded membrane that can be partially withdrawn into the mouth; this makes individual specimens appear strikingly different.

Occurrence: Possibly cosmopolitan.

FAMILY SABELLIDAE MALMGREN, 1867

KEY TO SPECIES

- 1a. Thoracic neuropodial companion setae present 2
 b. Thoracic neuropodial companion setae absent 3
 2a. Last 8 to 12 setigers partially fused, forming a modified anal plaque *Euchone analis*
 b. All abdominal setigers free from one another, anal plaque absent *Chone gracilis*
 3a. Collar nearly or completely covering the base of the tentacular crown on all sides
 *Potamethus mucronatus*
 b. Collar deeply cut away on the dorsal side, leaving bare the base of the tentacular crown and a large vascular coil *Fabrisabella similis*

Chone gracilis Moore, 1906

Chone gracilis Moore, 1906, pp. 257-259, pl. 12, figs. 62-66; Hartman, 1969, pp. 665-666, 4 figs.; Banse, 1972, pp. 470-472, fig. 4a-e.

Records: AD-6, NAD-17 (3); AD-13, NAD-18 (3); AD-17, NAD-17 (1).

Remarks: *Chone gracilis* has a ventrally indented collar and a very long tentacular crown combined with a very strongly glandularized epithelium. The setae specified as diagnostic by Hartman (1969) are, as remarked by Banse, not limited to this species.

Occurrence: Alaska; other records appear doubtful.

Euchone analis (Kröyer, 1856)

Sabella analis Kröyer, 1856, p. 17.

Euchone analis: Banse, 1972, pp. 482-483, fig. 9a-c.

Records: ?AD-7, NAD-16 (3); AD-13, NAD-18 (1); AD-17, NAD-17 (1).

Remarks: The present specimens agree with *Euchone analis* in the structure of the setae as well as in the number of setigers in the abdomen. The predepressional area has from 17 to 19 setigers and the depressed area has about 10 setigers.

Occurrence: Greenland and Alaska.

Fabrisabella similis Fauchald, 1972

Fabrisabella similis Fauchald, 1972a, pp. 329-330, pl. 69, figs. a-f.

Record: AD-148, NAD-12 (1).

Remarks: In *Fabrisabella similis* the collar is separated into two distinct parts, both ventrally and dorsally, and the collar is deeply cut away dorsally, leaving bare a large vascular coil on either side. The tentacular crown is very short and basally fused in the present specimen and resembles the condition of the specimen originally described. This may, in fact, represent the normal condition of the tentacular crown in this species, rather than a regeneration as suggested by Fauchald (1972a, p. 330).

Occurrence: Western Mexico in bathyal depths.

Potamethus mucronatus (Moore, 1923)

Notaulax mucronata Moore, 1923, pp. 243-245, pl. 18, figs. 43-44.

Potamethus mucronatus: Hartman, 1969, pp. 719-720, 4 figs.

Records: AD-6, NAD-17, (3); AD-17, NAD-17 (2).

Remarks: *Potamethus mucronatus* has long, straight, acicular uncini in the thoracic neuropoda; companion setae are present.

Occurrence: Bathyal depths off southern California.

Table I. Species of Polychaetes Reported from Oregon
(Only forms characterized to species have been included.)

<p>Order ORBINIIDAE</p> <p>Family ORBINIIDAE</p>	<p>Order COSSURIDA</p> <p>Family COSSURIDAE</p>
<p><i>Califia mexicana</i> Fauchald, 1972; this paper. <i>Haploscoloplos elongatus</i> (Johnson, 1901); Hartman and Reish, 1950, p. 26; Carey, 1972, p. 438; this paper. <i>Haploscoloplos keiguelensis</i> (McIntosh, 1885); this paper. <i>Naineris dendritica</i> (Kinberg, 1867); Hartman and Reish, 1950, p. 26. <i>Naineris uncinata</i> Hartman, 1957; this paper. <i>Phylo nudus</i> (Moore, 1911); Carey, 1972, p. 439; this paper. <i>Scoloplos acmeceps</i> Chamberlin, 1919; Hartman and Reish, 1950, p. 26. <i>Scoloplos armiger</i> (O.F. Müller, 1776); Carey, 1972, p. 439. <i>Scoloplos (Leodamas) near mazatlanensis</i> Fauchald, 1972; this paper. <p style="text-align: center;">Family PARAOONIDAE</p> <i>Acresta lopezi</i> (Berkeley and Berkeley, 1956); this paper. <i>Aedicia antennata</i> (Annenkova, 1934); this paper; as <i>Aricidea uschakovii</i> in Carey, 1972, p. 439. <i>Aedicia longicirrata</i> Fauchald, 1972; this paper. <i>Aedicia oregonensis</i>, new species. <i>Aedicia pacifica</i> (Hartman, 1944); this paper. <i>Allia crassicaephalis</i> (Fauchald, 1972); this paper. <i>Allia hartmani</i> Strelzov, 1968); this paper. <i>Allia ramosa</i> (Annenkova, 1934); this paper. <i>Aricidea</i> near <i>suecica</i> Eliason, 1920; Carey, 1972, p. 439. <i>Paraonella abranchiata</i>, new species. <i>Paraonella cedroensis</i> (Fauchald, 1972); this paper. <i>Tauberia gracilis</i> (Tauber, 1879); this paper; Carey, 1972, p. 439, as <i>Paraonis gracilis oculata</i>.</p>	<p><i>Cossura brunnea</i> Fauchald, 1972; this paper. <i>Cossura longocirrata</i> Webster and Benedict, 1887; Carey, 1972, p. 439. <i>Cossura modica</i>, new species. <i>Cossura rostrata</i> Fauchald, 1972; this paper. <p style="text-align: center;">Order SPIONIDA</p> <p style="text-align: center;">Family SPIONIDAE</p> <i>Boccardia proboscidea</i> Hartman, 1940; Hartman and Reish, 1950, p. 27. <i>Laonice cirrata</i> (Sars, 1861); Hartman and Reish, 1950, p. 28; Carey, 1972, p. 438. <i>Minuspio cirrifera</i> (Wiren, 1883); this paper; Carey, 1972, p. 439, as <i>Prionospio cirrifera</i>. <i>Minuspio minor</i>, new species. <i>Minuspio</i> sp. A; this paper. <i>Paraprionospio pinnata</i> (Ehlers, 1901); Carey, 1972, p. 439, as <i>Prionospio pinnata</i>; Hartman and Reish, 1950, p. 29, as <i>Prionospio tribranchiata</i>. <i>Polydora armata</i> Langerhans, 1880; Hartman and Reish, 1950, p. 28. <i>Polydora brachycephala</i> (Hartman, 1936); this paper. <i>Polydora cardalia</i> Berkeley, 1927; Carey, 1972, p. 438, as <i>Polydora ciliata cardalia</i>. <i>Polydora commensalis</i> Andrews, 1891; Hartman and Reish, 1950, p. 28.</p>

Table 1 (continued)

- Polydora ligni* Webster, 1879; Hartman and Reish, 1950, p. 28.
Polydora socialis (Schmarda, 1861); Hartman and Reish, 1950, p. 28.
- Prionospio annuncata* Fauchald, 1972; this paper.
Prionospio malmgreni Claparède, 1870; Carey, 1972, p. 438.
Scolelepis foliosa (Audouin and Milne Edwards, 1833); this paper.
Scolelepis squamatus (O.F. Müller, 1789); Hartman and Reish, 1950, as *Nerine cirratulus*.
- Spiophanella pallida* (Hartman, 1960); this paper.
Spiophanes anoculata Hartman, 1960; this paper.
Spiophanes berkeleyorum Pettibone, 1962; this paper.
Spiophanes bombyx (Claparède, 1870); Carey, 1972, p. 438.
Spiophanes cirrata Sars, 1872; Carey, 1972, p. 439.
Spiophanes sibirata Moore, 1923; this paper.
Spiophanes kroeyeri Grube, 1860; this paper.
- Family MAGELONIIDAE
- Magelona cerata* Hartman and Reish, 1950, p. 29; Carey, 1972, p. 438.
Magelona japonica Okuda, 1937; Carey, 1972, p. 438.
Magelona papillicornis Müller, 1851; Carey, 1972, p. 438.
Magelona pitelkai Hartman, 1944; Carey, 1972, p. 438.
- Family CHAETOPTERIDAE
- Chaetopterus variopedatus* (Renier, 1804); Hartman and Reish, 1950, p. 33.
Phyllochaetopterus limicolus Hartman, 1960; this paper.
- Family CIRRATULIDAE
- Chaetozone* near *corona* Berkeley and Berkeley, 1941; this paper.
Chaetozone setosa Malmgren, 1867; Carey, 1972, p. 438; this paper.
Cirratulus cirratus (O.F. Müller, 1776); Hartman and Reish, 1950, p. 34.
Cirriformia spirabranchia (Moore, 1904); Hartman and Reish, 1950, p. 34.
- Dodecaceria fistulicola* Ehlers, 1901; Hartman and Reish, 1950, p. 34.
Tharyx near *manilaris* Hartman, 1960; this paper.
Tharyx multifolius Moore, 1909; Carey, 1972, p. 439.
Tharyx near *multifolius* Moore, 1909; this paper.
- Order CAPITELLIDA
- Family CAPITELLIDAE
- Capitella capitata* (Fabricius, 1780); Hartman and Reish, 1950, p. 40.
Dasybranchus glabrus Moore, 1909; this paper.
Heteromastus ? filiformis (Claparède, 1864); this paper.
Mediomastus californiensis Hartman, 1944; Hartman and Reish, 1950, p. 40.
Neoheteromastus lineus Hartman, 1960; this paper.
Notomastus (Clistomastus) lineatus Claparède, 1870; Carey, 1972, p. 439.
Notomastus (Clistomastus) tenuis Moore, 1909; Hartman and Reish, 1950, p. 40; this paper.
Notomastus (Notomastus) abyssalis Fauchald, 1972; this paper.
Notomastus (Notomastus) ? magnus Hartman, 1947; this paper.
Notomastus (Notomastus) precocis Hartman, 1960; this paper.
- Family ARENICOLIDAE
- Arenicola marina* (Linnaeus, 1761); Hartman and Reish, 1950, p. 39.
Arenicola pusilla Quatrefages, 1866; Hartman and Reish, 1950; p. 39.
Branchiomaldane vincenti Langerhans, 1881; Hartman and Reish, 1950, p. 39.

