

# Records of some marine invertebrates (nemerteans, asellotes and phyllodocids) from the coast around Otsuchi Bay

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Ten species of nemerteans belonging to seven families, seven species of asellote isopods (Crustacea), and 15 species of phyllodocid polychaetes (Annelida) were confirmed on the coast around Otsuchi Bay, Pacific coast of northern Honshu in Japan during the faunal survey in 1997–2000. Of these, three asellote species, *Munna stephenseni* Gurjanova, 1933, *M. tenuipes* Kussakin, 1962 and *Uromunna serricauda* Müller, 1992 are reported from Japanese waters for the first time.

**Key words:** faunal list, Nemertea, Asellota, Phyllodocidae, Otsuchi Bay, northern Honshu, Japan

## INTRODUCTION

Otsuchi Bay is situated at Pacific coast of Iwate Prefecture, Tohoku region. The waters of this area are known to be influenced by both warm and cold ocean currents, i.e., Kuroshio, Tsugaru and the Kuril Current, and is holding quite rich marine fauna and flora.

The fauna of Otsuchi Bay and its surroundings has been studied by several authors for various invertebrate taxa, including Cnidaria, Platyhelminthes, Annelida, Mollusca, Arthropoda, Echinodermata, and Urochordata (Horikoshi et al. 1979, Horikoshi and Tsuchida 1981, Gamô et al. 1980, Nunomura 1987). Molluscan fauna is particularly well studied, now comprising more than 250 species (e.g., Tsuchida et al. 2000). However, many other taxa of marine benthic invertebrates have been left uninvestigated. Under such circumstances, we have been participating in the faunal survey of three invertebrate groups, i.e. nemerteans, asellotes and phyllodocids, since 1997.

This is an interim report of the survey, including the specimens of limited group, obtained during 1997–2000 and identified at species or at genus level. However, we believe the importance of the publication of our results to complement the public knowledge on the fauna of Otsuchi Bay step by step.

## MATERIALS AND METHODS

Samplings were carried out at intertidal and subtidal zones that cover 14.6 m–98.9 m in depth. Intertidal seaweeds, stones and sand were collected manually at rocky shore and sandy beach environments. Subtidal bottom sediments were obtained by using a dredge or a Smith-McIntyre grab. Information of each sampling station is shown in Table 1.

## LIST

Phylum Nemertea  
Class Anopla  
Order Archinemertea  
Family Cephalothrichidae  
*Procephalothrix* sp.

Material examined: 5 specimens, Akahama, Otsuchi Bay, mooring float, among mussels, 25 September 2000.

Order Palaeonemertea

Family Tubulanidae

*Tubulanus punctatus* (Takakura, 1898)

*Carinella punctata* Takakura, 1898: 117–118, fig. 3.

*Tubulanus punctatus*: Yamaoka 1940: 208–212, pl. 1, figs 1–2, textfigs 1–2.

Material examined: 1 specimen, st. 1, 7 May 1997; 1 specimen, st. 3, 7 May 1997.

Order Heteronemertea

Family Cerebratulidae

*Cerebratulus marginatus* Renier, 1804

*Cerebratulus marginatus* Renier, 1804: 21.

Material examined: 2 specimens, st. 45, 27 September 2000.

Class Enopla

Order Hoplonemertea

Suborder Monostilifera

Family Cratenemertidae

*Nipponnemertes punctatulus* (Coe, 1905)

*Amphiporus punctatulus* Coe, 1905: 253–259, pl. 21, figs 129–140, pl. 24, fig. 194.

*Cratenemertes punctatulus*: Friedrich 1955: 145.

*Nipponnemertes punctatulus*: Friedrich 1968: 34.

Material examined: 1 specimen, Akahama, Otsuchi Bay, intertidal on rocky shores, 10 May 1997; 3 specimens, Akahama, intertidal on rocky shores, 27 September 2000.

Family Ototyphlonemertidae

*Ototyphlonemertes martynovi* Chernuishev, 1993

*Ototyphlonemertes martynovi* Chernuishev, 1993: 5–7, figs A–C.

