

# The Polychaetous Annelids of the Marshall Islands<sup>1</sup>

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THIS REPORT is based upon collections made by the author at Eniwetok, Bikini, and Majuro atolls during the summers of 1956 and 1957. In addition, previous accounts of the polychaetes from the Marshall Islands, largely those reported by Hartman (1954*a*), are incorporated in this study. The object of the field investigations was to prepare a reference collection of polychaetes for the Eniwetok Marine Biological Laboratory. Keys to the species within the families and references have been added as an aid to identification. The material upon which this study was based, including all holotypes and paratypes, has been deposited in the polychaete collections of the United States National Museum. A duplicate collection has been placed in the museum of the Eniwetok Marine Biological Laboratory. The author is indebted to Dr. Robert W. Hiatt for his assistance during the course of the field investigations.

Previous studies dealing with the polychaetes of the Marshall Islands include the account by Hartman (1954*a*), who reported on material collected from Eniwetok, Bikini, Rongelap, and Rongerik atolls; Reish (1961*a*), who described a new species of *Micronereis* from Eniwetok Atoll; and Woodwick (1964), who described five new species of spionids collected by the author from Eniwetok, Bikini, and Majuro atolls. A total of 102 species, including some forms identified only to genus or family by Hartman, were previously known from the Marshall Islands. The Marshall Islands consist of 5 islands having no interior lagoon and 29 atolls (Emery, Tracey, and Ladd, 1954). Polychaetes have been collected thus far from 28 islands of 5 atolls: Eniwetok (14 islands) (Fig. 1), Bikini (6 islands) (Fig. 2), Rongelap (5

islands), Rongerik (2 islands), and Majuro (1 island) (Fig. 3).

## MATERIALS AND METHODS

The collections upon which this study is based were made by the author from August 20 through September 14, 1956 (146 stations) and from June 29 through July 15, 1957 (77 stations). Three additional collections were made from the bottom of the lagoon at Eniwetok Atoll by Mr. Mike Chamberlain on September 15, 1957. The islands of Eniwetok Atoll visited in 1956 and 1957 were Parry, Eniwetok, Igurin, Rigili, Bogombogo, Engebi, Aaraanbiru, Aniy-aanii, Japtan, and Bogen (Fig. 1). Collections at Enyu Island, Bikini Atoll, were made on September 6, 1956 (Fig. 2), and on Uliga Island, Majuro Atoll, on August 30, 1956 (Fig. 3).

The collecting procedure was similar at all islands. Transects were made of both the ocean and lagoon sides of the islands during low tide. Collections were made at the high tide, mid-tide, low tide, and surge zones. These collections consisted of individual specimens of polychaetes, algal clumps, sand, and pieces of corals, old coral heads, coralline algae, and of the coral reef itself. Generally one liter of material from each ecological niche at a site was preserved with formaldehyde in the field. The material was washed and sorted in the laboratory under a dissecting microscope. Subtidal collections of sand or pieces of coral were taken by swimming in depths of five meters or less. Polychaetes were taken from nearly every one of the 226 stations. Description of 85 of the 226 stations sampled are included in the paper by Barnard (1965).

Various names have been employed in the literature for the various islands of Eniwetok Atoll. The names employed by Dawson (1957) and by the Eniwetok Marine Biological Laboratory have been followed. Hartman (1954*a*) used the same names for those of the islands from which she made collections, with two ex-

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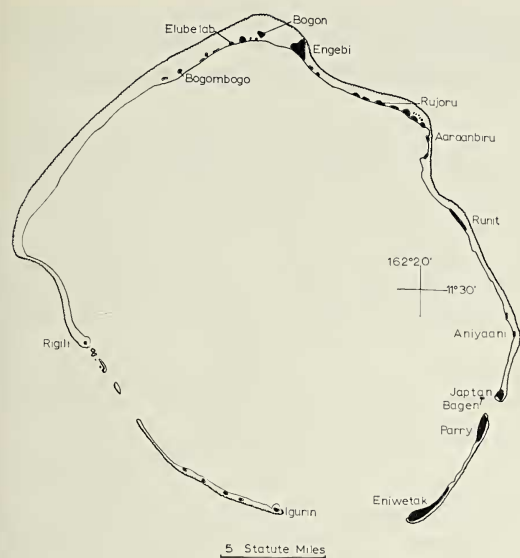


FIG. 1. Map of Eniwetok Atoll, Marshall Islands, showing collecting sites.

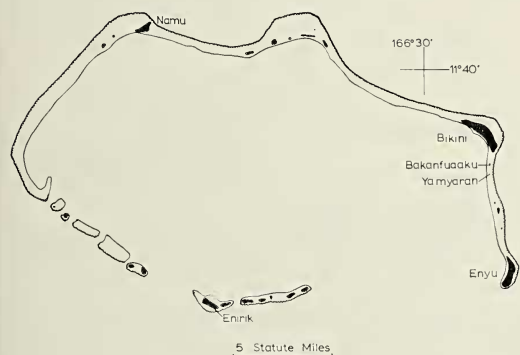


FIG. 2. Map of Bikini Atoll, Marshall Islands, showing collecting sites.



FIG. 3. Map of Majuro Atoll, Marshall Islands, showing collecting site at Uliga Island.

ceptions—Rujoru and Japtan which she called Rujiyoru and Munit.

#### DISCUSSION

In addition to the 102 species of polychaetes which have been reported previously from the Marshall Islands, 29 species, including 4 newly described, are herein reported from the Marshall Islands for the first time. Of the 25 species which have been described earlier, but which were previously unknown from the Marshall Islands, 13 are cosmopolitan forms. The distribution of 8 species has been extended from the Indian Ocean-Red Sea area.

Following is a list of the polychaetes newly-reported from the Marshall Islands arranged according to previous known distributional records:

#### COSMOPOLITAN SPECIES

*Eumida sanguinea*  
*Typosyllis prolifera*  
*T. armillaris*  
*Exogone verugera*  
*Sphaerosyllis pirifera*  
*Neanthes arenaceodentata*  
*Perinereis helleri*  
*P. cultifera*  
*Prionospio cirrifera*  
*Spio filicornis*  
*Ctenodrilus serratus*  
*Capitella capitata*  
*Vermiliopsis glandigerus*

#### SPECIES FROM INDIAN OCEAN-RED SEA GENERAL AREA

*Opistosyllis longicirrata*  
*O. australis*  
*Platynereis pulchella*  
*Perinereis nigropunctata*  
*Eunice australis*  
*Malacoceros (M.) indicus*  
*Heteromastides bifidus*  
*Axiobella australis*

#### SPECIES FROM OTHER AREAS

*Typosyllis cirropunctata*—Italy  
*Opistosyllis brunnea*—West Africa  
*Scolecopsis (S.) bonnierii*—France  
*Salmacina incrustans*—Mediterranean Sea

## NEW SPECIES

*Ceratocephala corallicola*  
*Euchone eniwetokensis*  
*Megalomma trioculatum*  
*Serpula hartmanae*

A total of 97 species are known from Eniwetok Atoll, 50 from Bikini Atoll, and 26 from Majuro Atoll. Hartman reported 17 species from Rongelap Atoll and 4 from Rongerik Atoll. The larger number of species reported from Eniwetok than from the other atolls is undoubtedly because of more extensive collecting there, and is not a reflection of any ecological difference. In general, more intertidal species of polychaetes were collected from the ocean side of an island than from the lagoon side. This is probably because the greater area on the ocean side accounts for a greater diversity of ecological niches. The shallow water on the lagoon side of the islands apparently is quite rich in polychaete species, judging from collections made in this zone at Parry Island. If the species from the shallow, subtidal lagoon waters are included with the intertidal ones, then a total of 44 species were taken from the lagoon side of Parry Island, as compared with 31 on the ocean side. Therefore it is likely that the number of polychaetes known from the Marshall Islands could be increased by collections from the benthos of the lagoon and the subtidal region off the ocean side of the reef. The former zone can be studied by making dredge hauls and grabs, but collecting from the latter would be more difficult.

## SYSTEMATICS

The polychaetes known from the Marshall Islands are arranged systematically by families and alphabetically by genus and species. Keys to the known species are included under each family. References include, in so far as possible, citations to published figures of the species. The single most useful reference is the study by Fauvel (1953) on the polychaetes of India.

Some abbreviations have been employed. Whenever Hartman (1954a) is referred to in the text, the date has been omitted. The abbreviation (O) and (L) refer to the ocean and lagoon sides of the island. The words "atoll"

and "island" have been eliminated from the collecting data. Information on distribution has been condensed to single words or phrases.

## Family POLYNOIDAE

## KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. 12 pairs of elytra ..... 2
1. 13 pairs of elytra .... *Iphione muricata*
1. 15 pairs of elytra ..... 3
1. 18 or more pairs of elytra ..... 4
2. One kind of dorsal setae  
*Lepidonotus argus*
2. Two kinds of dorsal setae  
*Thormora jukesii*
3. Elytra fringed for at least one-half circumference, with small papillae and large vesicle; ventral lamellae conspicuous  
*Paralepidonotus ampullifera*
3. Elytra with very little fringe, with small papillae; no ventral lamellae  
*Harmothoe imbricata*
4. Conspicuous ventral lamellae giving appearance of elytra; setae entire  
*Gastrolepidia claverigera*
4. No ventral lamellae; setae bifid  
*Hyperhalosydna striata*

*Gastrolepidia claverigera* Schmarda

Fauvel, 1953, pp. 51-52, fig. 22 d-f; Hartman, 1954a, p. 630. ENIWETOK: Parry (O), Aaraanbiru (O), and by Hartman at Elugelab (O). BIKINI: Bokonfuaaku (O) by Hartman. RONGERIK: Bock (O) by Hartman. Specimens of this commensal polynoid were taken from the holothurians *Holothuria atria* Jager, *H. gyrifer* Selenka, *Actinopygia mauritiana* (Quay and Gaimard), and *Stichopus horrens* (Selenka). Indo-Pacific Ocean.

*Harmothoe imbricata*? (Linnaeus)

Fauvel, 1953, pp. 42-43, fig. 19 f-1; Hartman, 1954a, p. 628. ENIWETOK: Bogon (O) by Hartman. Cosmopolitan.

*Hyperhalosydna striata* (Kinberg)

Fauvel, 1953, pp. 52-53, fig. 22 i-k; Hartman, 1954a, p. 628. BIKINI ATOLL by Hartman. Indo-Pacific Ocean, Japan.

*Lepidonotus* sp. cf. *L. argus* (Quatrefages)

Hartman, 1954a, p. 630. RONGERIK: Bock (O) by Hartman. South Pacific Ocean.

*Paralepidonotus ampullifera* (Grube)

*Harmothoe ampullifera*. Fauvel, 1953, pp. 43–44, fig. 18d.

*Paralepidonotus ampullifera*. Hartman, 1954a, p. 628.

ENIWETOK: Bogon (O) by Hartman. Indo-Pacific Ocean, Persian Gulf and Red Sea.

*Thormora jukesii* (Baird)

*Lepidonotus (Thormora) jukesii*. Fauvel, 1953, pp. 37–38, fig. 13 o–r.

