A Taxonomic Catalogue of Japanese Nemerteans (Phylum Nemertea)

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[REVIEW]

A Taxonomic Catalogue of Japanese Nemerteans (Phylum Nemertea)

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A literature-based taxonomic catalogue of the nemertean species (Phylum Nemertea) reported from Japanese waters is provided, listing 19 families, 45 genera, and 120 species as valid. Applications of the following species names to forms previously recorded from Japanese waters are regarded as uncertain: Amphiporus cervicalis, Amphiporus depressus, Amphiporus lactifloreus, Cephalothrix filiformis, Cephalothrix linearis, Cerebratulus fuscus, Lineus vegetus, Lineus bilineatus, Lineus gesserensis, Lineus grubei, Lineus longifissus, Lineus mcintoshii, Nipponnemertes pulchra, Oerstedia venusta, Prostoma graecense, and Prostoma grande. The identities of the taxa referred to by the following four nominal species require clarification through future investigations: Cosmocephalala japonica, Dicelis rubra, Dichilus obscurus, and Nareda serpentina. The nominal species established from Japanese waters are tabulated. In addition, a brief history of taxonomic research on Japanese nemerteans is reviewed.

Key words: checklist, Pacific, classification, ribbon worm, Nemertinea

INTRODUCTION

The phylum Nemertea comprises about 1,200 species (Gibson, 1995). Nemerteans are distributed worldwide, mostly in marine benthic habitats, though some species have adapted to live in pelagic, freshwater, and land habitats. Nemerteans are basically carnivorous, feeding on small crustaceans, polychaetes, and mollusks (McDermott and Roe, 1985). They are distinct from other metazoans by possessing a unique organ, the proboscis, which is housed in a fluid-filled cavity, the rhynchocoel, and eversible when used in prey capture. The phylum is currently regarded as the sister taxon to the Neotrochozoa (comprising the Annelida, Echiura, Mollusca, and Sipuncula) (Jenner, 2004). Morphological characters supporting the close relationship between the Nemertea and Neotrochozoa include: 1) modified coelomic cavities derived by schizocoely (Turbeville, 1986) and lined by mesothelium, with at least some cells bearing rudimentary cilia (Turbeville and Ruppert, 1985; Turbeville, 1991, 2002); 2) a gliointerstitial cell system (Turbeville and Ruppert, 1985; Turbeville, 1991, 2002); and 3) the prototroch, a transitory larval structure consisting of a preblastoporal belt of specialized cells derived from the trophoblast cell lineage (Maslakova et al., 2004a, b).

Despite considerable efforts by previous researchers, a number of undescribed nemerteans remain in Japanese waters, especially those in the southwestern part (Kajihara, 2001). The only recent listing of previously described Japanese species is the checklist of Crandall et al. (2002), but the relevant literature is scattered. The present catalogue, identifying 19 families, 45 genera, and 120 species so far reported from Japanese waters as valid, has been compiled to integrate this scattered nemertean literature and to point out taxonomic issues to be resolved for the species already described, in order to offer a perspective for future studies.

Generally, the ideal situation for taxonomic studies is that name-bearing type specimens for every nominal species are extant and available. The present study revealed, however, that type specimens are either unavailable or unlocated for 45 out of 101 nominal species established from Japanese waters (Tables 1, 2).

While modern nemertean taxonomy depends upon the examination of internal structures from serially sectioned material (Gibson, 1985), virtually all of the original descriptions made by Stimpson and Takakura lack such information (Stimpson, 1855, 1857; Takakura, 1898). Fortunately, most of these species can be identified by their external features, but their systematic position requires reappraisal based on their internal morphology. Since most of the type material of early researchers, viz., Stimpson, Takakura, and Yamaoka, is unavailable (Nishimura, 1992; Kajihara, 2004; see the following section, "Brief History..."), re-collection of the species established by them is essential to correctly determine taxonomic identity.

Throughout the text and tables, “Code” and “ICZN” refer to the International Code for Zoological Nomenclature and the International Commission on Zoological Nomenclature, respectively.
Table. 1. List of the nominal species established from Japanese waters arranged by their type locality from north to south. *Type specimen depository: FI Dr. Iwata’s collection; LBM Lake Biwa Museum, Shiga, Japan; NHMW-EV Naturhistorisches Museum Wien, Evertebrata-Varia, Wien, Austria; U unavailable; ZIHU Hokkaido University Museum, Sapporo, Japan; ? unlocated.

<table>
<thead>
<tr>
<th>Locality</th>
<th>Nominal species</th>
<th>Type specimen*</th>
<th>Further detailed locality and comments.</th>
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<td>Lineus spathiosus Iwata, 1954</td>
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<td>Micrura magna Yamaoka, 1940</td>
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<td>Nemertella yamoakai Kajihara et al., 2000</td>
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<td>*Oerstedia polyorbis Iwata, 1954</td>
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<td>*Tetrastemma pinnatum Iwata, 1954</td>
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<td>Zygonomerites jamstedt Kajihara, 2002</td>
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<td>Now Micrura bella.</td>
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<td>Cerebratulus fasciatus Stimpson, 1857</td>
<td>U</td>
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<td></td>
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To be continued.
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</table>
The following list shows the nominal species established from Japanese waters arranged taxonomically. *Type specimen depository: FI Professor Fumio Iwata's collection; LBM Lake Biwa Museum, Shiga, Japan; NHMW-EV Naturhistorisches Museum Wien, Evertebrata-Varia, Wien, Austria; U unavailable; ZIHU Hokkaido University Museum, Sapporo, Japan; ? unlocated.

### Table 2

<table>
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<tr>
<th>Higher Taxa</th>
<th>Nominal species</th>
<th>Type specimen*</th>
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<td>Sagami Bay, Kanagawa Prefecture.</td>
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<tr>
<td>Cerebratulus albicirculus Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
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<tr>
<td>Cerebratulus bellus Stimpson, 1857</td>
<td>U</td>
<td>Hokkaido; now Micrura bellus.</td>
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<tr>
<td>Cerebratulus carnosus Takakura, 1898</td>
<td>U</td>
<td>Misaki, Kanagawa Prefecture.</td>
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<td>Cerebratulus communis Takakura, 1898</td>
<td>U</td>
<td>Misaki, Kanagawa Prefecture.</td>
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<td>Cerebratulus fasciatus Stimpson, 1857</td>
<td>U</td>
<td>Hokkaido.</td>
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<td>Cerebratulus formosus Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
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<td>Cerebratulus macroren Hubrechtd, 1887</td>
<td>?</td>
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<td>Cerebratulus nigrofuscus Stimpson, 1857</td>
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<td>Cerebratulus penniger Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
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<td>Cerebratulus supriner Iwata, 1957</td>
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<td>Coccia iijin Takakura, 1922</td>
<td>U</td>
<td>Uchidana Islands, Akkeshi, Hokkaido Prefecture.</td>
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<tr>
<td>Diplopleura japonica Stimpson, 1857</td>
<td>U</td>
<td>Kagoshima Bay, Kagoshima Prefecture.</td>
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<tr>
<td>Euborlasia gotoensis Iwata, 1952</td>
<td>FI</td>
<td>Fukue, Nagasaki Prefecture.</td>
<td></td>
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<tr>
<td>Euborlasia preteres Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
<td></td>
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<tr>
<td>Eupoli nipponensis Hubrechtd, 1887</td>
<td>?</td>
<td>Sagami Bay, Kanagawa Prefecture; now Baseodiscus nipponensis.</td>
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<td>Hinunamemertes kikuchii Iwata, 1970</td>
<td>FI</td>
<td>Lake Hinuma, Ibaraki Prefecture.</td>
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<td>Hubrechtdella kumaraon Iwata, 2006</td>
<td>ZIHU-3127</td>
<td>Lake Hamanako, Shizuoka Prefecture.</td>
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<td>Lineus albrostratus Takakura, 1898</td>
<td>U</td>
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<td>Lineus bipunctatus Takakura, 1898</td>
<td>U</td>
<td>Misaki, Kanagawa Prefecture.</td>
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<td>Lineus cancelli Iwata, 1954</td>
<td>FI</td>
<td>Shirowama, Wakayama Prefecture.</td>
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<td>Lineus caputornatus Takakura, 1898</td>
<td>U</td>
<td>Misaki, Kanagawa Prefecture.</td>
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<tr>
<td>Lineus fulvescens Iwata, 1957</td>
<td>FI</td>
<td>Rishiri Island, Hokkaido Prefecture.</td>
<td></td>
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<tr>
<td>Lineus fuscomaculatus Takakura, 1898</td>
<td>U</td>
<td>Sunosaki, Tateyama, Chiba Prefecture; Misaki, Kanagawa Prefecture.</td>
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<td>Lineus mitellatus Takakura, 1898</td>
<td>U</td>
<td>Sunosaki, Tateyama, Chiba Prefecture; Misaki, Kanagawa Prefecture; now Notospermus guniculatus.</td>
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<td>Lineus nigrostratus Iwata, 1954</td>
<td>FI</td>
<td>Nakanoshima, Tokara Islands, Kagoshima Prefecture.</td>
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<td>Lineus nigrostratus Senz, 2001</td>
<td>NHMW-EV 17026/3990</td>
<td>Precise type locality unknown.</td>
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<td>Lineus spatiosus Iwata, 1954</td>
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<td>Akkeshi, Hokkaido Prefecture.</td>
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<td>Lineus subcirculus Takakura, 1898</td>
<td>U</td>
<td>Misaki, Kanagawa Prefecture.</td>
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<tr>
<td>Meckelia aboititata Stimpson, 1855</td>
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<td>Okinawa; now Lineus aboititatus.</td>
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<td>Meckelia piperata Stimpson, 1855</td>
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<td>Kikaijima, Kagoshima Prefecture; now Iwatanemertes piperata.</td>
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<tr>
<td>Meckelia subacuta Stimpson, 1857</td>
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<td>Naha, Okinawa; nomen dubium.</td>
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<td>Micrura akkeshiensis Yamasoka, 1940</td>
<td>U</td>
<td>Abashiri and Akkeshi, Hokkaido Prefecture.</td>
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<tr>
<td>Micrura dorsovittata Takakura, 1898</td>
<td>U</td>
<td>Misaki, Kanagawa Prefecture.</td>
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<td>Micrura festiva Takakura, 1898</td>
<td>U</td>
<td>Misaki, Kanagawa Prefecture; now Micrura bella.</td>
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<td>Micrura japonica Iwata, 1952</td>
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<td>Micrura magna Yamasoka, 1940</td>
<td>U</td>
<td>Daikokujima Island, Akkeshi, Hokkaido Prefecture.</td>
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<td>Micrura multinotata Iwata, 1947</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
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<tr>
<td>Micrura uchida Iwata, 1952</td>
<td>FI</td>
<td>Daikokujima Island, Akkeshi, Hokkaido Prefecture.</td>
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<td>Paralepidopsis taki Iwata, 1993</td>
<td>FI</td>
<td>Makishima, Hiroshima Prefecture.</td>
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<td>Taeinosoma aequalix Stimpson, 1857</td>
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<td>Amami Island, Kagoshima Prefecture; now Baseodiscus quinquelatiae.</td>
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<td>Tetrays ramicerebrus Iwata, 1957</td>
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<td>Sagami Bay, Kanagawa Prefecture.</td>
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<td>Uchidana parasita Iwata, 1967</td>
<td>FI</td>
<td>Mouth of Aikawa River, Mie Prefecture.</td>
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<td><strong>HOPLOEMERTEA</strong></td>
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<td>Amphiporus antifuscus Iwata, 1954</td>
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<td>Akkeshi, Hokkaido Prefecture.</td>
<td></td>
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<tr>
<td>Amphiporus inosilus Iwata, 1954</td>
<td>FI</td>
<td>Kushimoto, Wakayama Prefecture.</td>
<td></td>
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<tr>
<td>Amphiporus musculus Iwata, 1956</td>
<td>FI</td>
<td>Oshoro, Hokkaido Prefecture.</td>
<td></td>
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<tr>
<td>Amphiporus nagaianensis Iwata, 1957</td>
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<td>Sunosaki, Tateyama, Chiba Prefecture; Misaki, Kanagawa Prefecture; now Nipponemertes nagaianensis.</td>
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<tr>
<td>Amphiporus ogumai Yamasoka, 1947</td>
<td>U</td>
<td>Shimoda, Shizuoka Prefecture; now Nipponemertes ogumai.</td>
<td></td>
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<tr>
<td>Amphiporus parmiornatus Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture; now Kameginemertes parmiornata.</td>
<td></td>
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</tbody>
</table>