Table 1 (continued)

Family MALDANIIDAE	
<i>Ayschis disparidentata</i> (Moore, 1904); Carey, 1972, p. 438.	<i>Travisia near gigas</i> Hartman, 1938; this paper.
<i>Ayschis ramosus</i> Levenstein, 1961; this paper.	<i>Travisia oregonensis</i> , new species.
<i>Ayschis similis</i> (Moore, 1906); Carey, 1972, p. 439.	<i>Travisia pupa</i> Moore, 1906; Carey, 1972, p. 439.
<i>Axiothella rubrocincta</i> (Johnson, 1901); Hartman and Reish, 1950, p. 37; Carey, 1972, p. 439.	Family SCALIBREGMIDAE
<i>Clymaldane larvis</i> Fauchald, 1972; this paper.	<i>Mucibregma spinosa</i> ; new species.
<i>Euclymene reticulata</i> Moore, 1923; Carey, 1972, p. 439.	<i>Scalibregma inflatum</i> Rathke, 1843; Carey, 1972, p. 439; this paper.
<i>Maldane cristata</i> Treadwell, 1923; this paper.	
<i>Maldane glebifex</i> Grube, 1860; Carey, 1972, p. 439.	Order PHYLLODOCIDA
<i>Maldane monilata</i> Fauchald, 1972; this paper.	Family PHYLLODOCIDAE
<i>Maldane sarsi</i> Malmgren, 1865; Hartman and Reish, 1950, p. 37; Carey, 1972, p. 438.	<i>Anatides groenlandica</i> (Ørsted, 1843); Carey, 1972, p. 438.
<i>Nicomache lumbricalis</i> (Fabricius, 1780); Carey, 1972, p. 439; this paper.	<i>Anatides medipapillata</i> (Moore, 1909); Hartman and Reish, 1950, p. 11.
<i>Notoproctus pacificus</i> (Moore, 1906); this paper.	<i>Anatides williamsi</i> Hartman, 1936; Hartman and Reish, 1950, p. 11.
<i>Praxillella affinis pacifica</i> Berkeley, 1929; Carey, 1972, p. 439.	<i>Austrophylлум exsilium</i> Fauchald, 1972; this paper.
<i>Praxillella gracilis</i> (Sars, 1861); Carey, 1972, p. 439.	<i>Chaetoparia careyi</i> , new species.
<i>Rhodine bitorquata</i> Moore, 1923; Carey, 1972, p. 439; this paper.	<i>Eteone pacifica</i> Hartman, 1936; Hartman and Reish, 1950, p. 11; Carey, 1972, p. 438.
Order OPHELIIIDA	<i>Eulalia bilineata</i> Johnson, 1840; Hartman and Reish, 1950, p. 12, as <i>Hypoeulalia bilineata</i> .
Family OPHELIIDAE	<i>Eulalia quadrioculata</i> Moore, 1906; Hartman and Reish, 1950, p. 11, as <i>E. quadrioculata</i> and as <i>E. arviculata</i> .
<i>Armaudia brevis</i> (Moore, 1906); Hartman and Reish, 1950, p. 36, as <i>Armaudia bioculata</i> .	<i>Eumida near fusigera</i> (Malmgren, 1865); this paper.
<i>Euzonus (Thoracophelia) mucronata</i> (Treadwell, 1941); Hartman and Reish, 1950, p. 36, as <i>Thoracophelia mucronata</i> .	<i>Eumida sanguinea</i> (Ørsted, 1843); Hartman and Reish, 1950, p. 11.
<i>Euzonus (Thoracophelia) williamsi</i> (Hartman, 1938); Hartman and Reish, 1950, p. 36, as <i>Pectinophelia williamsi</i> .	<i>Genetyllis castanea</i> (Marenzeller, 1879); Hartman and Reish, 1950, p. 11.
<i>Ophelia limacina</i> (Rathke, 1843); Hartman and Reish, 1950, p. 36; Carey, 1972, p. 438.	<i>Lugia abyssicola</i> Uschakov, 1972; this paper.
<i>Ophelia acuminata</i> Ørsted, 1843; Carey, 1972, p. 138, as <i>Ammotrypane aulogaster</i> .	<i>Notophylлум imbricatum</i> Moore, 1906; Hartman and Reish, 1950, p. 10.
<i>Ophelia breviata</i> (Ehlers, 1913); Carey, 1972, p. 139.	<i>Paranaitis polynoides</i> (Moore, 1909); Hartman and Reish, 1950, p. 12.
<i>Travisia brevis</i> Moore, 1923; Hartman and Reish, 1950, p. 37.	
<i>Travisia foetida</i> Hartman, 1969; this paper.	

Table 1 (continued)

- Protomyzodes occidentalis* (Ditlevsen, 1917); this paper.
Pterocirrus inajimai Uschakov, 1972; this paper.
- Family APHRODITIDAE
- Aphrodita japonica* Marenzeller, 1879; Carey, 1972, p. 439.
Aphrodita refulgida Moore, 1910; Hartman and Reish, 1950, p. 4.
- Family POLYNOIDAE
- Arctonoe fragilis* (Baird, 1863); Hartman and Reish, 1950, p. 6.
Arctonoe vittata (Grube, 1855); Hartman and Reish, 1950, p. 6.
Eucranota anoculata (Moore, 1910); this paper.
Eunoe nodosa (Sars, 1861); Hartman and Reish, 1950, p. 7.
Halosydna brevisetosa Kimberg, 1855; Hartman and Reish, 1950, pp. 6-7.
Harmothoe imbricata (Linnaeus, 1767); Hartman and Reish, 1950, p. 6.
Harmothoe lunulata (delle Chiaje, 1841); Hartman and Reish, 1950, p. 7.
Hesperonoe complanata (Johnson, 1901); Hartman and Reish, 1950, p. 7.
Hololepidella tuta (Grube, 1855); Hartman and Reish, 1950, p. 6.
Lagisca multisetosa Moore, 1902; Hartman and Reish, 1950, p. 7.
Lepidonotus squamatus (Linnaeus, 1767); Hartman and Reish, 1950, p. 5, as *Lepidonotus caeloris*.
Nemidita canadensis Mcintosh, 1874; Carey, 1972, p. 438.
- Family PHOLOIDIDAE
- Pholoides aspera* (Johnson, 1897); Hartman and Reish, 1950, p. 7, as *Peisidice aspera*.
- Family SIGALIONIDAE
- Neoleanira areolata* (Mcintosh, 1885); this paper.
Neoleanira racemosa (Fauchald, 1972); this paper.
Pholoe caeca Uschakov, 1950; this paper.
- Pholoe minuta* (Fabricius, 1780); Hartman and Reish, 1950, p. 8.
Sihenelais fusca Johnson, 1897; Hartman and Reish, 1950, p. 8.
Sihenelais verruculosa Johnson, 1897; Hartman and Reish, 1950, p. 8.
Thalenessa spinosa (Hartman, 1939); Carey, 1972, p. 438.
- Family CHRYSOPEFALIDAE
- Palaenotus chrysolepis* Schmarda, 1861; Hartman and Reish, 1950, p. 9.
- Family HESIONIDAE
- Gyptis hians*, new species.
Podarke puggetensis Johnson, 1901; Hartman and Reish, 1950, p. 9.
Podarkeopsis brevipalpa (Hartman-Schröder, 1959); Carey, 1972, p. 439, as *Gyptis areniculosus glabris*.
- Family PILARGIIDAE
- Ancistrostylis breviceps* Hartman, 1963; this paper.
Ancistrostylis near *groenlandica* Mcintosh, 1879; this paper.
Sigambra setosa Fauchald, 1972; this paper.
Sigambra tentaculata (Treadwell, 1941); this paper.
Synelmis near *klatti* Friedrich, 1950; this paper.
- Family SYLLIDAE
- Autolytus prismaticus* (O.F. Müller, 1776); Hartman and Reish, 1950, p. 13.
Exogone gemmifera (Pagenstecher, 1862); Hartman and Reish, 1950, p. 13.
Odontostylis phosphorea Moore, 1909; Hartman and Reish, 1950, p. 14.
Sphaerostylis near *californiensis* Hartman, 1966; this paper.
Syllis elongata (Johnson, 1901); Hartman and Reish, 1950, p. 15.
Trypanostylis adamanteus Treadwell, 1914; Hartman and Reish, 1950, p. 14.