*Thormora jukesii*. Hartman, 1954a, p. 628; Imajima and Hartman, 1965, p. 27.

RONGELAP: Burok (O) by Hartman. Japan to New Zealand, west to Red Sea.

*Iphione muricata* Savigny

Fauvel, 1953, pp. 32–33, fig. 13 a–e; Imajima and Hartman, 1964, p. 17. ENIWETOK: Bogombogo (O), Engebi (O). BIKINI: Enyu (O). MAJURO: Uliga (O). Japan to Red Sea.

## Family PALMYRIDAE

*Palmyra aurifera* Savigny

Hartman, 1954a, p. 630, fig. 174 a. ENIWETOK: Lidilbut (O) by Hartman. Mauritius, Philippine, Gilbert, and Marshall islands.

## Family CHRYSOPETALIDAE

## KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Paleae with dentation on both sides; dorsal cirrus well developed

*Chrysopetalum eblersi*

1. Paleae with dentation on one side only; dorsal cirrus short, digitiform

*Bhawania goodei*

*Bhawania goodei* Webster

*Bhawania cryptocephala* Gravier. Fauvel, 1953, pp. 79–80, fig. 36 e–i; Hartman, 1954a, p. 628.

*Bhawania goodei*. Day, 1953, p. 407; Imajima and Hartman, 1964, p. 47.

ENIWETOK: Lidilbut (O) and Bogon (O) by Hartman. Japan, Indo-Pacific Ocean, South Africa, Red Sea, and Bermuda Islands.

*Chrysopetalum eblersi* Gravier

Fauvel, 1953, pp. 78–79, fig. 36 a–d; Hartman, 1954a, p. 628. ENIWETOK: Parry (L), Eniwetok (L), Igurini (L), Bogombogo (O, L), Engebi (O), Aaraanbiru (O,L), Japtan (O), and Bogen (O,L); from Rigili (O), Lidilbut (O), and Bogon (O) by Hartman. BIKINI: Enyu (O,L). MAJURO: Uliga (O). Indo-Pacific Ocean to Red Sea.

## Family AMPHINOMIDAE

## KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Caruncle small . . . *Pseudeurythoe oculifera*

1. Caruncle well developed . . . . . 2

2. Setae all bifurcated . . . *Notopygos hispidus*

2. Setae bifurcated, harpoon-shaped, and sword-shaped . . . *Eurythoe complanata*

*Eurythoe complanata* (Pallas)

Fauvel, 1953, pp. 83–84, fig. 38 b–m; Hartman, 1954a, p. 628. ENIWETOK: Parry (O,L), Igurini (O), Bogombogo (O,L), Engebi (O), Aaraanbiru (O,L), Aniyaanii (O), Japtan (O,L), Bogen (O). BIKINI: Enyu (O,L). MAJURO: Uliga (O). Additional reports from Eniwetok by Hartman include Lidilbut (O) and Bogon (O), several islands from Bikini, and from one island at Rongelap. Cosmopolitan in warm seas.

This species, known commonly as the fire-worm, is the largest and one of the most frequently encountered polychaetes from Eniwetok. It should not be picked up with the unprotected hand because the setae readily detach.

*Notopygos hispidus*? Potts

Fauvel, 1953, p. 100, fig. 47 d–g; Hartman, 1954a, p. 628. RONGERIK: Bock (O) by Hartman. Central Pacific Ocean west into Red Sea.

*Pseudeurythoe oculifera* (Augener)

Monro, 1939, pp. 163–165, fig. 1 a–d; Hartman, 1954a, p. 628, Hartmann-Schröder, 1965, pp. 82–3, fig. 1. ENIWETOK: Parry (O), Eniwetok (O), Igurini (O,L), Aaraanbiru (O,L), Aniyaanii (O), and Bogen (O). BIKINI: Enyu (O). MAJURO: Uliga (O). Australia and Central Pacific.

## Family EUPHROSINIDAE

*Euphrosine myrtosa* (Savigny)

Fauvel, 1953, p. 101; Hartman, 1954a, p.

628. ENIWETOK: Lidilbut (O) by Hartman. Widespread from the Pacific Ocean, Indian Ocean, Red Sea, South Atlantic Ocean, and Adriatic Sea.

Family PHYLLODOCIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Prostomium with 4 antennae . . . . . 2
1. Prostomium with 5 antennae . . . . . 5
2. Proboscis with papillae in 12 rows  
*Anaitides madeirensis*
2. Proboscis with papillae dispersed . . . . . 3
3. Proboscis with papillae only at proximal end, distal end smooth . . . . *Genetyllis gracilis*
3. Proboscis with papillae dispersed throughout its length . . . . . *Phyllodoce* . . . . . 4
4. Blade of setae with spines along one margin  
*Phyllodoce marquesensis*
4. Blade of setae smooth *Phyllodoce pruvoti*
5. Proboscis smooth . . . . *Eumida sanguinea*
5. Proboscis with papillae . . . . . 6
6. Ventral cirri of segment 2 flattened and winged; shaft of setae with two curved spines . . . . . *Steggoa magalaensis*
6. Ventral cirri of segment 2 not winged; shaft of setae otherwise . . . . . *Eulalia viridis*

*Anaitides madeirensis* (Langerhans)

Fauvel, 1953, pp. 120–121, fig. 59 d–h; Hartman, 1954a, p. 628; Imajima and Hartman, 1964, p. 60. ENIWETOK: Lidilbut (O) by Hartman. Widespread throughout the world, especially in the warmer seas.

*Eulalia viridis* (Linnaeus)

*Eulalia tenax* Grube. Okuda, 1940, p. 8, fig. 4; Hartman, 1954a, p. 628

*Eulalia viridis*. Imajima and Hartman, 1964, p. 63

Reported from Bikini Atoll by Hartman. Atlantic Ocean, Mediterranean Sea, Arctic Ocean, Japan to Central Pacific Ocean.

*Genetyllis gracilis* (Kinberg)

*Phyllodoce gracilis* Kinberg. Fauvel, 1953, p. 117.

*Genetyllis gracilis*. Monro, 1939, p. 173; Hartman, 1954a, p. 628.

Eniwetok: Parry (L), Igurini (O). BIKINI:

Namu (O) by Hartman. Central Pacific to Indian Ocean.

*Phyllodoce marquesensis?* Monro

Hartman, 1954a, p. 628. ENIWETOK: Rujoru (O) by Hartman. Central and South Pacific Ocean.

*Phyllodoce pruvoti* Fauvel

Fauvel, 1930, pp. 512–515, figs. 1–2; Hartman, 1954a, pp. 630, 632, fig. 175 D, G–I. ENIWETOK: Parry (O), Engebi (O), and Eniwetok (O) by Hartman. BIKINI: Yomyaran (O) and Bokonfuaaku (O) by Hartman. RONGELAP: Eniwetok (O) by Hartman. New Caledonia, Loyalty Islands, and Marshall Islands.

*Steggoa magalaensis* (Kinberg)

*Pterocirrus brevicornis* Ehlers. Fauvel, 1917, pp. 201–202, pl. IV, fig. 14; Hartman, 1954a, p. 628.

*Steggoa magalaensis*. Hartman, 1959, p. 165.

BIKINI: Yomyaran (O) by Hartman. Antarctica, New Zealand, Australia, and Marshall Islands.

*Eumida sanguinea* (Oersted)

Imajima and Hartman, 1964, pp. 64–65, pl. 13, fig. e. ENIWETOK: Aniyaanii (O). BIKINI: Enyu (O). This is the first report of the species from the Marshall Islands. Cosmopolitan.

Family HESIONIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Two antennae; palps absent  
*Hesione genetta*
1. Three antennae; palps present . . . . . 2
2. Some dorsal setae furcated  
*Podarke angustifrons*
2. Dorsal setae all capillary  
*Leocrates chinensis*

*Hesione genetta* Grube

Fauvel, 1953, p. 105; Hartman, 1954a, p. 628. ENIWETOK: Bogombogo (O), Aniyaanii (O). BIKINI: Enyu (O). Hartman reported this species from Eniwetok, Bikini, and Rongelap Atolls, but the specific islands were not given. Indo-Pacific Ocean.

*Podarke angustifrons* (Grube)

*Podarke angustifrons*. Fauvel, 1953, p. 109, fig. 52 a–d; Hartman, 1959, p. 186.

*Irma? angustifrons* Grube [sic]. Hartman, 1954a, p. 633.

ENIWETOK: Parry (L), Aaraanbiru (L), Bogen (O). Indo-Pacific Ocean.

*Leocrates chinensis* Kinberg

Hartman, 1954a, p. 628; Imajima and Hartman, 1964, p. 82; Hartmann-Schröder, 1965, p. 94. ENIWETOK: Parry (L), Bogombogo (O), Engebi (O), and by Hartman from Lidilbut (O). BIKINI: Enyu (O). Circumtropical to subtropical.

Family PILARGIIDAE

*Ancistrosyllis rigida* Fauvel

Fauvel, 1953, pp. 110–111, fig. 53; Hartman, 1954a, p. 629. ENIWETOK: Aaraanbiru (O) and reported by Hartman from Lidilbut (O). BIKINI: Enirik (O) by Hartman. Cosmopolitan.

Family SYLLIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

- 1. Palps not fused; cirri beaded  
Subfamily Syllinae 2
- 1. Palps fused at base . . . . . Subfamily Eusyllinae . . . . . *Odontosyllis hyalina*
- 1. Palps entirely fused . . . . . Subfamily Exogoninae . . . . . 14
- 2. Setae all simple . . . . . *Haplosyllis* . . . . . 3
- 2. Compound setae present . . . . . 4
- 3. Antennae appearing non-beaded; palps united partly at base; all setae with two small teeth at tip; two eyes  
*Haplosyllis aberrans*
- 3. Antennae clearly beaded; palps separated; setae with one or two teeth at tip; 4–6 eyes . . . . . *Haplosyllis spongicola*
- 4. A hood arising from the posterior part of the head (also present in *Odontosyllis*); tooth at posterior end of pharynx  
*Opistosyllis* . . . . . 5
- 4. No hood present; tooth at anterior end of pharynx . . . . . 7
- 5. Body covered with papillae  
*Opistosyllis australis*
- 5. Body smooth . . . . . 6
- 6. Setae bidentate *Opistosyllis longicirrata*
- 6. Setae entire . . . . . *Opistosyllis brunnea*

- 7. Proboscis with a circular crown of teeth  
*Trypanosyllis zebra*
- 7. Proboscis smooth . . . . . 8
- 8. Simple furcate setae present  
*Syllis gracilis*
- 8. Setae all compound except for simple spines in posterior parapodia  
*Typosyllis* . . . . . 9
- 9. Dorsal cirri with less than 20 articles 10
- 9. Dorsal cirri with more than 20 articles 11
- 10. All compound setae bidentate  
*Typosyllis hyalina*
- 10. Some setae unidentate  
*Typosyllis armillaris*
- 11. Some articles of dorsal cirri with black pigment . . . . . *Typosyllis cirropunctata*
- 11. Dorsal cirri uniform in color . . . . . 12
- 12. Proboscis short; posterior acicular setae distinctly bidentate  
*Typosyllis prolifera*
- 12. Proboscis long; posterior acicular spines entire or nearly so (tips often broken) 13
- 13. Blade of compound setae becomes progressively smaller posteriorly  
*Typosyllis brachychaeta*
- 13. Blade of compound setae varies little  
*Typosyllis variegata*
- 14. Dorsal cirri alternately short, bulbous and beaded . . . . . *Parasphaerosyllis indica*
- 14. Dorsal cirri swollen at base, pointed at tip . . . . . *Sphaerosyllis pirifera*
- 14. Dorsal cirri cylindrical *Exogone verugera*

Subfamily SYLLINAE

*Haplosyllis aberrans* Fauvel

Fauvel, 1939, pp. 290–291, fig. 3; Hartman, 1954a, p. 629. ENIWETOK: Lidilbut (O) by Hartman. Indochina and Eniwetok Atoll.

