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Eunicid Polychaetous Annelids from Japan—I*

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Résumé: L'auteur décrit dans cet article sept espèces d'annélides polychètes du genre *Eunice*. Leurs échantillons sont collectés principalement dans les eaux peu profondes de la presqu'île d'Oga, de Kominato sur la presqu'île de Boso, de l'île Ishigaki et de la Baie de Suruga, ainsi que à des profondeurs de 200 m dans la Baie de Kagoshima.

Parmi elles une espèce, *E. alata*, est nouvelle pour la science. Elle fut découverte dans une herbe flottante prés de Kominato. Elle se caractérise par des mâchoires molles, des antennes lisses, et des branchies fournies à partir du sixième sétigère.

La soie aciculaire est assez caractéristiques dans ces espèces dont le plus grand nombre est divisé comme suit: jaune et tridentée pour *E. antennata* et ?*E. indica*, jaune et bidentée *E. kobiensis*, noire et bidentée pour *E. alata*, *E. aphroditois* et *E. northioidea*.

Les deux espèces, ?*E. indica* et ?*E. australis*, étant morphologiquement incomplétes dans d'échantillonnage, leur détermination reste incertaine.

1. Introduction

The members of the family Eunicidae include the largest species of all known Polychaeta. They are widely dispersed in marine rocky, sandy or muddy bottoms and also among the colonies of attached organisms, such as barnacles, mussels, other tube-dwelling polychaetes and seaweeds.

The study of this family dates back to the end of the eighteenth century. Japanese species of the family Eunicidae were first reported on by foreign zoologists: MARENZELLER (1879), MCINTOSH (1885), MOORE (1903) and FAUVEL (1936). On the other hand, in this century, studies have been made chiefly by Japanese researchers: IZUKA (1912), OKUDA (1938), IMAJIMA and HARTMAN (1964) and IMAJIMA (1967). All species reported from Japan up to now were summarized by IMAJIMA and HARTMAN (1964).

In this paper, seven species of genus *Eunice* are presented. One species, *Eunice alata*, is new to science.

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The type specimens and most of the remaining collections have been deposited in the National Science Museum, Tokyo.

2. Materials and methods

The specimens examined were collected from Oga Peninsula, Kominato and Ishigaki Island in intertidal zone and from Suruga Bay and Kagoshima Bay in 10-200 m depth. They were fixed in 10 % formalin and preserved in 70 % alchol. Each individual was numbered E....

The item "Collection" of each description of species gives collecting data, measurements* basically resemble those taken on a material of Eunicidae from western Mexico by FAUCHALD (1970: 234), but some data are newly added here.

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* The blank means "be not measured" and the dash means "immeasurable".

The columns are as follows. A: Specimen number. B: Collecting data (Date and Locality). C: Anterior length in mm, measured from the tip of the palpi to the posterior margin of setiger 10. D: First occurrence of the branchiae, counted from the anterior end as the number of the setiger, on which the first branchia occurred, and an indication of the number of branchial filaments on this setiger, *e.g.* 100-1: Branchiae start on setiger 100 as a single filament. E: Last occurrence of the branchiae, counted from the anterior end as the number of the setiger, on which the last branchia occurred, and the number of branchial filaments there present. F: First occurrence of subacicular hooks, counted from the anterior end as the number of the setiger, on which the first subacicular hook occurred, and an indication of the maximal number of subacicular hooks in a parapodium, *e.g.* 25-1: Subacicular hooks start at setiger 25 as a single projection in a parapodium. G: The total number of setigers present in the specimen. H: The maximal number of filaments in a single branchia. I: Body width in mm, measured at the broadest part of the body, including parapodia. J: The condition of the specimen indicated as follows.

C S: Complete specimen
A F: Anterior fragment (without posterior end)
M F: Median fragment (without anterior and posterior ends)
P F: Posterior fragment (without anterior end)
S C: Separated complete specimen (the specimen with all body regions but autotomised into some pieces)

3. Description

Family Eunicidae SAVIGNY, 1818
Genus *Eunice* CUVIER, 1817
Eunice alata sp. nov.
(Figs. 1, a-h, and 2, i-o)

Collection

A*	B	C	D	E	F	G	H	I	J
NSMT-Pol. H-124	Aug. 20, 1973 Kominato	6.2	6-2	107-1	25-1	113	8	5.5	C S
NSMT-Pol. P-125	,,	11.4	6-3	62-10	24-1	62	12	7.0	A F
,,	,,	7.2						5.5	A F

Description: Three specimens were collected from Kominato burrowing along the pith of drifting dead grass.

The complete individual (Holotypus) is the smallest of the three and measures 52 mm long by 5.5 mm wide including parapodia with 113 setigers. The largest specimen lacking the posterior end is 70 mm long and 7.7 mm wide with 62 setigers. The last specimen is also incomplete posteriorly and lacks of the last few segments; it measures 54 mm long and 5.5 mm wide.

The color of dorsum is dark purplish brown anteriorly and becomes somewhat lighter or reddish with distinctly darker dorsal vessel of the posterior body. Branchiae are darker than the dorsum. All parapodial cirri and prostomial, peristomial and anal appendages are paler than the dorsum. The body is narrow and cylindrical in the anterior end, then immediately increases in width to setiger 22, thereafter gradually decreases to the posterior end. Excluding several anterior segments, the body segments are flattened in the cross-section.

The prostomium is anteriorly divided into four lobes, each notch is about half as long as the prostomium (Figs. 1, a-c). There are five occipital antennae, each is long and smooth and has distinct dark-colored belts. The median three are subequal in length, each is four times as long as the prostomium and has four dark brown belts. Each of the outer ones is shorter, about three times as long as the prostomium and has three dark belts. Each belt is twice

* NSMT: National Science Museum, Tokyo.
Pol: Polychaeta. H: Holotypus. P: Paratypus.

as long as wide. Eyes are absent. The peristomial region consists of a broad anterior and very short cirrophoral, posterior ring. The anterior ring is one and one half as wide as long and overlaps the posterior part of the prostomium. The cirrophoral ring is half as long as the first setiger and has a pair of short peristomial cirri. Each peristomial cirrus has a single dark belt.

Parapodia are uniramous. The first parapodium has a cylindrical dorsal cirrus, a digitiform ventral one and a low triangular setal lobe (Fig. 1d). Thereafter the dorsal cirri become proximally inflated but taper to narrow distal

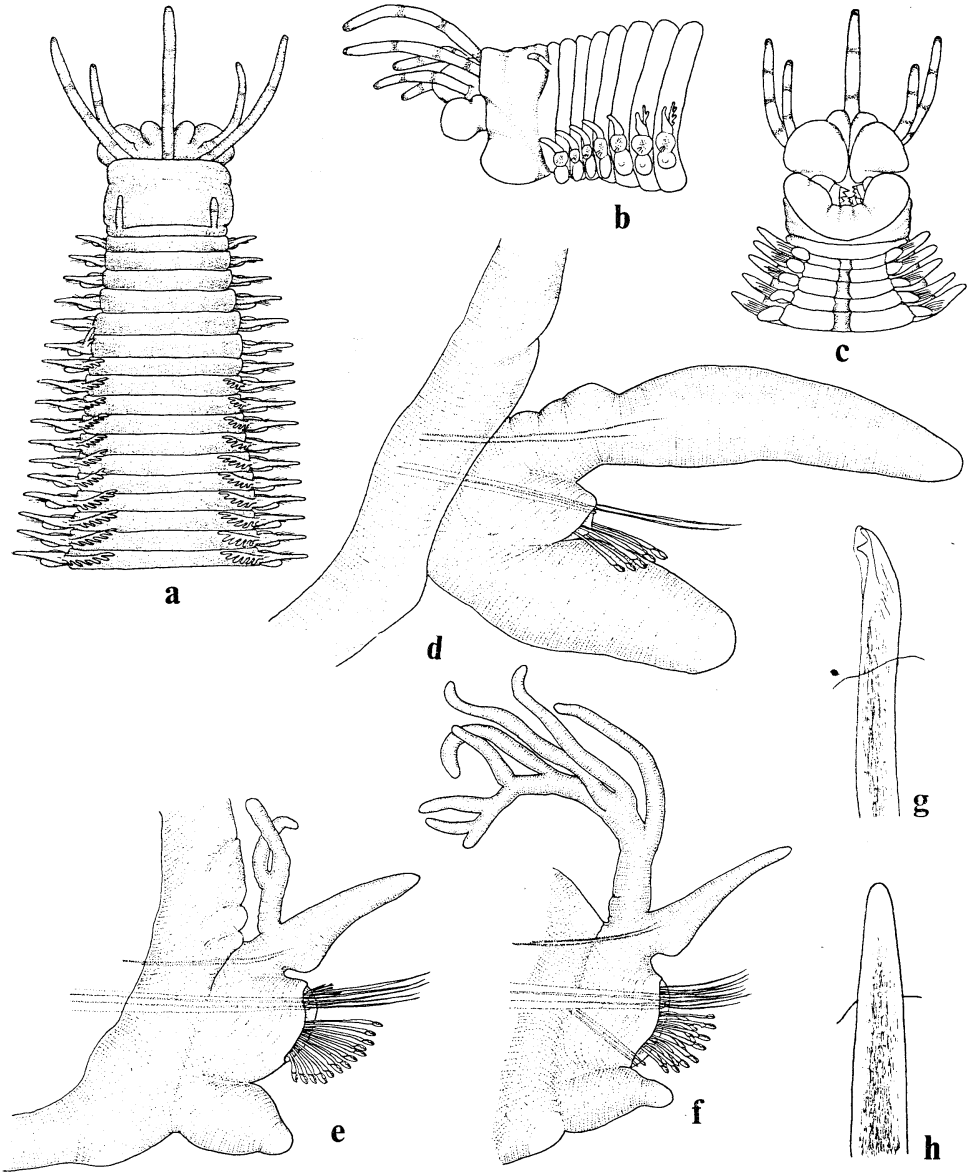

Fig. 1. *Eunice alata* sp. nov. a, Anterior end, in dorsal view, ×12. b, The same, in lateral view, ×12. c, The same, in ventral view, ×12. d, First parapodium, in anterior view, ×200. e, Parapodium 6, in anterior view, ×50. f, Parapodium 50, in anterior view, ×50. g, Subacicular hook, ×400. g, Aciculum, ×400.

tips. Similarly, an expansion of each ventral cirrus forms a proximal pad in most setigers. Postsetal lobes are higher than presetal lobes and are rounded distally (Figs. 1 e-f).