Material examined: 13 specimens, Hakozaki, Otsuchi Bay, intertidal, coarse sand, 8 May 1997; 14 specimens, Hakozaki, intertidal, coarse sand, 24 September 1997; 52 specimens, Hakozaki, intertidal, coarse sand, 25

**Table 1.** Station locations and sediment types. SM indicates Smith-McIntyre grab.

Station	Longitude	Latitude	Depth	Sediment type	Gear
st. 1	39°21.008N	141°58.511E	58.7 m	sand, shell	dredge
st. 2	39°20.576N	141°58.361E	46.9 m	coarse sand	dredge
st. 3	39°20.720N	141°57.722E	49.0 m	sand, mud	dredge
st. 4	39°20.99N	141°58.48E	58.0 m	sand, shell	SM
st. 5	39°20.46N	141°58.34E	40.0 m	coarse sand	SM
st. 14	39°20.727N	141°56.239E	14.6 m	gravel	dredge
st. 17	39°20.36N	141°58.41E	40.0 m	sand, shell	SM
st. 20	39°20.970N	141°58.452E	56.0 m	sand, mud	SM
st. 21	39°20.714N	141°57.963E	46.5 m	sand	SM
st. 22	39°20.548N	141°57.481E	45.3 m	sand, mud	SM
st. 27	39°23.172N	141°58.753E	62.5 m	sand, mud	SM
st. 29	39°20.776N	141°57.908E	48.0 m	sand	SM
st. 30	39°20.549N	141°58.325E	45.0 m	sand, mud	SM
st. 31	39°20.758N	141°58.404E	53.0 m	mud	SM
st. 32	39°21.006N	141°58.433E	59.0 m	mud	SM
st. 34	39°21.720N	142°00.740E	89.0 m	sand	SM
st. 35	39°23.140N	141°58.816E	67.0 m	mud	SM
st. 42	39°21.969N	142°00.834E	98.9 m	sand	SM
st. 44	39°23.254N	141°59.685E	80.6 m	sand	SM
st. 45	39°23.363N	141°58.971E	64.0 m	sand, mud, shell	SM
st. 46	39°23.428N	141°59.081E	70.3 m	sand, shell	SM

September 1997; 21 specimens, Hakozaki, intertidal, coarse sand, 25 May 1998; 7 specimens, Hakozaki, intertidal, coarse sand, 21 July 1998; 10 specimens, Hakozaki, intertidal, coarse sand, 27 September 2000.

**Ototyphlonemertes nikolaii** Chernuishev, 1998

*Ototyphlonemertes nikolaii* Chernuishev, 1998: 268, figs 1–5.

Material examined: 2 specimens, Hakozaki, Otsuchi Bay, intertidal, coarse sand, 8 May 1997; 1 specimen, Hakozaki, intertidal, coarse sand, 25 September 1997; 7 specimens, Hakozaki, intertidal, coarse sand, 25 May 1998; 8 specimens, Hakozaki, intertidal, coarse sand, 21 July 1998; 1 specimen, Hakozaki, intertidal, coarse sand, 27 September 2000.

**Ototyphlonemertes** sp.

Material examined: 3 specimens, Hakozaki, Otsuchi Bay, intertidal, coarse sand, 25 September 1997; 5 specimens, Hakozaki, intertidal, coarse sand, 25 May 1998; 14 specimens, Hakozaki, intertidal, coarse sand, 21 July 1998.

Family Tetrastemmatidae

**Tetrastemma nigrifrons** Coe, 1904

*Tetrastemma nigrifrons* Coe, 1904: 159–164, pl. 16, figs 6–7, pl. 20, fig. 16, pl. 21, figs 15–23.

*Prostoma nigrifrons*: Yamaoka 1940: 249–251, pl. 16, fig. 14, pl. 17, figs 9–12, textfigs 26–29.

Material examined: 7 specimens, Akahama, Otsuchi Bay, mooring float, 8 May 1997.

**Tetrastemma coronatum** (Quatrefages, 1846)

*Polia coronata* Quatrefages, 1846: 213.

*Tetrastemma coronatum*: Hubrecht 1879: 228.

*Prostoma coronatum*: Bürger 1904: 61–62.

