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# Spioniform polychaetes from Japan<sup>1)</sup>

By

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(With 27 Textfigures)

The spioniform polychaetes including Spionidae, Magelonidae and Owenidae herein described were mainly collected by the author from various localities in Japan and the adjacent regions, ranging from Hokkaido to the Korean Archipelago, and four species among them were obtained by Dr. M. Uéno, Mr. F. Hiro and the authorities of the Onagawa Oceanographic Station and the Hokkaido Fishery Station. So far as I am aware, only seven species belonging to the Spionidae and Owenidae have formerly been reported from Japan, by Moore (1907), McIntosh (1915), Söderström (1920) and the author (1935). No representative of the Magelonidae has yet been recorded from Japanese waters. I have in this paper 16 more species to be added to the Japanese fauna. Among them are five species, including one variety, which appear to be new to science. The following is a list of the spioniform polychaetes, belonging to the families above mentioned, reported hitherto from Japanese waters. The species newly reported have been marked with an asterisk. Those belonging to the Chaetopteridae are excluded, because they were already described in the separate paper.

## Family Spionidae

\* *Nerinides papillosus* n. sp.

\* *Nerine* sp.

*Laonice cirrata* (SARS)

\* *Spiophanes bombyx* (CLAPARÈDE)

*Microspio mectznikowianus* (CLAPARÈDE)

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1) Contribution No. 112 from the Zoological Institute, Faculty of Science, Hokkaido Imperial University and papers from the Amakusa Marine Biological Laboratory, No. 50.

- \* *Spio filicornis* (O. F. MÜLLER)
- \* *Spio borealis* n. sp.
- Polydora flava* CLAPARÈDE
- \* *Polydora ciliata* (JOHNSTON)
- \* *Polydora armata* LANGERHANS
- \* *Polydora* (Carazzia) *paucibranchiata* n. sp.
- \* *Polydora* (Carazzia) *kempi* SOUTHERN
- \* *Polydora* (Carazzia) *antennata* CLAPARÈDE
- Polydora* (Boccarida) *polybranchia* HASWELL
- \* *Polydora* (Boccarida) *uncata* BERKELEY
- \* *Polydora* (Boccarida) *redeki* HORST
- Prionospio japonicus* OKUDA
- Prionospio bocki* SÖDERSTRÖM
- \* *Prionospio krusadensis* FAUVEL
- \* *Prionospio pinnata* EHLERS

### Family Magelonidae

- \* *Magelona japonica* n. sp.
- \* *Magelona japonica* var. *koreana* n. var.

### Family Owenidae

*Owenia fusiformis* DELLE CHIAJE

The three species, *Laonice cirrata*, *Polydora polybranchia* and *Microspio mectznikowianus*, are not found in the present collection. Among the records of zoogeographical note is the occurrence of *Polydora uncata*, *Polydora kempi* and *Prionospio krusadensis*; none of them have been recorded since they were originally described. *Polydora kempi*, first recorded from the Indian Ocean (Calcutta), seems to be widely distributed from the boreal to the tropical regions. *Prionospio krusadensis*, known from Krusadai Island, is fairly commonly found on the southern Japanese coasts. *Prionospio japonicus*, obtained formerly from brackish lakes in the southern part of Japan, was rediscovered from brackish lakes in Hokkaido. The habitat of *Polydora armata* living commensally with a coral, *Leptastrea purpurea*, is of some interest.

Before proceeding further, I beg to offer my cordial thanks to Prof. H. Ohshima, Prof. Y. K. Okada, and Prof. Y. Abé for their kindness to me during my collecting trip to the Marine Biological Stations of Kyushu, Kyoto and Hiroshima Imperial Universities, and also to Dr. M. Uéno, Messrs. K. Uchida, F. Hiro and the authori-

ties of the Onagawa Oceanographic Station and the Hokkaido Fishery Station for the specimens. I am under special obligation to Prof. T. Uchida for his kind guidance.

A part of this work was carried out through a grant from the Foundation for the Promotion of Scientific and Industrial Research of Japan.

### 1. Family Spionidae

#### Key to genera found in Japan<sup>1)</sup>

1. Prostomium with frontal peaks. Branchiae absent.....*Spiophanes*
- 1'. Prostomium without frontal peaks. Branchiae present..... 2.
2. Fifth setigerous segment peculiar in form.....*Polydora*
- 2'. Fifth setigerous segment normal..... 3.
3. Branchiae appearing from first chaetiger.....*Spio*
- 3'. Branchiae appearing posterior to first chaetiger..... 4.
4. Dorsal and ventral hooded hooks present..... 5.
- 4'. Dorsal hooded hooks absent..... 6.
5. Branchiae on almost all segments, with an anal cup.....*Nerine*
- 5'. Branchiae on only a few anterior segments, with anal cirri.....*Prionospio*
6. Prostomium with a longitudinal ridge; branchiae few in number....*Laonice*
- 6'. Prostomium without longitudinal ridge; branchiae on almost all segments. 7.
7. Prostomium ending in a posterior point. Foliaceous anal process..*Nerinides*
- 7'. Prostomium without posterior point. Anal cirri.....*Microspio*

#### Genus *Nerinides* MESNIL, 1896

##### *Nerinides papillosus* n. sp.

(Figs. 1-2)

A single specimen, destitute of the caudal portion, measures about 10 mm by 1.5 mm for 42 chaetigers. The prostomium is spindle-shaped, sharply pointed at the terminal portion. There is an erect short median occipital tentacle on the posterior prolongation of the prostomium. The nuchal ridge or caruncle ends in a pointed process near the second setigerous segment. The lateral sides of the prostomium are each separated by a groove from the foldings. The tentacles are very long, slender, each tapering to a coiled filiform end. The basal portion of the tentacles is clothed dorsally in a granulated membranaceous sheath. These coatings bear about 12-14

1) I made the present key after that adopted by Prof. Fauvel (1927).

short triangular cirriform papillae on the free margin. The ventral bases of the tentacles are free from these coatings. It is deficient in eyes. The first chaetiger bears a short cirriform dorsal lobe lacking bristles, and a small ovate ventral postsetal lobe with slender capillary setae. The branchiae occur first on the 2nd chaetiger and

are present as far as the posterior end of the fragment. They are well developed, flattened, lobate and densely ciliated on the lower margin, and lie transversely on the dorsal surface. The longest branchiae are situated on the 10th–15th chaetigers. There can be observed no distinct postsetal dorsal lobes, but small low rudimentary oval lobes occur only at the anterior bases of the dorsal capillary setae bundles. These presetal lobes are joined to the branchiae only at the basal region. The ventral lobes are oval and more or less erect on about 10 anterior segments; then they become flattened and transversely elongated on the posterior body region. The feature of the dorsal setae is similar in *Nerinides tridentata*. On the 5th chaetiger there occur slender striated setae and a few granulated ones. On the 20th chaetiger the setae are

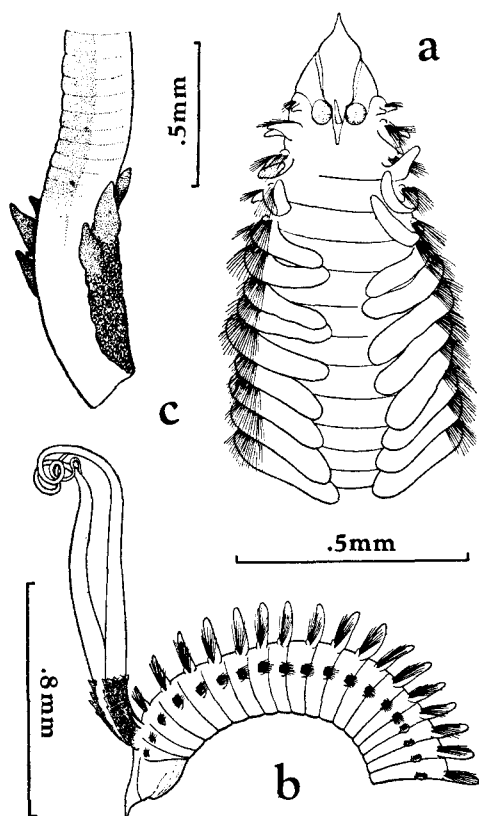


Fig. 1. *Nerinides papillosus* n.sp. a, Anterior end, tentacles being removed, dorsal view. b, Anterior end, lateral view. c, Base of tentacle, viewed from the side of the ventral portion.

all long and striated. The ventral hooded crochets first appear on the 16th chaetiger. They are all tridentate, 12–18 in a row, bearing two short teeth transversely arranged, above a fairly slender main fang. Pygidium unknown.

*Locality:* A single specimen was collected from Taisei, Quelpart Island of the Korean Archipelago, in July, 1936.

*Remarks:* The species is undoubtedly closely allied to *Nerinides tridentata* first described by Southern from Ireland. The Japanese species differs from the Irish species in the absence of eyes, the

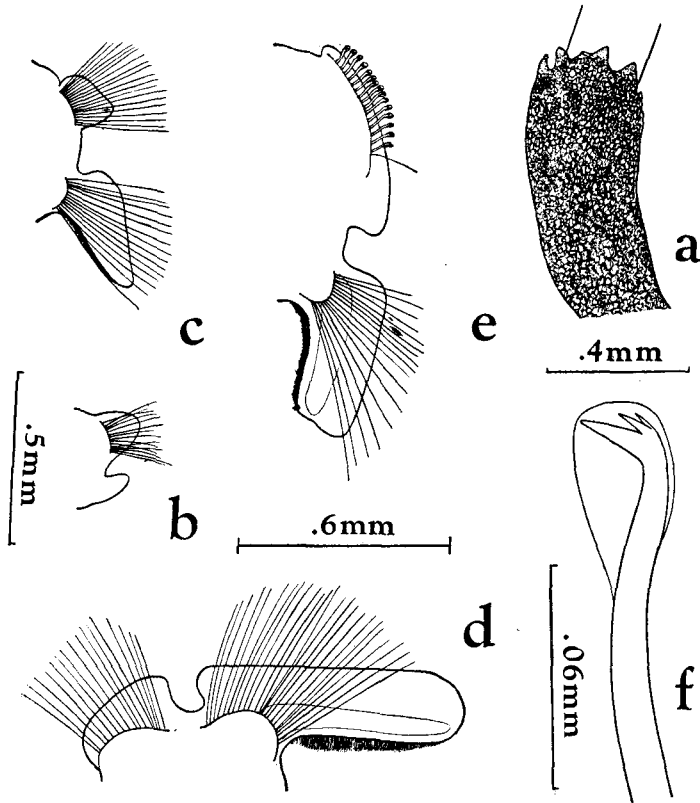


Fig. 2. *Nerinides papillosus* n. sp. a, Base of tentacle, dorsal view. b, First left parapodium. c, Third left parapodium. d, Tenth left parapodium. e, Thirty-first left parapodium. f, Crochet of 22nd neuropod.

occurrence of an erect occipital tentacle, and the feature of tentacles. As I could only examine one incomplete specimen, I cannot say at present whether the papillated membranaceous coating of the tentacles occurs usually or not. I ascribe the Japanese species provisionally to a new species.