Branchiae are first present at setiger 6 as two filaments on the left or three on the right side. The number of branchial filaments increases to eight at setiger 31 and this number continues to setiger 35, then gradually decreases to near the posterior end of the body, the last branchia is a single filament present on setiger 107. The exact distribution of the branchial filaments is given in Table 1.

Dark subacicular hooks are bidentate and hooded (Fig. 1g). The tip of hook is transparent and the two teeth are directed laterally. They are first present at parapodium 25 as a single seta, then from parapodium 29 they count two in a parapodium and the same number continues to about parapodium 80, thereafter the hooks occur singly in a parapodium to the posterior end. In the larger paratypus, the hooks start at setiger 24 and occur singly to setiger 33, two are present in each of setigers 34-47, the maximal number, three, are found between setigers 48-54, behind which two are

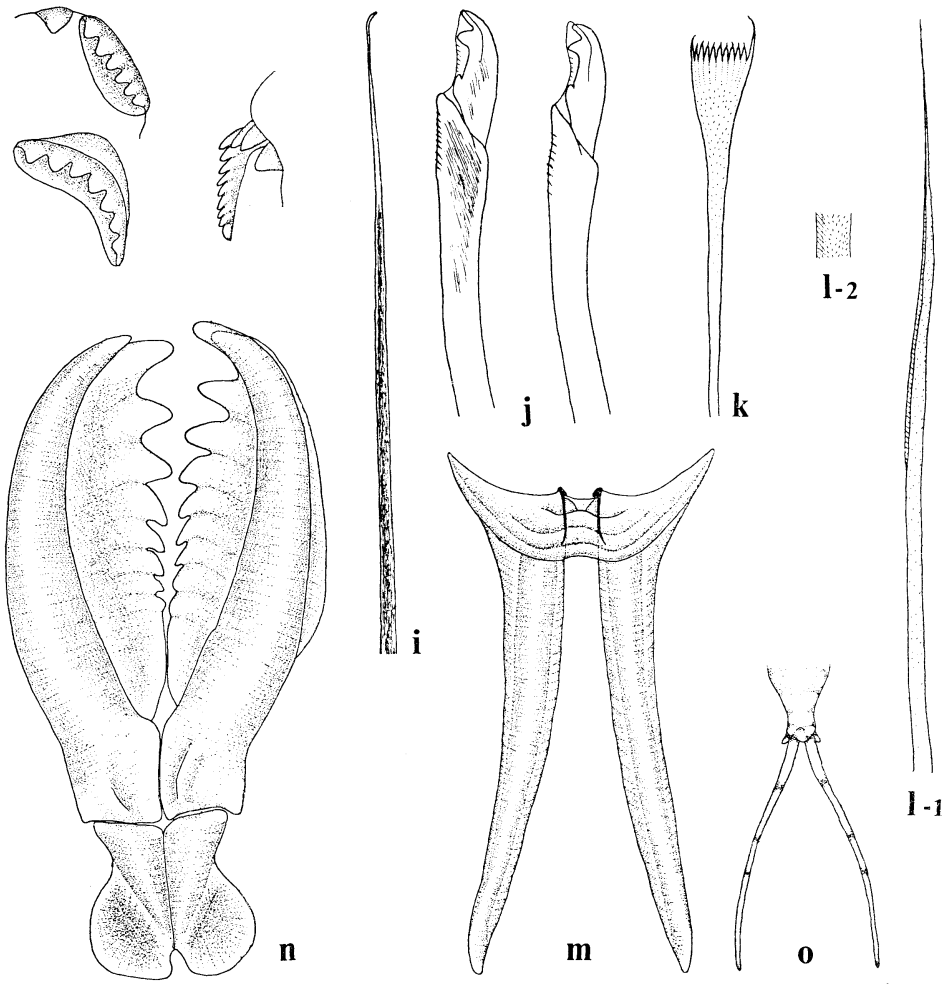

Fig. 2. *Eunice alata* sp. nov. i, Notoacicular seta, ×300. j, Compound setae, one showing cortex, ×400. k, Comb seta, ×800. l-1, Capillary seta, ×800. l-2, The same, showing the wing, ×1300. m, Mandibles, in ventral view, ×50. n, Maxillae, in dorsal view, ×50. o, Pygidium, in dorsal view, ×6.

Table 1. Branchial distribution on left side, on the holotypus and the larger paratypus of *Eunice alata* sp. nov. No.: The number of the setiger. H: Holotypus. P: Paratypus.

No.	H	P	No.	H	P	No.	H	P	No.	H	No.	H
6	2	3	28	7	11	50	8	11	72	5	94	3
7	3	4	29	7	11	51	6	11	73	5	95	3
8	4	5	30	7	11	52	7	10	74	5	96	3
9	5	5	31	8	11	53	6	10	75	5	97	3
10	5	?	32	8	11	54	6	10	76	5	98	3
11	5	?	33	8	11	55	?	10	77	5	99	3
12	5	?	34	8	11	56	6	10	78	4	100	3
13	6	8	35	8	11	57	5	11	79	4	101	1
14	6	8	36	7	11	58	6	11	80	3	102	1
15	6	9	37	7	11	59	6	10	81	4	103	1
16	6	9	38	7	11	60	6	11	82	4	104	1
17	6	9	39	7	11	61	5	10	83	4	105	1
18	?	9	40	7	11	62	6	10	84	4	106	1
19	7	9	41	7	10	63	6	—	85	4	107	1
20	6	10	42	7	11	64	6	—	86	4	108	0
21	7	10	43	7	10	65	6	—	87	4	109	0
22	6	10	44	7	11	66	6	—	88	3	110	0
23	7	10	45	7	11	67	5	—	89	3	111	0
24	7	10	46	7	?	68	6	—	90	3	112	0
25	7	10	47	7	11	69	6	—	91	3	113	0
26	7	10	48	7	11	70	6	—	92	3		
27	7	11	49	7	11	71	5	—	93	3		

found in each setiger to the end of the fragment. These subacicular hooks are always thinner than the compound setae. Acicula are dark, bluntly tapered and counted three in a parapodium except for the first few parapodia which have two acicula (Fig. 1h). Notoacicular setae observed in the base of the dorsal cirrus are as slender as fine capillary setae and number two or three in a bundle (Fig. 2i). Each compound seta has a bidentate hooded blade. Both teeth are directed laterally and a single tooth-like projection is present on the proximal part of the blade. The hood is serrated on the cutting edge. On the distal cutting margin of the shaft, there are many short spines in 8-15 rows (Fig. 2j). The compound setae number nine on the first parapodium, about 20 on parapodium 6, 16 on parapodium 17, and 11 on parapodium 48. Each comb seta has 9-12 inner teeth and paired asymmetrical lateral extensions (Fig. 2k). The long slender limbate setae have a narrow wing and short spines basally (Fig. 2l). The number of comb setae is two at the first parapodium, five at parapodium 17 and nine at parapodium 48.

The proboscideal armature is very soft, amber-colored and non-calcified. The mandibles are transparent anteriorly, each half has a black, narrow longitudinal band on the inner margin. There are three dark transverse lines on the distal flattened part (Fig. 2m). The maxillary carriers are broad and with rounded concave basal parts. Maxillary plates have pointed teeth. The maxillary formula is Mx. I=1+1 (forceps), Mx. II=8+9, Mx. III=7+0, Mx. IV=6+11, Mx. V=1+1 (Fig. 2n).

The pygidium has two pairs of anal cirri. The dorsal pair is very long; each has three bands. The ventral pair is short without colored belts (Fig. 2o).

Type locality: Kominato, Pacific coast of Boso peninsula.

Type-series: Holotypus, NSMT-Pol. H-124
Paratypi, NSMT-Pol. P-125

Discussion: *Eunice mutilata*, *E. flavopicta* and *E. aphroditois* are very similar to *E. alata*, in having one or more subacicular hooks of the

fuscus bidentate kind and branchiae from about setiger 6. *E. alata* has maximally three subacicular hooks in each segment in fully grown specimens. *E. mutilata* has not more than two subacicular hooks, according to McINTOSH (1885, as *E. barvicensis*), TREADWELL (1921, as *Leodice mutilata*), HARTMAN (1944) and FAUCHALD (1970). This latter arrangement of subacicular hooks is described for *E. flavopicta* by IMAJIMA and HARTMAN (1964). Additionally, *E. alata* is monotonously dark purplish brown on the anterior dorsum in stead of having the white bar of *E. flavopicta* or the punctation of *E. mutilata*. *E. aphroditois* described by IMAJIMA and HARTMAN (1964) has also two or three subacicular hooks in a parapodium. *E. alata* differs from *E. aphroditois* with respect to the structure of the dorsal cirri, the mandibles and the caudal cirri. The dorsal cirri of *E. alata* resemble those of *Marphysa regalis*, as illustrated by TREADWELL (1921) and NONATO and LUNA (1970).

