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Notes on Some Commensal Polychaetes from Japan<sup>1)</sup>

With one Text-figure

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(Communicated by T. UCHIDA)

A considerable number of polychaetes live in association with other animals; especially the polynoids present many instances of commensalism as shown in my former report (1936). The present short notes on commensal polychaetes are based mainly on material collected by Dr. F. Utinomi of the Kyoto Imperial University. An aberrant Nereid, *Cheilonereis cyclurus*, which lives in the upper coil of whelk shells inhabited by hermit-crabs, was collected by Assist. Prof. E. Niiyama of the Hokkaido University. Of four species herein described, the Amphinomid worm found commensal with a barnacle has been firstly recorded from Japan.

FAMILY AMPHINOMIDAE

*Hipponoë gaudichaudi* Audouin et M.-Edwards

(Figs, a-b)

*H. gaudichaudi*; McIntosh, 1885, p. 30, Pl. I, fig. 5; Pl. IV, fig. 3; Pl. IIIA, figs. 13-17;  
Fauvel, 1923, p. 132, fig. 47, 1-p.

Single complete specimen measures 17 mm by 5 mm in contracted states. The body is flattened and composed of 27 setigerous segments. The head is small and somewhat ovoid in shape. From the hinder part of the posterior pair of eyes a single median subulate tentacle projects backwards as far as the posterior portion of the second setigerous segment. A pair of small lateral tentacles, about one-third the length of the median one, is situated on either side of the front of the head. The branchiae begin on the 3rd chaetiger. They are arbores-

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1) Contribution No. 242 from the Zoological Institute, Faculty of Science, Hokkaido University, Sapporo.

2) The writer left this world on December 26th, 1950.

cent and richly branched. The dorsal bristles are finely capillate and delicately serrated distally. I can distinguish no dorsal bristles with bifid tips as shown in McIntosh's figure. The ventral bristles are short and stout with a long curved terminal hook and a shorter blunt one beneath.

*Locality*: Shirahama, Wakayama Pref. Collected by Dr. F. Utinomi.

*Remarks*: The specimen distended with ova was found living in the branchial chamber of the barnacle, *Lepas*. The species is new to the fauna of Japan.

#### FAMILY APHRODITIDAE

##### *Scalisetosus levis* Marenzeller

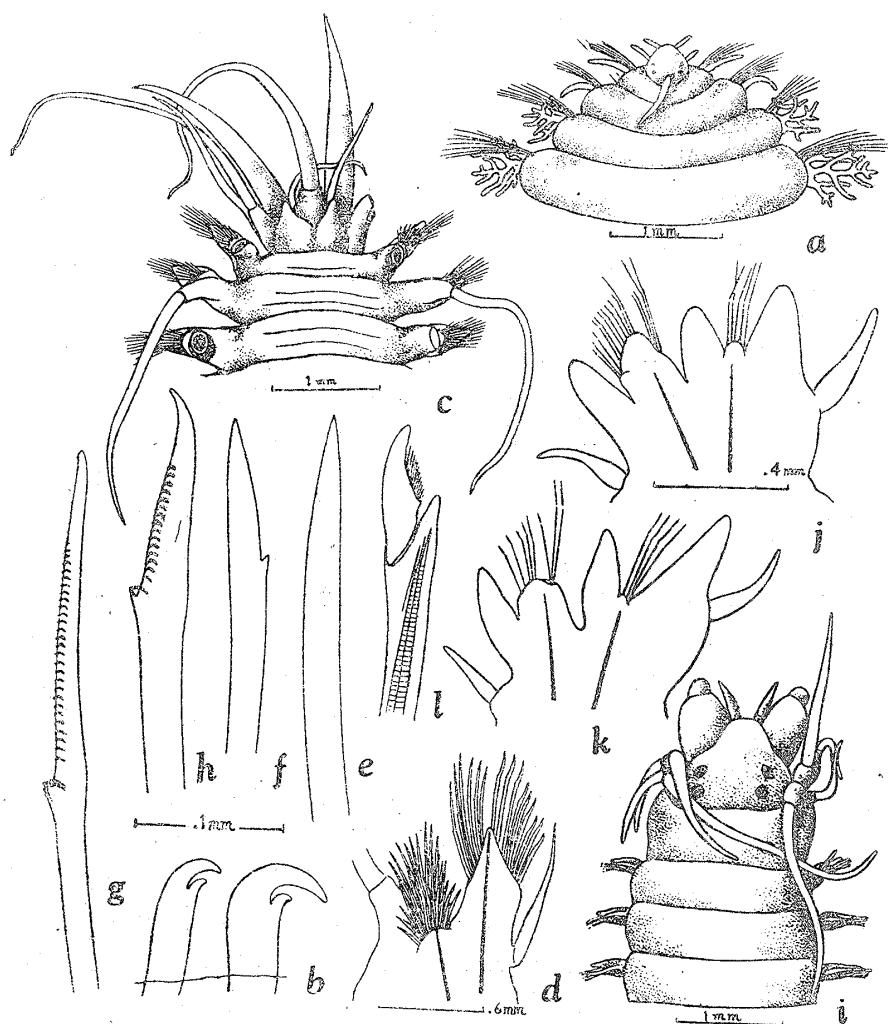
(Figs. c-g)