**Genus *Nerine* JOHNSTON, 1838*****Nerine* sp.**

A single incomplete specimen consisting of prostomium and 12 anterior chaetigers is placed tentatively in the genus *Nerine*. As regards the prostomium and the anterior segments the present form agrees in general with *Nerine cirratulus*, but a detailed description cannot be given yet.

*Locality*: Kansen, Northern Korea. Collected in July, 1936.

**Genus *Laonice* MALMGREN, 1867*****Laonice cirrata* (SARS)**

*Laonice cirrata*: SÖDERSTRÖM, 1920, p. 220; BERKELEY, 1936, p. 474.

*Spionides japonicus*: MOORE, 1907, p. 204, pl. 16, figs. 31-34.

Söderström and Berkeley both considered *Spionides japonicus* described by Moore from Japan to be synonymous with the present species, and I follow them in this paper. I am not in position to determine whether *Laonice japonica* recorded by Monro (1933) is also identical with the present species or not.

*Locality* in Japan: Honshu (Moore).

**Genus *Spiophanes* GRUBE, 1860*****Spiophanes bombyx* (CLAPARÈDE)**

(Figs. 3-4)

*Spiophanes bombyx*: MESNIL, 1896, p. 249, pl. 15, figs. 1-22; SÖDERSTRÖM, 1920, p. 243; FAUVEL, 1927, p. 41, fig. 14, a-i.

A single complete specimen measures 22 mm for 95 setigerous segments. The prostomium bears anteriorly a T-shaped frontal horn. The posterior end of the prostomium forms a conical ridge. It has four small eyes. No branchiae can be discerned. In the first four chaetigers the dorsal postsetal lobes are flattened and lanceolate with a fan-shaped setae-bundle, while the ventral postsetal lobes are more foliaceous and broader than the dorsal ones. From the 5th setigerous segment, the ventral postsetal lobes suddenly become small, turning into short round processes, while the dorsal postsetal lobes are not markedly

different from those of the foregoing ones. The "gland filieres" accompanied by slender fin-like setae (Drüsenborsten) are well developed between the 5th and the 15th setigerous segments. The dorsal postsetal lobes become smaller, slender and filiform towards the posterior end. The hooded

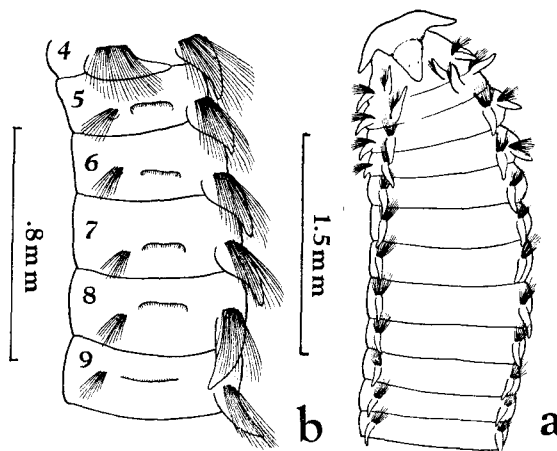


Fig. 3. *Spiophanes bombyx* (CLAPARÈDE) a, Anterior tentacles being removed. b, Lateral view of setigerous segments from the 4th to the 9th.

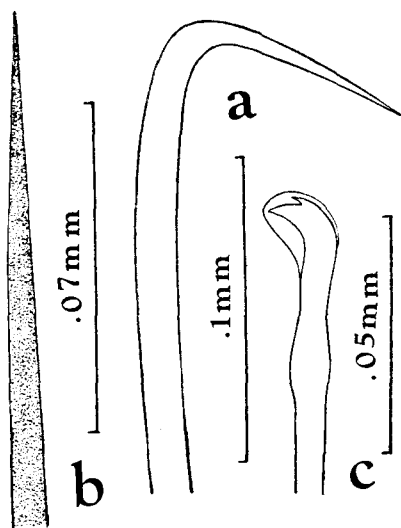


Fig. 4. *Spiophanes bombyx* (CLAPARÈDE) a, Claw-like bristle of first notopod. b, Acicular bristle of neuropod. c, Ventral crochet.

ventral crochets first occur on the 15th chaetiger. There are 7-8 in a ramus, and each bear a short tooth on a rather small main fang. A ventral granulated acicular seta first occurs on the 15th chaetiger. On the first dorsal setae-bundles there occurs a single hook-like bristle tapering to a slender claw-like end. The pygidium is beset with two short anal cirri.

*Locality and Habitat:* Akkeshi, Hokkaido. Collected in 1934. A specimen was found in a muddy bottom near the low-tide mark, forming a muddy tube.



### Genus *Microspio* MESNIL, 1896

#### *Microspio mecznikowianus* (CLAPARÈDE)

*Microspio mecznikowianus*: SÖDERSTRÖM, 1920, p. 248.

*Locality* in Japan: Bonin-Islands (Söderström).

### Genus *Spio* FABRICIUS, 1785

First pair of branchiae well developed. Ventral crochets appearing from the 10th–15th chaetiger.....*Spio filicornis*

First pair of branchiae rudimentary. Ventral crochets appearing from about the 23rd chaetiger.....*Spio borealis* n. sp.

#### *Spio filicornis* (O. F. MÜLLER)

(Fig. 5)

*Spio filicornis*: SÖDERSTRÖM, 1920, p. 245, figs. 154–155; ELIASON, 1920, p. 40, figs. 7–9; FAUVEL, 1927, p. 43, fig. 15, a–g.

A single complete specimen from Akkeshi measures 20 mm by 2 mm for 62 chaetigers. The prostomium ends anteriorly in a bluntly oval process reaching backwards to a small cone-shaped eminence. It has four small eyes. The branchiae first appear on the first chaetiger and are present as far as the posterior body end. The first pair of branchiae is well developed, only slightly shorter than the succeeding one. The dorsal postsetal lobes are somewhat lanceolate, triangular-shaped on the anterior body region, but become gradually flattened, broader, and smaller in size than those of the ventral lobes on the posterior. Hooded ventral crochets first appear on the 12th chaetiger, varying in number from 8 to 11. They have rather a long apical tooth above a main fang. The acicular setae are markedly curved terminally and first occur on the 33rd–35th neuropods (usually three in number). The pygidium bears two short, rudimentary ventral cirri and two lobate rounded dorsal cirri.

Two specimens were obtained from Muroran, one specimen being complete, measuring 12 mm by 1 mm for 53 chaetigers and the other very small and fragmentary, 7 mm long for 35 chaetigers. Ventral crochets first occur on the 11th chaetiger, and are 5–6 in

number. Acicular setae on the ventral rami occur on the 22nd-23rd neuropods.

The specimen from Akkeshi is yellowish in colour. The tentacles are black with yellow spots. The head bears a pair of oblique brown bands on each lateral side of the prostomial ridge. Up to the 17th segment there are yellow brown spots at the base of the branchiae and on the upper margin of the dorsal postsetal lobes. The specimens from Muroran have tentacles sprinkled with black spots.

*Locality and Habitat:* Akkeshi and Muroran, both in Hokkaido. In Akkeshi the specimen was found in the sand of a *Zostera*-bed.

*Remarks:* The species are fairly common in the northern waters of Europe.

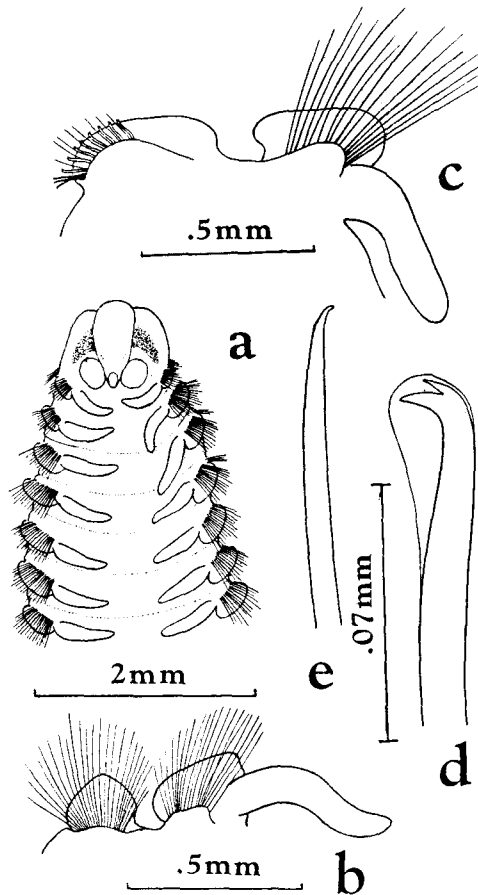


Fig. 5. *Spio filicornis* (O.F. MÜLLER)  
a, Anterior end, tentacles being removed.  
b, First parapodium. c, Forty-fifth parapodium. d, Ventral crochet. e, Acicular bristle of neuropod.

***Spio borealis* n. sp.**

(Figs. 6-7)

A single complete specimen measures 26 mm for 82 chaetigers. The prostomium is somewhat rhomboidal in shape, ending in two

rounded oval processes on both the anterior and posterior portions. There are four rather distinct eyes and also mottled pigments around the anterior eyes. Branchiae, first appearing on the first chaetiger, are quite small, rudimentary, and almost as long as the dorsal postsetal lobe, while the 2nd and succeeding branchiae are all well developed, extending beyond the mid-dorsal line. The dorsal and

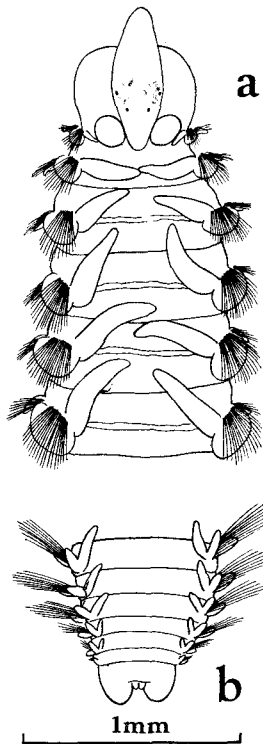


Fig. 6. *Spio borealis* n. sp.  
a, Anterior end, tentacles being removed. b, Posterior end.

postsetal lobes are lobate and lanceolate with an upper flattened margin, only connected with branchiae at their base. They are rather small on the first two chaetigers, but are equal in size from about the 3rd to the 15th chaetigers, and then they become gradually smaller, erect, and ear-shaped. After about the 35th chaetiger the dorsal lobes become narrower than the ventral ones, and at about the 60th chaetiger they are about half the breadth of the ventral lobes. The ventral lobes are of a round conical shape on about 40 of the anterior segments. Then they widen, and later become more flattened towards the end. The ventral crochets begin to appear on the 23rd chaetiger. They number 8-11. The crochets are bidentate, bearing a small apical tooth on a main fang. On the ventralmost portion of the ventral rami occur two or three crochets with a hood so packed with yellow brown granules that the apical serration is quite indistinct, but the essential form of the crochets is not different from the others. Both dorsal and

ventral setae are arranged in two rows on the anterior body region; the setae of the anterior row are shorter and bladed, while those of the posterior row are longer, slender and capillary. After the 25th neuropod there is a row of crotchets, with bladed setae situated before them, and fine filiform capillary setae after them. No fine filiform setae are to be found on the posterior body segments. The

bladed setae of the notopod do not occur after the 50th chaetiger. The pygidium is beset with two small digit-form ventral cirri and two stumpy flat dorsal cirri.