Table 1 (continued)

- Trypanosyllis gemmipara* Johnson, 1901; Hartman and Reish, 1950, p. 14.
- Typosyllis armillaris* (O.F. Müller, 1771); Carey, 1972, p. 439.
- Typosyllis hyalina* (Grube, 1863); Carey, 1972, p. 439.
- Typosyllis pulchra* (Berkeley, 1938); Hartman and Reish, 1950, p. 14.
- Family NEREIDAE
- Ceratocephala loxeni* Malmgren, 1867; this paper.
- Cheilonereis cyclurus* (Harrington, 1897); Hartman and Reish, 1950, p. 16; Carey, 1972, p. 438.
- Neaethes brandti* (Malmgren, 1866); Hartman and Reish, 1950, p. 16.
- Nereis eakini* Hartman, 1936; Hartman and Reish, 1950, p. 17.
- Nereis mediator* Chamberlin, 1918; Hartman and Reish, 1950, p. 17.
- Nereis neoneanthes* Hartman, 1948; Hartman and Reish, 1950, p. 17.
- Nereis pelagica* (Linnaeus, 1761); Carey, 1972, p. 438.
- Nereis pelagica neougripes* Hartman, 1936; Hartman and Reish, 1950, p. 17.
- Nereis procerata* Ehlers, 1868; Hartman and Reish, 1950, p. 17.
- Nereis vexillosa* Grube, 1851; Hartman and Reish, 1950, pp. 16-17.
- Nereis zonata* Malmgren, 1867; Hartman and Reish, 1950, p. 17.
- Platynereis bicandiculata* (Baird, 1863); Hartman and Reish, 1950, p. 18, as *Platynereis agassizi*.
- Family GLYCERIDAE
- Glycera americana* Leidy, 1855; Hartman and Reish, 1950, p. 20; Carey, 1972, p. 438.
- Glycera capitata* Örsted, 1843; Hartman and Reish, 1950, p. 20.
- Glycera profunda* Chamberlin, 1919; this paper.
- Glycera robusta* Ehlers, 1869; Hartman and Reish, 1950, p. 20; Carey, 1972, p. 438; this paper.
- Glycera tenuis* Hartman, 1944; Hartman and Reish, 1950, p. 20.
- Glycera tessellata* Grube, 1863; Carey, 1972, p. 438.
- Hemipodius borealis* Johnson, 1901; Hartman and Reish, 1950, p. 20; Carey, 1972, p. 438.
- Family GONIADIDAE
- Bathylgycline cedraensis* Fauchald, 1972; this paper.
- Glycinde armigera* Moore, 1911; Hartman and Reish, 1950, p. 21.
- Glycinde pacifica* Monro, 1928; Carey, 1972, p. 438.
- Glycinde polygnatha* Hartman, 1950; Carey, 1972, p. 438.
- Gonaida annulata* Moore, 1905; Carey, 1972, p. 439.
- Hemipodius borealis* Johnson, 1901; Hartman and Reish, 1950, p. 21; Carey, 1972, p. 438; this paper.
- Family NEPHTYIDAE
- Aglaophantus near eugeniae* Fauchald, 1972; this paper.
- Nephtys caeca* (Fabricius, 1780); Hartman and Reish, 1950, p. 18.
- Nephtys caecoides* Hartman, 1938; Hartman and Reish, 1950, p. 19; Carey, 1972, p. 438.
- Nephtys californiensis* Hartman, 1938; Hartman and Reish, 1950, p. 19.
- Nephtys ciliata* (O.F. Müller, 1776); Carey, 1972, p. 438.
- Nephtys cornuta* Berkeley and Berkeley, 1945; Carey, 1972, p. 439; this paper.
- Nephtys ferruginea* Hartman, 1940; Hartman and Reish, 1950, p. 19; Carey, 1972, p. 438.
- Nephtys longosetosa* Örsted, 1843; Carey, 1972, p. 438.
- Nephtys punctata* Hartman, 1938; Carey, 1972, p. 438.
- Family TOMOPTERIDAE
- Tomopteris septentrionalis* Quatrefages, 1866; Hartman and Reish, 1950, p. 12.

Table 1 (continued)

<i>Order AMPHINOMIDA</i>	
Family AMPHINOMIDAE	
<i>Chloëia pinnata</i> Moore, 1911; Hartman and Reish, 1950, p. 9; Carey, 1972, p. 439.	
<i>Paramphinoë pacifica</i> , new species.	
<i>Order EUNICEA</i>	
Family ONUPHIDAE	
<i>Diopatra oruata</i> Moore, 1911; Hartman and Reish, 1950, p. 22.	
<i>Hyalinoecia stricta</i> Moore, 1911; this paper.	
<i>Nothria couchylega occidentalis</i> Fauchald, 1968; this paper.	
<i>Nothria elegans</i> (Johnson, 1901); Hartman and Reish, 1950, p. 23.	
<i>Nothria geophiliformis</i> (Moore, 1903); Carey, 1972, p. 438; this paper.	
<i>Nothria iridescens</i> (Johnson, 1901); Hartman and Reish, 1950, p. 23; this paper.	
<i>Nothria leptä</i> (Chamberlin, 1919); this paper.	
<i>Nothria mexicana</i> Fauchald, 1968; this paper.	
<i>Nothria mixta</i> , new species.	
<i>Nothria pallida</i> Moore, 1911; this paper.	
<i>Nothria stigmatis</i> (Treadwell, 1922); Hartman and Reish, 1950, p. 23.	
<i>Onuphis parva</i> Moore, 1911; Hartman and Reish, 1950, pp. 22-23.	
<i>Onuphis profundi</i> Fauchald, 1968; this paper.	
<i>Onuphis vexillaria</i> Moore, 1911; this paper.	
Family EUNICIDAE	
<i>Eunice kobienensis</i> McIntosh, 1885; Hartman and Reish, 1950, p. 23, as <i>Eunice longicirrata</i> ; this paper.	
<i>Eunice segregata</i> (Chamberlin, 1919); this paper.	
<i>Marphysa stylobranchiata</i> Moore, 1909; Hartman and Reish, 1950, pp. 23-24.	
Family LUMBRINERIDAE	
<i>Lumbrineris</i> near <i>abyssicola</i> Uschakov, 1950; this paper.	
<i>Lumbrineris bicirrata</i> Treadwell, 1929; Hartman and Reish, 1950, p. 24; Carey, 1972, p. 438; this paper.	
<i>Lumbrineris cruzensis</i> Hartman, 1944; this paper.	
<i>Lumbrineris eugeniae</i> Fauchald, 1972, this paper.	
<i>Lumbrineris index</i> Moore, 1911; this paper.	
<i>Lumbrineris</i> near <i>lagunae</i> Fauchald, 1970, this paper.	
<i>Lumbrineris</i> near <i>latreilli</i> Audouin and Milne Edwards, 1834; this paper.	
<i>Lumbrineris moorei</i> Hartman, 1942; this paper.	
<i>Lumbrineris</i> near <i>sarsi</i> (Kinberg, 1865); Hartman and Reish, 1950, p. 25.	
<i>Lumbrineris similabris</i> Treadwell, 1926; Carey, 1972, p. 439.	
<i>Lumbrineris zonata</i> (Johnson, 1901); Hartman and Reish, 1950, p. 24.	
<i>Ninöe fusca</i> Moore, 1911; this paper.	
<i>Ninöe fuscoides</i> Fauchald, 1972; this paper.	
<i>Ninöe gemma</i> Moore, 1911; Hartman and Reish, 1950, p. 24; Carey, 1972, p. 439.	
<i>Ninöe longibranchia</i> Fauchald, 1972; this paper.	
Family ARABELLIDAE	
<i>Arabella iricolor</i> (Montagu, 1804); Hartman and Reish, 1950, p. 25.	
<i>Drilonereis falcata</i> Moore, 1911; this paper.	
Family DORVILLEIDAE	
<i>Dorvillea bati</i> Jumars, 1974; this paper.	
<i>Dorvillea pseudorubrovittata</i> Berkeley, 1927; Hartman and Reish, 1950, p. 25.	
<i>Protodorvillea gracilis</i> (Hartman, 1938); Hartman and Reish, 1950, p. 25, as <i>Dorvillea gracilis</i> .	
<i>Schistomeris longicornis</i> (Ehlers, 1901); Hartman and Reish, 1950, p. 25, as <i>Dorvillea articulata</i> .	