To be continued.
### Brief History of Taxonomic Research on Japanese Nemerteans

William Stimpson (1832–1872) first reported nemerteans from Japanese waters (Stimpson, 1855). During the cruise of the North Pacific Exploring Expedition (1852–1856), in which Stimpson participated as a naturalist in zoology at the age of 21, he established 15 nominal species of nemerteans from Naha (Okinawa), Kikaishima (Kagoshima), Amamiôshima (Kagoshima), Shimoda, Shizunai, Hokkaidô, and Hakodate (Hokkaidô) (Stimpson, 1855, 1857). Regrettably, his nemerteans samples were lost in the Great Chicago Fire about 10 locations in Japanese waters (Tizard et al., 1885). Ambrosius Arnold Willem Hubrecht (1853–1915), Professor of Zoology at Utrecht University, reported the nemerteans recently described two new species based on nemertean specimens in Roretz’s collection.

In 1875 the British Naval research vessel H.M.S. *Challenger* dropped into Japanese harbors in the course of her round-the-world scientific voyage, making collections at about 10 locations in Japanese waters (Tizard et al., 1885). Senz (1997a, 2001) described two new species based on nemertean specimens from Roretz’s collection.

Roretz returned to Austria, he made sampling trips to the four major islands in Japan, namely Hokkaidô, Honshû, Shikoku, and Kyûshû. Roretz’s Japanese animal collection, now deposited in the Naturhistorisches Museum Wien, Austria, consists of more than 1,450 individuals ranging from sponges to mammals and comprises about 360 species (Nishikawa and Battman, 2001).

Dr. Albrecht von Roretz (1846–1884), a medical doctor who graduated from the University of Wien, came to Japan towards the end of 1874 as Consultats-Arzt for the Austro-Hungarian embassy in East Asia. From 1875 to 1882, when Roretz returned to Austria, he made sampling trips to the four major islands in Japan, namely Hokkaidô, Honshû, Shikoku, and Kyûshû. Roretz’s Japanese animal collection, now deposited in the Naturhistorisches Museum Wien, Austria, consists of more than 1,450 individuals ranging from sponges to mammals and comprises about 360 species (Nishikawa and Battman, 2001). Senz (1997a, 2001) recently described two new species based on nemertean specimens from Roretz’s collection.

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### Table 2. continued.

<table>
<thead>
<tr>
<th>Family</th>
<th>Species Name</th>
<th>Distribution</th>
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</thead>
<tbody>
<tr>
<td><em>Tetrastemma</em></td>
<td><em>Tetrastemma roseocephalum</em></td>
<td>Lake Biwa, Shiga Prefecture, now <em>Tetranemertes specutacula.</em></td>
</tr>
<tr>
<td></td>
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<td>Shimoda, Shizunai Prefecture, now <em>Tetranemertes specutacula.</em></td>
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<td><em>Tetranemertes specutacula</em></td>
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<td>Shimoda, Shizunai Prefecture, now <em>Tetranemertes specutacula.</em></td>
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<td>Shimoda, Shizunai Prefecture, now <em>Tetranemertes specutacula.</em></td>
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<td><em>Tetranemertes specutacula</em></td>
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<td></td>
<td>Shimoda, Shizunai Prefecture, now <em>Tetranemertes specutacula.</em></td>
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**INCERTAE CEDIS**

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<tr>
<th>Family</th>
<th>Species Name</th>
<th>Distribution</th>
</tr>
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<td>Amamiôshima, Kagoshima Prefecture, now <em>Tetranemertes specutacula.</em></td>
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<td></td>
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<td>Shimoda, Shizunai Prefecture, now <em>Tetranemertes specutacula.</em></td>
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</tbody>
</table>

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named *Pelagonemertes rollestoni* by Moseley (1875a). A second specimen, collected on 5 June 1875 off Sagami Bay, was first considered to be a young individual of the same species (Moseley, 1875b), but was later deemed to represent a different species and named *Pelagonemertes moseleyi* by Bürger (1895).

In 1906 the United States Fisheries Commission Steamer *Albatross* visited Japanese waters, with the ichthyologist Charles Henry Gilbert as the Naturalist-in-Charge. The nemerteans among the numerous specimens collected were studied by Coe (1944) and included several new locality records for species already known.

In the same year, 1906, Dr. Harold Heath secured from Mr. Alan Owston six specimens of pelagic nemertean species, which Foshay (1912) later described as *Nectonemertes japonica*.

Usamaro Takakura (1867–1944), Professor of Zoology first at the Higher Normal School (later renamed Tokyo Higher Normal School), then concurrently at Tokyo University of Literature and Science, was the first Japanese expert on nemerteans. Takakura reported 25 species and established 14 new species and one new genus, based primarily upon material from the Pacific coast of Honshū (Takakura, 1897, 1898, 1910, 1922, 1933). Takakura’s principal work is his 1898 paper, which contains descriptions of 21 anoplan nemerteans from the vicinity of Misaki. Takakura's nemertean collection appears to have been lost during the relocation of Tokyo University of Education from Tokyo to Tsukuba (Kajihara, 2004).

Teiichi Yamaoka (ca. 1918–1945?) carried out taxonomic studies on nemerteans in his graduate studies under the guidance of Professor Tohru Uchida at Hokkaido Imperial University. After graduating in 1939, he became a researcher at Mitsui Marine Biological Station at Izu before he moved to the capital of Manchuria as a teacher at Shinkyō First Junior High School in 1940. Before he moved to Manchuria, he published two papers in which he reported 23 species (including seven new species) of nemerteans from Japanese waters (Yamaoka, 1940a, b). In addition, he reported two species from Taiwan, of which one was new to science, based on the specimens obtained by Dr. Shirō Okuda (Yamaoka, 1939). Yamaoka also published a paper on the entocommensal species *Malacobdella japonica* Takakura, 1897 in collaboration with Saburō Kawai (Kawai and Yamaoka, 1940) and wrote a chapter on nemerteans in a treatise on systematic zoology (Yamaoka, 1943). When Yamaoka had been a researcher at Mitsui Marine Biological Station, he prepared a manuscript that contained descriptions of several ‘new’ species, but the manuscript was not published before his death. Later, Dr. Okuda included four of these ‘new’ species in the *Revised Edition Illustrated Encyclopedia of the Fauna of Japan (Exclusive of Insects)*, with each of the four entries accompanied by a brief description. Crandall et al. (2001) argued that these four names are available in terms of the Code (ICZN, 1999), with Yamaoka as the naming authority and the date of publication 1947, the date when the *Encyclopedia* was published. Crandall et al. (2001) provided additional information on these four species in Yamaoka's unpublished manuscript, which had been in the care of Dr. Fumio Iwata. Quite recently, the manuscript was posthumously published (Yamaoka, 2005), submitted by Professor Iwata.

Much of our knowledge of the Japanese nemertean fauna depends upon the works by Dr. Fumio Iwata (b. 1925), Professor Emeritus of Hokkaido University. As with Yamaoka, Fumio Iwata began his nemertean studies under the guidance of Professor Uchida at Hokkaido University. After graduation in 1950, he was appointed as Assistant Professor at Akkeshi Marine Biological Station (Moriyama, 1995). He energetically investigated the nemertean fauna in various regions of Japan, as well as engaged in embryological studies on nemerteans. He published nine nemertean papers (Iwata, 1951, 1952, 1954a, b, c, 1957a, b, 1958, 1960a) before obtaining his doctorate in 1959 with a dissertation on the comparative embryology of nemerteans (Iwata, 1960b), in which he proposed the new order Archinemertea that he considered to be the most primitive group in the phylum. Although adopted by some researchers (e.g., Gibson, 1994), Iwata’s (1960b) hypothesis was later questioned by Sundberg and Hylbom (1994), who found no morphological support for the Archinemertea. This group has lost acceptance among other nemertean researchers, since it is now regarded to be a group within the palaeonemerteans (Thollesson and Norenburg, 2003). However, Iwata’s (1960b) embryological observations themselves are highly valued and frequently cited by modern researchers (e.g., Maslakov et al., 2004a, b; Nielsen, 2005). After receiving an Associate Professorship in Sapporo in 1963, Iwata wrote the chapter on nemerteans in a treatise on systematic zoology (Iwata, 1965a), descriptions of a parasitic nemertean in bivalves (Iwata, 1967) and three brackish-water nemerteans (Iwata, 1970a), another embryological paper (Iwata, 1972), and the chapter on nemerteans in a treatise on freshwater biology (Iwata, 1973). He was appointed to a Professorship in 1974. Iwata has attended all the international meetings on nemertean biology, held in 1983 (Philadelphia, USA), 1986 (Tjärnö, Sweden), 1991 (Bangor, UK), 1995 (Asilomar, California, USA), 2000 (Alcalá de Henares, Spain), and 2004 (Ogden, Utah, USA), and presented papers (Iwata, 1985, 1988, 1993, 2006). Even after retiring in 1988, Dr. Iwata is still quite active in research (Iwata, 2001).

Other taxonomic works on Japanese nemerteans include papers on freshwater nemerteans by Ikeda (1913), Ishizuka (1933), Sudzuki (1953), and Chernyshev et al. (1998); a report on the pelagic species *Pelagonemertes moseleyi* Bürger, 1895 by Kato and Tanaka (1938); Kato’s (1939) description of the luminescent nemertean *Emplectonema kandai* Kato, 1939; Oki et al.’s (1987) report on the land nemertean *Geonemertes pelaensis* Semper, 1863; and reports on some marine benthic (Kajihara, 2002, 2006, 2007a, b; Kajihara et al., 2000, 2001) and a brackish-water (Kajihara et al., 2003) species.

**Classification and Checklist of the Valid Japanese Nemertean Species**

The higher classification system adopted here is based on Gibson (1982a, b, 1994), Chernyshev (1995, 2003), and Thollesson and Norenburg (2003).