*Locality and Habitat:* Muroran, Hokkaido. Collected from a sandy bottom. The fragile tube was clothed with sand grains.

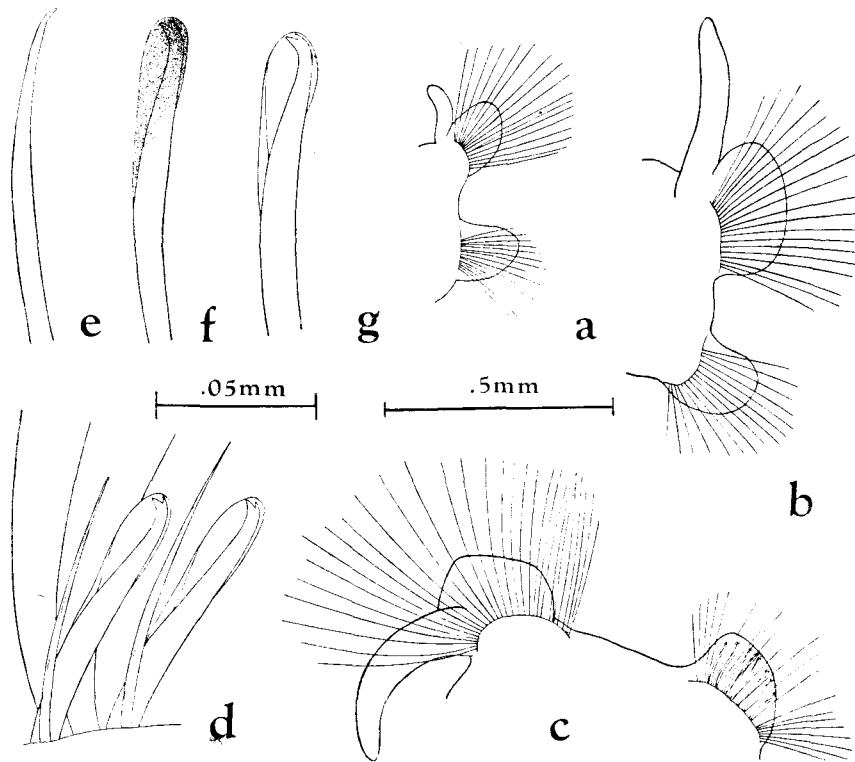


Fig. 7. *Spio borealis* n. sp. a, First parapodium. b, Third parapodium. c, Thirtieth parapodium. d, Fortieth neuropod, showing arrangement of setae. e, Acicular seta of neuropod. f, Ventral crochet with hood packed with brown granules. g, Ventral crochet.

*Remarks:* The species is allied to *Spio minus* in having small branchiae on the first chaetiger, but differ from the latter in the characteristics of the parapodium and the delayed occurrence of the ventral crochets.

### Genus *Polydora* BOSC, 1802

1. Branchiae appearing from 2nd chaetiger (Subgenus *Boccarida*)..... 7.
- 1'. Branchiae appearing posterior to 6th chaetiger..... 2.
2. Ventral crochets first occurring on 8th chaetiger. Modified hooks in two rows, arranged in the shape of a horse-shoe (Subgenus *Carazzia*)..... 5.
- 2'. Ventral crochets first occurring on 7th chaetiger. Modified hooks not arranged in the shape of a horse-shoe..... 3.
3. Bristles absent in 1st notopod.....*Polydora ciliata*
- 3'. Bristles present in 1st notopod..... 4.
4. Modified hook simple.....*Polydora flava*
- 4'. Modified hook with a terminal pointed processes.....*Polydora armata*
5. Prostomium with tentacle-like anterior lobes..... 6.
- 5'. Prostomium without anterior lobes, rounded. Branchiae few in number....  
.....*Polydora paucibranchiata*
6. 5th modified segment well developed.....*Polydora antennata*
- 6'. 5th modified segment less developed.....*Polydora kemp*
7. Peculiar hook in the posterior notopods.....*Polydora uncata*
- 7'. No peculiar hook in posterior notopods..... 8.
8. 5th modified hook of two types.....*Polydora polybranchia*
- 8'. 5th modified hook of one type.....*Polydora redeki*

### *Polydora flava* CLAPARÈDE

(Fig. 8)

*Polydora flava*: SÖDERSTRÖM, 1920, p. 260; AUGENER, 1926, p. 461.

Several rather small specimens measure 10–15 mm for 90–100 chaetigers. The prostomium is distinctly bilobed. The nuchal ridge, rather indistinct, reaches the 3rd chaetiger. There are no eyes. The first chaetiger bears a dorsal postsetal lobe, fairly well developed, and has a few dorsal bristles, and a rounded ventral lobe carrying a bunch of capillary setae. On the 5th setigerous segment the modified hooks without lateral processes are 6–7 in number. They are all simple in form and slightly curved at the tip, and accompanied by lanceolate setae. The branchiae first appear on the 7th–9th setigerous segment. They are well developed between the segments from the 15th to the 30th chaetigers and are present almost as far as the caudal portion. The hooded ventral crochets from the 7th chaetiger are 4–5 in number. On the posterior body region there occur no special setae, whose presence is regarded as a characteristic of the

species. Sönderström also mentions that Japanese specimens are deficient in these setae. The anal cup is notched only dorsally.

**Abnormality:** In a single specimen the frontal margin of the prostomium is trifurcated. The divided anterior lobes are well developed in a similar way (Fig. 8, b). As regards other characteristics the specimen is quite normal.

**Locality and Habitat:** Tomioka, Amakusa. They form sandy tubes on rock.

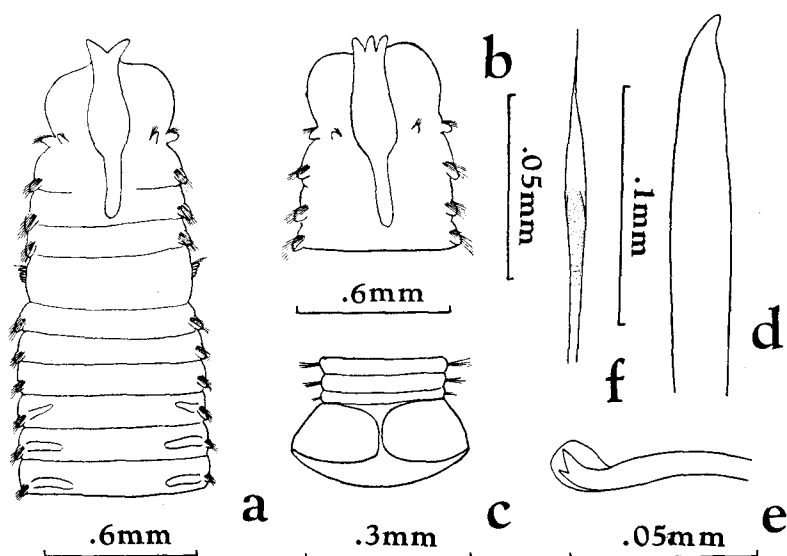


Fig. 8. *Polydora flava* CLAPARÈDE a, Anterior end, tentacles being removed. b, Anterior end, with abnormal prostomium. c, Pygidium. d, Fifth modified hook. e, Ventral crochet. f, Fifth modified seta.

**Remarks:** The present specimens seem to agree well with Sönderström's description of *Polydora flava* collected from Japan. His specimens were also devoid of the special dorsal setae in the posterior portion as in the present case. Augener (1926) also recorded the species from Ceylon; it was destitute of "nadelförmige Borsten" in the posterior body region. Except for the special setae, other characteristics are closely allied to *Polydora flava* described by Mesnil. The present form seems to be a variety of *Polydora flava*.

*Polydora ciliata* (JOHNSTON)

(Fig. 9)

*Polydora ciliata*: MESNIL, 1896, p. 210, pl. 14, figs. 1-8; SÖDERSTRÖM, 1920, p. 262, fig. 160; FAUVEL, 1927, p. 49, fig. 16, i-p.

A single fairly damaged specimen obtained from a shell of *Pecten yessoensis* has been referred to the species with some uncertainty. The anterior notch of the prostomium is quite indistinct.

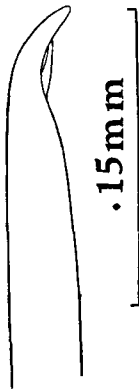


Fig. 9. *Polydora ciliata* (JOHNSTON)  
Fifth modified hook.

No eyes can be made out. The tentacles are fairly long and, in a specimen preserved in alcohol, were crossed with brown bands. The nuchal ridge reaches as far as the 3rd setigerous segment. The branchiae first appear on the 7th chaetiger. The modified hooks of the 5th chaetiger coincide well with the figure of Mesnil. They have a slender lateral process. The first chaetiger bears only ventral bristles. The ventral hooded crochets first occur on the 7th chaetiger. There are no special setae on the posterior body region. Pygidium unknown.

*Locality and Habitat*: Mombetsu, northern Hokkaido. Collected from the shell of *Pecten yessoensis* by members of the Hokkaido Fishery Station.

*Remarks*: The species is widely distributed over the world. The boring habit of the species into *Littorina* sp., oyster and other calcareous materials is well known.

*Polydora armata* LANGERHANS

(Fig. 10)

*Polydora armata*: LANGERHANS, 1880, p. 93, pl. 4, fig. 5; MESNIL, 1896, p. 203, pl. 13, figs. 15-25; FAUVEL, 1927, p. 55, fig. 19, a-e; WATSON, 1905, p. 325.

A small and somewhat damaged specimen measures about 4 mm. I cannot give any details as to the features of the head. The 5th chaetiger bears two characteristic modified hooks on both the dorsal

rami as in Mesnil's figure. The ventral hooded crochets first appear on the 7th chaetiger. There are 10–13 more or less acicular bristles arranged in the shape of half-moon on the last eight setigerous segments. Pygidium low, cylindrical, with a dorsal incision.