*Haplosyllis spongicola* (Grube)

Fauvel, 1953, p. 147, fig. 75; Hartman, 1954a, p. 629; Hartmann-Schröder, 1965, p. 108. ENIWETOK: Parry (L), Rigili (O), Bogombogo (O), Aaraanbiru (O,L), Aniyaanii (L), Japtan (L). BIKINI: Enyu (L). Cosmopolitan.

*Opistosyllis australis* Augener

Fauvel, 1953, p. 156, fig. 80 g–i; Imajima and Hartman, 1964, p. 120. ENIWETOK: Parry

(O), Bogombogo (O), Engebi (O), Aaraanbiru (O), and Japtan (L). This is the first report of the species from the Marshall Islands. Japan, Australia, Gambier Islands, New Caledonia, Indian Ocean, and Marshall Islands.

*Opistosyllis brunnea* Langerhans

Fauvel, 1953, pp. 155-156, fig. 78 a-k. ENIWETOK: Parry (O), Eniwetok (O,L), Igurini (L), Bogombogo (L), Engebi (O), Aaraanbiru (O). BIKINI: Enyu (O,L). This is the first report of the species from the Marshall Islands. Indian Ocean, Madeira Islands, West Africa, and Marshall Islands.

*Opistosyllis longicirrata* Monro

Fauvel, 1953, pp. 154-155, fig. 77 f-i. ENIWETOK: Eniwetok (O), Igurini (O), Rigili (O), Bogombogo (O), Engebi (O), Aaraanbiru (O,L), Aniyaanii (L), Bogen (O). BIKINI: Enyu (O). This is the first report of the species from the Marshall Islands. Central Pacific Ocean to Red Sea.

*Syllis gracilis* Grube

Fauvel, 1953, pp. 147-148, fig. 73 f-i; Hartman, 1954a, p. 629. ENIWETOK: Japtan (O). Cosmopolitan.

*Trypanosyllis zebra* (Grube)

Fauvel, 1953, p. 157, fig. 79 a-d; Hartman, 1954a, p. 629. ENIWETOK: Parry (O), Bogombogo (O,L), Japtan (O), Bogen (O). BIKINI: Enyu (L). Europe, Indo-Pacific Ocean, Japan.

*Typosyllis brachychaeta* (Schmarda)

Hartman, 1954a, p. 629. ENIWETOK: Parry (O,L), Eniwetok (O,L), Igurini (O), Engebi (O), Aaraanbiru (O), Aniyaanii (O,L), Japtan (L), Bogen (O). BIKINI: Enyu (O,L). MAJURO: Uliga (O,L). Cosmopolitan.

*Typosyllis hyalina* (Grube)

Fauvel, 1923, pp. 262-263, fig. 98 a-b; Hartman, 1954a, p. 629; Hartmann-Schröder, 1965, p. 95. ENIWETOK: Parry (O), Bogombogo (O), Engebi (O), Aaraanbiru (O), Aniyaanii (L). MAJURO: Uliga (O). Cosmopolitan in the warmer seas.

*Typosyllis variegata* (Grube)

Fauvel, 1953, pp. 148-149, fig. 74 h-n; Hartman, 1954a, p. 629; Hartmann-Schröder,

1965, pp. 96-97. ENIWETOK: Parry (O,L), Eniwetok (O,L), Igurini (O,L), Bogombogo (O), Engebi (O,L), Aaraanbiru (O,L), Aniyaanii (O,L), Japtan (O,L), Bogen (O). BIKINI: Enyu (O,L). MAJURO: Uliga (O,L). Hartman referred some specimens, with question, taken from the region between Elugelab and Lidilbut islands at Eniwetok Atoll. Cosmopolitan.

*Typosyllis prolifera* Krohn

Fauvel, 1953, pp. 149-150, fig. 74 a-g. ENIWETOK: Eniwetok (O), Engebi (O), Bogen (O). This is the first report of the species from the Marshall Islands. Cosmopolitan.

*Typosyllis cirropunctata* (Michel)

Fauvel, 1923, pp. 266-267, fig. 99 n-p. ENIWETOK: Parry (L), Bogen (O). This species was previously known only from Naples, Italy.

*Typosyllis armillaris* (Muller)

Fauvel, 1923, pp. 264-265, fig. 99 a-f; Hartman 1948, p. 22. BIKINI: Enyu (L). MAJURO: Uliga (O). This is the first report of the species from the Marshall Islands. Cosmopolitan.

Subfamily EUSYLLINAE

*Odontosyllis hyalina* Grube

Monro, 1931, pp. 12-13, fig. 7; Hartman, 1954a, p. 629. ENIWETOK: Parry (L), Lidilbut (O) by Hartman. RONGELAP: Rongelap by Hartman. A total of 33 specimens were collected with the use of a night light on August 28, 1956. The water was 15 ft deep, and the bottom consisted of coral sand. These specimens were epitokes and were phosphorescent along their entire length. The specimens emitted their eggs or sperm in the laboratory. Fertilization and cleavage were noted that evening. No further attempt was made to follow the development of this species. Great Barrier Reef, Singapore, and Marshall Islands.

Subfamily EXOGONINAE

*Exogone verugera* Claparède

Fauvel, 1923, pp. 307-308, fig. 117 m-r; Imajima and Hartman, 1964, p. 116, Hartmann-Schröder, 1965, pp. 118-119. MAJURO: Uliga (O). This is the first report of the species from

the Marshall Islands. Europe, Atlantic Ocean, eastern Pacific Ocean, Japan, and Marshall Islands.

*Sphaerosyllis pirifera* Claparède

Fauvel, 1923, pp. 301–302, fig. 115 1–p; Reish, 1959, p. 80. ENIWETOK: Bogombogo (O). This is the first report of the species from the Marshall Islands. Atlantic Ocean, Mediterranean Sea, eastern Pacific Ocean, and Marshall Islands.

*Parasphaerosyllis indica* Monro

Monro, 1937, pp. 273–275, fig. 8; Hartman, 1954a, p. 629; Rioja, 1959, pp. 246–251, figs. 21–31; Hartmann-Schröder, 1965, p. 115. ENIWETOK: Bogombogo (L) and by Hartman from Lidilbut (O). Arabian Sea, Cauda, Anam, Marshall Islands, and Gulf of Mexico.

Family NEREIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

- 1. Peristomium with parapodia and setae; proboscis lacks paragnaths  
*Micronereis eniwetokensis*
- 1. Peristomium with only tentacular cirri; proboscis with paragnaths . . . . . 2
- 2. Paragnaths soft *Ceratocephala corallicola*
- 2. Paragnaths horny . . . . . 3
- 3. Paragnaths present only on distal ring of proboscis . . . . . *Ceratonereis* . . . . . 4
- 3. Paragnaths present on both rings of proboscis . . . . . 6
- 4. Prostomium with deep cleft between antennae . . . . . *Ceratonereis mirabilis*
- 4. Prostomium without cleft . . . . . 5
- 5. Posterior neuropodial falcigers with terminal end fused to stalk  
*Ceratonereis pachychaeta*
- 5. Posterior neuropodial falcigers not fused  
*Ceratonereis costae*
- 6. All paragnaths conical . . . . . 7
- 6. Some paragnaths transverse, or pectinate . . . . . 9
- 7. Posterior notopodial lobes with homogomph falcigerous and spiniger setae . . . . .  
*Nereis zonata perisca*
- 7. Posterior notopodial with only spiniger setae . . . . . *Neanthes* . . . . . 8

- 8. A broad belt of paragnaths around the oral ring . . . . . *Neanthes arenaceodentata*
- 8. Area VI with 2 or 3 paragnaths in a row; area VI–VIII with 3–5 paragnaths  
*Neanthes dawydovi*
- 9. Transverse paragnaths on area VI  
*Perinereis* . . . . . 10
- 9. Pectinate paragnaths on maxillary ring  
*Platynereis* . . . . . 12
- 9. Paragnaths are conical, pectinate, and transverse . . . . *Pseudonereis* . . . . 13
- 10. Area I of maxillary ring with a group of 4–12 conical paragnaths  
*Perinereis nigropunctata*
- 10. Area I with 1–2 paragnaths . . . . . 11
- 11. Tentacular cirri extend to 5–6 segments; area I with 1–3 paragnaths  
*Perinereis cultifera*
- 11. Tentacular cirri extend to 8–9 segments; area I with 2 paragnaths  
*Perinereis helleri*
- 12. Area VI with 1–2 curved rows of paragnaths; blade of falciger with pointed tip or slightly rounded *Platynereis dumerlii*
- 12. Area VI with 1 row of paragnaths; blade of falciger broadly rounded  
*Platynereis pulchella*
- 12. Area VI with oval cluster of pectinate paragnaths; known only from epitokal stage at Eniwetok *Platynereis polyscalma*
- 13. Area V with 1 paragnath; area VI each with a large paragnath  
*Pseudonereis gallapensis*
- 13. Area V lacking paragnaths; area VI each with a row of paragnaths  
*Pseudonereis anomala*

*Ceratocephala corallicola*, new species

Fig. 4 (1–5)

Eight complete specimens were collected from Bogen Island at Eniwetok Atoll on September 12, 1956. They ranged in size from 5 to 20 mm in length and possessed from 38 to 112 setigerous segments. The holotype measures 12 mm in length, 0.5 mm in width, and possesses 90 setigerous segments. The prostomium bears four pairs of eyes in trapezoidal arrangement, with the anterior pair farther apart. The anterior part is crescent in shape and the posterior ones