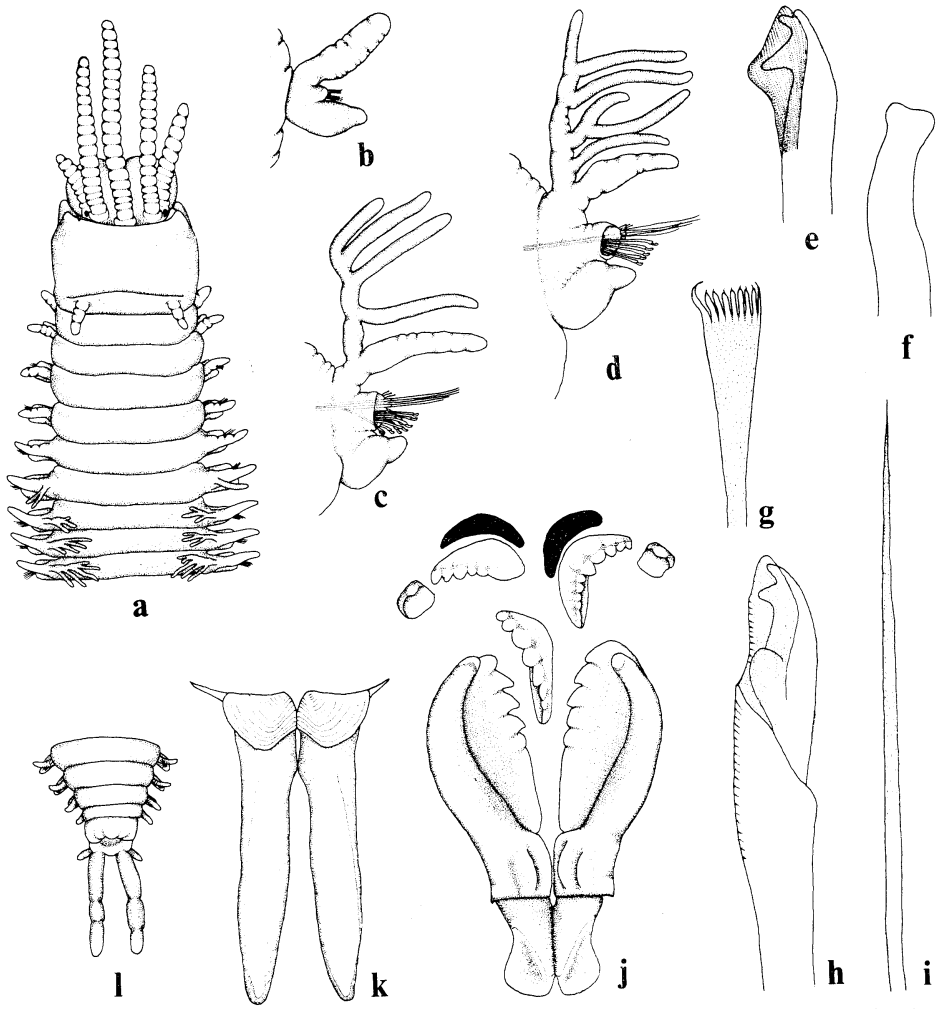

Fig. 3. *Eunice antennata* (Savigny, 1820). a, Anterior end, in dorsal view, ×16. b, First parapodium, in anterior view, ×40. c, Parapodium 15, in anterior view, ×40. d, Parapodium 24, in anterior view, ×40. e, Subacicular hook, × 400. f, Aciculum, ×400. g, Comb seta, ×400. h, Compound seta, ×800. i, Capillary seta, ×400. j, Maxillae, in dorsal view, ×40. k, Mandibles, in ventral view, ×40. l, Posterior end, in dorsal view, ×25.

Eunice antennata (SAVIGNY, 1820)
(Fig. 3, a-l)

Eunice antennata: CROSSLAND, 1904, pp. 312-318, pl. 22, figs. 1-7; MONRO, 1937, p. 287; OKUDA, 1937, pp. 282-283, fig. 26. a-f; OKUDA, 1938, p. 96; HARTMAN, 1944, pp. 115-117, pl. 7, figs. 154-156; IMAJIMA and HARTMAN, 1964, p. 255; DAY, 1967, p. 384, fig. 17. 2. k-q; IMAJIMA, 1967, pp. 433-435, fig. 10. a-m; FAUCHALD, 1970, pp. 20-22, pl. 1, figs. a-c; WU *et al.*, 1975, pp. 81-82.

Collection

A	B	C	D	E	F	G	H	I	J
E 1	May 31, 1975 Kominato	5.5	6-1		20-1	38	4	2.8	A F
E 2	,,	5.8	5-1	70-1	22-1	38	4	2.7	C S
E 3	,,	2.4	7-1	15-1	19-1	46	2	1.3	C S
E 4	,,	6.2	5-1			12	3	3.2	A F
E 5	,,	5.0	6-1	26-1	21-1	37	3	2.6	A F
E 6	,,	3.7	6-1	17-1	16-1	32	3	1.7	A F
E 7	,,	–	–	–	–	–	–	–	P F
E 8	Jun. 1, 1975 Kominato	2.5	6-1	15-1	16-1	38	2	1.5	A F
E 9	,,	5.0	6-1	72-1	22-1	76	4	3.1	S C
E 10	,,	2.5	6-1	12-1	14-1	18	2	1.4	A F
E 11	,,	6.0	6-1				3	3.0	C S
E 12	,,	3.3	7-1	17-1	21-1	52	2	2.0	C S
E 13	,,	3.0	6-1	18-1	20-1	61	2	2.0	C S
E 14	,,	3.3	5-1	14-1	16-1	31	2	1.9	A F
E 15	Jun. 12, 1975 Oga	5.8	5-1		22-1	50	5	3.0	A F
E 16	,,	6.8	6-1		29-1	56	6	3.8	A F
E 17	,,	3.6	6-1		30-1	58	5	1.8	A F
E 18	,,	4.8	5-1		20-1	45	4	2.6	A F
E 19	,,	6.2	6-1	66-1	23-1	66	6	3.5	C S
E 20	,,	7.5	6-1		26-1	66	7	4.2	A F
E 21	Jun. 13, 1975 Oga	6.5	6-1	77-1	23-1	77	6	3.7	C S
E 22	,,	5.2	5-1		20-1	34	4	2.7	A F
E 23	,,	6.2	5-1	68-1	23-1	68	6	3.5	C S
E 24	Oct. 5, 1975 Kominato	1.9	6-1	9-1	11-1	33	1	1.0	C S
E 25	,,	2.3	6-1	13-1	14-1	39	2	1.2	C S
E 26	,,	5.0	6-1		23-1	35	3	2.9	A F
E 27	,,	7.5	6-1	58-2	25-1	74	4	3.1	S C
E 28	,,	5.5	5-1		20-1	53	4	2.9	A F
E 29	,,	4.0	5-1	61-1	20-1	68	3	2.2	C S
E 30	,,	1.9	6-1	11-1	11-1	33	1	0.9	C S
E 31	,,	2.2	5-1	13-1	14-1	39	2	1.3	C S
E 32	,,	2.6	6-1	13-1	12-1	38	1	1.3	C S
E 33	,,	2.0	7-1	11-1	13-1	38	1	1.2	C S
E 34	,,	1.7	6-1	10-1	11-1	31	1	0.9	C S
E 35	,,	1.7	6-1	10-1	13-1	34	1	1.0	C S
E 36	,,	2.2	6-1	12-1	12-1	36	1	1.2	C S
E 37	,,	6.4	6-1		28-1	54	4	4.1	A F
E 38	,,	4.0	6-1		21-1	26	3	2.3	A F
E 39	,,	2.0	7-1	9-1	11-1	28	1	1.0	C S
E 40	,,	1.7	6-1	8-1	10-1	26	1	0.8	C S
E 41	,,	2.4	6-1	15-1	13-1	44	2	1.4	C S
E 42	,,	1.7	5-1	11-1	14-1	34	1	1.1	C S
E 43	,,	1.9	7-1	10-1	11-1	24	1	1.0	C S
E 44	,,	2.5	6-1	13-1	12-1	38	2	1.4	A F

E 45	Oct. 5, 1975 Kominato	–	–	–	–	42	2	2.1	P F
E 46	,,	7.0	6-2	84-1	24-1	87	6	4.5	C S
E 47	,,	7.3	6-1	84-1	24-1	88	5	3.7	C S
E 48	Nov. 20, 1975 Kominato	5.4	6-1	82-1	24-1	86	5	3.7	S C
E 49	Nov. 19, 1975 Kominato	6.9	6-2	94-1	24-1	94	5	4.2	C S
E 130	Sep. 2, 1972 Suruga Bay	6.5	5-2	98-1	23-1	98	8	3.5	C S
E 131	Sep. 15, 1972 Suruga Bay	6.2	5-2	90-2	24-1	90	6	3.5	C S
E 132	,,	5.0	5-1	90-1	22-1	90	7	3.2	C S
E 133	,,	6.8	5-1	92-2	22-1	92	7	4.4	C S
E 145	Feb. 2, 1976 Kominato	3.0	6-1	15-1	16-1	47	2	1.5	C S
E 172	Apr. 19, 1976 Ishigaki	3.5	7-1	70-1	21-1	72	2	1.8	C S
E 173	,,	3.8	7-1	64-1	20-1	69	2	1.9	C S
E 174	,,	4.2	7-2	81-1	22-1	86	4	2.6	C S
E 175	,,	3.4	7-1	27-1	19-1	71	1	1.8	C S
E 176	,,	2.8	7-1	60-1	18-1	66	1	1.8	C S
E 177	,,	2.8	7-1	60-1	19-1	64	1	1.5	C S
E 178	,,	4.0	7-1	75-1	20-1	77	2	2.1	C S
E 179	,,	2.6	7-1	43-1	17-1	58	1	1.5	C S

Description: This species is very common on rocky sea shores and coral reefs in Japan. They live burrowing in the substrata, especially in the holdfasts of seaweed in the intertidal and shallow subtidal zones.