*Locality and Habitat:* Séto, Wakayama Prefecture. Collected from the coral, *Leptastrea purpurea*, by Mr. F. Hiro.

*Remarks:* From the single fragment I referred this specimen to *Polydora armata* without any hesitation, as the present form bears the characteristic modified bristles with subterminal processes, and the posterior dorsal acicular setae are arranged in a conical shape as is also characteristic of the species. The species has previously been obtained from a calcareous algae, *Lithothamnium* sp., from a sponge, *Aulospongia tubulatus*, and from a shell of *Venus* sp. In the present case the species was found in abundance living commensally with the coral, *Leptastrea purpurea*.

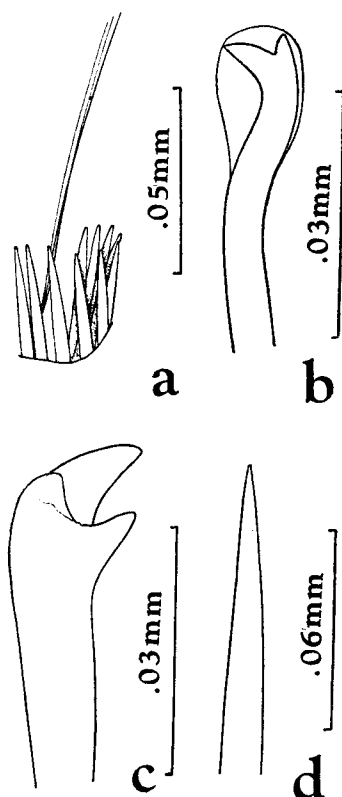


Fig. 10. *Polydora armata* LANGERHANS. a, Peculiar hooks on the posterior notopod. b, Ventral crochet. c, Fifth modified hook. d, Peculiar hook on the posterior notopod.

*Polydora (Carazzia) paucibranchiata* n. sp.

(Figs. 11–12)

The body is very small, measuring 4–6 mm for 32–38 chaetigers. The prostomium is rounded and oval in front. It has four eyes, rarely five. All of them are more or less bean-shaped, the anterior ones being slightly larger and further apart from each other than the posterior ones. A small erect median tentacle arises just after the



eyes. The nuchal ridge reaches as far as the posterior margin of the 3rd setigerous segment. The tentacles reach backwards to the 15th-16th chaetiger. On the first chaetiger a small dorsal lobe with a few very fine bristles is situated just outside the base of the tentacle. Branchiae first appear on the 7th chaetiger and are restricted to the anterior third of the body. The number of branchiae is very small,

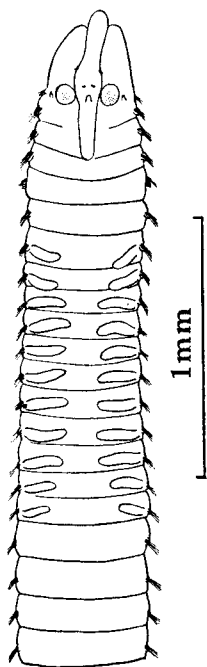


Fig. 11. *Polydora* (Carazzia) *paucibranchiata* n. sp.  
Anterior body region, tentacles being removed.

only in 9 to 11 pairs, i.e. from the 7th to the 15th or 17th chaetigers. In the possession of a small number of branchiae this species somewhat resembles *Aonides paucibranchiata*. These branchiae, though fairly well developed, do not reach the mid-dorsal line. The dorsal capillary setae are composed of three kinds and are arranged in three rows in the anterior 11-13 chaetigers, the short anterior ones being spear-shaped, the median ones long and bladed, and the posterior ones long, slender, and capillary-like. The anterior lanceolate setae are distinctly observed up to the 6th setigerous segment, then they become narrower, slenderer and finally disappear entirely after the 11th-12th segment. The arrangement of the dorsal setae recalls that of *Polydora kempfi*. On the 5th chaetiger there occur 5-6 upper dorsal capillary setae and lower modified bristles arranged in two rows in the shape of a horse-shoe. The 8-9 modified books in the inner row are small and very slightly curved at the terminal

portion. The bristles of the outer row, about 10 in number, each bear a lanceolate blade, which protrudes a little at the upper end of the straight shaft. A neuropodial tuft is present. Ventral crochets first occur on the 8th chaetiger, 8-11 in number. They are very small but are similar in form to those of *Polydora antennata*. The anal cup is short and broadly separated on the dorsal surface.

*Locality:* Onomichi, Hiroshima Prefecture.

*Remarks:* The species may be placed in the subgenus *Carazzia* from the characteristics of the 5th modified hooks arranged in two rows and the occurrence of ventral crochets on the 8th chaetiger. The species is characterised by the small number of branchiae, the remarkably small body, the rounded prostomium, and the simple 5th hook.

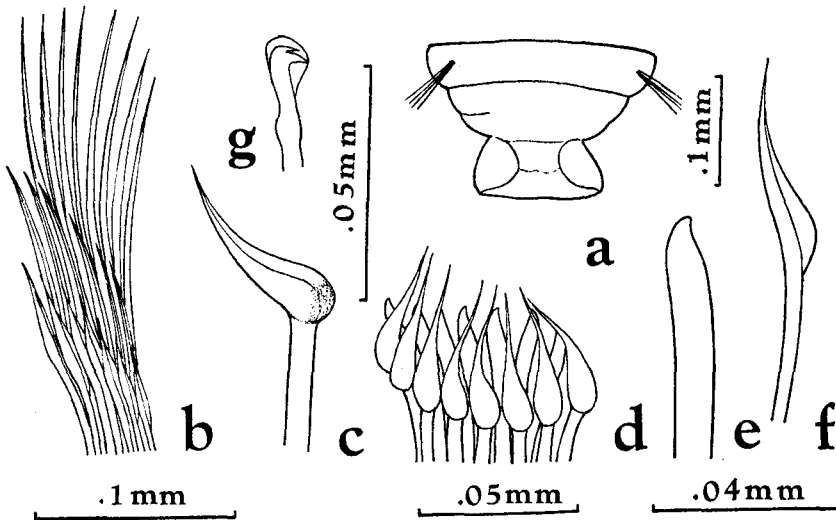


Fig. 12. *Polydora (Carazzia) paucibranchiata* n. sp. a, Pygidium. b, Setae of 6th notopod. c, Fifth modified seta. d, Setae from lower row of 5th modified notopod. e, Fifth modified hook. f, Anteriormost seta of 4th notopod. g, Ventral crochet.

*Polydora (Carazzia) kemp* SOUTHERN var.

(Figs. 13-14)

*Polydora kemp*: SOUTHERN, 1921, p. 636, pl. 28, fig. 20.

The longest specimen from Muroran measures 28 mm and is composed of 48 setigerous segments. The prostomium is bifurcate and terminates in small tentacle-like lobes in front, with one or two pairs of black eyes between the bases of the tentacles. There is an erect, rather large occipital tentacle on a prostomial elongation

posterior to the eyes. The nuchal ridge is quite distinct, reaching back to the anterior margin of the 4th setigerous segment. The first chaetiger has a bundle of ventral capillary setae with elongated postsetal lobes, but no dorsal setae. The arrangement of the dorsal setae in the anterior segments exactly agrees with the description of Southern. There are three transverse rows of dorsal setae; the

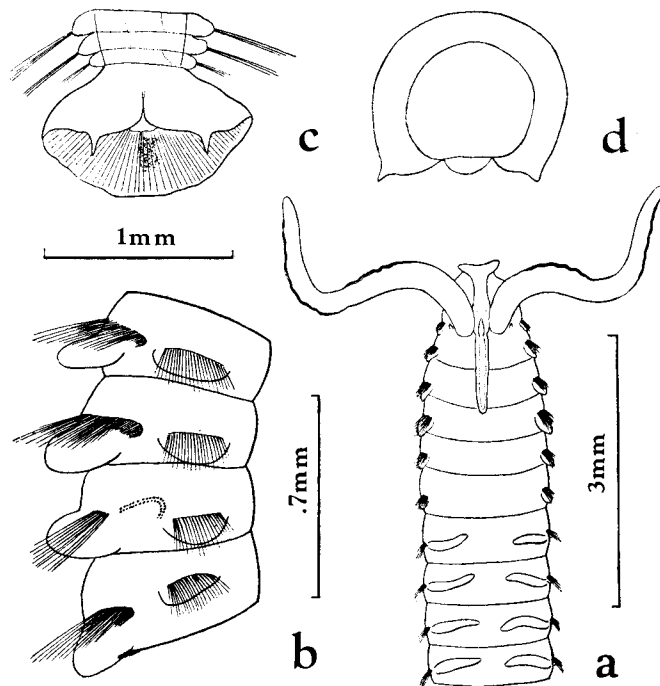


Fig. 13. *Polydora (Carazzia) kempii* SOUTHERN a, Anterior end. b, Lateral view of setigerous segments from 3rd to 6th. c, Pygidium from the living material. d, Pygidium from preserved specimen from Akkeshi, anterior view.

anterior one has short setae with broadly winged blades, the middle one has slender setae with narrower wings, while the posterior one bears markedly elongate slender capillary setae slightly winged. These differentiated setae can be found on the notopods from the 3rd to about the 10th chaetigers, and are especially well marked on the 4th and 6th chaetigers; then the anterior short flattened setae disappear, and on the posterior segments occur only long slender narrow winged

setae. On the 3rd, 4th and 6th chaetigers the anterior row bearing widely winged short setae extends to the ventral portion and curves backwards to the posterior end, an arrangement similar to that of the modified setae on the 5th chaetiger. The ventral setae are rather flattened. The 5th modified segment cannot be distinguished from

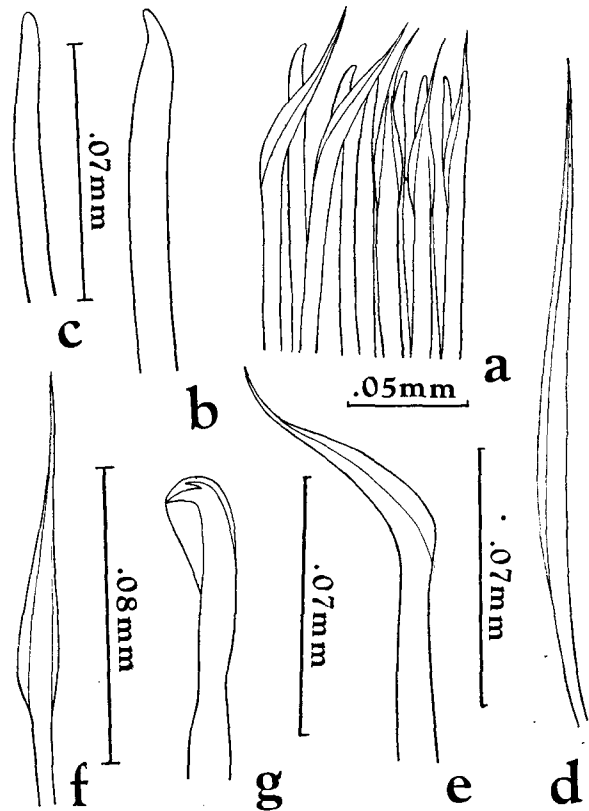


Fig. 14. *Polydora (Carazzia) kemp* SOUTHERN a, Setae from lower row of 5th modified notopod. b, Fifth modified hook. c, The same. d, Seta from median row of 4th notopod. e, Fifth modified seta. f, Seta from anteriormost row of 4th notopod. g, Ventral crochet.