**Phylum NEMERTEA**

1) Class PALAEONEMERTEA Hubrecht, 1879

1) Family CALLINERIDAE Bergendal, 1901
1) Callinera nishikawai Kajihara, 2006

2) Family CEPHALOTRICHIDAE McIntosh, 1874
   2) Cephalothrix fasciculus (Iwata, 1952)
   3) Cephalothrix notabilis Iwata, 1954
   4) Cephalothrix simula (Iwata, 1952)

3) Family TUBULANIDAE Bürger, 1904 (1874)
   5) Carinesta uchidai Iwata, 1952
   6) Carinina plecta Kajihara, 2006
   7) Tubulanus capistratus (Coe, 1901)
   8) Tubulanus ezoensis Yamaoka, 1940
   9) Tubulanus lucidus Iwata, 1952
   10) Tubulanus punctatus (Takakura, 1898)
   11) Tubulanus roretzi Senz, 1997

2) Class PILIDIOPHORA Thollesson and Norenburg, 2003
   4) Family HUBRECHTELLIDAE Chernyshev, 2003
      12) Hubrechtellia iijimai (Takakura, 1922)
      13) Hubrechtellia kimuraorum Kajihara, 2006
      14) Tetramys ramicerbrus Iwata, 1957

5) Family LINEIDAE McIntosh, 1874
   15) Cerebratulus albocirculus Iwata, 1957
   16) Cerebratulus carnosus Takakura, 1898
   17) Cerebratulus communis Takakura, 1898
   18) Cerebratulus fasciatus Stimpson, 1857
   19) Cerebratulus formosus Iwata, 1957
   20) Cerebratulus longiceps Coe, 1901
   21) Cerebratulus macreren Hubrecht, 1887
   22) Cerebratulus marginaus Renier, 1804
   23) Cerebratulus montgomeryi Coe, 1901
   24) Cerebratulus penniger Iwata, 1957
   25) Cerebratulus subacutus (Stimpson, 1857)
   26) Cerebratulus supermiger Iwata, 1957
   27) Cerebratulus zebra Punnett and Cooper, 1909
   28) Diplopleura japonica Stimpson, 1857
   29) Euborlasia gotoensis Iwata, 1952
   30) Euborlasia proteres Iwata, 1957
   31) Hinunamemertes kikuchii Iwata, 1970
   32) Iwatanemertes piperata (Stimpson, 1855)
   33) Lineus alborosatus Takakura, 1898
   34) Lineus albovittatus (Stimpson, 1855)
   35) Lineus bipunctatus Takakura, 1898
   36) Lineus canceli Iwata, 1954
   37) Lineus caputornatus Takakura, 1898
   38) Lineus fulvus Iwata, 1954
   39) Lineus fuscoviridis Takakura, 1898
   40) Lineus nigrofuscus (Stimpson, 1857)
   41) Lineus nigrostriatus Iwata, 1954
   42) Lineus nipponensis Senz, 2001
   43) Lineus spatiosus Iwata, 1954
   44) Lineus subcingulatus Takakura, 1898
   45) Lineus torquatus Coe, 1901
   46) Micrura akkeshiensis Yamaoka, 1940
   47) Micrura alaskensis Coe, 1901
   48) Micrura bella (Stimpson, 1857)
   49) Micrura dorsovittata Takakura, 1898
   50) Micrura japonica Iwata, 1952
   51) Micrura magna Yamaoka, 1940
   52) Micrura multinetara Iwata, 1957
   53) Nipponomicroura uchidai (Yamaoka, 1940)
   54) Notospermus gericulatus (Delle Chiage, 1828)
   55) Paralineopsis taki Iwata, 1993
   56) Uchidana parasita Iwata, 1967

6) Family VALENCINIIDAE Hubrecht, 1879

57) Baseodiscus curvis (Hubrecht, 1879)
58) Baseodiscus delineatus (Delle Chiage, 1825)
59) Baseodiscus hemprichii (Ehrenberg, 1831)
60) Baseodiscus nipponensis (Hubrecht, 1887)
61) Baseodiscus princeps (Coe, 1901)
62) Baseodiscus quinquelineatus (Quoy and Gaimard, 1833)
63) Cephalomastax brevis Iwata, 1957

2) Family OTOTYPHLONEMERTIDAE Bürger, 1907
   12) Ototyphlonemertes dolichobasis (Iwata, 2007)
   13) Ototyphlonemertes martynovi Chernyshev, 2007
   14) Ototyphlonemertes nikolaii Chernyshev, 1989

9) Family CRATENEMERTIDAE Friedrich, 1979
   79) Nipponnemertes bipunctata (Coe, 1905)
   80) Nipponnemertes ogumai (Yamaoka, 1947)
   81) Nipponnemertes punctatula (Coe, 1905)

10) Family EMPECTONEMATIDAE Bürger, 1904
   82) Empectonemata buergeri Coe, 1901
   83) Empectonemata gracile (Johnston, 1837)
   84) Empectonemata kandai Kato, 1939
   85) Empectonemata mitsuii Yamaoka, 1947
   86) Nemertopsis militellica Kajihara, 2007
   87) Nemertopsis quadriplacata (Quoy and Gaimard, 1833)

88) Paranemertes incola Iwata, 1952
89) Paranemertes katoi Yamaoka, 1947
90) Paranemertes peregrina Coe, 1901
91) Paranemertes plana Iwata, 1957

11) Family MALACODELLIDAE Blanchard, 1847
   92) Malacodella japonica Takakura, 1897

12) Family OTOTYPHLONEMERTIDAE Bürger, 1895
   93) Ototyphlonemertes dolichobasis Kajihara, 2007

94) Ototyphlonemertes martynovi Chernyshev, 1993
95) Ototyphlonemertes nikolaii Chernyshev, 1989

13) Family POSEIDONEMERTIDAE Chernyshev, 2002
   96) Diopsonemertes acanthocephala Kajihara, 2001

14) Family PROSORHOCHMIDAE Bürger, 1895
   97) Geonemertes palaeus Semper, 1863
   98) Pantinonemertes spectacula (Yamaoka, 1940)
15) Family TETRASTEMMATIDAE Hubrecht, 1879
99) Nemertellina yamaokai Kajihara, Gibson and Mawatari, 2000
100) Oerstedia dorsalis (Abildgaard, 1806)
101) Oerstedia polyorbis Ivata, 1954
102) Prostoma ohiense Chernyshev, Timoshkin and Kawakatsu, 1998
103) Quasitetrastemma nigrifrons (Coe, 1904)
104) Quasitetrastemma stimpsoni (Chernyshev, 1992)
105) Sacconemertella lutulenta Ivata, 1970
106) Sacconemertopsis olivera Ivata, 1970
107) Tetrastemma candidum (Müller, 1774)
108) Tetrastemma insolens Ivata, 1952
109) Tetrastemma melanocephalum (Johnston, 1837)
110) Tetrastemma pinnatum Ivata, 1954
111) Tetrastemma pseudocoronatum Chernyshev, 1998
112) Tetrastemma roseocephalum (Yamaoka, 1947)
113) Tetrastemma stigmatum Stimpson, 1857
114) Tetrastemma verigraphum Ivata, 1954
115) Tetrastemma yamaokai Ivata, 1954
2) Subclass POLYSTILIFERA Brinkmann, 1917
1) Order REPTANTIA Brinkmann, 1917
16) Family DREPANOPHORIDAE Verrill, 1892
16a) Drepanophorus longiceps Ivata, 1957
16b) Kameginemertes parmiornata (Ivata, 1957)
17) Family SAGAMINEMERTIDAE Chernyshev, 2003
17a) Sagaminemertes nagaensis (Ivata, 1957)
2) Order PELAGICA Brinkmann, 1917
18) Family NECTONEMERTIDAE Verrill, 1892
18a) Nectonemertes japonica Foshay, 1912
19) Family PELAGONEMERTIDAE Moseley, 1875
20) Pelagonemertes moseleyi Bürger, 1895

Taxonomic Catalogue of Japanese Nemerteans

The entries in the synonymy for each species are arranged chronologically. For convenience, each authority in the synonymy is indicated in bold letters. Bibliographic information is given in the synonymy for both primary and secondary literature. For primary literature, such information as locality, habitat, and date of collection are also provided. The prefecture of each locality is given, to facilitate relocation and avoid confusion by synonymy of place names. Where applicable, a long vowel in place names is marked by a macron (e.g., Î, â), to avoid confusion between, e.g., “Óshima” and “Oshima.” The literature covered includes not only taxonomic papers, but also those on ecology and biochemistry, pictorial books, faunal reports, and field guides. Japanese common names that have previously been assigned are indicated for a number of species, but no attempt has been made to create new Japanese names for the remaining species. The following abbreviations are used to indicate museum depositories of specimens:

USNM: National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.
ZIHU: Hokkaido University Museum, Sapporo, Japan.

Phylum NEMERTEA
Class PALAEONEMERTEA Hubrecht, 1879
Family CALLINERIDAE Bergendal, 1901
Genus Callinera Bergendal, 1900
Callinera Bergendal, 1900: 313.
TYPE SPECIES: Callinera buergeri Bergendal, 1900, by monotypic designation.

Callinera nishikawai Kajihara, 2006
Callinera nishikawai Kajihara, 2006: 17–27, figs. 11–14; sandy to muddy tidal flat, 34°41’04”N, 137°35’59”E, Ikarise, Hamanako Lake, Shizuoka Prefecture.
TYPE MATERIAL: Holotype, ZIHU-3133, 12 May 2002, collected by Taeko Kimura, Sho-ichi Kimura, and Teruaki Nishikawa, female, 6-μm serial transverse sections of an anterior body fragment about 1.5 cm in length and 0.8–1.0 mm in width, fixed in Bouin’s fluid without anaesthetization.
NOTE: The species was described on the basis of a fixed anterior fragment of the body, and the shape of the living animal is unknown.

Family CEPHALOTRICHIDAE McIntosh, 1874
NOTE: Although the family name was incorrectly spelled as “Cephalotrichidae” when established, the correct spelling of the family name should be “Cephalotrichidae” under Article 29.3 of the Code (ICZN, 1999), for the name of its type genus Cephalothrix gives the genitive singular “Cephalotrício,” and thus the stem “Cephalotrich-.” Article 29.5 of the Code (ICZN, 1999) is not applicable, since the correct spelling has been widely used, e.g., by Bürger (1895: 533, 1904: 16), Wijnhoff (1913: 294), Coe (1930: 97, 1940: 257), Yamaoka (1940a: 215), Hybom (1957: 553, 1993: 173), Morettto (1974: 9), Chernyshev (2004a: 152) and Tanu et al. (2004: 515).

Genus Cephalothrix Örsted, 1843
Cephalothrix Örsted, 1843: 573.
Procepalothrix Wijnhoff, 1913: 294; synonymized by Sundberg et al. (2003).
Cephalotrichella Wijnhoff, 1913: 298; synonymized by Sundberg et al. (2003).
TYPE SPECIES: Cephalothrix coeca Örsted, 1843, now regarded as a junior synonym of Planaria linearis Rathke, 1799 (Bürger, 1904), by subsequent designation.
NOTE: Gibson’s (1995) assignment and Sundberg et al.’s (2003) statement of Cephalothrix linearis (Rathke, 1799) as the type species of the genus are irrelevant in terms of Articles 67.1.2 and 67.2 of the Code (ICZN, 1999), because the genus Cephalothrix contained only two nominal species, Cephalothrix bioculata and Cephalothrix coeca, when it was originally established.

Cephalothrix fasciculus (Iwata, 1952)
Procepalothrix fasciculus Iwata, 1952: 130, figs. 2, 8; under stones on stony beach near low-water level, Tomioka, Amakusa, Kumamoto Prefecture.
Procepalothrix fasciculas [sic]: Crandall et al., 2002: 14, 16, 29, 36, 41.
NOTE: The species was originally classified in the genus Procepalothrix, which has been synonymized with Cephalothrix by Sundberg et al. (2003: 292); now it should be
known as *Cephalothrix fasciculatus*. The species is characterized by the posterior end of its rhynchocele reaching the hind end of the body. This character state is absent among its congeners and has only been recorded in this species. At the same time, however, this character state can be erroneously identified by misinterpretation of a body fragment as an intact specimen. If the anus cannot be confirmed in the holotype specimen, the name of the nominal species *Procephalothrix fasciculus* should be regarded as a nomen dubium.