Material examined: 1 specimen, Akahama, Otsuchi Bay, intertidal, coarse sand, 8 May 1997.

Family Prosorhochmididae

**Oerstedia dorsalis** (Abildgaard, 1806)

*Planaria dorsalis* Abildgaard, 1806: 25, pl. 142, figs 1–3.

*Oerstedia dorsalis*: Bürger 1895: 592–594, pl. 3, figs 27, 29, 30, 34–36.

Material examined: 3 specimens, Akahama, Otsuchi Bay, intertidal, 27 September 2000.

Remarks: The nemertean fauna of Otsuchi Bay is virtually unknown, and only one species, *Amphiporus* sp., has been reported prior to our investigation (Kajihara and Ura 1976). Recently one of the authors, Kajihara (1998) reported an interstitial species of the family Ototyphlonemertidae from Otsuchi Bay for the first record of this family from Japanese coast. Ten nemertean species yielded during our survey are herein listed. *Amphiporus* sp. is excluded from this list, as we could not examine any voucher or newly collected specimens of this species.

Phylum Arthropoda

Class Crustacea

Order Isopoda

Suborder Asellota

Family Jaeropsidae

**Jaeropsis lobata** Richardson, 1899

*Jaeropsis lobata* Richardson, 1899: 859–860, figs 31–33.

Material examined: 1 female, Akahama, Otsuchi Bay, intertidal, on seaweeds, 25 May 1998; 3 females, Akahama, intertidal, under stones, 25 May 1998.

Family Janiridae

**Janiroopsis longiantennata** Thielemann, 1910

*Janiroopsis longiantennata* Thielemann, 1910: 70–72, figs 76–81.

*Janiroopsis longiantennata*: Wolff 1962: 251.

Material examined: 5 females, 1 male, Akahama, Otsuchi Bay, intertidal, on seaweeds, 25 May 1998; 1 fe-

male st. 29, 10 August 1998; 1 female, st. 27, 26 May 1998.

***Ianiropsis serricaudis*** Gurjanova, 1936

*Ianiropsis serricaudis* Gurjanova, 1936: 251–252, fig. 1.

*Ianiropsis serricaudis*: Kussakin 1962a.

*Ianiropsis notoensis* Nunomura, 1985: 130–132, figs 7–8.

Material examined: 9 females, 7 males, Akahama, Otsuchi Bay, mooring float, on seaweeds, 26 May 1998; 18 females, 10 males, Akahama, mooring float, on seaweeds, 25 September 2000.

Family Munnidae

***Munna stephensi*** Gurjanova, 1933

*Munna stephensi* Gurjanova, 1933: 88, 91, fig. 15.

*Munna (Neomunna) stephensi*: Menzies 1962: 36.

*Munna kroyeri*: Fee 1926: 22.

Material examined: 1 female, st. 30, 10 August 1998.

***Munna tenuipes*** Kussakin, 1962

*Munna (Munna) tenuipes* Kussakin, 1962b: 95–98, figs 21–22.

*Munna tenuipes*: Kussakin 1979: 121.

Material examined: 7 females, st. 22, 25 May 1998.

***Uromunna serricauda*** Müller, 1992

*Uromunna serricauda* Müller, 1992: 220–225, figs 1–28.

Material examined: 1 female, st. 21, 25 May 1998; 1 male, st. 22, 25 May 1998.

Family Paramunnidae

***Paramunna rhipis*** Shimomura and Mawatari, 1999

*Paramunna rhipis* Shimomura and Mawatari, 1999: 153–158, figs 1–3.

Material examined: 1 male, 1 female, st. 21, 25 May 1998; 1 male, st. 29, 10 August 1998; 7 females, st. 34, 11 August 1998; 2 males, st. 42, 27 September 2000; 3 females, 1 male, st. 46, 27 September 2000.

Remarks: From the coast around Otsuchi Bay, asellote isopods have been so far reported by three authors: *Munna* (?) sp. by Gamô et al. (1980); *Munna* (?) sp. and *Janirposis* sp. (= *Ianiropsis* sp.) by Nunomura (1987); *Paramunna rhipis* by Shimomura and Mawatari (1999). We here report two *Ianiropsis* and two *Munna* species from Otsuchi Bay. Because of the absence of taxonomical information in the former two records, identities between our and previous records are remained uncertain.