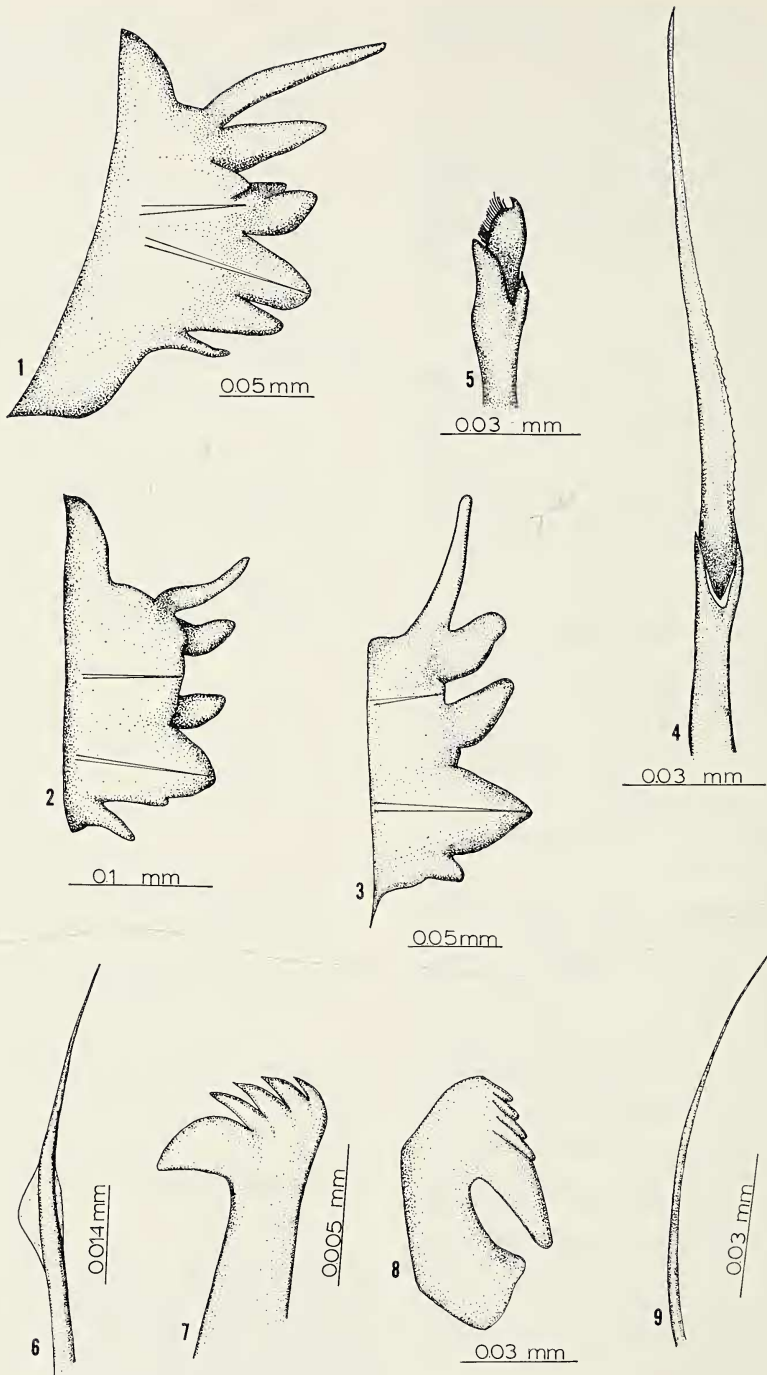


FIG. 4, 1-5. *Ceratocephala corallicola*, n. sp. 1, Parapodium of segment 14; 2, parapodium of segment 42; 3, parapodium of segment 76; 4, homogomph spiniger from notopodium; 5, heterogomph falcigerous seta from neuropodium.

6-9. *Euchone eniwetokensis*, n. sp. 6, Suspatulate seta from thoracic notopodium; 7, long-handled uncinus from thoracic neuropodium; 8, avicular hook from abdominal notopodium; 9, capillary seta from abdominal neuropodium.

circular. The prostomium also bears a pair of antennae and biarticulated palpi. Areas VI of the proboscis each bears a pair of conical papillae, and areas VII and VIII possess eight papillae in a single row. The other areas lack papillae. Three of the four pairs of peristomial tentacles are short, and the fourth pair is long. The first two setigerous segments are uniramous. Biramous parapodia begin with segment 3, with each ramus possessing a yellow to black aciculum. The parapodia of segments 14, 42, and 76 are shown in Figure 4, 1–3. The notopodium bears only homogomph spinigers (Fig. 4, 4). The neuropodium has superior homogomph spinigers and heterogomph falcigers (Fig. 4, 5). The pygidium terminates with two filiform cirri.

**ECOLOGY:** All eight specimens were collected from pieces of coral heads taken from shallow water at Bogen Island opposite the deep channel entrance between Parry and Japtan islands. Along with *C. corallicola*, 20 other species of polychaetes were collected, the principle ones being *Typosyllis brachychaeta*, *Eunice (N). gracilis*, *Palola siciliensis*, and *Polyophtthalmus pictus*.

**REMARKS:** The genus *Ceratocephala* is known from eight species and subspecies (Hartman, 1959, 1960; Hartmann-Schröder, 1962). *C. corallicola* and *C. edmondsi* Hartman (1954b) from Australia may be separated from the other known species by the possession of a single ventral cirrus rather than a bifurcated one. *C. corallicola* differs from *C. edmondsi* by the absence of papillae on areas I to IV, and by the presence of two papillae rather than one on a side on area VI.

**TYPE MATERIAL:** Holotype and six paratypes in the U.S. National Museum.

*Ceratonereis costae?* (Grube)

Fauvel, 1953, pp. 194–195, fig. 98 a–f; Hartman, 1954a, p. 629. Specimens questionably referred to this species were reported from an unspecified locality at Bikini Atoll by Hartman. Cosmopolitan.

*Ceratonereis mirabilis* Kinberg

Fauvel, 1953, pp. 200–201, fig. 103 a–c; Hartman, 1954a, p. 629. ENIWETOK: Parry

(O,L), Eniwetok (L), Igurin (L), Rigili (O), Bogombogo (O), Engebi (O), Aaraanbiru (O,L), Bogen (O), and also from Lidilbut (O) by Hartman. Cosmopolitan in the warmer seas.

*Ceratonereis pachychaeta* Fauvel

Fauvel, 1953, p. 196, fig. 99 a–h; Hartman, 1954a, p. 629. Hartman reported this species from Bikini Island at Bikini Atoll and from Rigoman and Rongelap Islands at Rongelap Atoll. Central Pacific Ocean to Gulf of Suez.

*Neanthes arenaceodentata* (Moore)

*Nereis arenaceodentata* Moore, 1903, pp. 720–723, pl. 40, figs. 1–10.

*Nereis cricognatha* Ehlers. Fauvel, 1953, pp. 180–181, fig. 91 a–c.

*Neanthes arenaceodentata*. Hartman, 1959, p. 250.

*Nereis (Neanthes) arenaceodonta*[sic]. Pettibone, 1963, pp. 162–165, figs. 44i, 45e; Hartmann-Schröder, 1965, p. 123.

**ENIWETOK:** Parry (O,L). A total of 24 specimens were collected; all but 5 were taken from the sandy mud found at the bottom of the trough of the domestic outfall sewer. The other collection came from sand at a depth of 15 ft from the lagoon side of Parry Island. This is the first report of the species from the Marshall Islands. Cosmopolitan.

*Neanthes dawydovi* (Fauvel)

*Nereis dawydovi* Fauvel, 1937, p. 297–299, fig. 1 a–k.

*Neanthes dawydovi*. Hartman, 1954a, p. 629.

**ENIWETOK:** Parry (O), Engebi (O), Aaraanbiru (O); also from Lidilbut (O) and from Rongelap Atoll by Hartman. Central Pacific Ocean to Indo-China.

*Nereis zonata perisca* Fauvel

Fauvel, 1953, pp. 187–188, fig. 95 f–h; Hartman, 1954a, p. 629. ENIWETOK: Bogombogo (O,L). BIKINI: Enyu (O). Indo-Pacific Ocean and Red Sea.

*Platynereis polyscalma* Chamberlin

Fauvel, 1953, pp. 221–222, fig. 112 a–e; Hartman 1954a, p. 629. ENIWETOK: Parry (L). Hartman reported this species from Rongelap Atoll. A total of 40 epitokes were collected from two localities on the lagoon side of Parry Island

with the use of the night light. The water was approximately 15 ft deep and the substrate consisted of white coral sand at both localities. On August 28, 1956, 13 females and 22 males were captured; 5 males were collected on September 3, 1956. Tropical Pacific Ocean and Indian Ocean.

*Platynereis pulchella* Gravier

Fauvel, 1953, pp. 220–221, fig. 112 f–h. ENIWETOK: Parry (O,L), Eniwetok (O), Igurini (O), Rigili (O), Bogombogo (L), Engebi (O), Aaraanbiru (O,L), Aniyaanii (O), Japtan (L), and Bogen (O). BIKINI: Enyu (O,L). This is the first report of the species from the Marshall Islands. Red Sea, Persian Gulf, Arabian Sea, Indian Ocean, and Marshall Islands.

*Perinereis belleri* Grube

*Perinereis cultifera* var. *belleri*. Fauvel, 1953, p. 208.

ENIWETOK: Aniyaanii (L). This is the first report of the species from the Marshall Islands. Pacific, Atlantic, and Indian oceans.

*Perinereis nigropunctata* Horst

Fauvel, 1953, p. 210, fig. 107 b–f. This is the first report of the species from the Marshall Islands. Indian Ocean, Malay Archipelago, and Marshall Islands.

*Perinereis cultifera* Grube

Fauvel, 1953, p. 208; Imajima and Hartman, 1964, p. 152. MAJURO: Uliga (O). This is the first report of the species from the Marshall Islands. Cosmopolitan.

*Pseudonereis anomala* Gravier

Fauvel, 1953, p. 217, fig. 110 h–i; Hartman, 1954a, p. 629; Hartmann-Schröder, 1965, p. 129. Hartman reported this species from Eniwetok Atoll, from Namu (O) at Bikini Atoll, and from Burok (O) at Rongelap Atoll. Red Sea, Persian Gulf, Arabian Sea, and Indo-Pacific Ocean.

*Pseudonereis gallapagensis* Kinberg

Fauvel, 1953, pp. 215–217, fig. 110 a–c; Hartman, 1954a, p. 629; Hartmann-Schröder, 1965, pp. 129–30. ENIWETOK: Parry (O), Bogombogo (O), Engebi (O), Aaraanbiru (O), Aniyaanii (O), and from Lidilbut (O) and

Japtan (O) by Hartman. MAJURO: Uliga (O, L). Tropical Pacific Ocean, Indian Ocean, West Africa, and Brazil.

*Micronereis eniwetokensis* Reish

Reish, 1961a, pp. 273–277, figs. 2–6. ENIWETOK: Parry (L), Igurini (O), and Aaraanbiru (L). This species is known only from these localities.

Family NEPHTYIDAE

*Micronephtys sphaerocirrata* (Wesenberg-Lund)

*Nephtys sphaerocirrata* Wesenberg-Lund, 1949, pp. 294–296, figs. 24–6.

*Micronephtys sphaerocirrata*. Hartman, 1950, pp. 130–1; Reish, 1961a, p. 277.

ENIWETOK: Parry (L) in 90–94 ft of water. Persian Gulf and Eniwetok Atoll.