other segments when seen only from the dorsal surface, as the dorsal and ventral postsetal lobes are well developed and similar in size to those of the foregoing segments. On the 5th segment the lower dorsal setae are arranged in two rows in the form of a horse-shoe,

the number of the setae being 23–27 in a row. The inner row consists of stout hooks gently curved terminally. The outer row is composed of short broadly winged setae which are not essentially different from those of the anterior row of the dorsal rami in the foregoing segments. The branchiae first occur on the 7th chaetiger and are present as far as the 24th–26th chaetigers. The ventral hooded hooks with slender teeth on the main fangs first appear on the 8th chaetiger. They number 25–28 in each ramus. The shaft of the crochets bears a subterminal dilated portion. There are no special setae on the posterior body region. The anal cup is flask-shaped, being notched on the median dorsal portion. As shown in Fig. 13 the dorsal lappet bears a short filiform process on each lateral side.

The largest specimen from Akkeshi measures 26 mm for 58 chaetigers, of which the anterior 7th to 30th segments are branchiate. The modified hooks number about 23–25.

Specimens collected from Taisei, Quelpart Island, are 14–20 mm in length for 43–49 chaetigers. The tentacles reach backwards to the 12th chaetiger. The branchiae can be found up to the 25th–28th chaetigers. The eyes usually number four, but two or three are not rare. The occipital tentacle is less developed than in the northern form. There occur about 30 ventral hooks in a ramus and 17–18 modified setae. As regards the features of the nuchal ridge, the modified segment and the anal cup, these specimens are identical with those from Akkeshi.

*Locality:* Akkeshi and Muroran, both in Hokkaido; Taisei, Quelpart Island, the Korean Archipelago.

*Remarks:* Southern (1921) first described the species from the Indian Ocean (Calcutta), characterising them mainly by the less developed modified 5th setigerous segment. His specimens were all incomplete and destitute of a caudal portion. The Japanese specimens differ from the Indian specimens in the presence of a well-marked nuchal ridge extending beyond the three anterior setigerous segments and in the number of the modified setae and the ventral crochets. Southern gives no caruncular prolongation. In other points, especially in the 5th segment, both the Indian and Japanese forms coincide exactly. Though I could not compare their anal cups, whose shape is characteristic of the Japanese specimens, the present form may be regarded as a variety of the type species.

*Polydora (Carazzia) antennata* CLAPARÈDE

(Fig. 15)

*Carazzia antennata*: MESNIL, 1896, p. 227, pl. 14, figs. 22-25.*Polydora antennata*: FAUVEL, 1927, p. 56, fig. 19, i-m; 1932, p. 172.

The longest of the many specimens obtained from Tomioka measures 30 mm for 104 setigerous segments. The prostomium bears rather long tentacle-like frontal lobes. There is a small erect median occipital tentacle on the prostomial ridge posterior to the eyes. The nuchal ridge reaches backwards to the posterior margin of the 6th

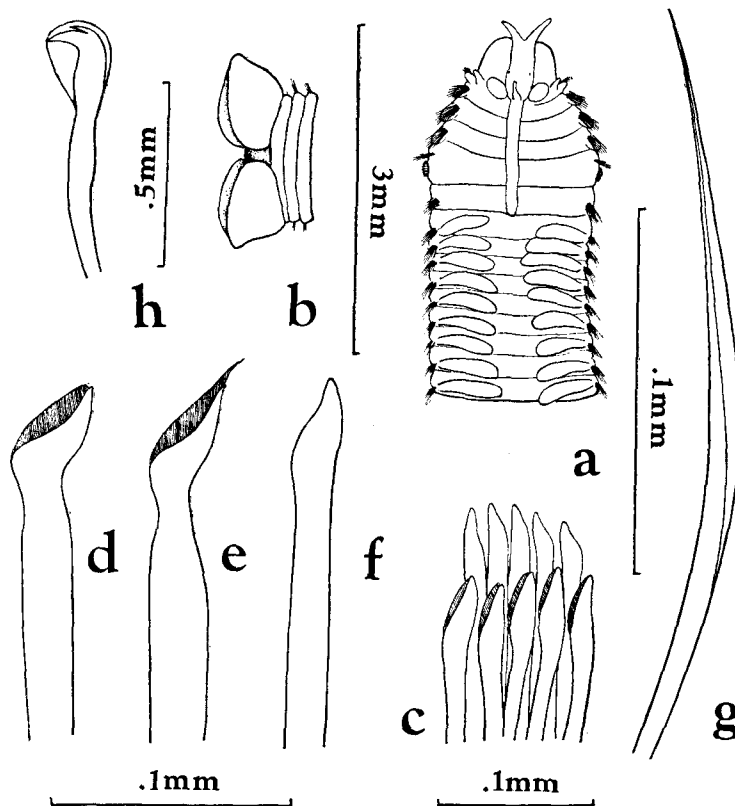


Fig. 15. *Polydora (Carazzia) antennata* CLAPARÈDE a, Anterior end, tentacles being removed. b, Pygidium. c, Setae from lower row of 5th modified notopod. d, e, Modified hook in outer row. f. Modified hook in inner row. g, Dorsal seta. h, Ventral crocheta.

chaetiger. The eyes are black, 2-4 in number. The first notopod is represented by a small conical dorsal lobe destitute of bristles. Branchiae are found from the 7th setigerous segment almost to the posterior end. They are lobate and directed dorsally. The ventral hooded crochets first occur on the 8th chaetiger and vary in number from 28 to 40. There are no capillary setae on the ventral rami after the 8th chaetiger. On the 5th modified segment are found 12-14 capillary setae on the upper portion of the dorsal ramus. The lower modified dorsal bristles are arranged in two rows in the shape of a horse-shoe as is characteristic of the subgenus. The outer row consists of 13-14 stout hooks which are curved gently backwards and have a distal hollow blade bearing a comb-like crown. Two or three hooks situated on the posteriormost portion of the row are acutely pointed at their tips than the others. The inner row is composed of longer 14-16 lanceolate bristles. The modified hook and ventral crochets are quite similar to those figured by Mesnil. The anal cup is notched on both the dorsal and ventral median portions.

Specimens from Kii-tsubaki bear a nuchal ridge reaching as far as the 6th chaetiger, 35-38 ventral crochets and about 25 modified hooks.

*Locality and Habitat:* Tomioka, Amakusa; Kii-tsubaki and Séto, Wakayama Prefecture; Wajima, Ishikawa Prefecture. Collected from a muddy substratum between crevices of shore rock.

*Remarks:* The Japanese specimens differ from the European ones only in possessing a fairly well developed nuchal ridge. Fauvel recently reported this species from the Indian Ocean.

***Polydora (Boccarida) polybranchia* HASWELL**

*Polydora polybranchia:* SÖDERSTRÖM, 1920, p. 257, fig. 167.

*Locality in Japan:* Shimonoseki (Söderström).

***Polydora (Boccarida) uncata* BERKELEY**

(Figs. 16-17)

*Boccarida uncata:* BERKELEY, 1927, p. 14, pl. 1, figs. 9-13.

Specimens obtained from Tomioka measure 20-30 mm for about 100-120 setigerous segments. The prostomium is shallowly notched in front, expands broadly in the region of the eyes, and tapers

posteriorly into a well defined nuchal ridge which extends to the posterior region of the 3rd setigerous segment. The eyes are usually four in number, but vary from two to four, the anterior being larger than the posterior pair. The branchiae occur on the 2nd, 3rd, 6th and on all the following segments, and those on the 6th setigerous

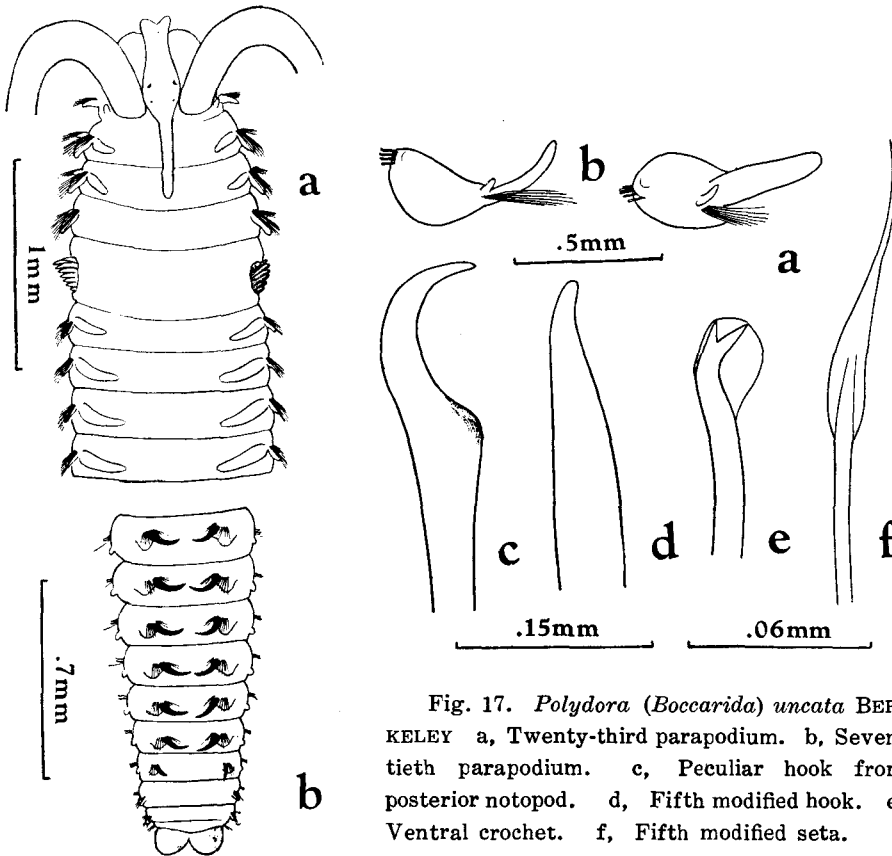


Fig. 16. *Polydora (Boccarida) uncata* BERKELEY a, Anterior end. b, Posterior end.