One of the largest specimens measures 42 mm long by 4.5 mm wide including parapodia and has about 90 setigers. The body is cylindrical anteriorly and slightly flattened posteriorly.

The color of dorsum is brilliant red brown except the white peristomial cirrophoral ring; a whitish patch is at the middle of each setiger in branchial region. A black pigmented organ can be seen within the proximal part of each parapodium.

The prostomium is bifid in front, the incision is distinct but shallow (Fig. 3a). A pair of rounded eyes and five moniliform occipital antennae are present. Prostomial antennal articles are long and cylindrical; they become more spherical towards the distal end. The central antennae has 20 articles, and is twice as long as the peristomial rings combined. The inner lateral antennae has 16-17 articles and is subequal to the central one in length. The outer lateral one is shortest with about ten articles. The first peristomial ring is three times as long as the second one, which has a pair of triarticulated or smooth peristomial cirri reaching to the anterior margin of setiger 2.

The dorsal cirri are digitiform and irregularly wrinkled (Figs. 3 b-d). The branchiae arising from the dorsal base of parapodium start at setiger 6 and continue to the posterior end of the body. The number of branchial filaments is one on the first branchium, the maximal number is five to seven between setigers 10-20 (Fig. 3c). Then it decreases gradually to the middle region of the body, where the branchiae appear as a single filament, thereafter the number increases to become three between setigers 60-80, and it decreases again in the last few segments.

Yellow tridentate, hooded subacicular hooks are first present from setigers 23-30 (Fig. 3e). They occur singly in a parapodium. In small specimens, they start more anteriorly. Acicula are yellow with hammer-shaped tips and number two in each fascicle (Fig. 3f). Each comb seta has asymmetrical extensions and seven to eight inner spines (Fig. 3g). The compound falcigers are bidentate and hooded (Fig. 3h). Capillary setae have short basal spines (Fig. 3i).

The maxillary formula is Mx. I=1+1, Mx. II=(4-5)+(5-6), Mx. III=(6-9)+0, Mx. IV=(5-7)+(8-9), Mx. V = 1+1. The maxillary carriers are broad and short (Fig. 3j). The mandibles are well calcified and the distal cutting edges have 7-9 lines (Fig. 3k).

The pygidium has two long tri-articulated dorsal and two short ventral cirri (Fig. 3l).

Distribution: Gulf of Suez; Atlantic, Indian and Pacific oceans; cosmopolitan in warm

waters, in intertidal and subtidal zones; Japan.

Discussion: *Eunice antennata* is one of the most common species of this genus in Japan. Japanese specimens were compared with a specimen from South Africa by IMAJIMA (1967) and he suggested their agreement. Many authors, IMAJIMA (1967), FAUCHALD (1970), etc., have mentioned that this species shows a bi-modal distribution of branchiae; *i.e.* the branchiae are well developed in the anterior and posterior body regions, but poorly developed in the middle region. The specimens examined here include many juveniles; specimens that are less than 3.0 mm in width do not show the bi-modal distribution; the specimens of less than 1.5 mm wide have only several pairs of branchiae with a single filament each in the anterior body region. The branchiae of these juvenile worms start at setigers 6-7, thus more posteriorly than in adults where they start at setigers 5-7. Similar variance can be seen from the locality to the next. The branchiae may start rather late in the specimens from Ishigaki Island which is in the far southern part of Japan. However, the specimens are few in number and juvenile, so that more substantial observations are needed before this can be verified as a true populational difference.

Eunice aphroditois (PALLAS, 1788)
(Fig. 4, a-n)

Eunice aphroditois: MCINTOSH, 1885, pp. 282-284, figs. 41-43, pls. 38, figs. 16-17 and 20A, figs. 8-10; CROSSLAND, 1904, pp. 288-289; IZUKA, 1912, pp. 112-114, pls. 2, fig. 2 and 13, figs. 1-6; BENHAM, 1927, pp. 86-89; FAUVEL, 1936, pp. 65-66; OKUDA, 1937, p. 276; HARTMAN, 1944, pp. 109-110; IMAJIMA and HARTMAN, 1964, pp. 250-251; DAY, 1967, p. 389, fig. 17, 4, l-o; FAUCHALD, 1970, pp. 24-25, pl. 3, figs. a-b; WU *et al.*, 1975, p. 82.

Collection

A	B	C	D	E	F	G	H	I	J
E 65	May 31, 1975 Kominato	37.5				61		27.0	A F
E 66	— —					360		32.0	C S
E 196	May 30, 1976 Kominato	37.0	6-17	159-24	–	159	43	25.0	A F
E 197	,,	–	–	–	–	–	–	–	P F

Description: Three specimens were collected from the rocky shore in intertidal zone: Two specimens are anterior fragments and the remaining one is a posterior fragment. Other than these, specimens examined include a complete one (E 66) for which unfortunately the exact collecting data have been lost.

The color of dorsum is dark brown with strongly metallic iridescence. Setigers 4 and 5 have white transverse bands. The posterior body is almost black and darker than the anterior. The caudal region is purplish brown with deep purple anal cirri. The bright red branchiae become dark gray in fixation. Both dorsal and ventral cirri are gray and paler than the dorsum. The ventral surface of the body is dark brown with metallic iridescence but paler than the dorsum.

The body is cylindrical anteriorly and becomes flattened posteriorly, but not so noticeably as *Marphysa sanguinea*. The body is widest at about setiger 50 and then gradually tapers to the posterior end.

The anterior margin of the prostomium is divided into four lobes; the median crevice reaches deep into the proximal part of the prostomium. The five occipital antennae are smooth or irregularly annulated; the median three are subequal in length; each is twice as long as the prostomium. At the base of outer antennae, two oval colorless eyes are situated (Fig. 4a). The two peristomial tentacles are on the second peristomial ring, but do not extend beyond the anterior margin of the first peristomial ring. The two peristomial rings are so well fused that the furrow between these rings is visible only on the dorsum. These peristomial rings combined are more than four

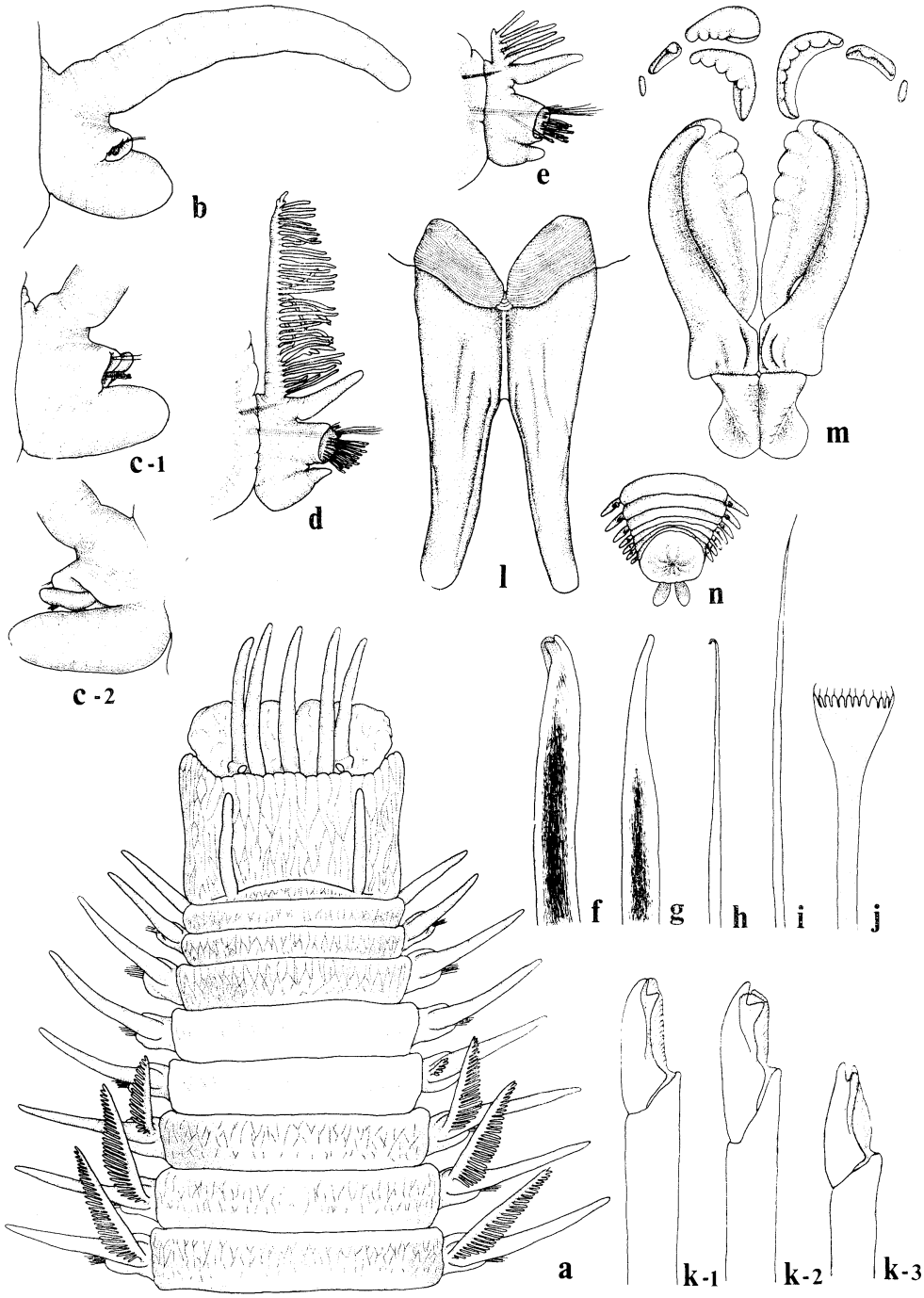

Fig. 4. *Eunice aphroditois* (Pallas, 1788). a, Anterior end, in dorsal view, ×4. b, First parapodium, in anterior view, ×10. c-1, Parapodium 2, in anterior view, ×10. c-2, The same, in posterior view, ×10. d, Parapodium 46, in anterior view, ×6. e, Parapodium 300, in anterior view, ×15. f, Subacicular hook, ×200. g, Aciculum, ×100. h, Notoacicular seta, ×200. i, Capillary seta, ×200. j, Comb seta, ×100. k-1, Compound seta, complete one, ×200. k-2, The same, damaged one, ×200. k-3, The same, deformed one, ×200. l, Mandibles, in ventral view, ×6. m, Maxillae, in dorsal view, ×6. n, Pygidium, in dorsal view, ×6.

times as long as the first setiger.