Phylum Annelida

Class Polychaeta

Order Phyllodocida

Family Phyllodocidae

***Eteone longa*** (Fabricius, 1780)

*Nereis longa* Fabricius, 1780: 171–174, pl. 4, figs 11–13.

*Eteone longa*: Örsted 1843: 33.

Material examined: 2 specimens, st. 31, 10 August 1998; 2 specimens Akahama, Otsuchi Bay, intertidal, sand, 11 May 1997; 1 specimen Akahama, intertidal, 25 May 1998; 2 specimens, st. 27, 26 May 1998.

***Eulalia bilineata*** (Johnston, 1839)

*Phyllodoce bilineata* Johnston, 1839: 227–228, pl. 6, figs 7–10.

*Eulalia bilineata*: Malmgren 1865: 99, pl. 13, fig. 26.

*Hypoeulalia bilineata*: Bergström 1914: 165–166, textfig. 57.

Material examined: 1 specimen, st. 22, 25 May 1998; 4 specimens, st. 27, 26 May 1998.

***Eulalia viridis*** (Linnaeus, 1767)

*Nereis viridis* Linnaeus, 1767: 1086.

*Eulalia viridis*: Örsted 1843: 188; Imajima and Hartman 1964: 63.

*Eulalia viridis* var. *japanensis* Imajima and Hartman, 1964: 63–64.

Material examined: 1 specimen, Akahama, Otsuchi Bay, intertidal, coarse sand, 9 May 1997; 1 specimen, Akahama, intertidal, among seaweed foldfasts, 10 May 1997; 5 specimens, Akahama, intertidal, among dead barnacles, 10 May 1997; 1 specimen, Akahama, intertidal, among dead barnacles, 25 May 1998; 2 specimens, Akahama, mooring float, among seaweeds, 26 May 1998.

***Eumida*** sp.

Material examined: 5 specimens, Akahama, Otsuchi Bay, mooring float, among seaweeds, 8 May 1997; 1 specimen, Akahama, intertidal, 25 May 1998; 3 specimens, Akahama, mooring float, among seaweeds, 26 May 1998.

***Hesionura*** sp.

Material examined: 5 specimens, st. 2, 7 May 1997; 5 specimens, st. 5, 7 May 1997; 1 specimen, Hakozaki, Otsuchi Bay, intertidal, sand, 22 May 1997; 2 specimens, st. 22, 25 May 1998; 2 specimens, st. 31, 10 August 1998; 2 specimens, st. 35, 11 August 1998.

***Nereiphylla castanea*** (Marenzeller, 1879)

*Carobia castanea* Marenzeller, 1879: 127–128, pl. 3, fig. 2.

*Genetyllis castanea*: Bergstrom 1914: 158–160, textfig. 53, pl. 3, fig. 4.

*Phyllodoce castanea*: Fauvel 1936: 56–57.

*Phyllodoce (Nereiphylla) castanea*: Uschakov and Wu 1965: 150–151.

*Nereiphylla castanea*: Pleijel 1991, 257.

Material examined: 2 specimens, st. 2, 7 May 1997; 1 specimen, Akahama, Otsuchi Bay, intertidal, 25 May 1998; 1 specimen, st. 31, 10 August 1998; 1 specimen, Akahama, intertidal, 11 August 1998; 3 specimens, st. 27, 26 May 1998; 1 specimen, st. 35, 11 August 1998.

***Nereiphylla hera*** Kato and Mawatari, 1999

*Nereiphylla hera* Kato and Mawatari, 1999: 354–359, figs 1–3, table 1.

Material examined: 7 specimens, Akahama, Otsuchi Bay, intertidal, among seaweed holdfasts, 11 May 1997; 48 specimens, Akahama, intertidal, among mussel bed, 9 May 1997; 12 specimens, Akahama, intertidal, among mussel bed, 10 May 1997; 9 specimens, Akahama, intertidal, among dead barnacles, 10 May 1997.