*Cephalothrix notabilis* Iwata, 1954

[Japanese name: shirayuki-himomushi or kita-hoso-himomushi]

*Cephalothrix notabilis* **Iwata**, 1954a: 8, fig. 1C, E, F; under stones near low-water level on stony beach, Akkeshi, Hokkaidô Prefecture; *Cephalothrix linearis* (Müller, 1776) (Iwata, 1952); *Cephalothrix linearis* sensu **Iwata** (1952), nec *Cephalothrix linearis sensu* Yamaoka (1940). **NOTE:** The species was originally classified in the genus *Procephalothrix*, which was synonymized with *Cephalothrix* by Sundberg et al. (2003: 292); now it should be known as *Cephalothrix simula*. *Cephalothrix notabilis* Iwata (1954a) synonymized *Cephalothrix linearis sensu* Yamaoka (1940) and *Procephalothrix simula sensu* Iwata (1954a) with *Procephalothrix simula sensu* Iwata (1952). *Cephalothrix (=Procephalothrix) simula sensu* Iwata (1952) is characterized by the absence between the rhynchocele and alimentary canal of a longitudinal muscle plate (Iwata, 1952), which, however, is present in *Cephalothrix linearis sensu* Yamaoka (1940a) and *Procephalothrix simula sensu* Iwata (1954a). Therefore, I hesitate to apply the name *Cephalothrix simula* to the taxon to which the latter two authors referred. See **NOTE** under *Cephalothrix linearis*.

**Family TUBULANIDAE** Bürger, 1904 (1874)

**NOTE:** In response to Melville’s (1986) proposal, ICZN (1988) ruled under Article 40b of the third edition of the Code (ICZN, 1985) that the name Tubulania has precedence over, but takes the date of, its senior subjective synonym Carinellidae. In his proposal, Melville (1986) stated that the name *Carinella trilineata* “has been regarded as a synonym of *Tubulanus polymorphus* since at least 1905,” referring to Bürger (1897–1907), and that the family Tubulaniidae “should be cited with the date ‘1905 (1874).’” The ICZN’s ruling, basically following Melville’s proposal, states that “the name Tubulaniidae Bürger, 1905 (1874) ... is hereby placed on the Official List of Family-Group Names in Zoology.” Bürger’s (1897–1907) book was published in six different parts, and Melville (1986) was quite correct in that the relevant part about the replacement of Carinellidae with Tubulaniidae was published in 1905 (pp. 401, 402, 405). However, the name Tubulaniidae had already appeared prior to 1905 in Bürger (1904). Thus the family name should be cited as “Tubulaniidae Bürger, 1904 (1874),” with the date of priority being enclosed in parentheses in accordance with Recommendation 40A of the Code (ICZN, 1985, 1999).

**Genus Carinesta Punnett, 1900**

*Carinesta* Punnett, 1900: 569. **TYPE SPECIES:** *Carinesta orientalis* Punnett, 1900 by monotypic designation.

**Carinesta uchidai** Iwata, 1952

[Japanese name: kensaki-himomushi]


**NOTE:** Sundberg and Hylbom’s (1994) cladistic analysis based on morphological characters shows that the genus *Carinesta* is a polyphyletic group and that *Carinesta uchidai* comprises a monophyletic group together with members of the family Cephalotrichidae. The generic placement of this species, as well as the taxonomic status of the genus *Carinesta*, requires reassessment.

**Genus Carinina Hubrecht, 1885**

*Carinina* Hubrecht, 1885: 830. **Procarinina** Bergendal, 1902: 422; synonymized by Hylbom (1957). **TYPE SPECIES:** *Carinina grata* Hubrecht, 1887, by monotypic designation; Hubrecht (1885) did not designate the type species when he erected the genus *Carinina*.

**Carinina plecta** Kajihara, 2006

*Carinina plecta* **Kajihara**, 2006: 5–16, figs. 3–10; sandy to muddy tidal flat, 34°41′04″N, 137°35′59″E, Ikarise, Hamanako Lake, Shizuoka Prefecture. **TYPE MATERIAL:** Holotype, ZIHU-3123, 31 July 2003, female; serial transverse (6 µm thick) and longitudinal (10 µm thick) sections of a fragment containing the head; total 116 slides.

**Genus Tubulanus Renier, 1804**


**Tubulanus capistratus** (Coe, 1901)

*Tubulanus capistratus* **Coe**, 1944: 27, “One specimen nearly a meter in length was collected by the *Albatross* in 1906 near Hakodate, Japan.” **Crandall et al.,** 2002: 15, 16, 30, 37, 42.

**NOTE:** Originally described as *Carinella capistrata* by Coe (1901: 16) from Orca and Virgin Bay in Prince William Sound, Alaska; transferred to the genus *Tubulanus* by Coe (1940: 255). Apart from the record from Japan, the species is known to be distributed along the Pacific coast of North America (Gibson, 1995: 316).
**Tubulanus ezoensis** Yamaoka, 1940

[Japanese name: ezo-himomushi]


**NOTE:** *Tubulanus ezoensis* has long been known only by Yamaoka’s (1940) original description (*Iwata*, 1954a). Although the type material appears to have been lost (see “Brief History...”), some additional specimens referable to *T. ezoensis* were recently collected from the type locality (Kajihara, pers. obs.).

**Tubulanus lucidus** Iwata, 1952

*Tubulanus lucidus* *Iwata*, 1952: 126–128, figs. 1, 6; lower intertidal under stones, Fukue Island, Gotō Islands, Nagasaki Prefecture. *Crandall et al.*, 2002: 15, 16, 30, 37. **NOTE:** Sundberg and Hylbom’s (1994) cladistic analysis based on morphological characters indicates that this species is the sister taxon to hubrechtids, appearing in a clade which is different from that containing other *Tubulanus*, including the type species. The generic placement of this taxon thus needs reassessment.

**Tubulanus punctatus** (Takakura, 1898)

[Japanese name: kuri-himomushi or kugi-himomushi]

*Carinella punctata* Takakura, 1898: 117–118, fig. 3; sublittoral from 2–3 fathoms depth, Jōgashima, Kanagawa Prefecture.


**Tubulanus roretzi** Senz, 1997

*Tubulanus roretzi* *Senz*, 1997a: 424–430, figs. 1-4; locality and habitat unknown. **TYPE MATERIAL:** Holotype, NHMW-EV 3565/1886; paratype, NHMW-EV 3566–3573. **NOTE:** The material was collected by Dr. Albrecht von Roretz during his stay in Japan from 1874–1882.

**Class PILIDIOPHORA** Thollesson and Norenburg, 2003

**Family HUBRECHTILLIDAE** Chernyshev, 2003

**Genus Hubrechtella** Bergendal, 1902


**Hubrechtella ijimai** (Takakura, 1922)

[Japanese name: ijimai-himomushi]


**Hubrechtella kimuraorum** Kajiwara, 2006

*Hubrechtella kimuraorum* *Kajiwara*, 2000: 37–43, figs. 20–23; sandy to muddy tidal flat, 34°41′04″N, 137°35′59″E, Ikari, Hamanako Lake, Shizuoka Prefecture. **TYPE MATERIAL:** Holotype, ZIHU-3127, male, 1 August 2003, 72 slides, 6-μm serial transverse sections of the body except in the middle portion.

**Genus Tetramys** *Iwata*, 1957

*Tetramys* *Iwata*, 1957a: 2. **TYPE SPECIES:** *Tetramys ramicerebrus* *Iwata*, 1957 by monotypic designation.
NOTE: Cladistic analyses by Sundberg and Hybom (1994) and Sundberg et al. (2003) based on morphological characters indicate that the genus appears to be synonymous with Hubrechtella.

**Tetramys ramicerebrus** Iwata, 1957  
[Japanese name: miura-himomushi]


**Family LINEIDAE** McIntosh, 1874

**Genus Cerebratulus** Renier, 1804


*Meckelia* Leuckart, 1828: 17; synonymized by Hubrecht (1879) (in part).


**Cerebratulus albocirculus** Iwata, 1957


NOTE: The place indicated by the name “Mosaic at Kamezyo” in *Iwata*’s (1957a) original description is uncertain. One possible candidate in Sagami Bay is “Kamegisô,” a bank located at approximately 139°35’N, 35°12'E.

**Cerebratulus carnosus** Takakura, 1898

*Cerebratulus* L.C. *arnosus* [sic] *Takakura*, 1898: 426, fig. 23; mud, Misaki Harbour and Koajiro Bay, Kanagawa Prefecture.


NOTE: The abbreviation “L.C.,” most probably denoting “lower-case letters,” was mistakenly inserted between the generic and specific names in the original publication, with the initial “c” dropped from “carnosus” (=Latin, meaning “fleshy”), which refers to the body coloration of the species treated in the original description. The original spelling *arnosus* is incorrect, due to a printer’s error, according to Article 32.5 of the Code (ICZN, 1999) (Crandall, pers. comm.).

**Cerebratulus communis** Takakura, 1898

[Japanese name: nami-himomushi]

*Cerebratulus* L.C. *ommunis* [sic] *Takakura*, 1898: 425, fig. 22 (originally numbered as fig. 20); intertidal in sandy mud, Misaki Harbour, Koajiro Bay, Bishamón Bay, and Matsuwa Bay, Kanagawa Prefecture.


NOTE: As in the case with *Cerebratulus arnosus*, a nomenclatural consideration is required as to the correct spelling of the species name. The species has been also recorded from Alaid Island, northern Kurile Islands (Takakura, 1933).

**Cerebratulus fasciatus** Stimpson, 1857


**Cerebratulus formosus** Iwata, 1957

*Cerebratulus formosus* *Iwata*, 1957a: 15–17, pl. I, fig. 4, pl. V, figs. 1–5; dredged sublittorally from 100 m depth on 13 December 1952 by His Majesty Emperor Shôwa, Nakafukari at Hayama, Sagami Bay, off Kanagawa Prefecture. Crandall *et al.*, 2002: 10, 17, 26, 38.

**Cerebratulus longiceps** Coe, 1901

*Cerebratulus longiceps*: Coe, 1944: 29, obtained by the United States Bureau of Fisheries Steamer *Albatross*, 250 m depth, off Ôshima, the Metropolis of Tôkyô. Crandall *et al.*, 2002: 10, 17, 27, 38.

NOTE: *Cerebratulus longiceps* was originally described from Yakutat, Alaska, USA, by Coe (1901: 77). The species is so far only known from Coe’s (1901, 1944) records.

**Cerebratulus macroren** Hubrecht, 1887

*Cerebratulus macroren* *Hubrecht*, 1887: 46–47, pl. I, figs. 13, 14, 18, 19, pl. X, figs. 8, 9, pl. XI, fig. 11, pl. XII, figs. 1, 2, 7, 8, pl. XIII, figs. 7–9, pl. XIV, figs. 7, 8, 11, pl. XV, figs. 2, 3, 19, text fig. 4; sublittoral from 345 fathoms (about 640 m) depth on green mud, collected on 12 May 1875 by H.M.S. *Challenger*, 35°11’00”N, 139°28’00”E, Sagami Bay, off Kanagawa Prefecture.

**Cerebratulus marginatus** Renier, 1804

[Japanese name: orochi-himomushi]


NOTE: **Cerebratulus margaritis** Renier, 1804 was originally described from the Adriatic Sea, Italy (presumably Padua). Apart from the records in Japanese waters, the species is also reported from the Pacific coast of North America (Alaska to California), the western North Atlantic (Greenland, Labrador, and Cape Cod southwards under the offshore Arctic current), the Arctic (King Charles Land, Bremer Sound, Hinlopen Strait, Spitzbergen), Europe (Norway, the British Isles, the Mediterranean), and south to Madeira (Gibson, 1995: 340).

**Cerebratulus montgomeryi** Coe, 1901

**Cerebratulus montgomeryi**: Coe, 1944: 29; obtained by the United States Bureau of Fisheries Steamer **Albatross**, 600 m depth, off Hokkaidō. **Crandall et al.**, 2002: 10, 17, 24, 27, 34, 38.