Parapodia are uniramous. The dorsal cirri are long and cylindrical. The ventral cirri are short; they are cylindrical in the anterior few setigers and become conical with a proximal pad in the other setigers. The first parapodium has a few compound and capillary setae; the postsetal lobe is higher than the presetal lobe; the setal lobe cannot be seen between the pre- and the postsetal lobes (Fig. 4b). The first few anterior parapodia resemble the first one in most respects. In the specimen numbered E 196, the second parapodium is provided with a digitate projection on the posterior face of the postsetal lobe (Fig. 4c). The pre- and postsetal lobes become lower and the setal lobe projects more clearly in branchial parapodia (Fig. 4d).

Branchiae are first present at setigers 5-6 and are pectinate from the first. The first branchiae of specimen E 196 have 17 filaments on left setiger 6 and six filaments on right setiger 5. The branchial filaments increase in number rapidly posteriorly; they number 30 at setiger 10, reach a maximum of 48 at setiger 31 and then gradually decrease. They number more than 30 at about setiger 120, and 24 at setiger 154 which is the last parapodium of the fragment. Caudal segments (seen in another specimen) have six or fewer branched filaments per parapodium (Fig. 4e).

Dark subacicular hooks are bidentate and hooded (Fig. 4f). They are arranged singly in a parapodium and have been observed only the last fifth of the body. Dark acicula are distally bluntly tapered and curved (Fig. 4g). They number three to four. Embedded notoacicular setae can be observed within the bases of dorsal cirri. Each seta is very fine and dark (Fig. 4h). The number of notoacicular setae in each bundle is four to ten, more in the anterior parapodia than in the posterior ones. In the supracicular portion of the neuropodia, there are simple slender capillaries (Fig. 4i) and comb setae provided with rather similar lateral extensions and 8-11 inner teeth (Fig. 4j). Compound setae in subacicular positions are bidentate, hooded and falcigerous; the blades have been lost or damaged in the specimens examined. Complete, damaged and deformed ones are illustrated (Fig. 4k).

Table 2. The number of each kind of setae and branchial filaments in several parapodia of the specimen numbered E 66. A: Acicula. BF: Branchial filaments. CAP: Capillary seate. COMP: Compound setae. NA: Notoacicular setae. No.: The number of the setiger. SH: Subacicular setae.

No.	NA	A	SH	COMB	CAP	COMP	BF
22	10	3	-	10	7	24	31
46	10	3	-	15	8	25	39
69	7	4	-	20	5	20	20
100	10	4	-	15	7	22	26
150	?	3	-	15	6	16	23
199	6	3	-	25	5	18	19
250	5	2	-	30	6	14	14
300	4	2	1	20	4	8	6

The number of each kinds of setae and branchial filaments in different parapodia of the specimen numbered E 66 are shown in Table 2.

The pharyngeal apparatus is well developed and calcified. The mandibles have about 30 lines on the distal part and stout shafts with rounded ends (Fig. 4l). The maxillary carriers are broad but small compared to the dental plates. The maxillary formula is Mx. I=1+1, Mx. II=(4-6)+(4-7), Mx. III=(5-6)+0, Mx. IV=4+(6-13), Mx. V=1+1. Two small calcified bodies are present in front of maxillae V on each side (Fig. 4m).

The pygidium has two ovoid anal cirri colored deep purple (Fig. 4n).

Distribution: Mediterranean Sea; Atlantic, Pacific and Indian oceans, cosmopolitan in warm waters, in intertidal and subtidal zones; Japan.

Discussion: The two anterior fragments examined have no subacicular hooks and the complete specimen has the hooks first present at parapodium 300. The first occurrence of the subacicular hooks is more anterior in specimens described by FAUCHALD (1970). The specimens are more than 35 mm in head length and are thus bigger than Fauchald's. He mentioned that the black, bidentate subacicular hooks are present from setigers 15-54; their first occurrence being strongly dependent on the size of the specimen. The present author agrees with

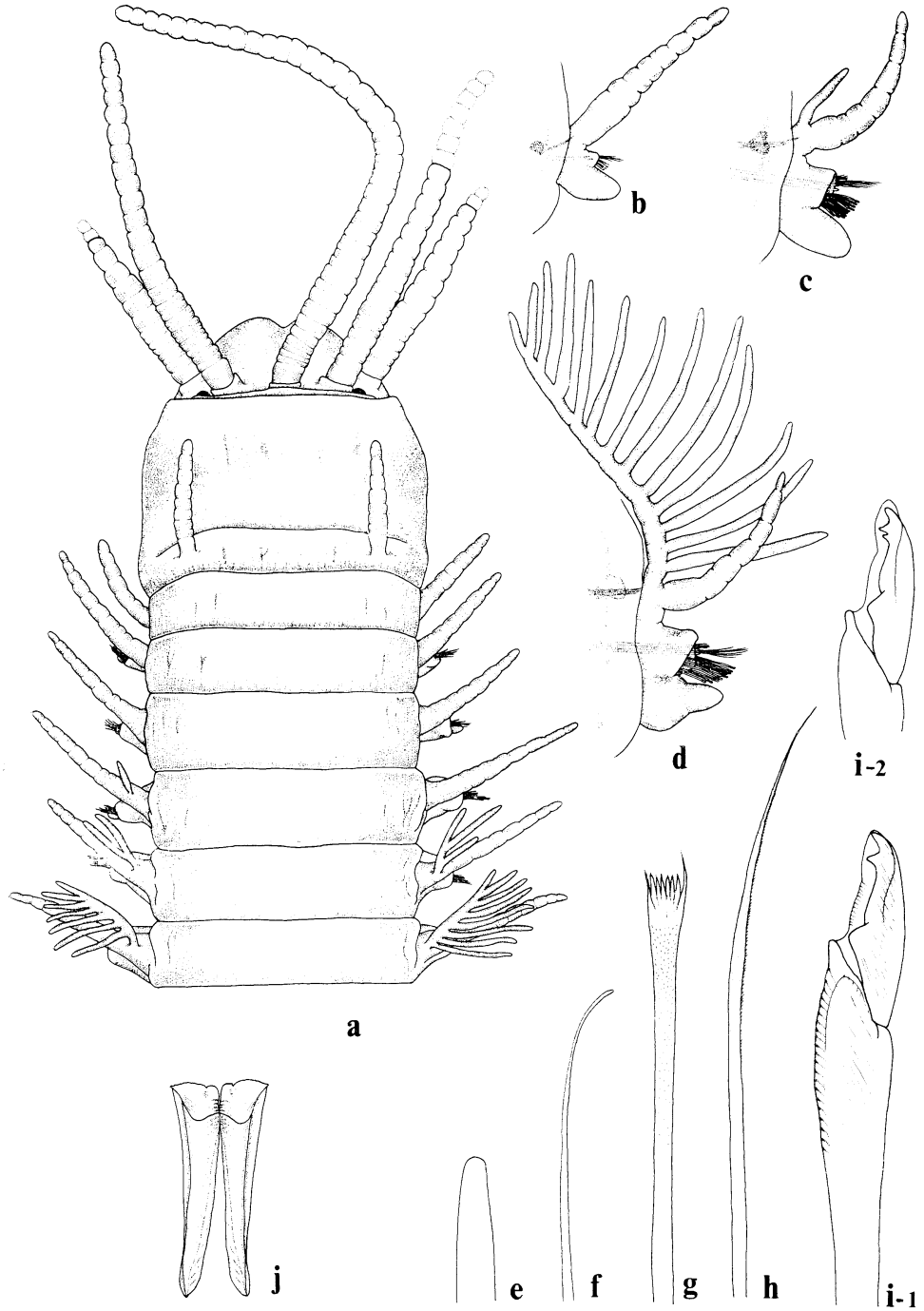

Fig. 5. ? *Eunice australis* Quatrefages, 1865. a, Anterior end, in dorsal view, ×32. b, First parapodium, in anteiror view, ×40. c, Parapodium 3, in anterior view, ×40. e, Aciculum, ×400. f, Embedded notoacicular seta, ×400. g, Comb seta, ×800. h, Capillary seta, ×400. i-1, Bidentate compound seta, ×800. i-2, Tridentate compound seta from parapodium 15, ×800. j, Mandibles, in ventral view, ×40.

Fauchald in this and in fact this scheme may be recognized more generally for members of the family Eunicidae. The scheme fits also to *Marphysa sanguinea*. It appears likely that the subacicular hooks are lost from anterior segments in eunicid worms with increasing size.