Table 1 (continued)

<p>Order STERNASPIDA</p> <p>Family STERNASPIDAE</p> <p><i>Sternaspis fossor</i> Simpson, 1854; Hartman and Reish, 1950, p. 38; Carey, 1972, p. 439, both as <i>Sternaspis scutata</i>; this paper.</p> <p>Order OWENIIDIA</p> <p>Family OWENIIDAE</p> <p><i>Myriochele heeri</i> Malmgren, 1867; Hartman and Reish, 1950, p. 38; Carey, 1972, p. 439.</p> <p><i>Owenia fusiformis</i> de la Chiaje, 1841; Hartman and Reish, 1950, p. 38; Carey, 1972, p. 438.</p> <p>Order FLABELLIGERIDA</p> <p>Family FLABELLIGERIDAE</p> <p><i>Brada pluribranchiata</i> (Moore, 1923); this paper.</p> <p><i>Brada villosa</i> (Rathke, 1843); Hartman and Reish, 1950, p. 35; Carey, 1972, p. 439.</p> <p><i>Diplocirrus micans</i> Fauchald, 1972; this paper.</p> <p><i>Flabelligera infundibuliformis</i> Johnson, 1901; Hartman and Reish, 1950, p. 35.</p> <p><i>Pherusa inflata</i> (Freadwell, 1914); Hartman and Reish, 1950, p. 35, as <i>Stylarioides inflata</i>.</p> <p><i>Pherusa negligens</i> (Berkeley and Berkeley, 1950); Carey, 1972, p. 439.</p> <p><i>Pherusa papillata</i> (Johnson, 1901); Hartman and Reish, 1950, p. 35, as <i>Stylarioides papillata</i>.</p> <p><i>Uncophtherusa bifida</i>, new species.</p> <p>Family FAUVELIOPSIDAE</p> <p><i>Fauveliopsis armata</i>, new species.</p> <p><i>Fauveliopsis glabra</i> (Hartman, 1960); this paper.</p> <p><i>Fauveliopsis magna</i>, new species.</p>	<p>Order TERESELLIDA</p> <p>Family SABELLARIIDAE</p> <p><i>Idanthyrsus ornamentatus</i> Chamberlin, 1919; Hartman and Reish, 1950, p. 41; Carey, 1972, p. 438.</p> <p><i>Sabellaria cementarium</i> Moore, 1906; Hartman and Reish, 1950, p. 41.</p> <p><i>Sabellaria gracilis</i> Hartman, 1914; Hartman and Reish, 1950, p. 41.</p> <p>Family PECTINARIIDAE</p> <p><i>Cistenides brevicoma</i> (Johnson, 1901); Carey, 1972, p. 438.</p> <p><i>Pectinaria californiensis</i> Hartman, 1911; Hartman and Reish, 1950, p. 40; Carey, 1972, p. 439.</p> <p>Family AMPHIARETIDAE</p> <p><i>Amage anops</i> (Johnson, 1901); Hartman and Reish, 1950, p. 42; Carey, 1972, p. 438.</p> <p><i>Amelinna abyssalis</i> Hartman, 1969; this paper.</p> <p><i>Ampharete acutifrons</i> (Grube, 1860); this paper.</p> <p><i>Ampharete goesi</i> Malmgren, 1866; Carey, 1972, p. 439.</p> <p><i>Amphicteis mucronata</i> Moore, 1923; Carey, 1972, p. 438; this paper.</p> <p><i>Amphicteis scaphobranchiata</i> Moore, 1906; Carey, 1972, p. 439.</p> <p><i>Amphisamytha bioculata</i> (Moore, 1906); this paper.</p> <p><i>Anobothrus gracilis</i> (Malmgren, 1866); Hartman and Reish, 1950, p. 42; this paper.</p> <p><i>Jugamphicteis paleata</i>, new species.</p> <p><i>Lysippe annectens</i> Moore, 1923; this paper.</p> <p><i>Melinna cristata</i> (Sars, 1851); Hartman and Reish, 1950, p. 42; Carey, 1972, p. 438.</p> <p><i>Melinna heterodonita</i> Moore, 1923; this paper.</p> <p><i>Melinnampharete gracilis</i> Hartman, 1969; this paper.</p> <p><i>Schistorcomus hiltoni</i> Chamberlin, 1919; Hartman and Reish, 1950, p. 42.</p>
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Table 1 (continued)

<p style="text-align: center;">Family TEREBELLIDAE</p> <p><i>Artacama coniferi</i> Moore, 1905; Hartman and Reish, 1950, pp. 43-44; Carey, 1972, p. 439; this paper.</p> <p><i>Eupolyommia crescentis</i> Chamberlin, 1919; Hartman and Reish, 1950, p. 45.</p> <p><i>Lomia medusa</i> (Savigny, 1818); Hartman and Reish, 1950, p. 44.</p> <p><i>Neomphitrite robusta</i> (Johnson, 1901); Hartman and Reish, 1950, p. 45, as <i>Amphitrite robusta</i>.</p> <p><i>Pista cristata</i> (O.F. Müller, 1776); Carey, 1972, p. 438; this paper.</p> <p><i>Pista elongata</i> Moore, 1909; Hartman and Reish, 1950, p. 44.</p> <p><i>Pista fasciata</i> (Grube, 1870); Carey, 1972, p. 438; this paper.</p> <p><i>Pista pacifica</i> Berkeley and Berkeley, 1942; Hartman and Reish, 1950, p. 44.</p> <p><i>Thelepus crispus</i> Johnson, 1901; Hartman and Reish, 1950, p. 44.</p> <p><i>Thelepus setosus</i> (Quatrefages, 1865); this paper.</p>	<p>Order SABELLIDA</p> <p>Family SABELLIDAE</p>	<p><i>Chone gracilis</i> Moore, 1906; Carey, 1972, p. 439; this paper.</p> <p><i>Chone mollis</i> (Bush, 1904); Hartman and Reish, 1950, p. 46.</p> <p><i>Euchone analis</i> (Kröyer, 1856); Carey, 1972, p. 439; this paper.</p> <p><i>Eudistylia vanconveri</i> (Kinberg, 1867); Hartman and Reish, 1950, p. 46.</p> <p><i>Fabrisabella similis</i> Fauchald, 1972; this paper.</p> <p><i>Megalomma splendida</i> (Moore, 1905); Carey, 1972, p. 438.</p> <p><i>Potamethus micronatus</i> (Moore, 1923); this paper.</p> <p><i>Potamilla ocellata</i> (Moore, 1905); Hartman and Reish, 1950, p. 46, as <i>Pseudopotamilla ocellata</i>.</p> <p><i>Sabella media</i> (Bush, 1904); Hartman and Reish, 1950, p. 47.</p> <p><i>Schizobranchia insignis</i> Bush, 1904; Hartman and Reish, 1950, p. 46.</p>
<p style="text-align: center;">Family TRICHOBRANCHIDAE</p> <p><i>Artacamella haucki</i> Hartman, 1955; this paper.</p> <p><i>Filibranchus roseus</i> Malm, 1874; this paper.</p> <p><i>Terebellides stroemii</i> Sars, 1835; Hartman and Reish, 1950, p. 44; Carey, 1972, p. 439; this paper.</p> <p><i>Trichobranchus glaciatis</i> Mahngren, 1866; Carey, 1972, p. 439.</p>	<p>Family SERPULIDAE</p>	<p><i>Circeis spirillum</i> (Linnaeus, 1758); Hartman and Reish, 1950, p. 47, as <i>Dextiospira spirillum</i>.</p> <p><i>Serpulus avermicularis</i> (Linnaeus, 1767); Hartman and Reish, 1950, p. 47.</p> <p><i>Spirorbis borealis</i> Daudin, 1800; Hartman and Reish, 1950, p. 47, as <i>Laeospira borealis</i>.</p>