Fig. 17. *Polydora (Boccarida) uncata* BERKELEY a, Twenty-third parapodium. b, Seventieth parapodium. c, Peculiar hook from posterior notopod. d, Fifth modified hook. e, Ventral crochet. f, Fifth modified seta.

segment are often rudimentary. They are rather flattened and well developed between the 20th and 30th segments. In general the branchiae are not so developed as in Berkeley's specimen. The first chaetiger bears ventral bristles only. The dorsal postsetal lobes on



the 2nd to 6th chaetigers, except the 5th modified segment, are well developed, foliaceous, lobate and thence gradually diminish in size posteriorly. The ventral lobes, shorter than the dorsal ones, are rudimentary on the posterior segments. The dorsal rami of the 5th chaetiger bear 4-5 upper slender capillary setae, 7-9 special modified hooks and lanceolate setae which are about equal in number. The modified hooks are gently curved at the tip and are devoid of any process. A neuropodial tuft is present. The ventral crochets first occur on the 7th chaetiger. The number of crochets is usually 5-6, but varies from 3-8. They have rather elongated apical teeth. On the posterior 30-40 notopods, exclusive of the last 3-4 segments, peculiar stout heavy hooks occur, one on each segment, together with the normal capillary setae. These hooks are strongly curved at the terminal portion with a rounded process at the base of the blade, and are quite similar to the figure by Berkeley. The anal cup, usually present in the genus, is here absent. The pygidium bears two dorsal rounded lappets with two ventral rudimentary short processes.

Specimens collected from Kii-tsubaki bear fairly well-developed branchiae. The peculiar posterior hooks number 24-27 pairs. In the living state the body is reddish in colour at the anterior portion, and orange yellow at the posterior; branchiae reddish; tentacles brownish red.

*Locality and Habitat:* Tomioka, Amakusa; Kii-tsubaki, Wakayama Prefecture. Collected from a muddy flat between crevices of rock.

*Remarks:* The species is first recorded by Berkeley from the Nanaimo District and is characterised by the peculiar posterior hook and the shape of the pygidium. Though the Japanese worm is somewhat different as regards the branchiae and the number and shape of the crochets, the other main characteristics generally coincide with Berkeley's specimens.

### *Polydora (Boccarida) redeki* HORST

(Fig. 18)

*Polydora redeki:* FAUVEL, 1927, p. 58, fig. 19, t-u.

A single anterior fragment with 34 setigerous segments was obtained. The prostomium is bifid anteriorly. The nuchal ridge of

the prostomium reaches the anterior margin of the 4th chaetiger. It has four eyes. A small ovoid occipital tentacle occurs posterior to the eyes. The first chaetiger bears only ventral bristles. Branchiae appear on the 2nd chaetiger, are absent on the 4th and 5th chaetigers, and again occur from the 6th to the last segment. The branchiae, though markedly small on the 6th chaetiger are well developed from the 8th to the middle body region. The modified notopod consists of 9-11 stout, inferior hooks accompanied by spear-shaped lanceolate setae with finely tapered tips. The hooks are devoid of a lateral process, end in a bluntly rounded tip in the anterior division, and are sharply pointed in the posterior division. The ventral crochets first occur on the 7th chaetiger, numbering 7-9 in each ramus. They are gently curved near the tip and bear a fairly large tooth on the main fang. Pygidium unknown.

*Locality:* Muroran, Hokkaido.

*Remarks:* Having been unable to see the original description of this species, I referred the Japanese specimens to *Polydora redeki* by references to the description by Fauvel (1927). The Japanese specimens have a more elongated nuchal ridge and an occipital tentacle. The modified hooks are quite similar to Fauvel's figure.

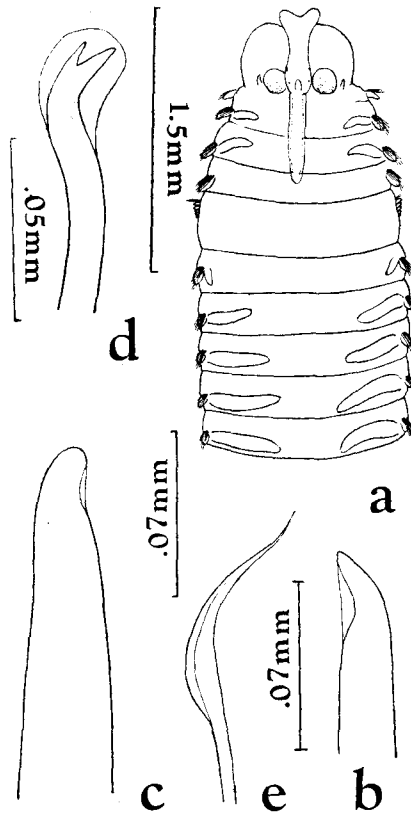


Fig. 18. *Polydora (Boccarida) redeki* HORST a, Anterior end. b, c, Fifth modified hooks. e, Fifth modified seta. d, Ventral crochet.

### Genus *Prionospio* MALMGREN, 1867

1. Prostomium with large lateral wings. All branchiae pinnate....*P. pinnata*
- 1'. Prostomium without large lateral wings..... 2.
2. All branchiae pinnate, in three pairs.....*P. krusadensis*
- 2'. First and 4th branchiae pinnate, 2nd and 3rd simple, foliaceous....*P. bocki*
- 2''. All branchiae simple, subulate, in four pairs.....*P. japonicus*

#### *Prionospio japonicus* OKUDA

(Fig. 19)

*Prionospio japonicus*: OKUDA, 1935, p. 241, fig. 1.

The species was formerly described from several imperfect specimens devoid of posterior ends. A few complete specimens and several fragments were derived from Lake Mokoto in Hokkaido. The largest specimen measures 36 mm for 86 chaetigers. The ventral crochets first occur on the 18th–19th chaetiger and the dorsal ones from the 30th–32nd chaetiger. The pygidium bears a rather short median cirrus and two small ventral cirri.

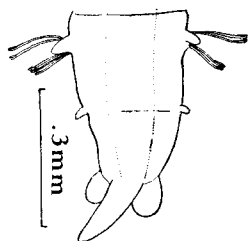


Fig. 19. *Prionospio japonicus* OKUDA  
Pygidium.

*Locality and Habitat*: Lake Mokoto, near Abashiri harbour in Hokkaido. Collected by Dr. M. Uéno from a muddy bottom, which it inhabited with *Nereis japonica*.

*Remarks*: The species was collected previously from the lakes on the southern coast of the Japan Sea. The species seems to be widely distributed in Japanese brackish lakes.

#### *Prionospio bocki* SÖDERSTRÖM

(Fig. 20)

*Prionospio bocki*: SÖDERSTRÖM, 1920, p. 234, figs. 142–143.

A small complete specimen measures 9 mm for 62 chaetigers. The prostomium is an elongated ridge, broadly rounded anteriorly, reaching posteriorly nearly to the 2nd setigerous segment. It bears two pairs of eyes. The anterior pair is smaller, rounded, while the

posterior one forms an elongated oblique row, each pair seemingly being composed of three small eyes which are serially united to one another. The first pair of postsetal lobes is very small, oval, about half the length of the second pair. The 3rd pair of dorsal postsetal lobes is slightly smaller than the 4th one, and the 4th and 5th pairs are subequal in size. From the succeeding segments to the 11th-12th chaetiger, the dorsal lobes diminish gradually in size, as far as about the 20th chaetiger are subequal in length, and afterwards become gradually smaller. The length of the dorsal postsetal lobes in the anterior segments does not well agree with Söderström's figure, in which the 3rd lobe is much longer than the 2nd, the 1st pair being more or less the same size as the latter. The branchiae are in four pairs, the first pair on the 2nd chaetiger. The 1st and 4th branchiae are subequal in length; they are slender shafts carrying a row of pinnae. The pinnae are situated on the proximal two thirds of the shaft leaving the terminal portion free. The 2nd and 3rd pairs of branchiae

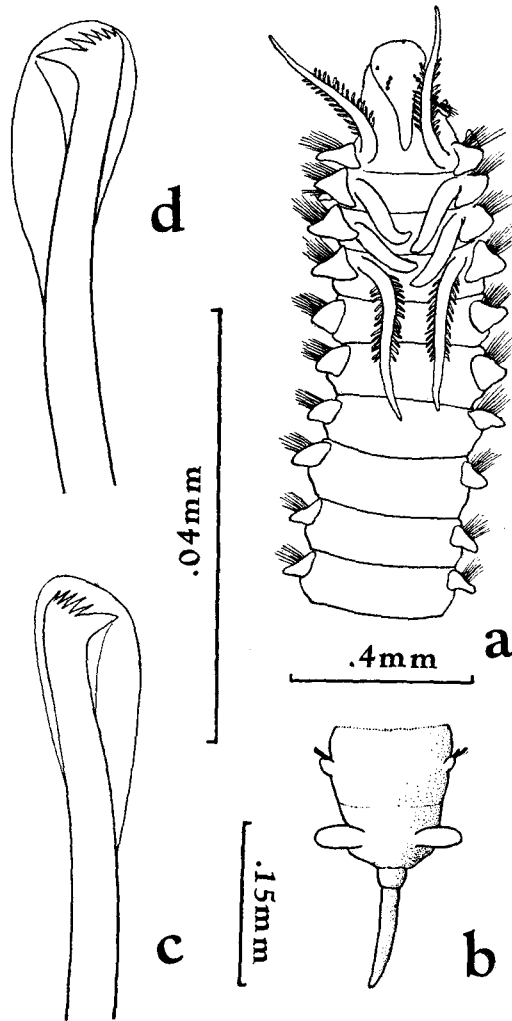


Fig. 20. *Prionospio bocki* SÖDERSTRÖM  
a, Anterior end, tentacles being removed.  
b, Pygidium. c, Crochet. d, Ventral  
crochet.

are foliaceous, simply flattened, about half the length of the pinnate branchiae. The ventral crochets first appear on the 12th setigerous segment, two in a ramus. From the 15th neuropod backwards the crochets are 6-7 in number. They occur on the 32nd notopod, 4-5 at the most. The pygidium consists of two short, flattened ventral cirri and a slender dorsal cirrus.

*Locality:* Onomichi, Hiroshima Prefecture.

*Remarks:* Though the present specimen differs from Söderström's accounts on *Prionospio bocki* as regards the length of the dorsal postsetal lobes, I ascribed this to the species, as this well agrees in other characteristics with Söderström's description.

### *Prionospio krusadensis* FAUVEL

(Fig. 21)

*Prionospio krusadensis:* FAUVEL, 1929, p. 182, fig. 2; 1930, p. 38, fig. 9.