Family SPHAERODORIDAE

*Sphaerodorum pacificum* Hartman

Hartman, 1954a, pp. 634–637, figs. 176 A, 177 I–J. ENIWETOK: Bogen (O) (1 specimen), and from Lidilbut (O) by Hartman. This species is known only from these localities on Eniwetok Atoll.

Family GLYCERIDAE

*Glycera tessellata* Grube

Fauvel, 1953, p. 291, fig. 152 a–c; Hartman, 1954a, p. 629; Imajima and Hartman, 1964; Hartmann-Schröder, 1965, p. 130. ENIWETOK: Rigili (O,L), Bogombogo (O,L), Engebi (O), and at Lidilbut (O) by Hartman. Bikini (O) by Hartman. Cosmopolitan.

Family EUNICIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Prostomium with 5 antennae . . . . . 2
1. Prostomium with 3 antennae
  1. Prostomium with 1 antenna  
*Lysidice collaris*
  1. Prostomium with 1 antenna  
*Nematonereis unicornis*
  2. Peristomium with a pair of cirri; branchiae present or nearly absent . . . . . 3
  2. Peristomium without cirri; branchiae absent . . . . . *Paramarphysa orientalis*

3. Pectinate setae and acicular hooks present  
*Eunice* 4
3. Pectinate setae and acicular hooks absent  
*Palola siciliensis*
4. Branchiae present through a considerable region . . . . . *Eunice, sensu latior* 5
4. Branchiae absent or nearly so  
*Eunice (Nacidion) gracilis*
5. Acicular setae bidentate . . . . . 6
5. Acicular setae tridentate . . . . . 7
6. Branchiae begin at segment 24, with 6–10 filaments; sides of pectinate setae equal  
*Eunice johnsoni*
6. Branchiae begin at segments 10–20, with 6–16 filaments; sides of pectinate setae unequal . . . . . *Eunice afra*
7. Branchiae begin at segments 4–6 and extend throughout most of the length  
*Eunice antennata*
7. Branchiae begin at segments 6–7 and are present only on the anterior third of the body . . . . . *Eunice antennata*

*Eunice afra* Peters

Fauvel, 1953, pp. 235–236, fig. 116 h–i; Hartman, 1954a, p. 629. ENIWETOK: Eniwetok (O,L), Igurini (O), Rigili (O), Engebi (O), Aaraanbiru (O,L), Aniyaanii (O,L), Japtan (O), and also Lidilbut (O) by Hartman. BIKINI: Enyu (O), and also Enirik, Yomyaran, and Namu (O,L) by Hartman. RONGELAP: Eniwetok by Hartman. Indo-Pacific Ocean and Red Sea.

*Eunice antennata* (Savigny)

Fauvel, 1953, p. 240, fig. 118 f–g; Hartman, 1954a, p. 629. ENIWETOK: Parry (L), Bogombogo (O), Engebi (O), Aniyaanii (L), and from Japtan (O) by Hartman. She reported this species also from BIKINI: Namu (O); RONGELAP: Burok (O); RONGERIK: Latoback. Indo-Pacific Ocean, Persian Gulf, and Red Sea.

*Eunice australis* Quatrefages

Fauvel, 1953, p. 240, fig. 118 h–l. ENIWETOK: Engebi (L). This is the first report of the species from the Central Pacific; it has been previously collected from Australia, New Zealand, India, Maldive Archipelago, Zanzibar, and Cape of Good Hope.

*Eunice johnsoni* Hartman

Hartman, 1954a, pp. 633–634, fig. 175 A–C, E–F. This species is known only from one specimen from Bikini Atoll.

*Lysidice collaris* Grube

Fauvel, 1953, p. 248; Hartman, 1954a, p. 629; Hartmann-Schröder, 1965, pp. 136–137. ENIWETOK: Parry (O,L), Eniwetok (O,L), Igurini (O), Rigili (O,L), Bogombogo (O,L), Engebi (O), Aaraanbiru (O,L), Aniyaanii (O, L), Japtan (O,L), Bogen (O), and also Lidilbut (O) by Hartman. BIKINI: Enyu (O,L), and by Hartman from Namu (O). MARJURO: Uliga (O). Japan, Indo-Pacific Ocean, Persian Gulf, and Red Sea.

*Nematonereis unicornis* Schmarda

Fauvel, 1953, pp. 249–250, fig. 124 h–n; Hartman, 1954a, p. 629; Hartmann-Schröder, 1965, pp. 137–138. ENIWETOK: Parry (O,L), Eniwetok (L), Igurini (O,L), Rigili (O,L), Bogombogo (L), Engebi (O,L), Aniyaanii (O), Japtan (O,L), Bogen (O), and by Hartman from Lidilbut (O). BIKINI: Enyu (O). MAJURO: Uliga (O). Indo-Pacific Ocean, Suez Canal, Mediterranean Sea, and Atlantic Ocean.

*Eunice (Nacidion) gracilis* Crossland

Fauvel, 1953, pp. 243–244, fig. 122 a–f; Hartman, 1954a, p. 629. ENIWETOK: Eniwetok (L), Rigili (O), Japtan (O), and Bogen (O). BIKINI: Enyu (L), and by Hartman from Enirik. Warmer waters of Indo-Pacific Ocean.

*Palola siciliensis* (Grube)

*Palola siciliensis*. Hartman, 1944, p. 131; 1954a, p. 629.

*Eunice siciliensis*. Fauvel, 1953, pp. 241–2, fig. 121 e–m.

ENIWETOK: Parry (L), Eniwetok (O,L), Igurini (O), Rigili (O), Bogombogo (L), Engebi (O), Aaraanbiru (O,L), Aniyaanii (O, L), Japtan (O,L), Bogen (O), and also from Lidilbut (O) by Hartman. BIKINI: Enyu (O,L) and Yomyaran by Hartman. RONGELAP: Kabelle and Burok (O) by Hartman. Cosmopolitan, especially in warmer waters.

*Paramarphysa orientalis* Willey

Fauvel, 1953, pp. 247–248; Hartman, 1954a, p. 629. ENIWETOK: Eniwetok (L), Aniyaanii (L), Bogen (O), and reported by Hartman

from Lidilbut (O) and Japtan (O). BIKINI: Enyu (L). Warmer waters of Indo-Pacific Ocean.

Family LUMBRINERIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Prostomium bluntly conical  
*Lumbrineris latreilli*
1. Prostomium short, globular  
*Lumbrineris sphaerocephala*

*Lumbrineris latreilli?* Audouin and Milne Edwards

*Lumbriconereis latreilli* Audouin and Milne Edwards [sic]. Fauvel, 1953, pp. 266-267, fig. 134 m-r.

*Lumbrineris latreilli* Audouin and Milne Edwards. Hartman, 1954a, p. 629.

Hartman reported this species, with question, from the ocean side of Bikini Island, Bikini Atoll. Cosmopolitan in warmer seas.

*Lumbrineris sphaerocephala* (Schmarda)

*Notocirrus sphaerocephalus* Schmarda, 1861, p. 116.

*Lumbriconereis sphaerocephala* (Schmarda). [sic], Fauvel, 1953, p. 267, fig. 135, c-f.

*Lumbrineris sphaerocephala* (Schmarda). Hartman, 1954a, p. 629.

ENIWETOK: Lidilbut (O) by Hartman. Central Pacific Ocean to Indian Ocean.

Family ARABELLIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Parapodia with heavy, projecting acicula; capillary setae with smooth margins  
*Drilonereis major*
1. Parapodia without projecting, heavy acicula; some capillary setae dentitions along part of one margin . . . . . *Arabella* 2
2. Acicular setae with asymmetrical hood  
*Arabella mutans*
2. No such type of acicula *Arabella iricolor*

*Arabella iricolor* (Montagu)

Fauvel, 1953, 224-225, fig. 140 a-h; Hartman, 1954a, p. 629. ENIWETOK: Parry (O,L), Eniwetok (O,L), Igurini (O,L), Japtan (O), Bogen (O), and from Rigili (L) by Hartman. Cosmopolitan.

*Arabella mutans* (Chamberlin)

Fauvel, 1953, p. 275, figs. 140 i-l, 143 g-i; Hartman, 1954a, p. 629. ENIWETOK: Parry (O), Eniwetok (O), and reported by Hartman from Rigili (L) and Japtan (O). Cosmopolitan in the warmer seas.

*Drilonereis* sp. cf. *D. major* Crossland

Hartman, 1954a, p. 634. One specimen was taken from Namu Island (O), Bikini Atoll. Hartman stated that this specimen comes closest to *D. major* but differs in several respects.

Family LYSARETIDAE

*Aglaurides fulgida* (Savigny)

Fauvel, 1953, pp. 250-251, fig. 125 a-f; Hartman, 1954a, p. 629; Hartmann-Schröder, 1965, p. 149, fig. 65. ENIWETOK: Lidilbut (O). RONGELAP: Burok (O). Both reports by Hartman. Cosmopolitan in the warmer seas.

Family DORVILLEIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Nuchal tentacle present; dorsal cirrus entire; acicular lobe broad  
*Papilliodorvillea gardineri*
1. No nuchal tentacle; dorsal cirrus jointed at end; acicular lobe narrow  
*Dorvillea similis*

*Papilliodorvillea gardineri* Crossland

*Staurocephalus* (*Dorvillea*) *gardineri* Crossland, 1924, p. 93, figs. 112-118.

*S. gardineri*. Fauvel, 1953, p. 280, fig. 143 d-f.

*Dorvillea gardineri*. Hartman, 1954a, p. 629. *Papilliodorvillea gardineri*. Pettibone, 1961, p. 182.

ENIWETOK: Bogombogo (L) and Lidilbut (O) by Hartman. BIKINI: Enirik (O), by Hartman. Marshall Islands to East Africa.

*Dorvillea similis* Crossland

Hartman, 1954a, p. 629. ENIWETOK: Parry (L), Eniwetok (O,L), Rigili (O), Bogombogo (O), Japtan (O), and also from Bogon (O) and Lidilbut (O) as reported by Hartman. Gulf of Suez and Marshall Islands.

Family ORBINIIDAE

*Naineris* sp.

Hartman, 1954a, p. 637. One small specimen agreeing with the description given by Hartman was taken from the ocean side of Bogon Island at Eniwetok Atoll. Hartman reported it from the ocean side of Bogon and Parry islands.