NOTE: Originally described from Alaska by Coe (1901: 80). **Cerebratulus montgomeryi** is distributed along Pacific coast of North America, the Aleutian Islands, Bering Sea, coast of Siberia, Japan Sea coasts of Russia, and Japan (Kulikova, 1988; Gibson, 1995: 341).

**Cerebratulus penniger** Iwata, 1957

**Cerebratulus penniger Iwata**, 1957a: 13–14, pl. I, fig. 3, pl. IV, figs. 4–6; dredged sublittorially from 380 m depth on 28 September 1953 by His Majesty Emperor Shōwa, Naka-fukari at Hayama, Sagami Bay, off Kanagawa Prefecture. **Crandall et al.**, 2002: 10, 17, 27, 38.

**Cerebratulus subacusatus** (Stimpson, 1857)

**Meckelia subacuta** Stimpson, 1857: 161; intertidal in mud, Naha, Okinawa Prefecture. Originally recorded as *In portu Napa* insulae *Loo Choo*; littoralis in limo”; transferred to **Baseodiscus** by Bürger (1904: 120).

**Cerebratulus subacusatus**: **Crandall et al.**, 2002: 10, 17, 30, 34.

**Cerebratulus superniger** Iwata, 1957

**Cerebratulus superniger Iwata**, 1957a: 14–15, pl. I, fig. 5, pl. IV, figs. 7, 8; collected by His Majesty Emperor Shōwa from a depth of 10 m on 10 January 1930, “Ithishiki at Hayama” [sic], off Kanagawa Prefecture. **Crandall et al.**, 2002: 10, 17, 27, 39.

**Cerebratulus zebra** Punnett and Cooper, 1909

**Cerebratulus zebra**: **Iwata**, 1957a: 12–13; dredged sublittorally from 410 m depth on 16 July 1940 by His Majesty Emperor Shōwa, “Aamadaiba” [sic], Sagami Bay, off Kanagawa Prefecture. **Crandall et al.**, 2002: 10, 17, 27, 39.

NOTE: **Cerebratulus zebra** was originally described from Sri Lanka (Punnett and Cooper, 1909: 11). The species is currently known only from the two localities, Sri Lanka and Japan.

**Genus Diplopleura** Stimpson, 1857


NOTE: The genus **Diplopleura**, currently containing five nominal species, was established only on the basis of external characters, in which the lateral margins of the body are dorsally curled up.

**Diplopleura japonica** Stimpson, 1857

[Japanese name: *hida-himomushi*]


NOTE: **Diplopleura japonica** has not been reported since its original description. Stimpson’s specimen was light yellowish chestnut in color, measured 1.5 “pollex” (=1.5 inch=3.8 cm) in length and 0.12 “pollex” (=0.12 inch=0.3 cm) in width.

**Genus Euborlasia** Vaillant, 1890

**Euborlasia Vaillant**, 1890: 616.

TYPE SPECIES: **Borlasia elizabethae** McIntosh, 1874 by monotypic designation.

**Euborlasia gotoensis** Iwata, 1952

[Japanese name: *gotô-himomushi*]


**Euborlasia proteres** Iwata, 1957

**Euborlasia proteres Iwata**, 1957a: 8–9, pl. I, fig. 2, pl. IV, figs. 1–3; dredged sublittorially from 380 m depth on 28 September 1953 by His Majesty Emperor Shōwa, Naka-fukari at Hayama, Sagami Bay, off Kanagawa Prefecture. **Crandall et al.**, 2002: 11, 17, 27, 39.

**Genus Hinumanemertes** Iwata, 1970


TYPE SPECIES: **Hinumanemertes kikuchii** Iwata, 1970 by original designation.

**Hinumanemertes kikuchii** Iwata, 1970

[Japanese name: *hinuma-himomushi*]

**Hinumanemertes kikuchii Iwata**, 1970a: 136–142, fig. 1A–C,
Genus *Iwatanemertes* Gibson, 1990

*Iwatanemertes* Gibson, 1990a: 75.

**TYPE SPECIES:** *Heterolineus alborostratus* (Stimpson, 1857; synonymized by Corrêa, 1998: 167, figs. 9–10; habitat not recorded, Kikaishima, Kagoshima Prefecture).

*Lineus piperatus* Stimpson, 1855: 381; habitat not recorded, Kikaishima, Kagoshima Prefecture.

*Lineus piperatus* Stimpson, 1857: 160; sublittoral between stones and among algae, Kikaishima, Kagoshima Prefecture; originally recorded as "in portu insulae ‘Kikaishima’ Japoniae Australis; sublittoralis inter lapillus et algas."

*Yamaoka* (Stimpson, 1855) by Corrêa, 1998: 332, fig. 15; habitat not recorded, Sado Island, Niigata Prefecture.


**NOTE:** Apart from the records of Japanese waters, *Lineus albo-vittatus* is also known from Vostok Bay, Russia (Kulikova, 1988) and Shandong Province (Qingdao and Yantai), China (*Yin et al.*, 1988). A similar-looking species, *Lineus hiatti* Coe, 1947, is known from Hawaii; the latter can be distinguished from *L. albo-vittatus* by the head having less distinct anterior white or colorless margins (Coe, 1947: 104).

*Lineus albovittatus* (Stimpson, 1855)

*Meckelia albo-vittata* [sic] Stimpson, 1855: 382; habitat not recorded, Okinawa Prefecture; originally recorded as “Loo Choo.”

*Meckelia albo-vittata* [sic] Stimpson, 1857: 160; intertidal along algae and in rock crevices, Okinawa Prefecture. *Non Meckelia albo-vittatus*: Bürger, 1890: 11, pl. 1, fig. 1, pl. 2, figs. 1–8, pl. 8, figs. 153–154 (from Ambon, Indonesia).


**NOTE:** Two forms have been known by the specific name of either *albo-vittatus* or *albo-vittatus*. These differ in the shape of the white line across the dorsal surface of the head. The transverse line in one form, reported from Japanese waters, is straight (*Iwata*, 1857; 1857; *Iwata*, 1954c), while it is W-shaped in the other (*Bürger*, 1890; *Iwata*, 1954c), which is reported from Japanese waters, is straight (*Iwata*, 1954c).

*Lineus alborustatus* Takakura, 1898


**NOTE:** Apart from the records from Japanese waters, *Lineus alborustatus* is also known from Vostok Bay, Russia (Kulikova, 1988) and Shandong Province (Qingdao and Yantai), China (*Yin et al.*, 1988). A similar-looking species, *Lineus hiatti* Coe, 1947, is known from Hawaii; the latter can be distinguished from *L. alborustatus* by the head having less distinct anterior white or colorless margins (Coe, 1947: 104).

*Lineus albopunctatus* Takakura, 1898


*Lineus cancelli* Iwata, 1954


*Lineus caputornatus* Takakura, 1898


*Lineus fulvus* Iwata, 1954

*Lineus fulvus* *Iwata*, 1954a: 13, fig. 2C; intertidal among


**Lineus fuscoviridis** Takakura, 1898


**Lineus fuscoviridis** [sic]: *Kikuchi*, 1968: 167; among Zostera marina, Tomioka Bay, Amakusa, Kumamoto Prefecture.

**Lineus nigrofuscus** (Stimpson, 1857)


**Lineus nigrostriatus** *Iwata*, 1954

*Lineus nigrostriatus* *Iwata*, 1954c: 30, fig. 18; habitat not recorded, Nakanoshima, Tokara Islands, Kagoshima Prefecture. *Crandall et al.*, 2002: 11, 18, 27, 34, 39.

**Lineus nipponensis** Senz, 2001

*Lineus nipponensis* *Senz*, 2001: 5–13, figs. 1–9; habitat and locality unknown.

**Lineus torquatus** Coe, 1901


NOTE: Originally reported from Alaska (Coe, 1901: 66); also known to occur in San Francisco Bay, USA (Corrêa, 1964: 528) and Santa Maria Basin, California, USA (Blake, 1993: 118), on the coasts around northern China (Sun and Pan, 1994: 328), and the Japan Sea coast of Russia (Korotkevich, 1955, 1971; Kulikova, 1988). Manchenko and Kulikova (1996a) demonstrated on the basis of allozyme analyses that the species is a mixture of at least two cryptic species, which have been recognized since the original description by Coe (1901) as brown and reddish color morphs. A nomenclatural procedure, such as neotypification, may be required in the future to make it clear to which taxon the name *torquatus* will be applied. Even if some syntypes were extant, designating a lectotype would not solve the problem, for the body color might have been changed or not preserved by fixation.

**Genus Micrura** Ehrenberg, 1831

*Micrura* Ehrenberg, 1831: 57.

**Micrura fasciolata** Ehrenberg, 1831, by

TYPE MATERIAL: Holotype, NHMW-EV 17026/3990; para-type, NHMW-EV 17027/3990.

NOTE: The material was collected by Dr. Albrecht von Roretz during his stay in Japan from 1874–1882.
NOTE: Apart from the records from Hokkaido, *Micrura akkeshiensis* is also known from Vostok Bay, Russia (Kulikova, 1988).

*Micrura alaskensis* Coe, 1901


NOTE: Originally described from Alaska (at New Metlakahtla on Annette Island, Glacier Bay, Sitka, Yakutat, and at Orca and Virgin Bay in Prince William Sound) by *Coe* (1901: 71), *Micrura alaskensis* is also reported from San Pedro and Monterey Bay, California, USA (*Coe*, 1904: 118), British Columbia, Canada (*Coe*, 1940: 271), and Ensenada, Mexico (*Coe*, 1940: 271); the record from Santa Maria Basin, California, USA (Blake, 1993: 119), based on fixed fragments of bodies collected from depths of 297 m and 591 m, might represent different species.

*Micrura bella* (Stimpson, 1857)

[Japanese name: kuchibeni-himomushi]

*Cerebratulus bellus* Stimpson, 1857: 161; obtained from an empty shell from a muddy bottom, 11 m depth, Hokkaido Prefecture; originally reported as “Prope oras insulae ‘Jesso;’ in conchis desertis et fundo limoso profunditas sex orgyiarum.”

*Micrura festiva* Takakura, 1898


NOTE: *Micrura dorsovittata* is so far known only by its original description. It resembles *Micrura kulikovae* Chernysh, 1992, a new name given to a form identified as *Micrura bella* by Kulikova and Kutishchev (1984), in which the color of the dorsal band is brownish.

*Micrura japonica* *Iwata*, 1952

[Japanese name: kuro-himomushi]


NOTE: The distinction between *Micrura japonica* *Iwata*, 1952 and *Micrura formosana* Yamaoka, 1939 will require future verification; the latter species, described from the northeastern coast of Taiwan, differs from the former by having a rhychnochoeal diverticulum protruding ventrally into the lumen of the foregut, a character state that can be
interpreted as an artifact induced during fixation. Yamaoka's (1939) illustration of the external appearance of the preserved specimen shows strong shrinkage on the surface of the body, which suggests that the specimen was not, or not adequately, anaesthetized before fixation. This would further argue for conspecificity of these two nominal species, reinforced by the close proximity of their localities. Furthermore, *M. japonica* and *M. formosana* might be synonymous with *Cerebratulus niger* (Stimpson, 1855), described from Hong Kong, which is similar in having a truncated anterior end, lateral cephalic slits extending back to the mouth region, black body coloration, and white margins around the mouth.

**Micrura magna** Yamaoka, 1940


**Micrura multinotara** *Iwata*, 1957


**Genus Nipponomicrura** Chernyshev, 1995

*Nipponomicrura* Chernyshev, 1995: 15.