The following description is based mainly upon specimens derived from Sétō. The longest specimen which I examined measures 26 mm by 1 mm for 102 chaetigers. The prostomium is rounded, oval anteriorly, and reaches as far as the posterior margin of the 2nd setigerous segment. The eyes are normally four in number, but are frequently multiple. There are no large lateral wings on the sides of the prostomial ridge as shown in *Prionospio pinnata*. The branchiae are in three pairs, the first on the 2nd chaetiger. They are all pinnate. The 1st and 2nd branchiae are subequal in length, the former being broader and stouter than the latter. The 3rd branchiae are slenderer and shorter than the two former. *The first chaetiger bears only ventral bristle.* The dorsal lobe of the 1st chaetiger is elongated and triangular-shaped, and the ventral one is smaller and ovoidal. The 2nd chaetiger bears a broadly lanceolate dorsal postsetal lobe and a somewhat rhomboidal ventral lobe with the lower margin downward. The 3rd chaetiger bears a similar, but larger dorsal postsetal lobe and an oval ventral lobe. The dorsal lobe of the 4th chaetiger is the largest, with an elongate flap-like upper and an ovoidal lower margin. After the 5th chaetiger the dorsal lobes are more rounded, decreasing in size, and the oval ventral lobes also diminish in size. The hooded ventral crochets, 9-10 in one series, begin to appear on the 16th-17th chaetiger. They bear about 4-5 apical

teeth above a main fang. The dorsal crochets, 5–7 in number, first appear on the 27th–28th chaetiger. They are similar in form to those of the ventral ones. From the 10th chaetiger backwards there occur one or two acicular setae on the ventralmost portion of the

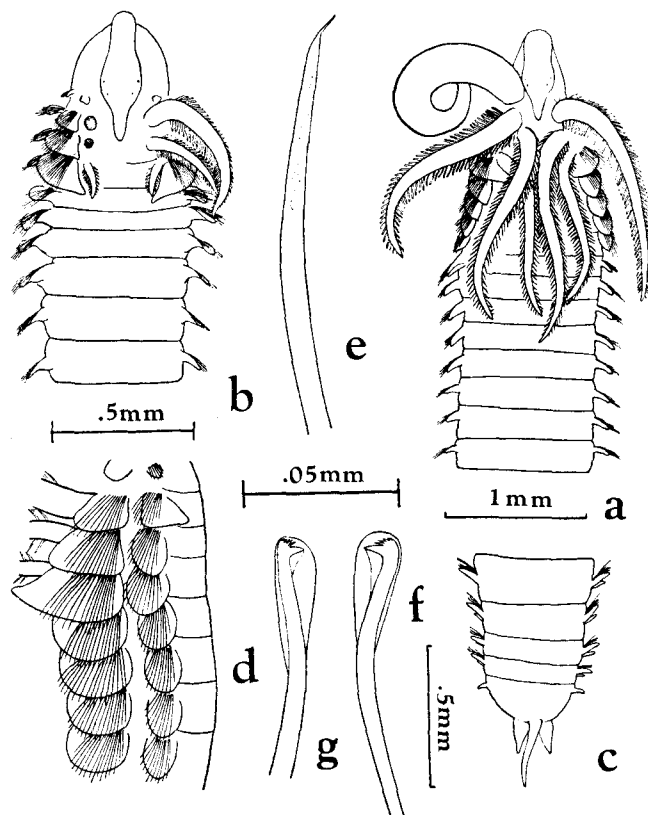


Fig. 21. *Prionospio krusadensis* FAUVEL a, Anterior end, with left tentacle in place. b, Anterior end from specimen from Tsuyasaki, to show remarkable short 3rd branchiae. c, Posterior end. d, Anterior end, lateral view. e, Acicular granulated bristle of neuropod. f, Ventral crochet. g, Dorsal crochet.

ventral rami. The dorsal setae are capillary, long and granulated. The acicular setae are granulated and bent outwards at the filiform tip. They occur also on the posterior chaetigers. The anal cirri consist of a slender ventral and two short dorsal ones.

Several specimens were obtained from Tsuyasaki. Though different as regards the shortness of the 3rd branchiae, they bear a close resemblance to Fauvel's specimens. The branchiae of the 3rd setigerous segment are very small, rudimentary, and indicated only by short, small processes which hardly attain to the tip of the 4th dorsal postsetal lobes, but are also pinnate as in the others. The 1st branchiae are longest, densely pinnate, while the 2nd ones are smaller and two thirds the length of the first pair. The body measures 10–14 mm for 75–80 chaetigers. The prostomium and the dorsal postsetal lobes exactly agree with specimens from Séto in general features. The specimens lack also the dorsal bristles on the 1st chaetiger. Ventral crochets appear from the 16th and dorsal ones from the 27th chaetigers.

Specimens were also collected from Kazusa, Nagasaki Prefecture and Taisei, Quelpart Island. They are all devoid of the first dorsal setae bundles. The branchiae are well developed as in the specimens from Séto.

*Locality:* Séto, Wakayama Prefecture; Tsuyasaki, Fukuoka Prefecture; Kazusa, Nagasaki Prefecture; Taisei, Quelpart Island of the Korean Archipelago.

*Remarks:* The specimens derived from Séto, as well as from Kazusa and Taisei are different from those of Tsuyasaki in the 3rd branchiae. Specimens from Tsuyasaki, though remarkably short in branchiae, in other characteristics, coincide with other specimens, so they may be regarded as a variety of this species. The Indian specimens studied by Fauvel are different from the Japanese ones in the 1st chaetiger (according to him it is not certain whether dorsal bristles are present or not); in shape of the acicular setae (no filamentous terminal extension in the Indian specimens); in the position of the occurrence of the dorsal crochets (on 40th–42nd chaetigers in Indian specimens but on 27th–28th chaetigers in Japanese forms); in the shape of the ventral crochets (three apical teeth in Indian while 4–5 teeth in Japanese specimens). Both Indian and Japanese specimens are well allied to each other in having three pinnate branchiae appearing first on the 2nd chaetiger, and a prostomium destitute of lateral wings. If the feature of the 1st chaetiger of the Indian specimens is constant, the Japanese specimens may be separated specifically. Other differences above mentioned seem to be rather insufficient to separate the species.

***Prionospio pinnata* EHLERS**

(Fig. 22)

*Prionospio pinnata*: EHLERS, 1908, p. 110; FAUVEL, 1932, p. 173.*Paraprionospio pinnata*: CAULLERY, 1915, p. 356, fig. 2.

An ill-preserved specimen devoid of a posterior region measures 26 mm. It has two eyes. There is a well-marked transverse crest on the 1st setigerous segment. The prostomium is partially clothed in a pair of large lateral membranaceous wings. Only two left and one right pinnate branchiae remained. They are all densely pinnate, presenting a rather flabelliform feature. Ventral crochets begin to appear from the 9th chaetiger, acicular granulated setae from the 9th chaetiger.

*Locality*: Onagawa, Miyagi Prefecture. Collected by members of the Onagawa Oceanographic Station.

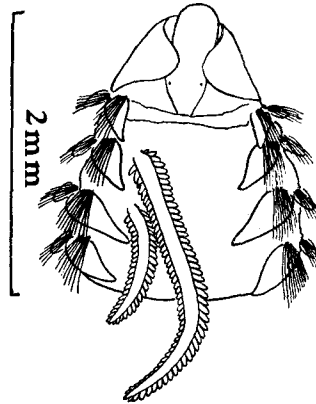


Fig. 22. *Prionospio pinnata* EHLERS Anterior end, with only two left branchiae in place.

**2. Family Magelonidae****Genus *Magelona* O. F. MÜLLER, 1858**

- Dorsal and ventral postsetal lobes being subequal in length in the posterior body region.....*M. japonica* typica  
 Dorsal postsetal lobes markedly larger than the ventral ones in the posterior body region. Ninth neuropod with ventral cirri.....*M. japonica* var. *koreana*

***Magelona japonica* n. sp.**

(Figs. 23-24)

A fair number of specimens were collected; all were broken into anterior or posterior fragments. The longest fragment examined measures 20 mm by 0.8 mm for 42 chaetigers. The prostomium is allied in form to *Magelona pacifica* and has a distinct frontal horn. There are two cephalic ridges, the outer pair being larger than the inner crescent-shaped pair. This latter, joined along the centre, is divided



into a fork at each end, the branches of the front fork extending each into the two lateral processes of the frontal horn. There are no striated markings on the prostomium as shown in *Magelona rosea*. Long, slender tentacles or palpi reach backwards to the 15th–23rd chaetigers. They are delicate and tapering, four-fifths of the

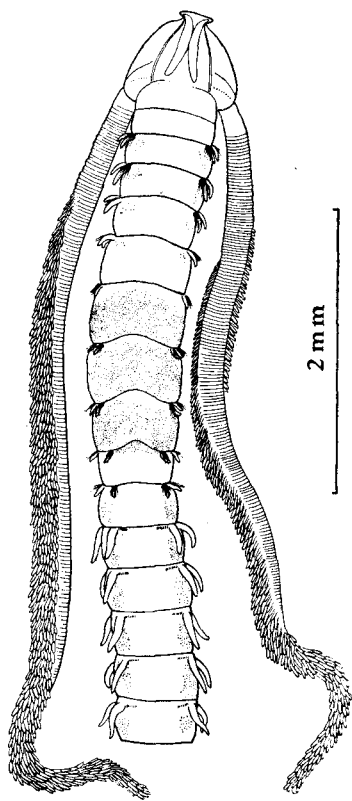


Fig. 23. *Magelona japonica* n. sp.  
Anterior body region.

terminal part of the lateral surface being covered with fine and crowded papillae. The eight anterior chaetigers bear slender dorsal and ventral postsetal lobes. On the anterior one or two segments the dorsal postsetal lobes are slightly longer than the ventral ones, while from the 5th chaetiger backwards the ventral lobes become slightly longer than the dorsal ones. There are no processes above the setigerous rami. Bristles in both rami are fine, winged capillaries. The 9th chaetiger bears subequal, but smaller postsetal lobes on both rami which are devoid of any cirriform process as shown in *Magelona japonica* var. *koreana* and *Magelona pacifica*. The capillary setae of the 9th chaetiger are similar to those in the foregoing segments. The setae are all fine and bordered only on one margin as in *Magelona rosea*. In the posterior region, the dorsal and ventral lobes are foliaceous, lanceolate, both being similar in shape and equal in length. Dorsal

and ventral hooded crochets are 6–8 in number and bear two transversely arranged small teeth above the main fang as in *Magelona papillicornis*. There are small ventral and dorsal cirri. The pygidium is conical and devoid of anal cirri, which have perhaps been torn off.