STATION LIST

AD-5, NAD-10, 22 June 1962: start 44°38.8' N, 124°54.9' W; finish 44°38.4' N, 124°55.4' W, 600 m
 AD-6, NAD-17, 6 June 1963: start 44°33.5' N, 125°4.6' W; finish —, 2000 m
 AD-7, NAD-16, 13 August 1962: start 44°38.8' N, 125°12.1' W; finish —, 1800 m
 AD-9, NAD-21, 13 August 1962: start 44°36.4' N, 125°24.8' W; finish —, 2800 m
 AD-11, NAD-15, 5 September 1962: start 44°39.2' N, 125°11.0' W; finish —, 1600 m
 AD-13, NAD-18, 5 September 1962: start 44°39.0' N, 125°13.2' W; finish —, 2200 m
 AD-16, NAD-13, 4 October 1962: start 44°39.0' N, 125°10.0' W; finish 44°38.0' N, 125°10.0' W, 1200 m
 AD-17, NAD-17, 4 October 1962: start 44°39.1' N, 125°19.6' W; finish 44°39.1' N, 125°18.8' W, 2000 m
 AD-18, NAD-23, 5 October 1962: start 44°39.1' N, 126°31.0' W; finish 44°36.5' N, 126°31.8' W, 2900 m
 AD-19, NAD-22, 6 October 1962: start 44°39.7' N, 126°0.03' W; finish —, 2900 m
 AD-22, NAD-11, 4 December 1962: start 44°39.7' N, 124°58.0' W; finish 44°39.6' N, 124°58.0' W, 800 m
 AD-29, NAD-11, 24 January 1963?: start 44°39.3' N, 124°57.0' W; finish —, 800 m
 AD-30, NAD-11 25 January 1963: start 44°39.3' N, 124°57.4' W; finish —, 800 m
 AD-32, NAD-19, 25 January 1963: start 44°38.6' N, 125°20.1' W; finish 44°37.6' N, 125°21.0' W, 2400 m
 AD-33, NAD-21, 25 January 1963: start 44°39.0' N, 125°34.0' W; finish 44°39.0' N, 125°33.2' W, 2800 m
 AD-38, NAD-11, 27 April 1963: start —; finish —, 800 m
 AD-41, NAD-21, 1 June 1963: start 44°39.3' N, 125°34.2' W; finish 44°40.9' N, 125°35.2' W, 2800 m
 AD-42, NAD-21, 1 June 1963: start 44°40.6' N, 125°35.5' W; finish 44°43.3' N, 125°36.0' W, 2800 m
 AD-43, NAD-22, 1 June 1963: start 44°40.0' N, 126°03.0' W; finish 44°38.0' N, 126°03.0' W, 2800 m
 AD-44, NAD-22, 1 June 1963: start 44°38.0' N, 126°03.0' W; finish 44°38.5' N, 126°03.8' W, 2800 m
 AD-50, NAD-10, 16 June 1963: start 44°32.9' N, 124°53.4' W; finish —, 600 m
 AD-53, NAD-26, 14 August 1963: start 44°39.5' N, 127°54.3' W; finish 44°41.3' N, 127°51.8' W, 2850 m
 AD-55, NAD-25, 15 August 1963: start 44°37.4' N, 127°28.0' W; 2600 m
 AD-56, NAD-25, 15 August 1963: start 44°38.6' N, 127°28.2' W; finish 44°38.8' N, 127°25.5' W, 2600 m
 AD-59, NAD-11, 29 October 1963: start 44°40.0' N, 125°05.0' W; finish —, 800 m
 AD-61, NAD-17(?), 30 October 1963: start 44°39.2' N, 125°11.0' W; finish —, 1400 m
 AD-64, NAD-21, 28 December 1963: start 44°39.5' N, 125°35.9' W; finish 44°37.9' N, 125°38.9' W, 3000 m
 AD-65, NAD-21, 29 December 1963: start 44°42.0' N, 125°37.8' W; finish 44°40.9' N, 125°36.9' W, 2750 m
 AD-68, NAD-6, 18 February 1964: start 44°39.0' N, 124°33.1' W; finish 44°38.4' N, 124°33.1' W, 150 m
 AD-74, NAD-14, 20 February 1964: start —; finish —, 1400 m
 AD-86, NAD-21, 19 May 1964: start 44°38.5' N, 125°35.0' W; finish 44°38.4' N, 125°36.3' W, 2865 m
 AD-87, NAD-21, 19 May 1964: start 44°39.8' N, 125°57.6' W; finish 44°39.2' N, 125°54.6' W, 2800 m
 AD-88, NAD-22A, 20 May 1964: start 44°39.1' N, 126°16.8' W; finish 44°39.0' N, 126°17.8' W, 2860 m
 AD-89, NAD-22A, 20 May 1964: start 44°38.5' N, 126°16.1' W; finish 44°38.1' N, 126°16.4' W, 2860 m
 AD-90, NAD-22, 21 March 1964: start 44°38.3' N, 126°01.0' W; finish 44°38.9' N, 126°01.4' W, 2860 m
 AD-96, NAD-4, 5 June 1964: start 44°44.6' N, 124°18.3' W; finish 44°44.8' N, 124°18.4' W, 100 m
 AD-97, NAD-4, 15 June 1964: start 44°44.5' N, 124°17.9' W; finish 44°44.7' N, 124°17.9' W, 100 m
 AD-101, NAD-10, 16 June 1964: start 44°38.4' N, 124°54.0' W; finish 44°39.5' N, 124°54.5' W, 600 m
 AD-105, NAD-12, 18 June 1964: start 44°38.4' N, 125°09.1' W; finish 44°39.1' N, 125°09.7' W, 1000 m
 AD-106, NAD-13, 18 June 1964: start 44°37.6' N, 125°09.7' W; finish 44°38.4' N, 125°09.6' W, 1200 m
 AD-110, NAD-21, 11 August 1964: start 44°40.1' N, 125°34.0' W; finish 44°40.0' N, 125°35.0' W, 2798 m
 AD-119, NAD-22, 13 January 1965: start 44°38.0' N, 126°02.2' W; finish 44°38.0' N, 126°06.0' W, 2800 m
 AD-139, NAD-24, 10 February 1965: start 44°39.4' N, 126°59.1' W; finish 44°39.8' N, 126°59.2' W, 2800 m
 AD-141, NAD-11B, 8 April, 1965: start 44°29.7' N, 125°06.2' W; finish 44°29.4' N, 125°06.2' W, 1250 m
 AD-145, NAD-23, 9 April 1965: start 44°38.4' N, 126°30.2' W; finish 44°38.3' N, 126°30.9' W, 2800 m
 AD-148, NAD-12, 5 June 1965: start 44°40.7' N, 125°10.0' W; finish 44°41.1' N, 125°10.0' W, 1000 m
 AD-149, NAD-15, 5 June 1965: start 44°41.2' N, 125°15.0' W; finish 44°41.9' N, 125°15.1' W, 1600 m
 AD-150, NAD-26, 21 October 1965: start 44°39.1' N, 127°55.5' W; finish 44°39.0' N, 127°56.6' W, 2560 m
 AD-154, NAD-26, 27 January 1966: start 44°34.5' N, 127°58.3' W; finish 44°34.2' N, 127°57.9' W, 1400 m
 AD-155, NAD-24, 26 March 1966: start 44°38.1' N, 126°59.7' W; finish 44°38.4' N, 127°03.0' W, 2700 m

PLATE 1

Aedicira oregonesis, new species

a. Anterior end, dorsal view, 100x

Paraonella abranchiata, new species

b. Anterior end, dorsal view, 95x

c. Posterior end, dorsal view, 160x

Cossura modica, new species

d. Anterior end, dorsal view, 50x

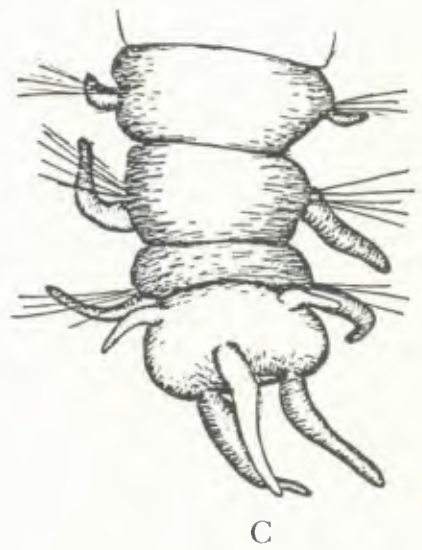
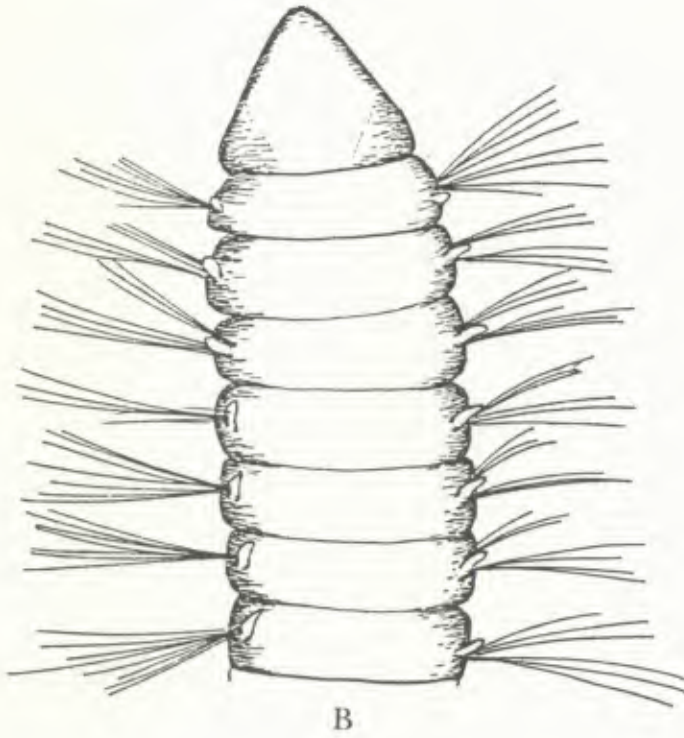
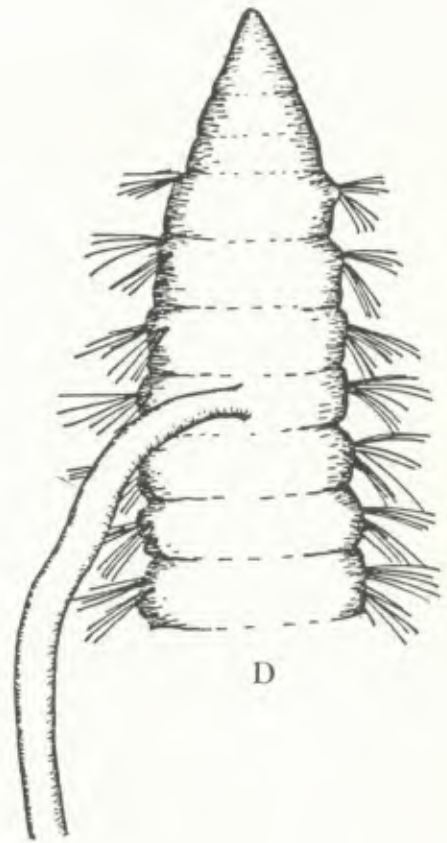
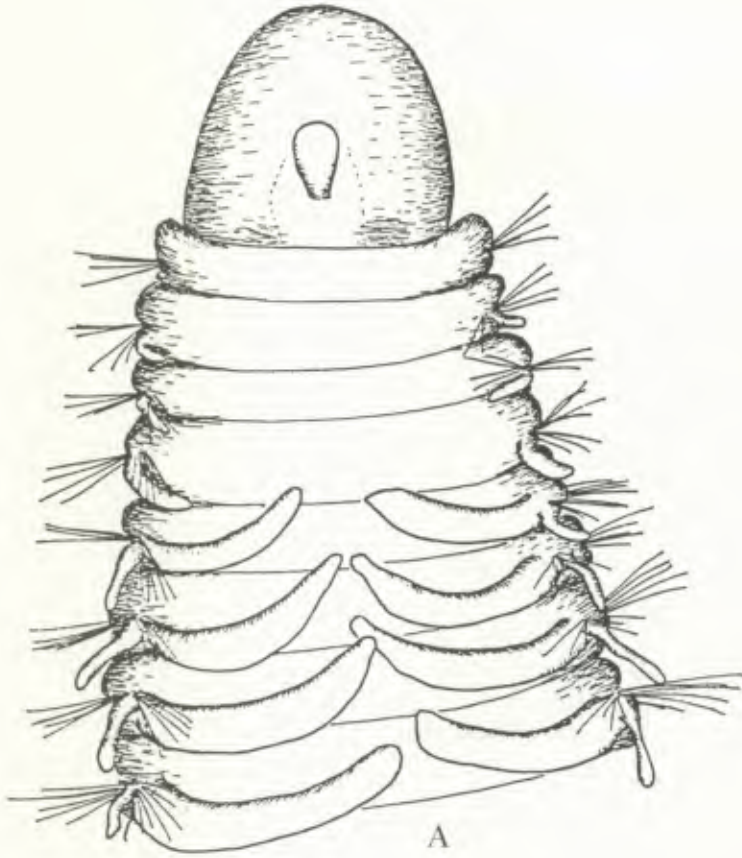