**Nipponomicrura uchidai** Yamaoka, 1940, by original designation.

**Nipponomicrura uchidai** (Yamaoka, 1940)

[Japanese name: uchida-himomushi]


**Genus Nipponomicrura** Yamaoka, 1940

NOTE: Besides the original record from Muroran, *Nipponomicrura uchidai* is also known from Vostok Bay, Russia (Kulikova, 1988).

**Nipponomicrura uchidai** (Yamaoka, 1940)

[Japanese name: uchida-himomushi]


**Genus Notospermus** Huschke, 1830

*Notospermus* Huschke, 1830: 682.

**Notospermus** Huschke, 1830:

**Notospermus geniculatus** (Delle Chiaje, 1828)

[Japanese name: misaki-himomushi or kurohera-himomushi]


**Genus Paralineopsis** *Iwata*, 1993

*Paralineopsis* *Iwata*, 1993: 186.

**Paralineopsis taki** *Iwata*, 1993, by original designation.

**Paralineopsis taki** *Iwata*, 1993


NOTE: *Iwata* (1951) originally identified his material as *Zygeupolia littoralis* Thompson, 1900 on the basis of its external features. Later he thoroughly redescribed the taxon as a new genus and species (*Iwata*, 1993).
**Genus Uchidana Iwata, 1967**


**TYPE SPECIES:** *Uchidana parasita* Iwata, 1967 by original designation.

**Uchidana parasita** Iwata, 1967

[Japanese name: uchida-kisei-himomushi]


**NOTE:** *Uchidana parasita* is the only heteronemertean species parasitizing bivalves.

**Family VALENCINIIDAE Hubrecht, 1879**

**Genus Baseodiscus** *Dingis*, 1850

*Polia Delle Chiaje, 1825: 406; non Polia Ochsenheimer, 1816: 73 (Lepidoptera: Noctuidae).*

**Baseodiscus** *Dingis*, 1850: 243.

*Eupolia Hubrecht, 1887: 10; synonymized by Bürger (1904).*

**TYPE SPECIES:** *Polia delineata* *Delle Chiaje*, 1825 by monotypic designation.

**Baseodiscus curtus** (Hubrecht, 1879)

[Japanese name: tatejima-himomushi]

*Eupolia curta: Takakura*, 1898: 185, fig. 7; sublittoral from 2–3 fathoms, Jôgashima, Kanagawa Prefecture; intertidal, Matsuwa Bay, Miura, Kanagawa Prefecture.

**Baseodiscus curtus** *Kaburaki*, 1927: 1644, fig. 3185.


**Baseodiscus delineatus** var. *Utinomi*: *Utinomi*, 1960: 31, pl. 16, fig. 7. *Saito and Suzuki*, 1974: 38; intertidal, Niisaki Beach, Kanagawa Prefecture; identified by Dr. Fumio Iwata.

**NOTE:** *Baseodiscus curtus*, originally described as *Polia curta* Hubrecht, 1879, from Naples, Italy, was transferred to the genus *Baseodiscus* by Bürger (1904). *Baseodiscus curtus* was synonymized with *B. delineatus* by Gibson (1979). However, *B. curtus* can be distinguished from *B. delineatus* by lacking stripes on the ventral surface of the body (Hubrecht, 1879: 209). Although these two species have been regarded as conspecific (e.g., Gibson, 1995), they are treated as distinct species in the present paper. These two species appear to occur globally (Gibson, 1995), with virtually completely overlapping ranges of distribution (Coe, 1944).

**Baseodiscus delineatus** *Delle Chiaje, 1825*  
[Japanese name: iso-himomushi]

?*Eupolia* sp. *Takakura*, 1898: 185, fig. 8; intertidal, Moroiso and Mwatsuwa, Kanagawa Prefecture.


?*Baseodiscus takakurai* *Gibson*, 1995: 305.

**NOTE 1:** *Baseodiscus delineatus* was originally described as *Polia delineata* Delle Chiaje, 1825 from Naples, Italy, then transferred to *Baseodiscus* by Dingis (1850: 243). The species can be distinguished from *B. curtus* by its either striped or mottled ventral body surface. The species shows a circumglobal distribution; apart from the records from Japan, *Baseodiscus delineatus* is also known from the Mediterranean, the Adriatic and Atlantic coasts of Europe, Cape Verde Is., Bermuda, Barbados, southern Florida, USA, Puerto Rico, Gulf of California, Fiji Is., Marianas Is., Java, Torres Straits, Australia (the Great Barrier Reef and southern coast of Western Australia), Mauritius, Zanzibar, Brazil, and Chile (Gibson, 1995: 479).

**NOTE 2:** *Takakura* (1898) recorded a form as *Eupolia* sp. that possessed black mottles on both the dorsal and ventral surfaces of the body. Similar specimens collected on Kakeroma Island (Kagoshima Prefecture) and Ishigaki Island (Okinawa Prefecture) show mottles becoming gradually fused together to form incomplete longitudinal stripes in the middle region of the body (Kajihara, pers. obs.). *Takakura*’s *Eupolia* sp. is herein tentatively regarded as *Baseodiscus delineatus*, though future study must confirm this identification. *Takakura* (1898) did not identify its material to species, mentioning that it resembled *Eupolia antillensis* Bürger, 1895. Gibson (1995) misinterpreted this as *Takakura*’s (1898) having established a new taxon with the specific name *antillensis*, and superficially gave the new name *Baseodiscus takakurai* for *Takakura*’s (1898) *Eupolia* sp.

**Baseodiscus hemprichii** (Ehrenberg, 1831)  
[Japanese name: sanada-himomushi]


**NOTE:** Originally described as *Nemertes hemprichii* Ehrenberg, 1831 from the Red Sea, subsequently transferred to *Baseodiscus* by Bürger (1904: 83). Apart from the records from Japanese waters and its type locality, this species is widely known from India, Pakistan, East Africa (off Mozambique and Zanzibar), Maldives, Laccadive Islands, Coetivy Island, Mauritius, Malay Peninsula, Java, Ambon, Taiwan, Australia (Great Barrier Reef), Papua New Guinea, New Britain (Solomon Is.), Loyalty Is., Caroline Is., Wake Is., West Samoa, and Hawaiian Islands (Gibson, 1995: 432–433).

**Baseodiscus nipponensis** (Hubrecht, 1887)  
*Eupolia nipponensis Hubrecht*, 1887: 14–15, pl. I, figs. 4, 5, 10, pl. VII, figs. 6, 11, 12; dredged from 345 fathoms (about 640 m) depth on green mud, collected on 12 May 1875 by H.M.S. *Challenger*, 35°11’00”N, 139°28’00”E, Sagami Bay, off Kanagawa Prefecture; transferred to...
Baseodiscus by Bürger (1904: 84).
Baseodiscus nipponensis: Crandall et al., 2002: 10, 16, 26, 38.
NOTE: Baseodiscus nipponensis has not been reported since its original description. The species was described from preserved body fragments.

Baseodiscus princeps (Coe, 1901) [Japanese name: arasuka-himomushi]

Baseodiscus curatus: Yamaoka, 1940a: 234–236, pl. XVI, fig. 8–11, text fig.13; lower intertidal between or under stones, Daikokujima, Akkeshi, Hokkaidô Prefecture; synonymized by Iwata (1954a: 15).


NOTE: Originally described as Taeniosoma princeps Coe, 1901 from Alaska (Cape Fox, Yakutat, and Orca in Prince William Sound), transferred to Baseodiscus by Coe (1940: 262). Also known from Puget Sound, Washington, USA (Coe, 1944: 28).

Baseodiscus quinquelineatus (Quoy and Gaimard, 1833) [Japanese name: kurosuji-himomushi]

Taeniosoma aequale Stimpson, 1857: 162; intertidal under stones, Amamiôshima, Kagoshima Prefecture. The locality and habitat were originally recorded as “in sinu insulae Ousima;” littorale sub lapidibus”; synonymized by Bürger (1904: 83).


Genus Cephalomastax Ibata, 1957

Cephalomastax Ibata, 1957a: 5. TYPE SPECIES: Cephalomastax brevis Ibata, 1957 by monotypic designation.

Cephalomastax brevis Ibata, 1957 [Japanese name: amadaiba-himomushi]


Class HOPLONEMERTEA Hubrecht, 1879

Subclass MONOSTILIFERA Brinkmann, 1917

Family AMPHIPORIDAE McIntosh, 1874

Genus Amphiporus Ehrenberg, 1831

Amphiporus Ehrenberg, 1831: 63. TYPE SPECIES: Planaria lactiflora Johnston, 1828, designated under the plenary power of the ICZN (ICZN, 1992); all previous designations of Amphiporus albicans as the type species for Amphiporus, including that of Friedrich (1955: 154), have thereby been set aside.

Amphiporus antifuscus Iwata, 1954


NOTE: Gibson and Crandall (1989) listed this form as a species inquirenda.

Amphiporus formidabilis Griffin, 1898


NOTE: Amphiporus formidabilis Griffin, 1898 was originally described from Puget Sound and Alaska, USA. Coe (1904: 115) synonymized Amphiporus exilis Coe, 1901 with A. formidabilis, but Gibson and Crandall (1989) regarded these taxa as species inquirendae, retaining them as separate species. Amphiporus formidabilis has also been reported from the Aleutian Islands (Coe, 1905: 252). Some earlier records under the name Amphiporus cervicalis (Stimpson, 1857) from Japanese waters may represent Amphiporus formidabilis.

Amphiporus gelatinosus Coe, 1905

Amphiporus gelatinosus: Coe, 1944: 30; obtained by the United States Bureau of Fisheries Steamer Albatross, at 130 m depth in Uraga Strait, between the Metropolis of Tôkyô and Chiba Prefecture. Crandall et al., 2002: 9, 19, 26, 37.

NOTE: The original description by Coe (1905: 259) was based on a single specimen dredged by Albatross on 9 August 1888 at Station 2853, 56°00'N, 154°20'W, southwest of Kadiak Island, Alaska, at a depth of 159 fathoms (=290 m). Known to occur from Alaska to Puget Sound, Washington State, North America (Gibson, 1995: 283). Gibson and Crandall (1989) included it as a species inquirenda.

Amphiporus imparispinosus Griffin, 1898

Amphiporus imparispinosus: Yamaoka, 2005: 145, text figs. 3, 4a; Sotoura and Mikimoto Island, near Shimoda, Shizuoka Prefecture.

NOTE: Amphiporus imparispinosus was originally described from Port Townsend, Washington and Sitka, Alaska, USA by Griffin (1898). The species is distributed from San
Pedro, California, to Puget Sound, Alaska, to the Commander Islands off the coast of Kamchatka, to the Bering Strait (Coe, 1905: 249). Some forms reported as Amphi~porus cervic~alis (Stimpson, 1857), Amphi~porus depres~sus (Stimpson, 1857), and Amphi~porus lactif~oreus (Johnston, 1828) from Japanese waters appear to represent A. imparispi~n~sus. Pante~nomet~eres dagui~larens~is Gibson and Sundberg, 1992, described from Hong Kong, might be conspecific with Amphi~porus imparispi~n~sus. The taxonomic identity of this species should be delineated by future studies.

**Amphi~porus insol~itus** Iwata, 1954

*Amphi~porus insol~itus* Iwata, 1954b: 39–41; lower intertidal under stones, Kushimoto, Wakayama Prefecture. Crandall et al., 2002: 9, 19, 26, 33. NOTE: Gibson and Crandall (1989) regarded this form as a species inquirenda. *Amphi~porus insol~itus* resembles Diplomma serpentina (Stimpson, 1855) in body coloration, shape of the head, and arrangement of the eyes; these two may be conspecific.