The coloration of the species is characteristic, with distinct deep purple pigment from the 5th to the anterior border of the 8th setigerous segments. This coloration is very bright in the living state and remained also after the specimens had been preserved. The pigmented area seems to be a glandular part. A similar coloration is also described by Ehlers for *Magelona cineta*, in which deep orange pigments occur on the 5th to the 9th segments. On each

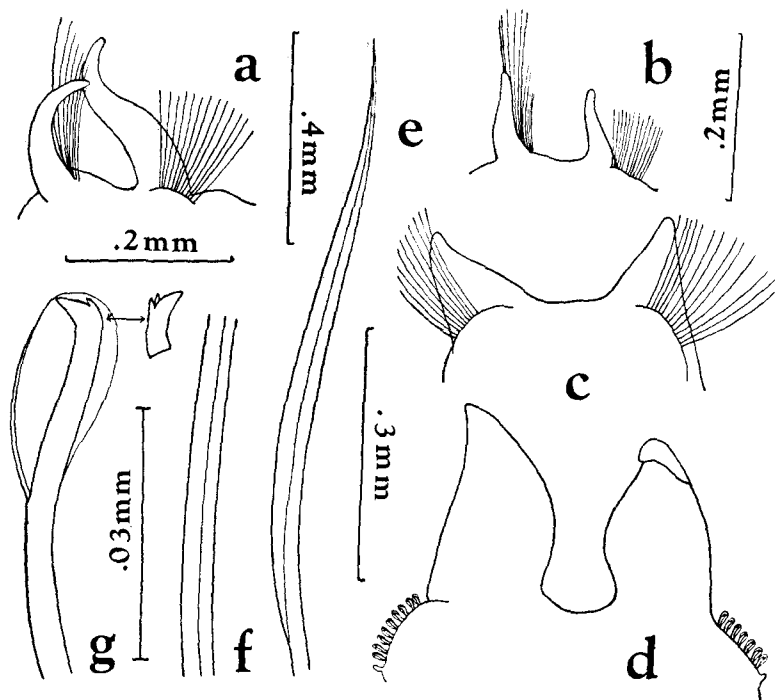


Fig. 24. *Magelona japonica* n. sp. a, First parapodium. b, Fifth parapodium. c, Ninth parapodium. d, Twelfth parapodium. e, Seta from 9th notopod. f, Dorsal seta from 6th parapodium. g, Crochet.

lateral side of segments just behind the parapodium, brown spots are scattered.

A single specimen together with a muddy tube was derived from Onagawa, Miyagi Prefecture. In every respect the specimen coincides well with the species. A similar characteristic coloration just mentioned is also found in the anterior body region.

**Locality and Habitat:** Jinsen, the Korean Archipelago; Onagawa, Miyagi Prefecture. Collected from a soft muddy bottom. The body cavity was filled up with eggs in specimens from Jinsen collected in July.

**Remarks:** The genus may be divided into two groups by the feature of the prostomium, one having a rounded frontal margin and the other a frontal horn; to the former belong the species *Magelona rosea*, *M. papillicornis* and *M. longicornis* and to the latter *Magelona pacifica*, *M. japonica* var. *koreana*, *M. cincta*(?) and the present species. Except for *Magelona papillicornis* the species above mentioned bear the 9th chaetiger with slender, capillary setae not subterminal bulbous in form. Though the present species is somewhat akin to *M. pacifica* in the prostomium, it is rather closely allied to *M. rosea* in other respects. As regards coloration the species may

be compared with *M. cincta* recorded from South Africa, but it differs in having much longer tentacles and crochets with two apical teeth above the main fang. The species may, however, possibly be identical with *M. cincta*, though the latter is not described in detail, especially in the crochets and prostomium.

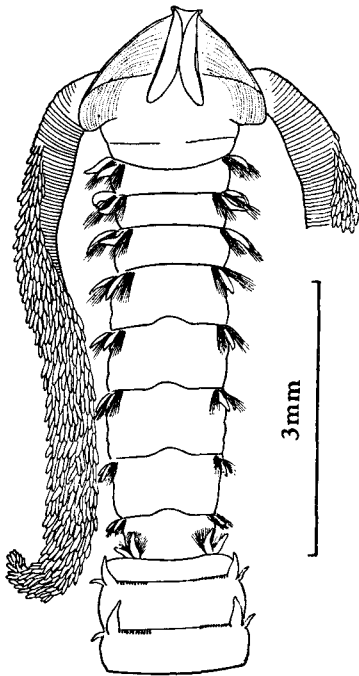


Fig. 25. *Magelona japonica* var. *koreana* n. var.  
Anterior body region.

*Magelona japonica* var.  
*koreana* n. var.

(Figs. 25-26)

A single specimen devoid of a posterior region was collected together with the type species. The body was stout and long, measuring 50 mm by 1.8 mm for 74 chaetigers. The prostomium had a frontal horn and a median cephalic ridge closely allied to that of the type species, but it differed in the corrugations on its surface as shown in *Magelona rosea*. The tentacles are stouter

and shorter, reaching as far as the 10th–12th setigerous segment. The papillation is very dense and well developed on the distal four-fifths of the entire length. On the anterior 2–3 segments the ventral postsetal lobes are longer and slenderer than the dorsal ones, but the dorsal lobes become slightly longer than the ventral ones after the 5th chaetiger. On the 9th chaetiger the dorsal postsetal and the ventral lobes are similar in size, but the ventral lobe only bears a

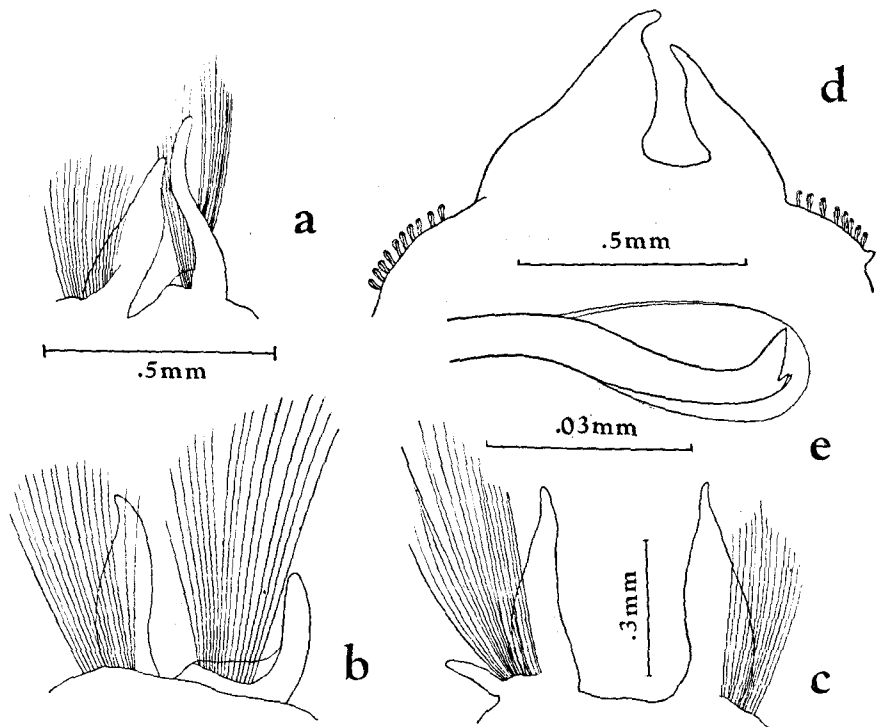


Fig. 26. *Magelona japonica* var. *koreana* n. var. a, First parapodium. b, Eighth parapodium. c, Ninth parapodium. d, Thirtieth parapodium. e, Crochet.

small cirrus. The 9th chaetiger becomes suddenly narrower, with a pair of comb-like fascicles of stiff, capillary setae. On the abdominal region the dorsal lobes are more than twice as broad and as long as the ventral ones. These lobes have only small ventral cirri. The hooks are all tridentate as in the type species, and arranged in one series, 8–9 on the ventral and 12–13 on the dorsal rami. There is no marked pigmentation as in the type species.

*Locality and Habitat:* Jinsen, the Korean Archipelago. Collected from a soft muddy bottom with the type species.

*Remarks:* The variety differs from the type species in the remarkable disparity in size between the dorsal and ventral lobes in the posterior region after the 10th chaetiger; in the presence of ventral cirri on the 9th chaetiger; in the absence of dorsal cirri on the posterior region; and in the larger body size. Though these differences may be worthy of the creation of a new species, yet we may, at present, regard the present form as a variety of the type species until more specimens are known.

### 3. Family Owenidae

Genus *Owenia* DELLE CHIAJE, 1842

*Owenia fusiformis* DELLE CHIAJE

(Fig. 27)

*Owenia fusiformis*: FAUVEL, 1927, p. 263, fig. 71, a-f; 1932, p. 208.

*Owenia assimilis*: WOLLEBAEK, 1912, p. 30, pl. 1, figs. 1-6.

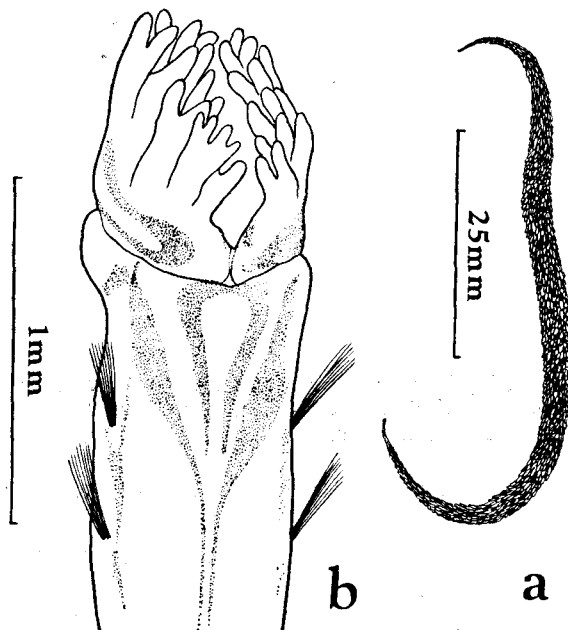


Fig. 27. *Owenia fusiformis* DELLE CHIAJE.  
a, Tube. b, Anterior end, ventral view.

Two complete specimens together with tubes were obtained from Muroran, Hokkaido. The body length measures 22–40 mm for about 26 chaetigers, the tube measuring about 70 mm by 3 mm. All the specimens are well ascribed to the European form. The prostomium ends in a lobed branchial membrane. The first three setigerous segments lack uncini. The dorsal setae are spinous. The ventral uncini are bidentate and arranged in transverse rows. The tube is membranaceous, coated with sand and shell fragments, fusiform, tapering at both ends.

Only tubes were collected from Ômuda, Saga Prefecture. A complete one measures about 130 mm by 4 mm. They were densely coated with rather larger shell fragments.

*Locality and Habitat:* Muroran, Hokkaido; Ômuda, Saga Prefecture. Specimens from Muroran were collected from a *Zostera*-bed.

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