*S. levis*: Marenzeller, 1902, p. 13, Pl. III, fig. 12.

Two rather ill-preserved anterior fragments, of which only one retains any scales. Owing to the absence of the posterior part, the number of the segments and elytra could not be ascertained. In general they agree well with Marenzeller's accounts except for the reduction of the eyes. The head is broader than long and divided by a median shallow groove. The insertion of the lateral tentacles is ventral, and the prostomial peaks are distinct. No eyes were found. The median tentaculophore is rather stout and the median tentacle is long, tapering about five times the length of the head. The palps are smooth, about twice as long as the lateral tentacle. The tentacular cirri are slightly longer than the median tentacle. The elytra are more or less ovate and translucent with clearly outlined nerve supply, having a few short and minute cilia along the outer and posterior borders. The dorsal cirri are long, slender and tapering, while the ventral ones extend slightly beyond the neuropodial divisions. Dorsal bristles are of two kinds; those in the superior portion are short with a spur lying close to the main stem, while those of the inferior portion are strong, gently curved, being devoid of any serrations. The upper bristles of the ventral division are slender, frilled, with comb-like teeth along one edge having the tips faintly bifid; the lower bristles are unidentate, short and stout with transverse rows of fine teeth along the convex border and spinous pouch.

*Locality*: Shirahama, Wakayama Pref. Collected by Dr. F. Utinomi.

*Remarks*: The present specimens were found living in association with an Alcyonid, *Dendronephthya*. The same Alcyonid often bears an aberrant Ctenophore, *Coeloplana bocki*. A number of the representatives of the genus *Scalisetosus* occur as commensals: *S. communis* (*S. pellucidus*)



Text-fig. 1: a, anterior extremity of *Hipponoë gaudichaudi*; b, ventral bristles of the same; c, anterior portion of *Scalisetosus levis*; d, 9th foot of the same; e-f, dorsal bristles of the same; g-h, ventral bristles of the same; i, anterior portion of *Perinereis cultrifera*; j, 15th foot of the same; k, 50th foot of the same.

lodges in the ambulacral grooves of star-fishes such as *Astropecten irregularis* and *Crossaster papposa*; *S. assimilis* is found on the body of a sea-urchin *Echinus* sp.; *S. rutilans* on *Xenia* and *S. crinoidicola* on some Crinoids.

The species has never been recorded since the original description of Marenzeller, by whom the species was recorded from Kagoshima, Nagasaki and Hongkong, and has been known as commensal with an Alcyonid.