**Amphi~porus mus~culus** Iwata, 1954


**Amphi~porus par~vus** Yamaoka, 1940


**Amphi~porus redun~dus** Iwata, 1957

*Amphi~porus redun~dus* Iwata, 1957a: 23–24; dredged sublittorally from 100–130 m depth on 7 August 1950 by His Majesty Emperor Shôwa, “Shuragane at Hayama” [sic], Kanagawa Prefecture. Crandall et al., 2002: 9, 19, 26, 38. NOTE: Gibson and Crandall (1989) regarded this form as a species inquirenda, with the comment that it may be related to the genus *Nipponnemertes* or some similar taxon. It might also prove to be a retracted polystiliferan (Crandall, pers. comm.).

**Amphi~porus regi~us** Iwata, 1954

*Amphi~porus regi~us* Iwata, 1954a: 27–29, fig. 7; lower intertidal under stones on rocky shores, Muroran, Hokkaido Prefecture. Yamaguchi and Yamada, 1955: 70. Crandall et al., 2002: 9, 19, 26, 33. NOTE: Listed as a species inquirenda by Gibson and Crandall (1989). The presence of four well-developed eyes and a cephalic patch on the dorsal surface of the head indicates that this species may belong to the genus *Tet~rastemma* or a related taxon.

**Amphi~porus retrotu~midus** Iwata, 1957

*Amphi~porus retrotu~midus* Iwata, 1957a: 25–27, pl. I, fig. 13; dredged from 30–55 m depth on 6 August 1953 by His Majesty Emperor Shôwa, “Shuragane at Hayama” [sic], Kanagawa Prefecture. Crandall et al., 2002: 9, 19, 26, 38. NOTE: Gibson and Crandall (1989) regarded this form as a species inquirenda, with the comment that it may be related to the genus *Nipponnemertes* or some similar taxon. It might also prove to be a retracted polystiliferan (Crandall, pers. comm.).

**Genus Potamostoma** Kajihara, Gibson, and Mawatari, 2003

*Potamostoma* Kajihara et al., 2003: 492. TYPE SPECIES: *Potamostoma shizunaiense* Kajihara, Gibson, and Mawatari, 2003, by original designation. NOTE: The familial affiliation of the genus, not referred to in its original description, is here provisionally designated as the Amphi~poridae because of similarities in eye pattern (multiple and grouped) and the nature of the rhynchocel~l wall (two-layered). Confirmation of this familial placement will have to be resolved by future studies, hopefully involving molecular data.

**Potamostoma shizunaiense** Kajihara, Gibson, and Mawatari, 2003

*Potamostoma shizunaiense* Kajihara et al., 2003: 491–500, figs. 1–7, tabs. 1–2; under stones on a sandy bottom, salinity at ebb tide 2 psu, mouth of the River Shizunai, 42°20’S, 142°22’E, Shizunai, Hokkaido Prefecture. TYPE MATERIAL: Holotype ZIHU-2037, immature female, complete series of transverse sections, 7 μm, 81 slides. Paratypes: ZIHU-1931, immature male, transverse sections of the anterior body region, 6 μm, 39 slides; ZIHU-2040, immature female, complete series of transverse sections, 6 μm, 84 slides. Eight sectioned voucher specimens are also accessioned as ZIHU-1931, -1932, -2038, -2039, -2041, -2042, -2043, and -2044. One voucher specimen, longitudinal sections of the anterior body region, 10 slides, is deposited under NHMW-EV 19875.

**Genus Zyg~onemertes** Montgomery, 1897

*Zyg~onemertes* Montgomery, 1897: 2. TYPE SPECIES: *Amphi~porus virescens* Verrill, 1879 by monotypic designation.

**Zyg~onemertes gland~ulosa** Yamaoka, 1940


**Zyg~onemertes jamste~ci** Kajihara, 2002

*Zyg~onemertes jamste~ci* Kajihara, 2002: 131–140, figs. 6–9; about 1 m deep, among eelgrass (*Zostera marina*),
Nipponnemertes pulchra as the type species of the genus was invalid, since the nominal species Nemertes pulchra Johnston, 1837 was not included when the genus was established. The nominal species Amphiporus drepano- phoroides, first designated by Gibson and Crandall (1989), is eligible for the type species of the genus, but Crandall (2001: 106) discussed that its original description is too brief and its type specimen has been lost by shipwreck. Confusion remains as to whether the author of the name is Gibson and Crandall (1989) or Crandall (2001) (Chernyshev, pers. comm.). Here, I follow the prevailing usage of the authority and date of the name Nipponnemertes as Friedrich (1968).

Nipponnemertes bimaculata (Coe, 1901)  
[Japanese name: rishiri-himomushi]


Nipponnemertes bimaculata Crandall et al., 2002: 12, 20, 28, 35, 40.

NOTE: The species, originally described as Amphiporus bimaculatus Coe, 1901 from Victoria, B.C., Canada, and Sitka, Alaska and Puget Sound, Washington, USA, was later transferred to the genus Nipponnemertes by Friedrich (1968). Crandall et al. (2002) noted that the form identified by Iwata (1954a) differs from Coe’s (1901) taxon in having a pair of quadrangular head markings, rather than the long-triangular markings of Coe’s form, and a quite different proboscis central armature.

Nipponnemertes ogumai (Yamaoka, 1947)  
[Japanese name: oguma-himomushi]


NOTE: Crandall et al. (2001) mentioned that the type locality for this species was not specified in the original manuscript; Yamaoka (1947) obtained specimens on sandy beaches at Itado, near Shimoda, Shizuoka Prefecture and Seto, Kishû (probably Shirahama, Wakayama Prefecture).

Nipponnemertes punctatula (Coe, 1905)  
[Japanese name: madara-himomushi]


*Emplectonema* Stimpson, 1857: 163.

**TYPE SPECIES:** *Emplectonema viride* Stimpson, 1857, was originally described from San Francisco, USA, and now is regarded as a junior synonym of *Nemertes gracilis* Johnston, 1837, by subsequent designation of **Friedrich** (1955: 172).

**Emplectonema buergeri** Coe, 1901

*Emplectonema buergeri* [sic]: **Coe**, 1944: 29, obtained by the United States Bureau of Fisheries Steamer *Albatross*, 250 m depth, off Ōshima, the Metropolis of Tōkyō. *Emplectonema buergeri*: **Crandall et al.**, 2002: 11, 20, 24, 27, 34, 39.

NOTE: Originally described from Sitka and Glacier Bay, Alaska by **Coe** (1901: 28), known to be distributed in North Pacific (Japan, Pribilof Islands, Bering Sea, and the coast of North America from Alaska to California) (**Gibson**, 1995: 362).

**Emplectonema gracile** (Johnston, 1837)

[Japanese name: hoso-midori-himomushi]


NOTE: Originally described as *Nemertes gracilis* from the British Isles by **Johnston** (1837); transferred to *Emplectonema* by **Verrill** (1895: 528). Other than Japanese waters, the species is widely distributed in the northern hemisphere: Peter the Great Bay, Aleutian Islands, Pacific coast of North America, northern coast of Europe, Mediterranean, Rumanian coast of the Black Sea, and Madeira (**Gibson**, 1995: 432).

**Emplectonema kandai** Kato, 1939

[Japanese name: hikari-himomushi]


*Emplectonema candai* [sic]: **Iwata**, 1970b: 129.

NOTE: *Emplectonema candai* is so far the only known luminous species in the phylum.

**Emplectonema mitsuii** **Yamaoka**, 1947

[Japanese name: mitsu-midori-himomushi]


NOTE: **Crandall et al.** (2001) introduced Yamaoka's original data on the habitat and locality of this species as intertidal among rockweeds at Susaki, Sotoura, and Mikimoto Island, near Shimoda, Shizuoka Prefecture.

**Genus Nemertopsis** **Bürger**, 1895

*Emplectonema buergeri*: **Coe**, 1901

**Nemertopsis** Bürger, 1895: 548.

**TYPE SPECIES:** *Nemertes peronea* Quatrefages, 1846 (now regarded as a junior synonym of *Pola bivittata* Dele Chiaje, 1841) by subsequent designation of **Friedrich** (1955: 173).

NOTE: Chernyshev (pers. comm.) indicated that the genus *Nemertopsis* Bürger, 1895 has a senior subjective syn-
Nemertopsis mitelicola Kajihara, 2007

Nemertopsis mitelicola Kajihara, 2007a: 51–57, figs. 7–11; among the gooseneck barnacle, Capitulum mitella (Linnaeus), Shirahama, Wakayama Prefecture.

TYPE MATERIAL: Holotype, ZIHU-3204: serial transverse sections of the complete body, total 52 slides: 6 μm, ante-end of body (1 cm long), 12 slides; 8 μm, rest of the body, 40 slides. Para- and pre-types: ZIHU-3205, serial transverse sections of head (1.5 cm long), 8 μm, 15 slides; ZIHU-3206, serial longitudinal sections, 12 μm, 12 slides.

Nemertopsis quadripunctata (Quoy and Gaimard, 1833)

[Japanese name: yotsume-himomushi]


NOTE: Nemertopsis quadripunctata was originally described as Borlasia quadripunctata Quoy and Gaimard, 1833 from Ambon, Indonesia. The Japanese taxon identified as Nemertopsis gracilis Coe, 1904 was regarded as conspecific with Nemertopsis quadripunctata by Gibson (1990a). Apart from the records from Japanese waters, the species is currently known from Ambon (Quoy and Gaimard, 1833) and Hong Kong (Gibson, 1990a).

Genus Paranemertes Coe, 1901

Paranemertes Coe, 1901: 32.


Paranemertes incola Iwata, 1952


Paranemertes katoi Yamaoka, 1947

[Japanese name: katô-himomushi]


NOTE: Crandall et al. (2001) noted that Yamaoka’s manuscript reported the species as intertidally abundant from May to July under stones or on seaweeds at Susaki and Sotoura, near Shimoda, Shizuoka Prefecture.

Paranemertes peregrina Coe, 1901

[Japanese name: onando-himomushi]


NOTE: Paranemertes peregrina Coe, 1901 was originally described from Alaska. Yamaoka’s (1940a) illustration in pl. XVII, fig. 6 depicts Amphiporus parvus, though the figure legend indicates Paranemertes peregrina. Besides the records from Japanese waters, the species is also known from the Commander Islands, Kamchatka Peninsula, Aleutian Islands, and the Pacific coast of North America from Alaska to Ensenada, Mexico (Gibson, 1995: 460).

Paranemertes plana Iwata, 1957

[Japanese name: sagami-himomushi]

Paranemertes plana Iwata, 1957a: 20–21, pl I, fig. 10, pl. VI, figs. 1–5; dredged sublittorally from 250–300 m depth on 16 July 1955 by His Majesty Emperor Shôwa, near “Goromoo of southern Minamiaamadaiba” [sic], Sagami Bay, off Kanagawa Prefecture. Iwata, 1960c: 169, pl. 84, fig. 10. Iwata, 1965b: 398, figs. a, b. Crandall et al., 2002: 13, 21, 29, 41.

Family MALACOBDELLIDAE Blanchard, 1847

Genus Malacobdella Blainville, 1827

Malacobdella Blainville, 1827: 270.
TYPE SPECIES: *Hirudo glossa* Müller, 1776, by monotypic designation.

***Malacobdella japonica*** Takakura, 1897

*Japanese name: himobiru*


**NOTE:** Apart from the records from Japanese waters, *Malacobdella japonica* has also been reported from Sakhalin (Steksova, 2004).

**Family OTOTYPHLENEMERTIDAE** Bürger, 1895

**Genus Ototyphlonemertes** Diesing, 1863

*Ototyphlonemertes* Diesing, 1863: 180.