PLATE 2

Tharyx, near *monilaris* Hartman, 1960

- a. Anterior end, lateral view, 50x
- b. Distal end of seta, median parapodium, 950x

Minuspio minor, new species

- c. Anterior end, lateral view, 50x
- d. Neuropodial hook, median setiger, 950x

Travisia oregonensis, new species

- e. Anterior end, dorsolateral view, 10x
- f. Posterior end, dorsolateral view, 10x

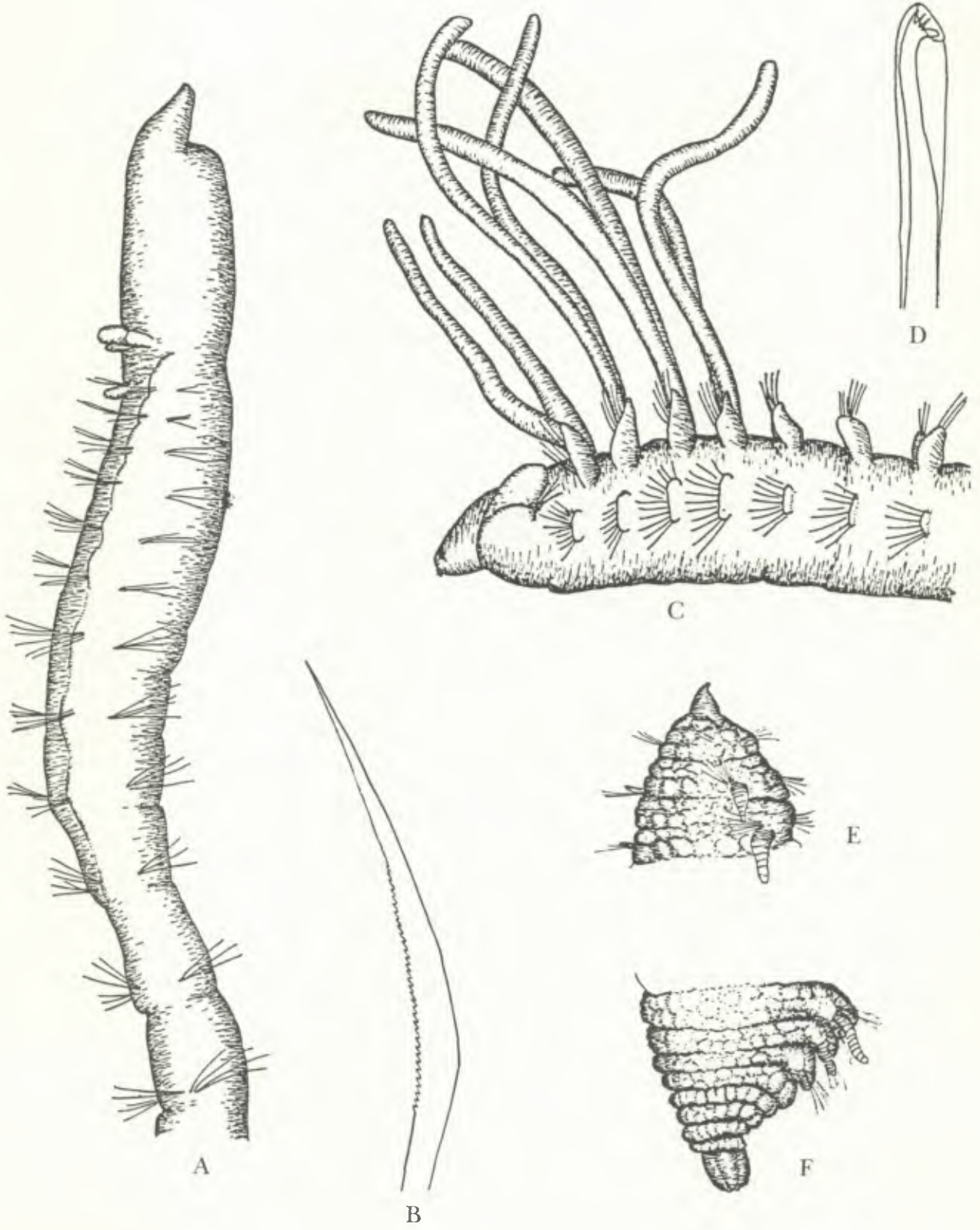


PLATE 3

Mucibregma spinosa, new genus, new species

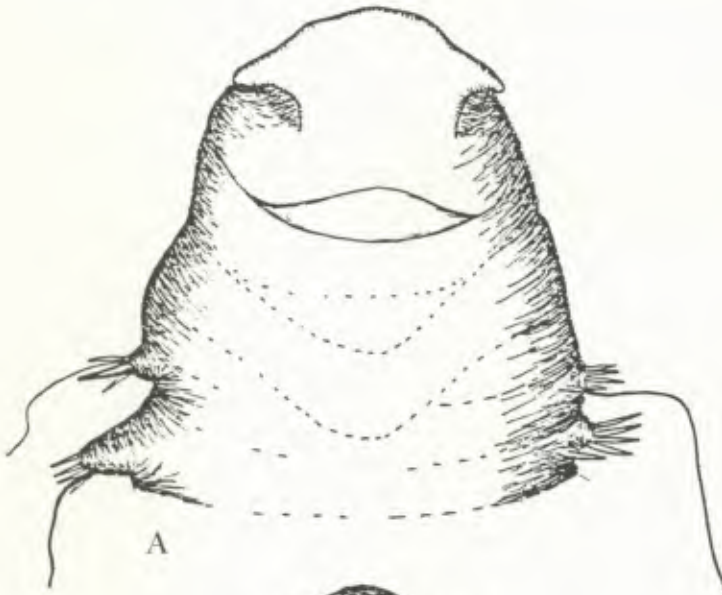
- a. Anterior end, dorsal view, 25x
- b. Anterior end, ventral view, 25x

Ancistrosyllis breviceps, Hartman, 1963

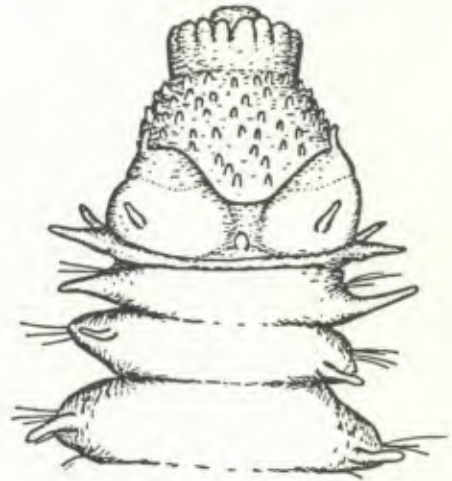
- c. Anterior end, pharynx everted, 50x

Pholoe caeca Uschakov, 1950

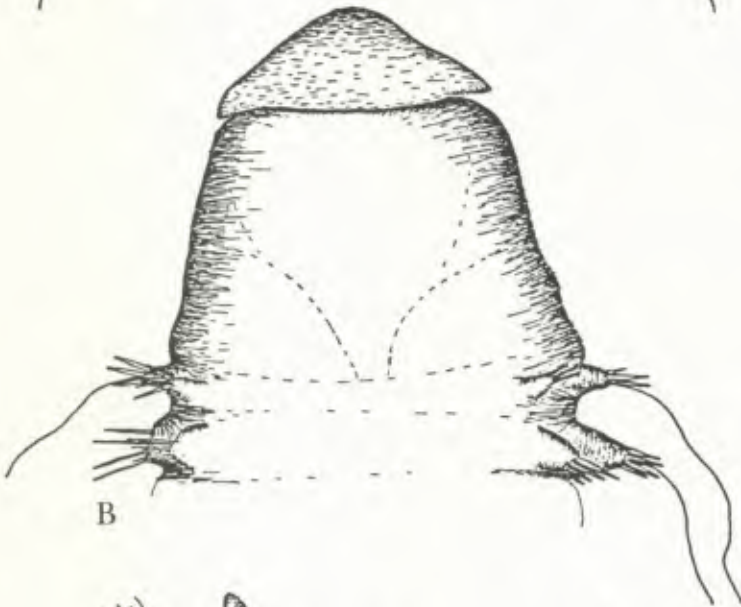
- d. Anterior end, dorsal view, 45x
- e. Notoseta, median parapodium, 385x
- f. Neuroseta, median parapodium, 385x