***Notophyllum japonicum*** Marenzeller, 1879

*Notophyllum japonicum* Marenzeller, 1879: 126–127, pl. 3, fig. 1.

Material examined: 2 specimens, st. 3, 7 May 1997.

***Notophyllum*** sp.

Material examined: 1 specimen, st. 3, 7 May 1997; 3 specimens, st. 14, 12 May 1997.

***Paranaitis caeca*** (Moore, 1903)

*Eumidia caeca* Moore, 1903: 426–428, pl. 23, fig. 1.

*Eumida caeca*: Izuka 1912: 203, pl. 21, fig. 5.

*Paranaitis caeca*: Eibye-Jacobsen 1991: 129.

Material examined: 1 specimen, st. 3, 7 May 1997.

*Paranaitis uschakovi* Eibye-Jacobsen, 1991

*Paranaitis uschakovi* Eibye-Jacobsen, 1991: 129

*Paranaitis caecum* Uschakov, 1972: 143, pl. 7, figs 5–7.

Junior homonym to *Paranaitis caeca* (Moore, 1903)

Material examined: 1 specimen, st. 20, 25 May 1998; 1 specimen, st. 22, 25 May 1998.

*Paranaitis* sp.

Material examined: 3 specimens, st. 1, 7 May 1997; 11 specimens, st. 4, 7 May 1997; 17 specimens, st. 22, 25 May 1998; 24 specimens, st. 31, 10 August 1998; 10 specimens, st. 32, 10 August 1998; 60 specimens, st. 27, 26 May 1998; 54 specimens, st. 35, 11 August 1998.

*Phyllodoce elongata* (Imajima, 1967)

*Anaitides elongata* Imajima, 1967: 414–416, fig. 5a–f.

*Phyllodoce elongata*: Pleijel 1991: 258.

Material examined: 1 specimen, st. 17, 12 May 1997.

*Phyllodoce maculata* (Linnaeus, 1767)

*Nereis maculata* Linnaeus, 1767: 1086.

*Phyllodoce maculata*: Malmgren 1867: 144, pl. 4, fig. 16.

*Anaitides maculata*: Bergström 1914: 145–147, textfig. 45.

Material examined: 1 specimen, Akahama, Otsuchi Bay, intertidal, among dead barnacles, 10 May 1997; 5 specimens, st. 14, 12 May 1997.

*Pterocirrus macroceros* (Grube, 1860)

*Phyllodoce (Eulalia) macroceros* Grube, 1860: 82–83, pl. 3, fig. 4.

*Eulalia (Pterocirrus) macroceros*: Saint-Joseph 1888: 300–303, pl. 12, figs 170–174.

*Sige macroceros* var. *orientalis* Imajima and Hartman, 1964: 70, pl. 14, figs c–f.

*Pterocirrus macroceros*: Uschakov 1972: 160–161, pl. 11, figs 6–9.

Material examined: 1 specimen, Akahama, Otsuchi Bay, intertidal, coarse sand, 9 May 1997; 1 specimen, Akahama, intertidal, among dead barnacles, 10 May 1997.

Remarks: Although more than 120 species of polychaetes were listed by Imajima in Horikoshi et al. (1979) from Otsuchi and Miyako Bay, only three species of the family Phyllodocidae, *Anaitides maculata* (= *Phyllodoce maculata*), *Eteone longa*, and *Eulalia bilineata*, were included in Imajima's list. Fifteen phyllodocid species, including previously reported three species, were obtained during our investigation.

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## 大槌湾周辺海域の海産無脊椎動物：ヒモムシ類，ミズムシ類， およびサシバゴカイ類

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1997年から2000年に大槌湾周辺海域で実施した海産無脊椎動物相調査で得られたヒモムシ類，等脚目ミズムシ類，サシバゴカイ類のリストを作製した。ヒモムシ類は7科10種，サシバゴカイ類は9属15種を記録した。等脚目ミズムシ類は4科5属7種を得たが，このうち *Munna stephensi* Gurjanova, 1933, *M. tenuipes* Kussakin, 1962, *Uromunna serricauda* Müller, 1992 は日本沿岸からの初記録である。

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