?*Eunice australis* QUATREFAGES, 1865
(Fig. 5, a-j)

Eunice australis: OKUDA, 1937, pp. 280-282, figs. 24-25; DAY, 1967, p. 385, fig. 17. 2. r-u.
Eunice murrayi MCINTOSH, 1885, pp. 288-289, figs. 48-49, pls. 39, figs. 7-8 and 20A, figs. 19-20.

Collection

A	B	C	D	E	F	G	H	I	J
E 127	Jun. 7, 1971 Suruga Bay	8.5	3-1			22	13	5.0	A F

Description: Specimen E 127, was collected from Suruga Bay, off Numazu, in 20 m deep and is posteriorly incomplete. It measures 17 mm long and 5.0 mm wide including parapodia and has 22 setigers.

The prostomium is bifid in front but the incision is very shallow. The length is half of the first peristomial ring. There are five long, distinctly articulated occipital antennae; the central and longest one with 40 articles extends to the anterior margin of setiger 6, the inner left one with 24 articles reaches the middle of setiger 3, the right one has lost the distal end, the outer ones are both cut, but the left one has 15 articles and the right 13. The innermost articles are longer than the others and carried on low bases (Fig. 5a). Two rounded eyes are on the dorso-posterior part of the prostomium. The first peristomial ring is three times as long as the second one. The peristomial cirri do not reach beyond the anterior margin of first peristomial ring and have eight articles each.

Parapodia are uniramous. The dorsal cirrus is very long with six to ten incisions. The ventral cirrus is simple and digitiform in the first few segments (Figs. 5 b-c) and truncately conical with an expanded base in more posterior setigers (Fig. 5d).

Branchiae are first present at setiger 4 on left as a simple filament (Fig. 5c). The number of filaments increases to 13 at setiger 9, thereafter decreases to seven on the last parapodium of the fragment. The branchial filaments are rather slender and well separated from each other on the stem (Fig. 5d).

Subacicular hooks were not seen on this specimen. Acicula are yellow with a rounded tip and number two or three in each parapodium (Fig. 5e). Embedded notoacicular setae within the base of each dorsal cirrus number three or four in a bundle; each has a slender stem and an obtus end (Fig. 5f). Each comb seta has six inner teeth and asymmetrical lateral extensions (Fig. 5g). Capillary setae have short spines on the concave margin (Fig. 5h). Each compound falcigerous seta is hooded and bidentate (Fig. 5i-1), rarely tridentate (Fig. 5i-2). Such tridentate falcigers were seen in par apodium 15. The third tooth is short and small. When the third tooth is present, the second one becomes acute.

The mandibles have four lines on the cutting edges. The long basal shafts are amber-colored with transparent edges (Fig. 5j). The maxillary carriers are broad and short. The maxillary formula is Mx. I=1+1, Mx. II=4+5, Mx. III=4+0, Mx. IV=7+7, Mx. V=1+1.

Distribution: Atlantic, Pacific and Indian oceans; Japan.

Discussion: The specimen examined resembles *Eunice australis* with respect to the annulated antennae and dorsal cirri, long ventral cirri and the short prostomium. These characters may also fit *E. antennata*. However, the specimen had 13 branchial filaments and *E. antennata* has less than ten filaments. The specimen from Suruga Bay lacks the body region where the subacicular hooks should have been present. The identification is thus somewhat questionable.

?*Eunice indica* KINBERG, 1865
(Fig. 6, a-g)

Eunice indica: MONRO, 1937, pp. 286-287; OKUDA, 1938, p. 95; IMAJIMA and HARTMAN, 1964, pp. 255-256; DAY, 1967, p. 386, fig. 17. 3. f-j.
Eunice vittata: IZUKA, 1912, pp. 120-121, pl. 12, figs. 7-9. [not *E. vittata* (DELLE CHIAJE, 1929)]

Collection

A	B	C	D	E	F	G	H	I	J
E 64	Aug. 1975 Kagoshima Bay					21	-	4.5	MF

Description: The specimen is a median fragment with 21 setigers. The fragment, a series of trunk segments, measures 21 mm long by 4.5 mm wide.

The dorsum of each segment has three colored bands; the anterior part is heavy reddish brown, the posterior is light and the middle part is beige. Additionally, each septum forms a reddish brown belt (Fig. 6a).

Parapodia are uniramous, have cylindrical dorsal cirri and conical ventral cirri. Setal lobe projects well beyond the other lobes (Fig. 6b).

Yellow acicula are slightly curved distally and bluntly tapered. They number two in a parapodium (Fig. 6c). Subacicular hooks are also yellow, and the hoods are entirely covered with many small granules [also described for *E. northioidea* by Moore (1903)]. They are tridentate and number three or four in a parapodium (Fig. 6d). Supracicular setae consist of four to five comb setae and seven to eight capillaries. Comb setae have five to six inner teeth and asymmetrical lateral extentions (Fig. 6e). Capillary setae are serrated on one margin (Fig. 6g). Compound falcigers are subacicular in position; each is bidentate with a long pointed hood (Fig. 6f). They number seven or eight in each fascicle.

Distribution: Red Sea, Indian Ocean, Pacific

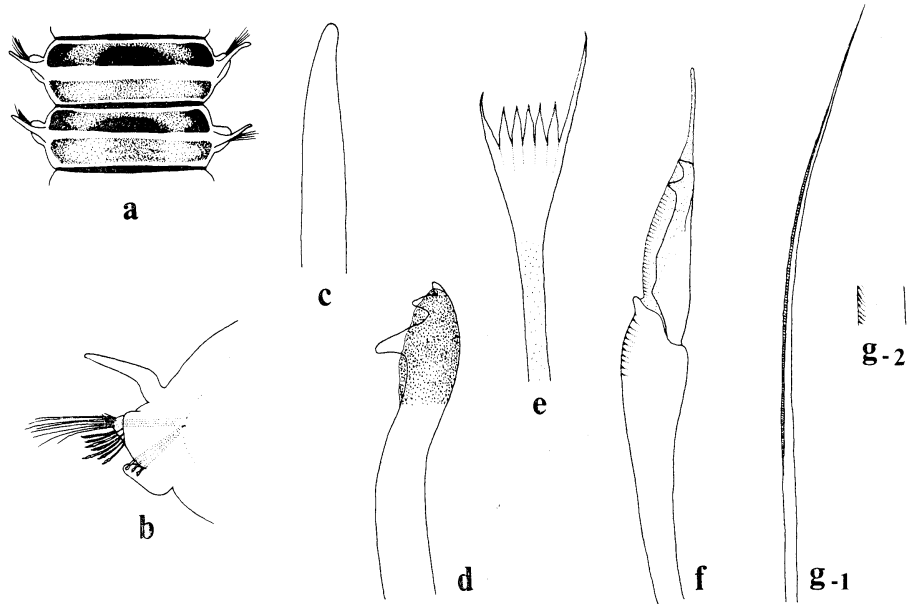

Fig. 6. ? *Eunice indica* Kinberg, 1965. a, Dorsal view of some segments, showing color pattern, ×16. b, Parapodium, in anterior view, ×40. c, Aciculum, ×400. d, Subacicular hook, showing the grannular hood, ×400. e, Comb seta, ×1300. f, Compound seta, ×800. g-1, Capillary seta, ×400 g-2, The same, enlarged of part, ×1650.

Ocean; Japan.

Discussion: Species of genus *Eunice* with three or four subacicular hooks in a parapodium include *E. americana*, *E. australis* and *E. indica*. These species can be distinguished on the shape of the compound falcigerous seta. The compound seta of *E. australis* has a blunt hood not produced beyond the blade (from the description of *E. murrayi* CROSSLAND, 1904, pp. 310-312, considered a synonym of *E. australis* by MONRO, 1937, p. 287). Both the other have pinted hoods projecting well beyond the blade. HARTMAN (1944) mentioned that the blade of *E. americana* is never falcate or bent as in *E. indica*. Each compound seta of fragmentary specimen has a long pointed hood and a falcate blade. Therefore, the specimen may be referred to *E. indica*.

Eunice kobiensis McINTOSH, 1885
(Fig. 7, a-n)

Eunice kobiensis McINTOSH, 1885, pp. 278-280, figs. 37-38, pls. 38, figs. 12-13 and 20A, figs. 1-3; IZUKA, 1912, pp. 117-118, pl. 8, figs. 11-12; USCHAKOV, 1955, p. 232, fig. 75; FAUCHALD, 1969, pp. 4-6, fig. 2, a-g.

Eunice indica: IZUKA, 1912, pp. 114-116, pl. 13, figs. 7-9 (not *Eunice indica* KINBERG, 1865).

Eunice gracilis MOORE, 1903, pp. 440-441, pl. 25, figs. 46-48; IZUKA, 1912, pp. 126-128, pl. 12, figs. 10-11.

Collection

A	B	C	D	E	F	G	H	I	J
E 59	Oct. 7, 1975 Kominato	8.2	3-1	57-1	35-1	142	13	4.5	A F
E 128	Jun. 8, 1972 Suruga Bay	6.8	3-1	45-1	35-1	135	12	4.9	C S
E 129	Sep. 15, 1972 Suruga Bay	5.4	3-1	49-1	32-1	118	10	4.3	A F
E 135	Sep. 1, 1972 Suruga Bay	6.6	3-1	52-1	37-1	134	11	4.8	C S

Description: Two complete specimens (E 128, 135) and two anterior fragments (E 59, 129) were examined. The largest (E 59) measures 125 mm long by 4.5 mm wide including parapodia at about setiger 20 and has 142 setigers, but lacks only a few caudal segments. The largest complete specimen (E 128) is 94 mm long and 4.9 mm wide with 135 setigers. This species is found in shallow water in hard substrates where it forms a tube with sand grains and shell pieces under boundlers.