## FAMILY NEREIDAE

*Perinereis cultrifera* (Grube)

(Figs. i-j)

*Perinereis cultrifera*: Fauvel, 1923, p. 352, fig. 137 (for synonymies).

A single small specimen is an anterior fragment measuring 30 mm by 2.5 mm without the feet for 57 chaetigers. In spirit there is no colour. There is a pair of palps with rather stout palpophores and small globular styles. The tentacular cirri are rather short, the longest reaching back to the 4th chaetiger. A pair of tentacles is about equal in length to the palps. The first parapodium has single dorsal and ventral lobes of about equal length and narrow postsetal ones. In the 15th foot the dorsal setigerous division consists of only spinous homogomphs; the upper part of the ventral division contains homogomph spinigers and heterogomph falcigers, while the lower part of the same has heterogomph falcigers and a single spinous heterogomph seta. The arrangement of the paragnaths is as follows: Group I. two in line; II. triangular cluster of 13-15 paragnaths on each side; III. transverse band of small paragnaths of about three irregular rows; IV. clusters; V. a triangular patch of three paragnaths; VI. a single transverse elongated paragnath on each side; VII-VIII. continuous double rows.

*Locality*: Shirahama, Wakayama Pref. Collected by Dr. F. Utinomi.

*Remarks*: The present specimen seems to be the juvenile form and is devoid of any such pigmentation as is generally shown in the adult worm. Judging from the arrangement of the paragnaths on Group I and V, the present specimen may well be attributed to *P. cultrifera* var. *typica*. The species was found inhabiting the mantle cavity of the pearl-oyster, *Pteria martensi*.

*Cheilonereis cyclurus* (Harrington)

*Nereis cyclurus*: Harrington, 1897, pp. 212-220, Pl. 16, figs. 1-3, Pl. 17, figs. 1-7, Pl. 18, figs. 1-5; Ramsay, 1914, pp. 237-240, fig. 1; Johnson, 1901, p. 400, Pl. 4, fig. 46, Pl. 5, figs. 48-52.

*Nereis shishidoi*: Izuka, 1912, p. 177, Pl. 19, figs. 10-18; Fauvel, 1933, p. 20.

*Cheilonereis cyclurus*: Hartman, 1940, p. 219.

*Remarks*: The species found normally in association with the hermit-crabs was first described by Harrington (1897) from Puget Sound. Afterwards Moore (1908) and Ramsay (1914) suggested the generic separation of *cyclurus* from other Nereids on account of the extraordinary development of the peristomium. In 1916 the new genus *Cheilonereis* was created by Benham, for the type species *cyclurus* and a new species

*peristomialis* from Australasian waters. The genus is mainly characterised by the peculiar shape of peristomium produced laterally and ventrally to form a collar-like lip under the prostomium. Izuka (1912) recorded *Nereis shishidoi* found in a dead gastropod shell from Japan. There seems to be very little to distinguish the Izuka species from *cyclurus*. The structure of head and feet are very similar, and I agree with Ramsay in the opinion that the slight differences as to the number of the paragnaths of the basal ring between Harrington's and Izuka's species are insufficient for the specific distinction. The American specimens examined by Ramsay (1914) show that the paragnaths agree exactly with those of the Japanese worm. On the other hand, *Cheilonereis peristomialis* described by Benham (1916) is also evidently closely allied to the present species, and it seems to me there is no reason for regarding the Australasian species as distinct from the species found in Japanese and American waters.

The present specimens at my disposal agree well with *Nereis shishidoi* described by Izuka. The largest specimen measures 85 mm by 8 mm for 97 setigerous segments. The species has previously been recorded from the Pacific coasts of America and Japan, Australia and the Yellow Sea, *Nereis fucata* and *Syllis cornuta* also usually live in empty shells, which they share with hermit-crabs.

*Locality*: Oshoro, Sea of Japan. Collected by Mr. E. Niiyama. Commensal with hermit-crabs.

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