A



C



B



D



E



F

PLATE 4

Chaetoparia careyi, new species

- a. Anterior end, dorsal view, 50x
- b. Anterior end, ventral view, 50x
- c. Diagram of posterior parapodium
- d. Seta, first setiger, 950x
- e. Seta, first setiger, 950x
- f. Seta, second setiger, 585x
- g. Seta, median setiger, 950x

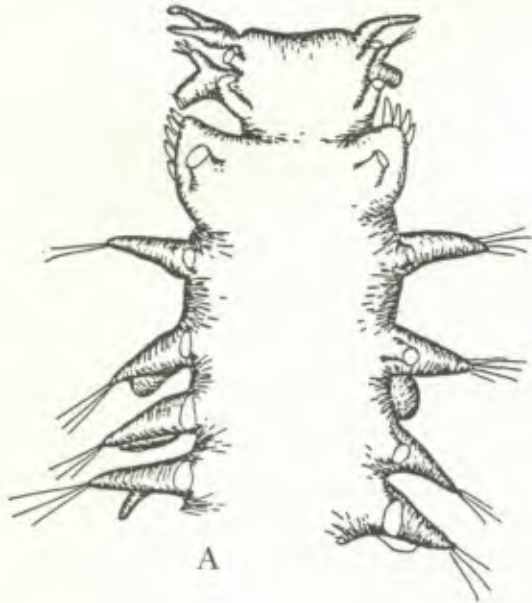


PLATE 5

Gyptis hians, new species

- a. Anterior end, dorsal view, 25x
- b. Notoseta, profile of median portion, 950x
- c. Notoseta, *en face* view of median portion, 950x
- d. Median parapodium, anterior view, 50x
- e. Ventralmost neuroseta, median parapodium, 950x

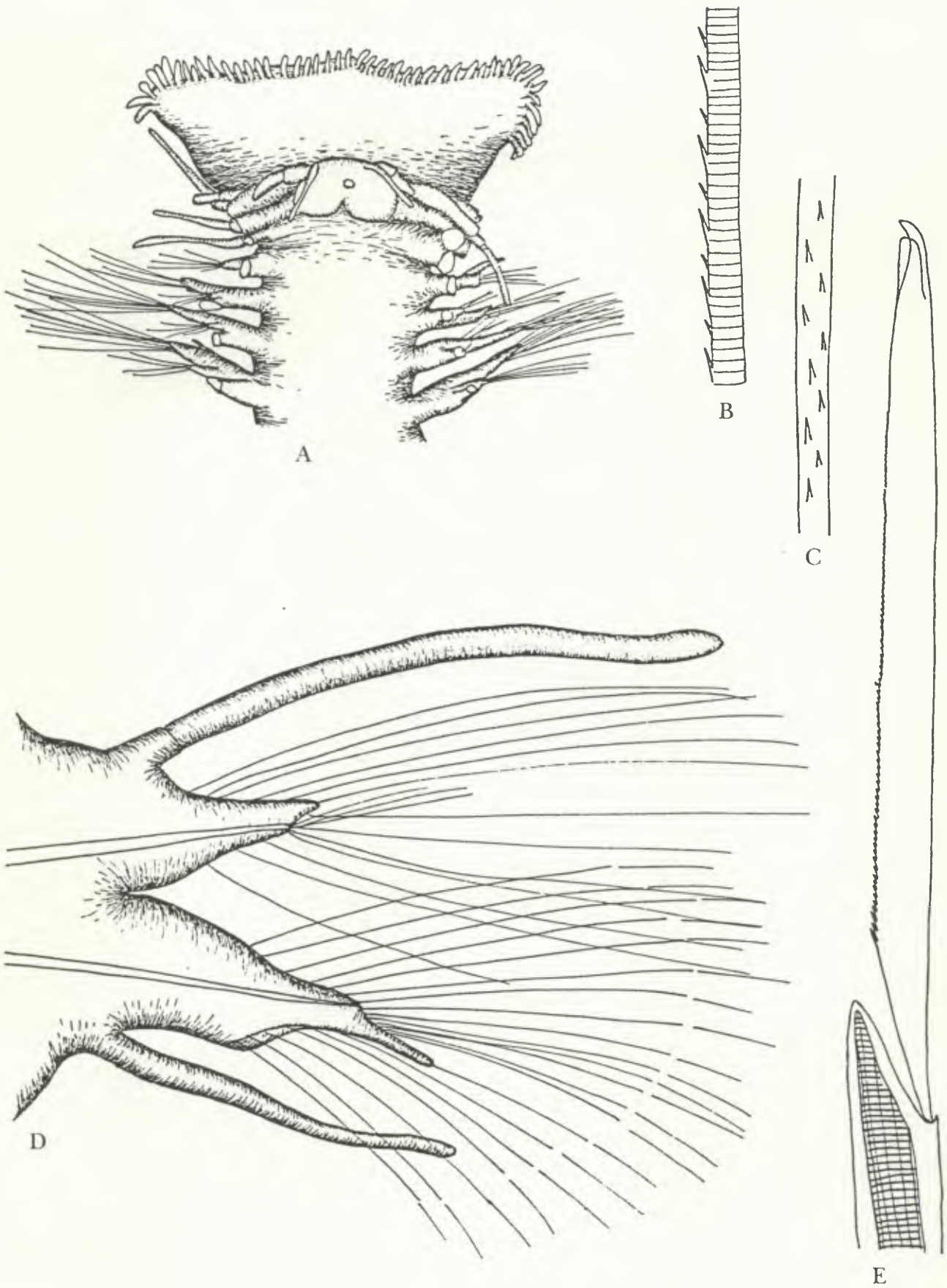


PLATE 6*Paramphinome pacifica*, new species

- a. Anterior end, dorsal view, 24x
- b. Median neuroseta, 385x
- c. Tip of the above, 950x
- d. Median parapodium, anterior view, 50x

Uncopherusa bifida, new genus, new species

- e. Anterior end, dorsal view, 50x
- f. Posterior end, dorsal view, 25x
- g. Hook from setiger 20, 385x
- h. Hook from setiger 27, 385x

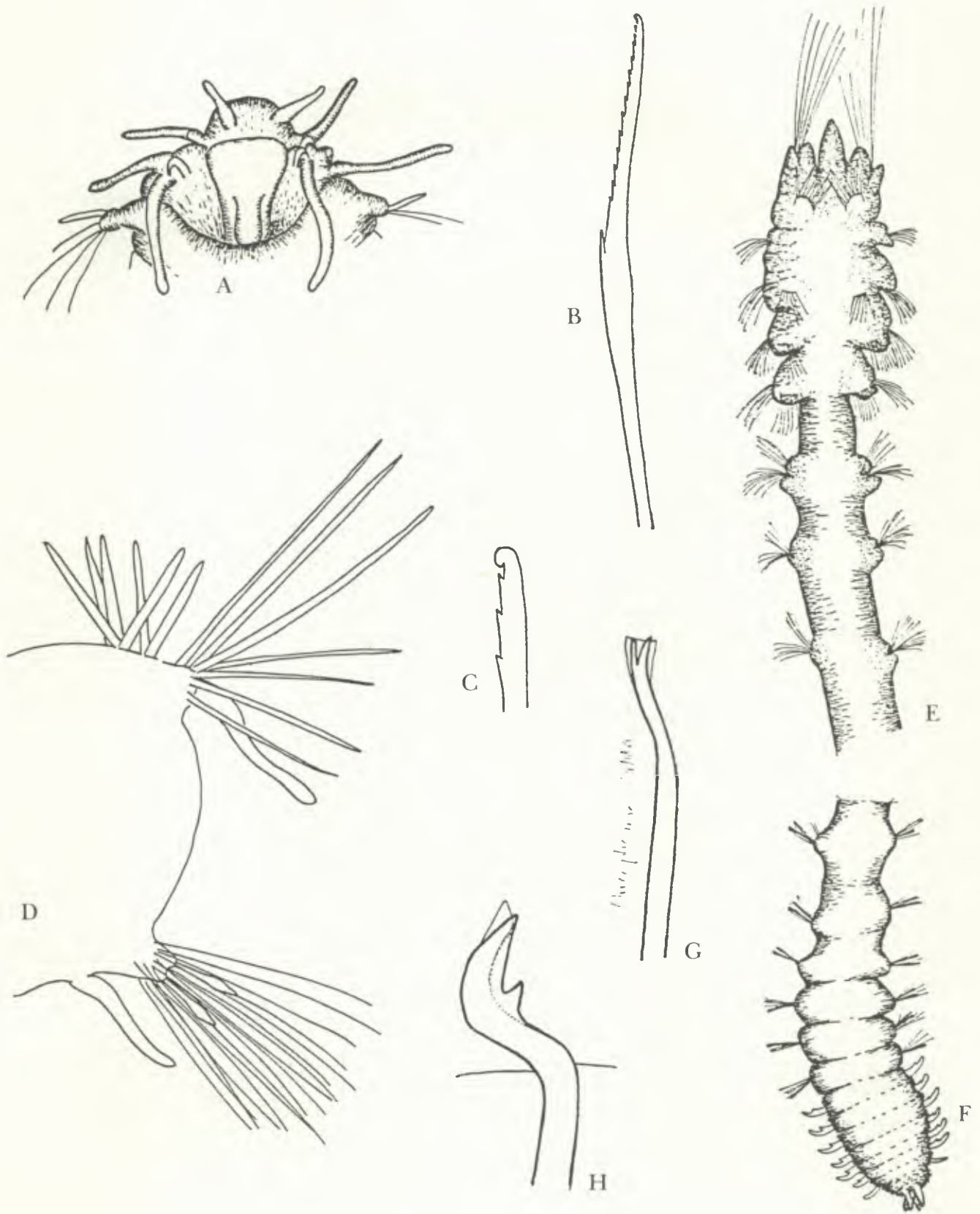


PLATE 7*Nothria mixta*, new species

- a. Anterior end, dorsal view, 25x
- b. Distal part of ventralmost composite hook, first setiger, 950x
- c. Distal part of median composite hook, first setiger, 950x
- d. First parapodium, anterior view, 53x
- e. Subacicular hook, median parapodium, 385x
- f. Pectinate seta, median parapodium, 950x