The anterior dorsum including the prostomium and the first peristomial ring is reddish brown with numerous white spots, but the overhang in front of the first peristomial ring and the whole second peristomial ring are pale or light yellow. Also, the five occipital antennae and their bases, the peristomial cirri and the parapodia are pale. In median and posterior regions, each segment has a pale middle area; the anterior and posterior parts are marked by reddish brown bands. The annulation of the antennae is colored brown marking it noticeable. The rounded eyes are dark and the branchiae are red.

The prostomium is wider than long and slightly notched in front. The five occipital antennae are annulated in their distal halves; the median and longest one is two times as long as the prostomium and separated distinctly by five colored grooves and some colorless notches in a series of annulations; the inner lateral pair have five to seven rings and subequal to the median one in length; the outer short pair, with three to four rings, are one and one half as long as the prostomium. Two large eyes are situated outside the inner lateral antennae and covered with a transparent membrane. The peristomium is divided into three parts; the anteriormost part is wrapped around the posterior part of the prostomium; the middle part, the first peristomial ring, is wider than long in proportion 2:1; the posterior part, the second peristomial ring, has two peristomial cirri, each of which extends beyond the anterior margin of peristomium and is divided into 6-18 rings on its anterior two third part (Figs. 7 a-b).

The dorsal cirri are long and digitiform with

irregulations on the anteriormost parapodia (Fig. 7c). They become longer on branchial parapodia (Fig. 7d) and are smoothly filiform on posterior parapodia (Fig. 7e). The ventral cirri are conical with proximal pads anteriorly and become more cylindrical posteriorly. Branchiae are first present at parapodium 3 as a single filament. The number of branchial filaments increases rapidly to near parapodium 15; the maximal number of filaments is 10-13 between parapodia 15-30, thereafter the number decreases gradually to about parapodium 50. The last branchia of the largest specimen (E 57) has a single filament at parapodium 58.

Yellow subacicular hooks are bidentate and hooded (Fig. 7f). They start at parapodia 32-35 and occur singly under each setal fascicle. Yellow acicula are bluntly tapered and slightly concave on one side (Fig. 7g). They number two in each parapodium. The comb seta has seven to eight inner teeth and asymmetrical outer extensions (Fig. 7h). Compound falcigerous setae are bidentate and hooded (Fig. 7i). They number five to 15 in each fascicles. Capillary setae are edged by numerous short spines on one side (Fig. 7j).

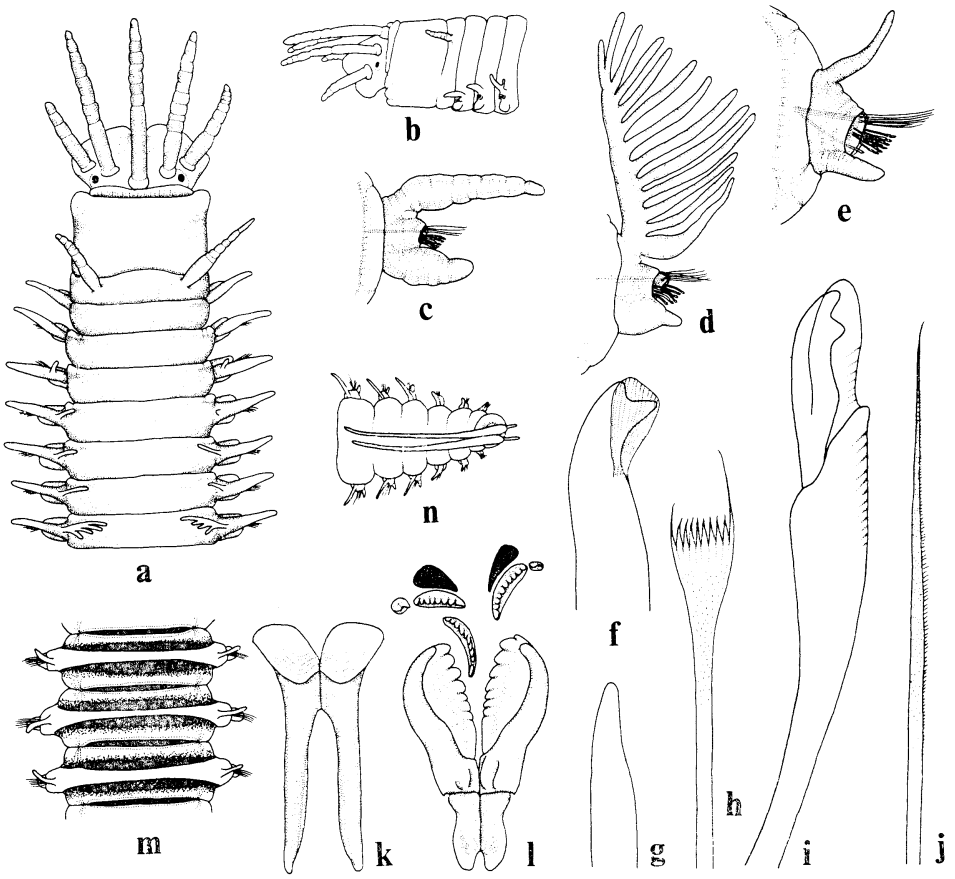

Fig. 7. *Eunice kobiensis* McIntosh, 1885. a, Anterior end, in dorsal view, ×25. b, The same, in lateral view, ×16. c, First parapodium, in anterior view, ×40. d, Parapodium 30, in anterior view, ×25. e, Parapodium 88, in anterior view, ×40. f, Subacicular hook, ×400. g, Aciculum, ×400. h, Comb seta, ×800. i, Compound seta, ×800. j, Capillary seta, ×400. k, Mandibles, in ventral view, ×25. l, Maxillae, in dorsal view, ×25. m, Posterior segments, in dorsal view, showing color pattern, ×16. n, Posterior end, in dorsal view, ×16 (E 128)

The mandibles have yellow slender shafts and calcified distal bodies with about five lines (Fig. 7k). The maxillary carriers are long and distally rounded. The maxillary formula is Mx. I=1+1, Mx. II=(6-7)+(8-10), Mx. III=10+0, Mx. IV=(8-9)+(10+13), Mx. V=1+1 (Fig. 7l).

The pygidium has two very long dorsal and two very short ventral cirri in proportion 9:1 (Fig. 7n).

Distribution: Gulf of Alaska; Pacific coast of Japan.

Discussion: *Eunice kobiensis* were originally described from Japan by MCINTOSH (1885). FAUCHALD (1969) redescribed the holotypus in a survay of some species of the Flavus-Bidentatus Group of *Eunice*. The specimens examined have shorter prostomial antennae than the holotypus. In this respect, these specimens more closely resemble *E. varens* with short antennae (according to FAUCHALD, 1969). The comb setae were not described and the subacicular hooks are not hooded in *E. varens* as redescribed by FAUCHALD (1969). The present specimens have comb setae and hooded subacicular hooks. The maxillary teeth are more numerous and the width of the body is larger in the present specimens than in the holotypus of *E. kobiensis*. This may be due to the greater age of the current specimens.

Eunice northioidea MOORE, 1903
(Figs. 8, a-o, and 9)

Eunice northioidea MOORE 1903, pp. 433-435, pl. 25, figs. 36-38; IMAJIMA and HARTMAN, 1964, p. 253.
Eunice northioides IZUKA, 1912, pp. 128-131, pl. 13, figs. 17-18.

Collection

A	B	C	D	E	F	G	H	I	J
E 114	Jul. 7, 1971 Suruga Bay	11.6	4-4	112-1	29-1	124	9	5.3	C S
E 115	,,	9.1	4-2	124-1	26-1	126	8	6.5	C S
E 116	,,	8.0	4-2	37-1	25-1	37	5	4.0	A F
E 117	Aug. 1971 Suruga Bay	11.5	4-2	117-1	29-1	117	11	6.5	A F
E 118	Jul. 7, 1971 Suruga Bay	5.2	4-1	84-1	21-1	36	3	2.6	A F
E 119	Sep. 7, 1971 Suruga Bay	14.1	4-3	127-1	30-1	134	8	6.5	C S
E 120	,,	10.8	4-2	32-4	28-1	32	15	5.6	A F
E 121	Jul. 20, 1972 Suruga Bay	11.7	4-3	136-1	26-1	149	10	6.7	S C
E 122	Sep. 1, 1972 Suruga Bay	11.3	4-2		27-1	143	11	6.5	A F
E 123	,,	14.3	4-3		28-1	79	8	6.6	A F
E 124	,,	19.3	4-2	142-1	27-1	147	9	7.3	C S
E 125	Sep. 15, 1972 Suruga Bay	12.9	4-3		27-1	58	13	6.5	A F
E 126	Sep. 2, 1972 Suruga Bay	6.0	4-2		25-1	98	4	3.5	A F

Description: Four complete specimens range between 90-150 mm in length and 5.3-7.3 mm in width including parapodia. The number of setigers ranges between 124 to 147.

The anterior dorsum is dark reddish brown with numerous white spots. The anterior margin of the second peristomial ring and setiger 4 are white. The ringed incisions on the prostomial antennae and caudal cirri are colored dark.