Family SPIONIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

- 1. Fifth setigerous segment modified . . . . . 2
- 1. Fifth setigerous segment not modified . . . . . 8
- 2. Branchiae begin anterior to the fifth setigerous segment; neuropodial hooded hooks begin on setigerous segment 9  
*Tripolydora spinosa*
- 2. Branchiae begin posterior to fifth setigerous segment . . . . . 3
- 3. Neuropodial hooks begin on setigerous segment 7 . . . . . *Polydora* 4
- 3. Neuropodial hooks begin on setigerous segment 8 . . . . . *Pseudopolydora* 5
- 4. Branchiae present on segments 7–12; posterior notopodial spines arranged in a cone  
*Polydora armata*
- 4. Branchiae present on segments 10–26; posterior notopodium with only capillary setae . . . . . *Polydora tridenticulata*
- 5. Bifurcated prostomium; nuchal tentacles present or absent . . . . . 6
- 5. Prostomium entire; nuchal tentacles absent; special setae of fifth segment falcate hooks and limbate capillaries  
*Pseudopolydora pigmentata*
- 6. Prostomium without nuchal tentacles and eyes; special setae of fifth segment expanded distally with a hairy top and falcate hooks . . . . . *Pseudopolydora reishi*
- 6. Prostomium with nuchal tentacles and eyes . . . . . 7
- 7. Special setae of fifth segment expanded distally and with a concavity; hooded hooks bidentate . . . . . *Pseudopolydora antennata*
- 7. Special setae of fifth segment of a lighter spoon-shaped type and a heavier, angled, distal type; hooded hooks bidentate with fenestrations at the ends of the teeth  
*Pseudopolydora corallicola*

- 8. Prostomium with distinct frontal horns; branchiae on all but posterior segments  
*Malacoceros (Malacoceros) indicus*
- 8. Prostomium pointed or rounded anteriorly . . . . . 9
- 9. Branchiae limited to few anterior segments . . . . . *Prionospio cirrifera*
- 9. Branchiae present on nearly all segments . . . . . 10
- 10. Bidentate hooded hooks present in notopodium and neuropodium  
*Scolelepis (Scolelepis) bonnieri*
- 10. Entire hooded hooks present only in neuropodium . . . . . *Spio filicornis*

*Malacoceros (Malacoceros) indicus* (Fauvel)  
*Scolelepis indica* Fauvel, 1953, pp. 313–314, figs. 165 g–m.  
*Malacoceros (Malacoceros) indicus* (Fauvel). Pettibone, 1963, p. 99; Hartmann-Schröder, 1965, p. 143, fig. 69.  
ENIWETOK: Parry (L). This is the first report of the species from the Marshall Islands. Tropical Pacific, Indian Ocean, South Africa.

*Polydora armata* Langerhans  
Woodwick, 1964, pp. 147–148, figs. 2 (1–6). ENIWETOK: Eniwetok (O,L), Rigili, Engebi, Aaraanbiru, Aniyaanii, and Japtan. BIKINI: Enyu. These specimens were identified and reported by Woodwick (1964). Cosmopolitan.

*Polydora tridenticulata* Woodwick  
Woodwick, 1964, pp. 153–155, figs. 4 (1–5). ENIWETOK: Rigili (L), Engebi (L), and Japtan (O,L). These specimens were identified and reported by Woodwick (1964). This species is known only from Eniwetok Atoll.

*Prionospio cirrifera* Wirén  
Fauvel, 1953, p. 324, figs. 164 k–m. ENIWETOK: Parry (L), Bogombogo (O), and Aaraanbiru (O). Cosmopolitan.

*Pseudopolydora antennata* (Claparède)  
Woodwick, 1964, pp. 148–151, fig. 2 (7–8); Imajima and Hartman, 1964, pp. 286–287.  
*Polydora (Carazzia) antennata* Claparède.  
Fauvel, 1953, pp. 316–7, figs. 166 i–m.

ENIWETOK: Parry (O,L), and Eniwetok (O, L). MAJURO: Uliga. These specimens were identified and reported by Woodwick (1964). Atlantic Ocean, Mediterranean Sea, Arabian Sea, Indo-Pacific regions, South Africa, and Japan.

*Pseudopolydora corallicola* Woodwick

Woodwick, 1964, pp. 151-152, fig. 2 (9-12). ENIWETOK: Engebi (O). This species is known only from this locality.

*Pseudopolydora pigmentata* Woodwick

Woodwick, 1964, pp. 152-153, figs. 3 (4-6). ENIWETOK: Eniwetok (L) and Engebi (L). This species is known only from these collections as described by Woodwick (1964).

*Pseudopolydora reishi* Woodwick

Woodwick, 1964, p. 152, figs. 3 (1-3). ENIWETOK: Parry (O) and Engebi (L). This species is known only from this locality.

*Scoelepis (Scoelepis) bonnieri* (Mesnil)

*Nerine bonnieri*. Fauvel, 1927, pp. 35-36, figs. 12 f-o.

*Scoelepis (Scoelepis) bonnieri*. Pettibone, 1963, p. 92.

ENIWETOK: Rigili (O) and Japtan (L). This species was previously known only from France. Two specimens collected agree with the account of this species as given by Fauvel (1927).

*Spio filicornis* (Müller)

Fauvel, 1927, pp. 43-44, figs. 15 a-g. MAJURO: Uliga (O). This is the first report of the species from Marshall Islands. Cosmopolitan.

*Tripolydora spinosa* Woodwick

Woodwick, 1964, pp. 155-156, figs. 4 (6-9). ENIWETOK: Rigili (L) and Bogombogo (L). This species was described by Woodwick (1964) from these collections.

Family CHAETOPTERIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

- 1. One pair of tentacles . . . . . 2
- 1. Two pairs of tentacles
  - Phyllochaetopterus* 3
- 2. Two or three median segments; the notopodia of these segments separate and conical in shape . . . . . *Mesochaetopterus minutus*

- 2. Five median segments with the notopodia of the first two aliform in shape and the last three cup-shaped . . *Chaetopterus* sp.

- 3. Larger, 15 anterior segments; 3 smaller modified setae on the fourth segment; about 16 segments to mid-region
  - Phyllochaetopterus ramosus*

- 3. Smaller; 10-18 or more anterior segments; 1 smaller modified seta on fourth segment; 5-28 segments to mid-region
  - Phyllochaetopterus socialis*

*Chaetopterus* sp.

Hartman, 1954a, p. 637.

One incomplete specimen, which was similar to the one reported by Hartman, was taken from sand in 10 ft of water on the lagoon side of Parry Island, Eniwetok Atoll. This sandy area had a heavy concentration of two other members of the Family Chaetopteridae, *Mesochaetopterus minutus* and *Phyllochaetopterus ramosus*. Repeated attempts were made to secure additional material of *Chaetopterus* sp. without success. Hartman's report was based on a single individual taken from the lagoon side of Rongelap Island, Rongelap Atoll.

*Mesochaetopterus minutus* Potts

Fauvel, 1953, pp. 342-4, fig. 178a; Hartman, 1954a, p. 629. ENIWETOK: Parry (O,L), Igurini (L), Rigili (L), Bogombogo (O,L), Japtan (O), and Bogen (O). MAJURO: Uliga (L). Cosmopolitan in warmer seas.

*Phyllochaetopterus ramosus* Willey

Willey, 1904, p. 293, pl. 5, figs. 133-136. ENIWETOK: Parry (O,L), Rigili (L), Bogombogo (O), Aaraanbiru (L), Japtan (L). Hartman reported two specimens from Bikini Atoll which she believed were to be compared with *P. ramosus*. They differed from this species and the present account by the fewer number of segments to the anterior region and by a greater number of modified setae on the fourth segment. Ceylon and Marshall Islands.

*Phyllochaetopterus socialis* Claparède

*Phyllochaetopterus socialis* Claparède. Fauvel, 1953, pp. 339-340, figs. 176 a-l; Hartman, 1959, pp. 397-398.

*P. pictus* Crossland. Hartman, 1954a, p. 629.

ENIWETOK: Parry (L) and Japtan (O). MAJURO: Uliga (O). Cosmopolitan in the warmer seas.

Family MAGELONIDAE

*Magelona* sp.

One specimen was taken from sand collected from 10 ft of water at the ocean side of Rigili Island at Eniwetok Atoll. The worm was small and in a poor state of preservation.

Family CIRRATULIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. One pair of palps arising anterior to setigerous segments; tentacular cirri few in number ..... *Dodecaceria laddi*
1. No palps; tentacular filament numerous 2
2. Dorsal transverse tentacular filaments and lateral tentacular filaments begin at same segment ..... *Cirratulus* sp.
2. Lateral tentacular filaments begin anterior to dorsal transverse group  
*Cirriiformia semicincta*

*Cirratulus* sp.

Hartman, 1954a, p. 638. Hartman recorded three small specimens from Lidilbut Island at Eniwetok Atoll.

*Cirriiformia semicincta* (Ehlers)

*Audouinia semicincta* (Ehlers). Fauvel, 1953, pp. 330-1, fig. 174 c.

*Cirriiformia semicincta* (Ehlers). Hartman, 1954a, p. 629.

ENIWETOK: Parry (O,L), Eniwetok (O,L), Igurini (L), Rigili (O,L), Bogombogo (O), Engebi (O,L), Aaraanbiru (O,L), Aniyaanii (O), Japtan (L), and Bogen (O). Hawaiian Islands to Red Sea.

*Dodecaceria laddi* Hartman

Hartman, 1954a, p. 638, figs. 176 a-c, 177 d-h. ENIWETOK: Parry (O,L), Eniwetok (O, L), Igurini (O,L), Rigili (O,L), Bogombogo (O,L), Engebi (O,L), Aaraanbiru (L), Aniyaanii (L), Japtan (O,L), and Bogen (O), and also from Lidilbut (O) as reported by Hartman. BIKINI: Enyu (O,L). MAJURO: Uliga (O).

*Dodecaceria laddi* was described as having one pair of palpi and two pairs of tentacular cirri; Hartman also reported one specimen with only three tentacular cirri. Specimens from the present collection were observed possessing from two to four pairs of tentacular cirri. One specimen collected from Majuro Atoll on August 30, 1956, possessed swimming setae along its entire length. A pair of red eyespots was present on the dorso-lateral side of the prostomium of this worm. The possession of swimming setae is well known in *D. concharum* Oersted (Fauvel, 1927). Marshall Islands.

Family CTENODRILIDAE

*Ctenodrilus serratus* (Schmidt)

Hartman, 1944, p. 323, pl. 27, figs. 6-7. One specimen, measuring 1.0 mm in length, was taken from sand collected from 90 ft of water in the lagoon off Parry Island, Eniwetok Atoll. This is the first report of the species from the Marshall Islands. Known previously from Europe, West Indies, and the eastern Pacific Ocean, the distribution is herein extended into the central Pacific Ocean.

Family OPHELIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Lateral gills present *Armandia lanceolata*
1. Lateral gills absent *Polyophthalmus pictus*

*Armandia lanceolata* Willey

Hartman, 1954a, p. 629; Imajima and Hartman, 1964, p. 306. ENIWETOK: Parry (L), Rigili (O), Engebi (O), and Aaraanbiru (O, L). BIKINI: reported by Hartman from Namu (L) and Yomyaran. MAJURO: Uliga (O). Japan and Indo-Pacific region.

*Polyophthalmus pictus* (Dujardin)

Fauvel, 1953, pp. 360-1, figs. 187 1-o; Hartman, 1954a, p. 629; Imajima and Hartman, 1964, p. 309; Hartmann-Schröder, 1965, p. 149. ENIWETOK: Parry (O,L), Eniwetok (O), Igurini (O,L), Rigili (O,L), Bogombogo (O, L), Engebi (O,L), Aaraanbiru (O,L), Aniyaanii (O), Japtan (O,L), Bogen (O), and reported by Hartman from Lidilbut (O). BIKINI: Enyu (O,L) and reported by Hartman



from Namu (L). MAJURO: Uliga (O). This is one of the most commonly encountered polychaetes in the Marshall Islands. Cosmopolitan.