Fauveliopsis armata, new species

- g. Whole animal, dorsal view, 25x
- h. Far posterior notopodium, 385x
- i. Anterior end, lateral view, 50x

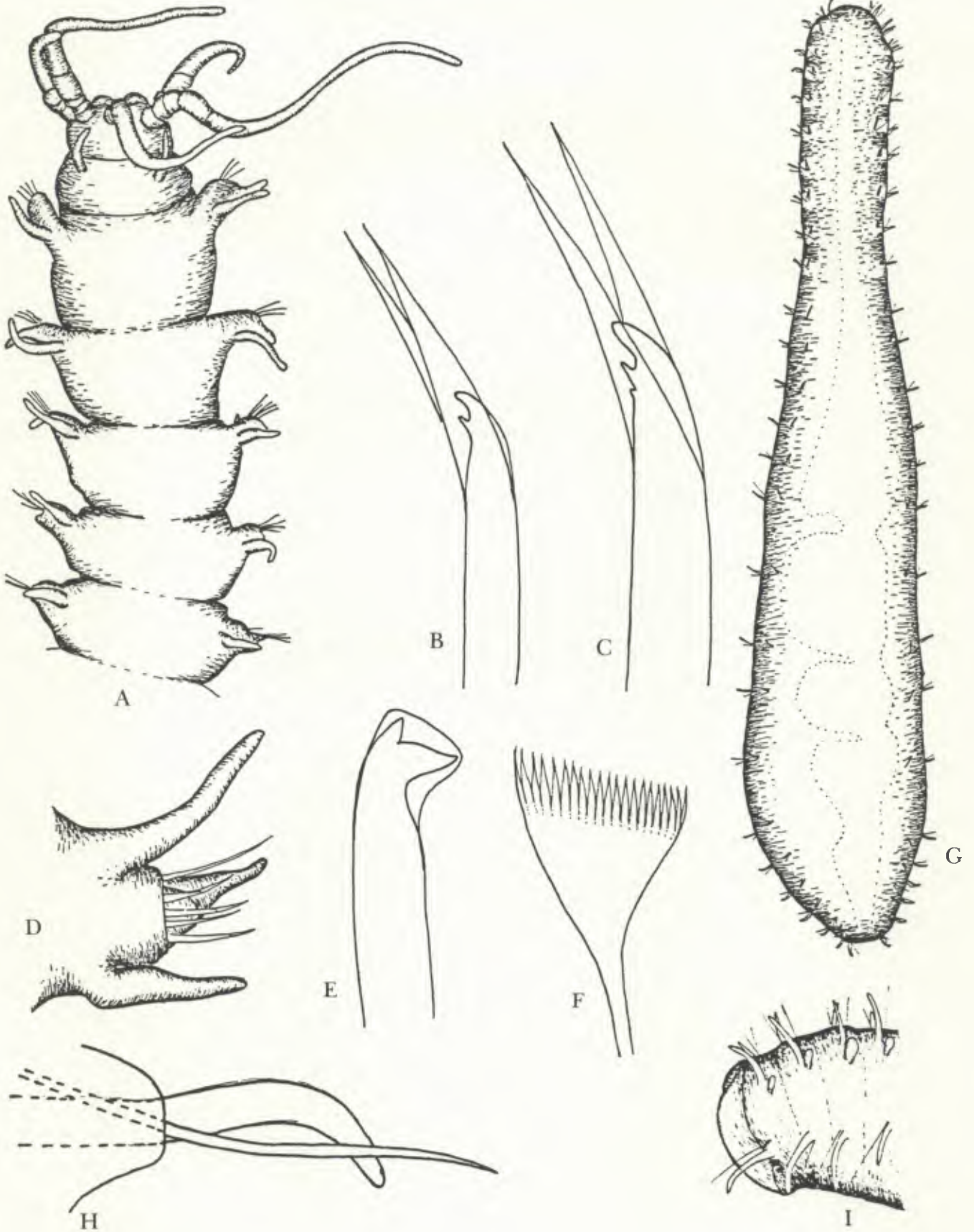
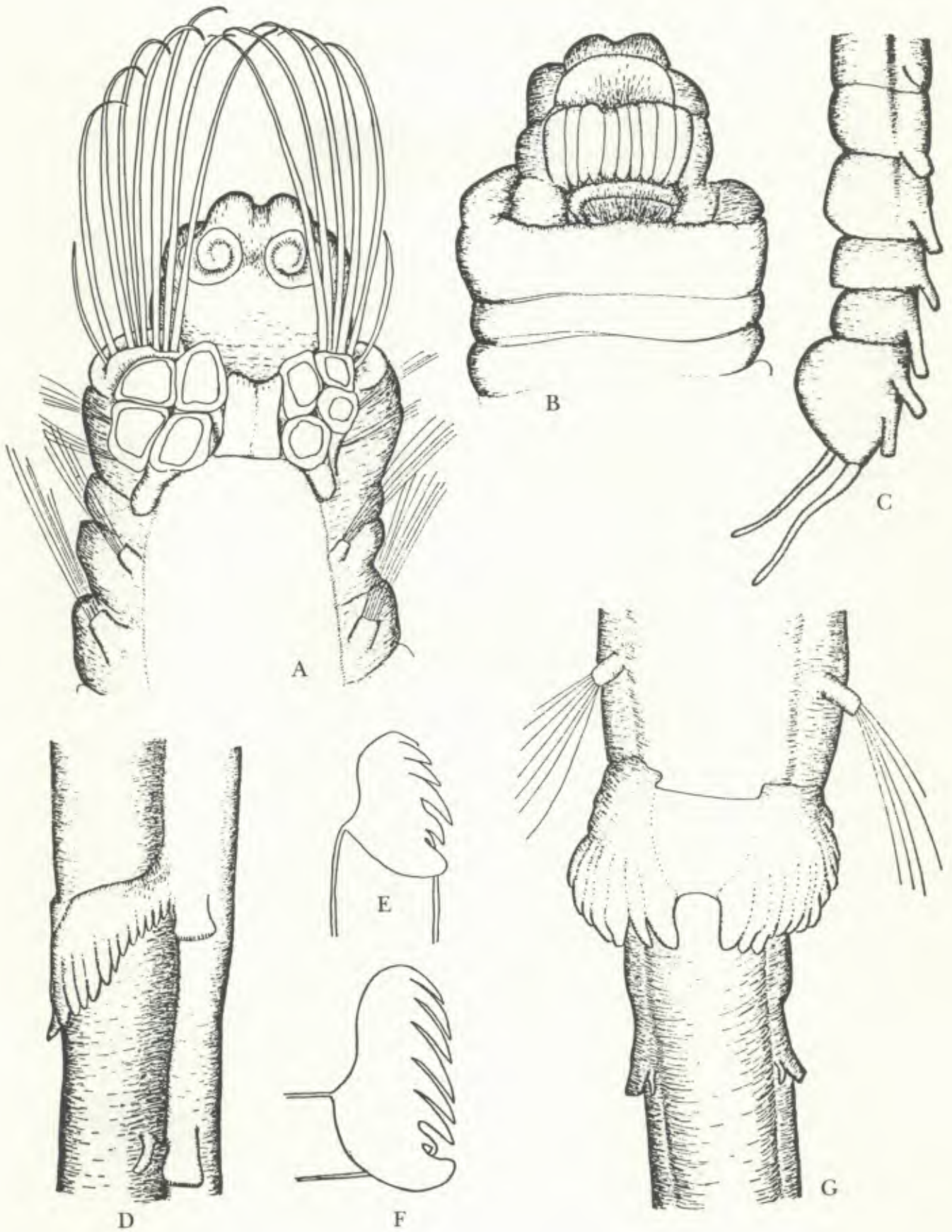


PLATE 8

Jugamphictis paleata, new genus, new species

- a. Anterior end, dorsal view, 20x
- b. Anterior end, ventral view, setae omitted, 20x
- c. Posterior end, lateral view, 20x
- d. Junction between thorax and abdomen, lateral view, 20x
- e. Abdominal uncinus, 950x
- f. Thoracic uncinus, 950x
- g. Junction between thorax and abdomen, dorsal view, 20x



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