The prostomium is bilobed in front, each half is rectangular. The posterior part of the prostomium is almost always covered by the anterior part of the peristomium. Two rounded eyes, the innermost annuli of median three antennae and their flattened bases are covered by this fold (Figs. 8 a-b). All the occipital antennae are articulated, the maximal number of articulations is, from left to right, 7-12-14-12-8, while in the smallest specimen the number 3-4-8-5-4. The three median antennae are less than twice as long as the peristomial rings combined and the outer lateral antennae are about half of these. The peristomial rings are almost as wide as long in dorsal view (Fig. 8a). The first ring is more than three times as long as the second one. The peristomial cirri, which rarely project

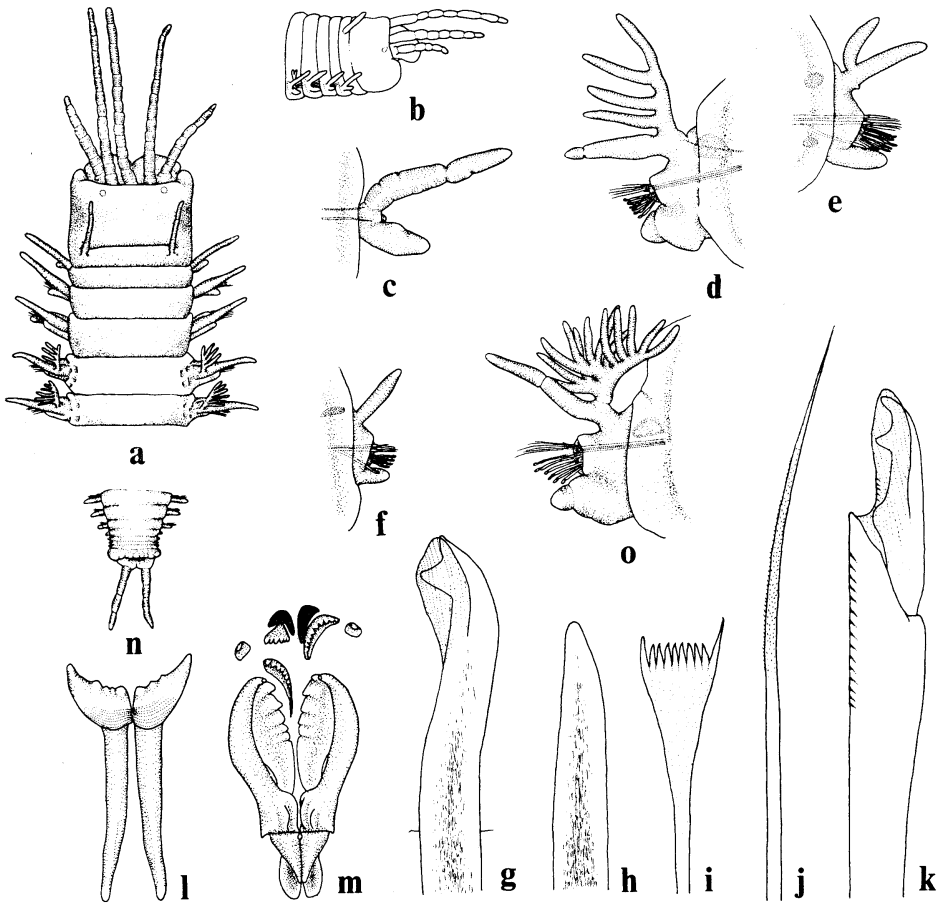

Fig. 8. *Eunice northioidea* Moore, 1903. a, Anterior end, in dorsal view, (E 144). b, The same, in lateral view, ×10 (E 126). c, First parapodium, in anterior view, ×40. d, Parapodium 9, in anterior view, ×40. e, Parapodium 31, in anterior view, ×40. f, Parapodium 80, in anterior view, ×40. g, Subacicular hook, ×400. h, Aciculum, ×400. i, Comb seta, ×800. j, Capillary seta, ×400. k, Compound seta, ×800. l, Mandibles, in dorsal view, ×25. m, Maxillae, in dorsal view, ×25. n, Caudal region, in dorsal view, ×10. o, Branchial parapodium with 13 filaments from setiger 14 of the specimen E 125, in anterior view, ×25.

beyond the anterior margin of the first peristomial ring, are irregularly annulated.

The first parapodium has a long irregularly articulated dorsal cirrus; the ventral cirrus is swollen near the middle. Setae are sometimes absent from the first parapodia and maximally only a few are present (Fig. 8c). Anterior branchial parapodia have short conical ventral cirri, the bases of which are globularly swelling. Setae include more than six capillaries, nine to ten compound falcigers, two acicular and a few notoacicular setae (Fig. 8d). In the posterior branchial region, each parapodium has a short cylindrical ventral cirrus and a single black subacicular hook (Fig. 8e). Branchiae are first present on setiger 4 with one to four filaments. The number of branchial filaments rapidly increases to near setigers 10–15. Generally the maximal number is less than ten, but 13 may be present on branchia with subdivided filaments (Fig. 8o). Thereafter the number of filaments gradually decreases to near the posterior end of the body. In a small specimen (E 126), posterior parapodia lack branchia (Fig. 8f).

Black subacicular hooks (Fig. 8g) start at parapodia 26–30 or from more anterior segments in small specimens. The distal end of each hook is bidentate and hooded. The apical tooth is directed distal and protected by the rounded hoods. The second tooth is stout and a right angle to the shaft of the seta. The black acicula number two in each fascicle except in a few anteriormost parapodia. The distal parts that project from the setal lobes are slightly curved (Fig. 8h). In supracicular positions, there are comb setae with eight to nine inner teeth and asymmetrical outer extensions (Fig. 8i) and short-spined capillaries (Fig. 8j). Compound setae situated in subacicular positions consist of only bidentate hooded falcigers (Fig. 8k). The hood has rounded distal end. The two teeth of the blade are directed laterally.

The mandibles are basally slender on the part connected to the retractor muscles and flare at the cutting edges. The anterior calcified margin has three to four teeth-like projections (Fig. 8l). The maxillary formula is Mx. I=1+1, Mx. II=(5-7)+(5-7), Mx. III=(4-9)+0, Mx. IV=(4-7)+(7-10), Mx. V=1+1. The maxillary supports are clearly divided into two parts; the distalmost parts are swollen and attached to each other on the inner side except for a rounded hole near the base of the first maxillary plates; the rounded ventral parts are scoop-shaped (Fig. 8m).

The pygidium has a pair of anal cirri with four to 12 articulations (Fig. 8n).

Distribution: Suruga Bay.

Discussion: The specimens closely resemble *Eunice torquata* QUATREFAGES, 1865 with respect to the strongly retracted prostomium and the beaded or articulated antennae. A specimen of *E. torquata* deposited at the Laboratoire Arago of Banuyls-sur-Mer in France was compared with the specimens described above as *E. northioidea*. These two species can be distinctly separated on the first occurrence of the branchia. Fig. 9 shows the differentiation of the two species in the distribution of branchiae.

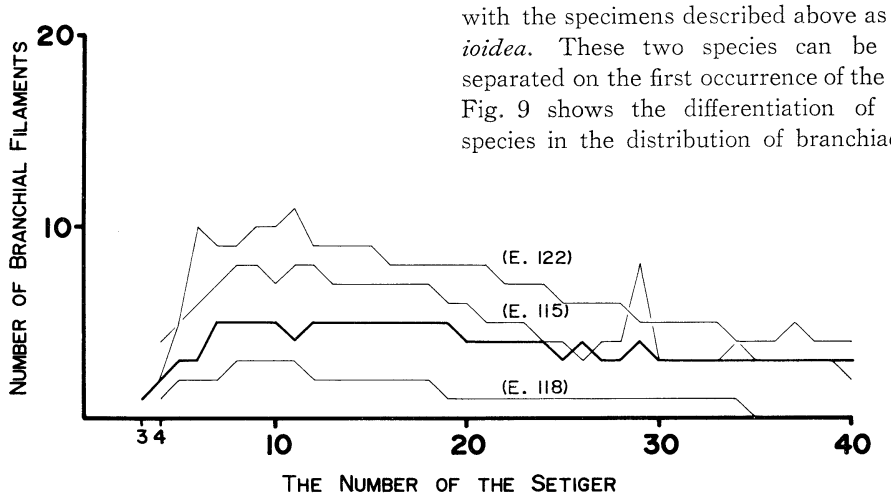

Fig. 9. Branchial distributions in three specimens examined of *Eunice northioidea* (fine lines) and a specimen of *E. torquata* (heavy line).

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日本産イソメ科多毛環虫類—I

三　浦　知　之

要旨：秋田・千葉・沖縄の主に潮間帯と駿河湾・鹿児島湾の海底 10～200 m から採取されたイソメ科多毛環虫類の分類学的研究を行った。本報では *Eunice* 属の既知 6 種と 1 新種 *E. alata* を記載した。

E. alata は 1973 年 8 月 20 日千葉県安房郡天津小湊町にある東京水産大学小湊実験場地先を漂流していた陸上草本植物の茎から採集され，軟かい両顎，第 6 節に始まる鰓と 2 歯暗色の足刺状剛毛を持ち，感触手は平滑である。

E. antennata は本属中最も普通に見られる種で，3 歯黄色の足刺状剛毛，第 5-7 節に始まる鰓とジュズ状の感触手を持つ。*E. aphroditois* は多毛類でも最大のひとつで，第 5-6 節に始まる鰓，平滑な感触手と 2 歯暗色の足刺状剛毛を持つ。?*E. australis* は標本が不完全で，足刺状剛毛は観察されなかったが，よく発達したジュズ状の感触手を持つ。?*E. indica* も標本は不完全であったが，3 歯黄色の足刺状剛毛を持つ。*E. kobiensis* は 2 歯黄色の足刺状剛毛と第 3 節に始まる鰓を持つ。*E. northioidea* は 2 歯暗色の足刺状剛毛を持ち，鰓は常に第 4 節に始まる。