Family CAPITELLIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Posterior end terminates in anal plate  
*Heteromastides bifidus*
1. Posterior end rounded . . . . . 2
2. Capillary setae begin at first segment posterior to prostomium; specialized genital setae in segments 8 and 9 of male  
*Capitella capitata*
2. Capillary setae begin at second segment posterior to prostomium; no specialized genital setae . . . . . 3
3. Hooks begin at setigerous segment 13; no branchiae . . . . . *Leiochrides? biceps*
3. Hooks begin at setigerous segment 14; branchiae present . . . . . *Dasybranchus* 4
4. Anterior abdominal notopodia widely separated from one another  
*Dasybranchus caducus*
4. Anterior abdominal notopodia close to one another . . . . . *Dasybranchus lumbricoides*

*Capitella capitata* (Fabricius)

Hartman, 1947, pp. 404-405, pl. 43, figs. 1-2; Imajima and Hartman, 1964, pp. 311-12, pl. 37, figs. a-g. ENIWETOK: Parry (L) and Engebi (L). Only three specimens of this species were taken, two from a sediment bottle collector (Reish, 1961*b*) suspended for 28 days at one of the boat docks on the lagoon side of Parry Island. This is the first report of the species from the Marshall Islands. Cosmopolitan.

*Dasybranchus caducus* (Grube)

Fauvel, 1953, pp. 365-366, figs. 187 1-o; Hartman, 1954*a*, p. 625; Imajima and Hartman, 1964, pp. 312-313. ENIWETOK: Parry (O), Igurini (L), Rigili (L), Bogombogo (O), Engebi (O), Aaraanbiru (O), and Bogen (O). BIKINI: Bikini and Enirik Islands by Hartman. MAJURO: Uliga (O). Cosmopolitan.

*Dasybranchus lumbricoides* Grube

Hartman, 1947, pp. 431-432, pl. 56, figs. 3-4; 1954*a*, p. 626. ENIWETOK: Lidilbut (O).

Bikini Atoll by Hartman. Widespread throughout Indo-Pacific Ocean.

*Leiochrides? biceps* Hartman

Hartman, 1954*a*, pp. 638-639, figs. 177 a-c. This species is known from only one incomplete specimen from Rigionman Island, Rongelap Atoll.

*Heteromastides bifidus* Augener

Fauvel, 1953, p. 368, figs. 192 a-b. ENIWETOK: Parry (O,L), Eniwetok (O), Igurini (L), Rigili (L), Bogombogo (O), Engebi (O), and Bogen (O). MAJURO: Uliga (O). The distribution is herein extended into the central Pacific Ocean from Australia and India.

Family ARENICOLIDAE

*Branchiomaldane vincenti* Langerhans

Hartman, 1954*a*, p. 626.

?*Branchiomaldane vincenti*. Hartmann-Schröder, 1965, p. 154.

Reported from the ocean side of Japtan, Eniwetok Atoll by Hartman. Atlantic and Pacific oceans.

Family MALDANIDAE

*Axiobella australis* Augener

Fauvel, 1953, pp. 381-382, figs. 197 f-g. ENIWETOK: Parry (L), Rigili (O), Bogombogo (O), Aaraanbiru (O), and Bogen (O). BIKINI: Enyu (O). MAJURO: Uliga (O). The distribution is herein extended from Australia and India to the Marshall Islands.

Family TERESELLIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Branchiae absent . . . . . *Polycirrus medius*
1. Branchiae present . . . . . 2
2. Uncini set in single rows throughout thoracic region . . . . . *Thelepus* sp.
2. Uncini set in double rows in at least part of thoracic region . . . . . 3
3. Thoracic notosetae serrated at tip  
*Terebella ebrenbergi*
3. Thoracic notosetae with smooth edges 4
4. Branchiae filiform . . . . . *Leaena minuta*
4. Branchiae arborescent . . . . . 5

- 5. Thoracic uncini pectinate *Loimia medusa*
- 5. Thoracic uncini avicular

*Eupolymnia trigostoma*

*Eupolymnia trigostoma* (Schmarda)

*Polymnia nebulosa* (Montagu). Fauvel, 1953, pp. 419–420, figs. 419 a–g (in part).

*Eupolymnia trigostoma*. Hartman, 1954a, p. 629.

ENIWETOK: Bogombogo (O,L). Reported from Bikini Atoll by Hartman. Indo-Pacific Ocean.

*Leaena minuta* Hartman

Hartman, 1954a, p. 639, figs. 178 E, H. This species was described from seven species collected from coral heads on the seaward side of Parry Island, Eniwetok Atoll. It has not been collected since.

*Loimia medusa* (Savigny)

Fauvel, 1953, pp. 416–418, figs. 218 a–f; Hartman, 1954a, p. 629; Hartmann-Schröder, 1965, p. 155. BIKINI: Bikini (L), and RONGELAP: Rongelap; both reported by Hartman. Cosmopolitan, especially in the warmer seas.

*Polycirrus* sp. cf. *P. medius* Hesse

Hartman, 1954a, pp. 639–641. One specimen was reported from Enirik Island, Bikini Atoll by Hartman; it comes close to *P. medius* but differs in the nature of the ventral gland shield.

*Terebella ehrenbergi* Grube

*Terebella ehrenbergi* Grube. Fauvel, 1953, pp. 421–422, figs. 220 a–c.

*Terebella ehrenbergi?* Grube [sic]. Hartman, 1954a, p. 629.

ENIWETOK: Parry (L), Igurini (O), Aniyaanii (L), and reported from Lidilbut (L) by Hartman. BIKINI: Enyu (O). Indo-Pacific Ocean and Red Sea.

*Thelepus* sp.

One small specimen, agreeing with the generic diagnosis, was taken from an old coral head in 5 ft of water on the lagoon side of Parry Island, Eniwetok Atoll. It was in a poor state of preservation, so that a specific determination could not be made.

Family SABELLIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

- 1. Thoracic neuropodia with avicular uncini 2
- 1. Thoracic neuropodia with long-handled crotchets ..... 3
- 2. Branchiae borne on short stalk; pigmented patches arranged laterally throughout length  
*Sabella notata*
- 2. Branchiae borne on long stalk; body not pigmented ..... *Hypsicomus phaeotaenia*
- 3. Thoracic with 8 setigerous segments; abdomen with 3 setigerous segments  
*Fabricia bikini*
- 3. Thoracic with 8 setigerous segments; abdomen with 13 or 14 setigerous segments, with the 6 posterior ones forming an anal depression ..... *Euchone eniwetokensis*

Genus *Euchone* Malmgren

*Euchone eniwetokensis*, n. sp.

Fig. 4 (6–9)

Two specimens were collected from 90 ft of water in the lagoon near Parry Island by Mike Chamberlain on September 14, 1957. These minute specimens measured 2.5 mm and 2.0 mm, including the branchial crown. Both specimens had 8 thoracic segments; one had 13, the other, 14 abdominal segments including the 6 segments comprising the anal depression.

The branchial crown is pinnate and the radioles are united with a membrane for one-third their length. Radioles number 3 and 4 on a side in one specimen and 3 each on the other.

The thoracic setae are simple capillary and subspatulate with a mucron in the notopodium (Fig. 4, 6), and number about 3–4 per segment each. Long-handled uncini (Fig. 4, 7) are present in the neuropodium and number about 5 per segment.

Abdominal notopodial setae are avicular hooks (Fig. 5, 8) and number about 30 per segment. Only simple capillary setae (Fig. 5, 9) are present in the neuropodium. The setae of the anal depression are the same as those in the more anterior abdominal segments.

ECOLOGICAL NOTES: The tube is unknown. These specimens were collected from 90 ft of

water from sand which was brought to the surface. Associated polychaetes with this species include *Typosyllis closterobranchia* Schmarda and *Micronephthys sphaerocirrata* (Wesenberg-Lund).

REMARKS: The genus *Euchone* is now known from 18 species (Hartman, 1951, 1959, 1965; Day, 1961; Reish, 1960, 1965), 9 of which have been reported from the Pacific Ocean. Previous localities from this ocean include Alaska, British Columbia, southern California, Okhotsk Sea, Kamchatka, and Japan. *Euchone* has not been collected previously from the central Pacific Ocean.

*Euchone eniwetokensis* is distinguished from the majority of the species in the genus by the small number of branchial filaments and the number of segments to the anal depression. It comes closest to *E. papillosa* (Sars), known from the Arctic-boreal region, since both species have only six segments to the anal depression. They differ in the total number of segments, the number of branchial filaments, and the length.

TYPE MATERIAL: The holotype and one paratype have been deposited in the U.S. National Museum.

*Fabricia bikini* Hartman

Hartman, 1954a, p. 641, figs. 178 a-d. Many specimens were collected from white coral sand at Bikini Island, Bikini Atoll, in 1950; it has not been taken since.

*Hypicomus phaetaenia* (Schmarda)

Fauvel, 1953, pp. 447-448, figs. 236 a-l; Hartman, 1954a, p. 629. ENIWETOK: Parry (L), and from Engebi (O) as reported by Hartman. Cosmopolitan in the warmer seas.

*Megalomma trioculatum*, n. sp.

Fig. 5 (1-10)

Five specimens, four of which were complete, were collected from three islands at Eniwetok Atoll. Two collections of one specimen each were taken from a sandy bottom in 3 m of water on the lagoon side of Parry Island on June 29 and 30, 1957. The collection of three specimens taken from algal holdfast on September 7, 1957, from the lagoon side of Engebi

Island, was selected as type material. Specimens measured 7-14 mm in length including a branchial crown length of 2-3 mm; the holotype was 14 mm in length including a branchial crown of 3 mm. Four specimens had 8 thoracic, one had 9; abdominal segments numbered from 36 to 50 in complete specimens; the abdominal region consisted of 50 segments in the holotype.

Branchiae provided with 7-8 radioles per side, the dorsal ones provided with large, dark eyes at the distal end (Fig. 5, 1); smaller eyes present near the tips of the other radioles (Fig. 5, 2); the barbs of the radioles extend to near the tip of the radioles. The branchial crown lacks pigmentation in preserved specimens. The collar extends from the mid-segmental line of the first setigerous segment anteriorly (Fig. 5, 3), forming a pocket on either side, to the lateral sides which have a slight notch, and ventrally to produce two triangular lobes that nearly touch one another along the mid-ventral line (Fig. 5, 4).

The notopodium of the first setigerous segment consists of about 8 single-winged capillary setae; neuropodial setae are lacking. Beginning with thoracic segment 2, the notopodium is provided with 3-4 single-winged capillary setae (Fig. 5, 5), and 5-6 subspatulate setae (Fig. 5, 6). Thoracic neuropodium provided with about 10 pennoned setae (Fig. 5, 7) and about 10 uncini (Fig. 5, 8); the abdominal notopodium with about 10 uncini (Fig. 5, 9) and the neuropodium with about 5 unequal double-winged capillary setae. The pygidium is provided with a dorsal triangular extension with a dorsal pair of eyespots.

REMARKS: Twenty species have been assigned to the genus *Megalomma* (Hartman, 1959; Reish, 1963). *Megalomma trioculatum* belongs to that group of species which has eyes at the tips of all radioles. It comes closest to *M. vigilans* (Claparède), reported as *Branchiomma vigilans* by Fauvel (1927) from the Mediterranean Sea. They differ in the nature of the collar; *M. trioculatum* lacks the membranous lobes at the base of the branchiae on the dorsal side in *M. vigilans*. *Megalomma vigilans* is a much larger species than *M. trioculatum*; it possesses about 150 segments, 20-25 pairs of radi-

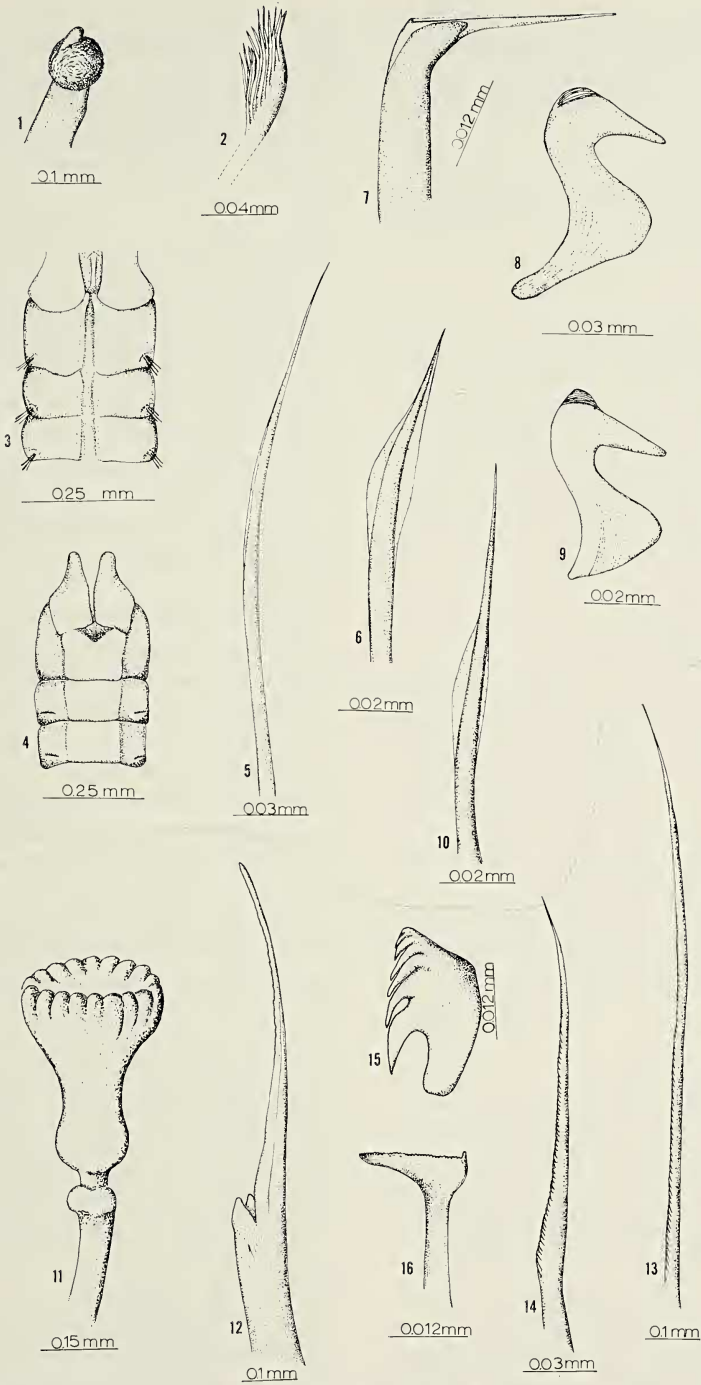


FIG. 5, 1-10. *Megalomma trioculatum* n. sp. 1, Larger eye at the end of dorsal radiole; 2, smaller eye near tip of radiole; 3, anterior end, dorsal view; 4, anterior end, ventral view; 5, single-winged capillary seta from fifth thoracic notopodium; 6, subspatulate seta from fourth thoracic neuropodium; 8, uncinus from abdominal neuropodium; 9, uncinus from abdominal neuropodium; 10, double-winged capillary seta from abdominal neuropodium.

11-16. *Serpula bartmanae* n. sp. 11, Operculum; 12, bayonet seta from first thoracic segment; 13, capillary seta from first thoracic segment; 14, capillary seta from thoracic notopodium; 15, uncinus from thoracic neuropodium; 16, cup-shaped seta from abdominal neuropodium.

oles, and is 5–7 cm in length. The tube of *M. vigilans* is found among the dorsal setae of the polychaete *Aphrodite aculeata* Linnaeus.

The specific name refers to the three types of eyes present.

TYPE MATERIAL: The holotype and two paratypes have been deposited in the U.S. National Museum.

Family SERPULIDAE

KEY TO THE SPECIES FROM MARSHALL ISLANDS

1. Calcareous tube small and spirally coiled  
*Spirorbinae*
1. Calcareous tube otherwise . . . . . 2
2. Operculum absent *Salmacina incrustans*
2. Operculum present . . . . . 3
3. Operculum simple . . . . . 4
3. Operculum compound . . . . . 5
4. Operculum simple funnel  
*Serpula bartmanae*
4. Operculum with calcareous plate bearing branched spines *Spirobranchus giganteus*
4. Operculum with a cylindrical or conical cap  
*Vermiliopsis glandigerus*
5. Central crown of operculum with pointed spines with lateral processes  
*Hydroides multispinosa*
5. Central crown of operculum with blunt spines lacking lateral processes  
*Eupomatus albiceps*

*Eupomatus albiceps* Grube

Hartman, 1954a, p. 629.

*Hydroides albiceps* (Ehrenberg) [sic]. Fauvel, 1953, p. 640, figs. 241 d–e.

ENIWETOK: Japtan (O), and from Lidilbut (O) and Engebi (O) as reported by Hartman. Red Sea, Ceylon, and Marshall Islands.

*Hydroides multispinosa* Marenzeller

Hartman, 1954a, p. 629. Reported from Bikini Atoll by Hartman; it has not been collected since. Indo-Pacific region, southern Australia, South Africa.

*Salmacina incrustans* Claparède

Fauvel, 1927, pp. 378–380, fig. 129 l.

*Salmacina* sp. Hartman, 1954a, pp. 627–8.

ENIWETOK: Eniwetok (L), Rigili (L), Engebi (O,L), Aaraanbiru (O), Aniyaanii (L), Japtan (L), Bogen (O), and reported by Hartman from Lidilbut (O). BIKINI: Enyu (O). MAJURO: Uliga (O). The distribution is herein extended from the Mediterranean Sea and the Madeira Islands.

*Serpula bartmanae*, n. sp.

Fig. 5 (11–16)

*Serpula* sp., Hartman, 1954, p. 641.

Ten specimens were collected from seven stations at five islands at Eniwetok and Bikini atolls. They ranged from 10 to 15 mm in length and possessed about 80 setigerous segments, of which 7 comprised the thoracic region. The ocean side of Enyu Island at Bikini Atoll was selected as the type locality. Both the holotype and the single paratype measured 10 mm in length.

The anterior end bears 14 pairs of branchiae which have radioles for nearly their entire length. A funnel-shaped operculum (Fig. 5, 11) has 16–25 crenulations along its margin. A constriction occurs at the base of the funnel; two knobs are present at the junction of the funnel and opercular stalk. The operculum of the holotype has 19 crenulations. The collar is well developed except where it is separated at the mid-dorsal line. The collar is composed of two lateral and one ventral lobe. The ventral lobe is especially well developed. The collar margins overlap along the region of the mid-dorsal line in the region of the first and second thoracic setigerous segment.

The thoracic region consists of seven setigerous segments. The first thoracic segment bears 5 bayonet-type and 10 capillary-type setae (Figs. 5, 12 and 13). The notosetae of thoracic segments 2 to 7 are capillaries (Fig. 5, 14) and number about 12 per lobe. Thoracic uncini are provided with one larger and six progressively smaller teeth (Fig. 5, 15).

The abdominal region consists of about 75 setigerous segments. The abdominal uncini are similar to the thoracic uncini. The cup-shaped setae of the neuropodium possess one long spine and a serrated edge. Some of the posterior neuropodia are provided with simple capillaries.

The calcareous tube is white, circular in cross-section, and without ornamentation.

ECOLOGICAL NOTES: The majority of the specimens were collected from the ocean side of the islands. The tubes were attached to either corals or coralline algae. Hartman reported *Serpula* sp. from the ocean side of Lidilbut and Japtan Islands at Eniwetok Atoll.

REMARKS: The genus is known from about 16 recent species (Hartman, 1959; Pillae, 1960). *S. hartmanae* can be readily separated from the majority of the known species in the genus by the small number of crenulations to its operculum. Three additional species are known to possess a small number of opercular crenulations: *S. watsoni* Willey (1905) with 25, *S. lo-biancoi* Rioja (1917) with 18–20, and *S. concharium* Langerhans (1880) with 18–22 crenulations. *S. hartmanae* can be separated from *S. watsoni* on the basis of the long opercular funnel in the latter species; it can be separated from *S. lo-biancoi* by the asymmetrical operculum and the greater number of teeth and shape of the thoracic uncini in the latter species; it can be separated from *S. concharium* by the absence of a constriction at the base of the opercular funnel, by the fewer number of teeth and shape of the thoracic uncini, and by the presence of a dorsal ridge in the tube in the latter species.

TYPE MATERIAL: The holotype, one paratype, and additional material have been deposited in the collections of the U.S. National Museum.

*Spirobranchus giganteus* (Pallas)

Fauvel, 1953, pp. 462–463, figs. 252 a–g; Hartman, 1954a, p. 629. ENIWETOK: Parry (L), Engebi (O), Aaraanbiru (O), and by Hartman from Lidilbut (O). Only five specimens were collected by the author and all but one were attached to corals. Cosmopolitan in tropical seas, especially on coral reefs.

*Spirorbinae*, dextral and sinistral

Hartman, 1954a, p. 641. ENIWETOK: Parry (L), Eniwetok (O,L), Igurini (L), Rigili (O, L), Engebi (O), Aaraanbiru (O), Aniyaanii (O,L), and Bogen (O,L). BIKINI: Enyu (O). MAJURO: Uliga (O). No attempt was made to identify these spirorbids. These small coiled tubes were attached to rocks, corals, vermetid snails, other snails, and algae.

*Vermiliopsis glandigerus* Gravier

Fauvel, 1953, p. 467, fig. 242 k.

*Vermiliopsis* sp. Hartman, 1954a, p. 641.

ENIWETOK: Parry (L), Igurini (O), Bogen (O), and it was reported as *Vermiliopsis* sp. by Hartman from Lidilbut (O) and Japtan (O,L). Cosmopolitan in the warmer seas.

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