**TYPE SPECIES:** *Oerstedia pallida* Keferstein, 1862, by monotypic designation.

*Ototyphlonemertes dolichobasis* Kajihara, 2007


*Ototyphlonemertes martynovi* Chernyshev, 1993

*Ototyphlonemertes martynovi* **Kajihara**, 1998: 11, pls 1–2; intertidal in coarse sand, Oshoro, Hokkaidō Prefecture; Ėtsūchi, Iwate Prefecture; Shirahama, Wakayama Prefecture; Sugashima, Mie Prefecture; Mukaishima, Hiroshima Prefecture. **Shimomura** et al., 2001: 46; intertidal in coarse sand, Hakozaki, Ėtsūchi Bay, Iwate Prefecture. **Crandall** et al., 2002: 13, 20, 28, 43.

**NOTE:** *Ototyphlonemertes martynovi* Chernyshev, 1993 was originally described from Peter the Great Bay, Russia, and appears to have a wide range of distribution in Japanese waters.

*Ototyphlonemertes nikolaii* Chernyshev, 1998

*Ototyphlonemertes nikolaii* **Shimomura** et al., 2001: 47; intertidal among coarse sand, Hakozaki, Ėtsūchi Bay, Iwate Prefecture. **Crandall** et al., 2002: 13, 20, 28, 43.

**NOTE:** *Ototyphlonemertes nikolaii* Chernyshev, 1998 was originally described from Peter the Great Bay, Russia. The species is currently known from Russia and Japan.

**Family POSEIDONEMERTIDAE** Chernyshev, 2002

**Genus Diopsonemertes** Kajihara, Gibson and Mawatari, 2001


**TYPE SPECIES:** *Diopsonemertes acanthocephala* Kajihara, Gibson, and Mawatari, 2001, by original designation.


**TYPE MATERIAL:** Holotype, ZIHU-1290, immature male, complete series of transverse sections, 71 slides.

**Family PROSORHOCHMIDAE** Bürger, 1895

**Genus Geonemertes** Semper, 1863

*Geonemertes* Semper, 1863: 559.

**TYPE SPECIES:** *Geonemertes pellaensis* Semper, 1863, by monotypic designation.

*Geonemertes pellaensis* Semper, 1863


**NOTE:** Semper’s (1863) original description of *Geonemertes pellaensis* was based upon material collected from the Palau Islands, Republic of Palau. The species is also known from Papua New Guinea, Sulawesi, Seychelles Islands, Peradeniya (Sri Lanka), Kei Island, Upolu Island (Samoa), Mauritius, Florida, Dominica (West Indies), Jamaica, Mangareva Island, Oahu (Hawaiian Islands), and Réunion (Gibson and Moore, 1998: 159).

**Genus Pantinonemertes** Moore and Gibson, 1981


**TYPE SPECIES:** *Pantinonemertes winsorii* Moore and Gibson, 1981, by original designation.

**NOTE:** The genus *Pantinonemertes* Moore and Gibson, 1981 now contains nine species (Sun, 2001), but the generic name has a subjective senior synonym *Neonemertes* Girard, 1893 (Chernyshev, pers. comm.). Moore and Gibson (1981) recognized the genus *Pantinonemertes* as including three nominal species: *Pantinonemertes winsorii* Moore and Gibson, 1981, *Pantinonemertes enalios* Moore and Gibson, 1981, and *Tetrastremma agricola* Willemoes-Suhm, 1874 (the name-bearing type of the nominal genus *Neonemertes* Girard, 1893), while Moore
and Gibson (1981) designated *Pantinonemertes winsori* Moore and Gibson, 1981 as the type species of the genus *Pantinonemertes* Moore and Gibson, 1981. The name *Neonemertes* has been used as valid by six works, including Girard (1893: 238), Joubin (1894: 193), Friedrich (1955: 142, 143, 161, 1958: 22), Corrêa (1966: 365), and Riser (1974: 363, 364), whereas *Pantinonemertes* has been used in at least 42 works since the year 1981. It is thus reasonable to conclude that the name *Pantinonemertes* has been adopted as the prevailing usage, and that the senior synonym *Neonemertes* should be suppressed by plenary power by the ICZN under Article 23.9.3 of the Code (ICZN, 1999). Recently, Maslakova (2005) concluded that these two genera should be synonymized due to lack of morphological differences between them, on the basis of a reinvestigation of all available type and voucher material of species of *Pantinonemertes* Moore and Gibson 1981 and *Proasdenopus* Bürger, 1890. The name *Proasdenopus* Bürger, 1890 has precedence over both *Neonemertes* Girard, 1893 and *Pantinonemertes* Gibson and Moore, 1981. However, since Maslakova (2005) disclaimed nomenclatural acts, the name *Pantinonemertes* Gibson and Moore 1981 is here used as valid.

**Pantinonemertes spectacula** (Yamaoka, 1940) *Prostoma spectaculum* Yamaoka, 1940b: 16–17, fig. 3; habitat not recorded, Naha and Chinen, Okinawa Prefecture. *Pantinonemertes speculacula*: Crandall et al., 2002: 13, 21, 31, 43. NOTE: Gibson (1990a) redescribed the material from Hong Kong and transferred this species to the genus *Pantinonemertes*. Currently known from Okinawa and Hong Kong.

**Family** TETRASTEMMATIDAE Hubrecht, 1879

NOTE: The correct spelling of the family name is “Tetrastemmatidae” under Article, 29.3. of the Code (ICZN, 1999), since the name of its type genus *Tetrastemma* (neuter gender) gives the genitive singular “Tetrastemmatos” and the stem “Tetrastemmat-.”

**Genus Nemertellina Friedrich, 1935**


**Nemertellina yamaokai** Kajihara, Gibson and Mawatari, 2000

[Japanese name: yamaoka-himomushi]


TYPE MATERIAL: Holotype, ZIHU-1260, immature male, complete series of transverse sections, 26 slides. Paratypes: ZIHU-1261, female, series of transverse sections, 24 slides; ZIHU-1262, male, complete series of longitudinal sections, 14 slides; USNM 186063, female, complete series of transverse sections, 17 slides. Three unsectioned voucher specimens are also deposited under ZIHU-1271, ZIHU-1272, and ZIHU-1273.

**Genus Oerstedia Quatrefages, 1846**

*Oerstedia* Quatrefages, 1846: 221.

TYPE SPECIES: *Oerstedia maculata* Quatrefages, 1846, now regarded as a junior synonym of *Planaria dorsalis* Abildgaard, 1806.

NOTE: The genus *Oerstedia* Quatrefages, 1846 had long been classified into the family Prosorhochmidae, before Moore and Gibson (1988) argued that the genus could no longer be retained in that taxon. The familial affiliation of the genus has been treated as uncertain (Gibson, 1994). A recent molecular phylogenetic study (Thollesson and Norenborg, 2003) indicated that members of the genus are closely related to tetrastemmatids, although Strand and Sundberg’s (2005b) molecular phylogenetic analyses were not decisive about the familial classification. The genus is here provisionally included in the family Tetrastemmatidae.

**Oerstedia dorsalis** (Abildgaard, 1806)

[Japanese name: botan-himomushi]


NOTE: *Oerstedia dorsalis*, originally described as *Planaria dorsalis* by Abildgaard (1806) from Denmark and Norway, was transferred to *Oerstedia* by Bürger (1895: 592). The species is known to exhibit a high degree of polymorphism in body color pattern (Bürger, 1895; Iwata, 1954a; Brunberg, 1964). A series of studies based on morphological (Sundberg, 1984) and molecular (Sundberg and Janson, 1988; Sundberg and Andersson, 1995) evidence have revealed the existence of a cryptic species, *Oerstedia striata*, that can be distinguished from *Oerstedia dorsalis* by enzyme differences, external pigmentation, and the
general appearance of the body (Sundberg, 1988). The forms reported under the name *Oerstedia dorsalis* are known from the coast of North America (from Puget Sound, Washington to Mexico), Gulf of Mexico, Atlantic coast of North America (Nova Scotia to Florida), western Baltic Sea, North Sea, Mediterranean Sea, Black Sea, northwestern Spain, and Madeira (Gibson, 1995: 467). Due to the high polymorphism, different taxa may be contained among these forms. Numerous varieties have been named, including three reported from Japanese waters: var. *aequalis* Iwata, 1954a, var. *albolimeata* Bürger, 1895, and var. *viridis* Bürger, 1895. Until future studies determine whether or not these varieties warrant separate taxonomic status, these are regarded as synonyms with *Oerstedia dorsalis*.

**Oerstedia polyorbis** Iwata, 1954


**NOTE 1:** Iwata (1954: 18) established *Oerstedia polyorbis,* which is about 5 mm in body length, with about 30 transverse dorsal bands and cephalic glands that are not well developed and limited only to the anterior portion of the head. Later, Chernyshev (1993: 13) described a similar form, *Oerstediella (Prooerstediella) zebra* (now *Oerstedia zebra*), which differs from *Oerstedia polyorbis* in body length (8–13 mm), the number of the transverse dorsal bands (10–18), and in having cephalic glands extending behind brain. However, ten specimens obtained from the same population as those that Thollesson and Norenburg (2003) identified as *Oerstedia zebra,* possessed 9–16 transverse bands, with body length varying from 2–4 mm and cephalic glands extending behind brain; there was a pair of pores on the ventral surface of the head, which represented the openings of the cerebral organ ducts, but there were no distinct anterior cephalic furrows (Kajihara, pers. obs.). This overlap in characters indicates that *Oerstedia zebra* might be a junior synonym of *Oerstedia polyorbis*.

**NOTE 2:** Thollesson and Norenburg (2003) identified their material from Akkeshi as *Oerstedia venusta.* Specimens from the same locality (n=10) were almost identical with what these authors identified as *Oerstedia zebra* in both external and internal morphology, except for the transverse dorsal bands that were present in the latter. However, the form identified as *Oerstedia venusta* by Thollesson and Norenburg (2003) differs from Iwata’s (1954a) original description in not having distinct anterior cephalic furrows. It remains uncertain whether *Oerstedia venusta* sensu Thollesson and Norenburg (2003) represents the same taxon as Iwata’s (1954a) form. *Oerstedia venusta* sensu Thollesson and Norenburg (2003) also resembles *Oerstedia oculata* (Kulikova, 1987) in external characters.

**NOTE 3:** Strand and Sundberg (2005a: 210) regarded *Oersted...

**Genus Prostoma Dugès, 1828**


**TYPE SPECIES:** The genus *Prostoma* was long used for species of *Tetrastemma,* until Stiasny-Wijnhoff (1938) circumscribed *Prostoma* to include only freshwater species. The single species included in the nominal genus *Prostoma* when it was established was *Prostoma clepsinooides* Dugès, 1828, which was the only nominal species eligible to be the type species of the genus. However, Friedrich (1955: 162) indicated ”*Prostoma lumbricoideum* Dugès (1828) [sic]” (correctly *Prostoma lumbricoideum* Dugès, 1830) as the type species of *Prostoma,* and recently Gibson (1995: 495) indicated *Prostoma gracense* (Böhmig, 1892). These nomenclatural acts cannot be regarded as valid designations of the type species, according to Article 67.2 of the Code (ICZN, 1999).

Meanwhile, the taxonomic identity indicated by the name *Prostoma clepsinooides* has been regarded as vague (Stiasny-Wijnhoff, 1938; Gibson and Moore, 1976). When it becomes necessary to delineate the identity of *Prostoma,* especially in comparison with similar genera like *Limnemetes,* nomenclatural actions will be required, such as either 1) removing the name-bearing function from *Prostoma clepsinooides* and bestowing it on a well-known species such as *Prostoma gracense,* or 2) designating a neotype for *Prostoma clepsinooides,* ideally obtained from the type locality, probably Montpellier, France.

**Prostoma ohmienne** Chernyshev, Timoshkin, and Kawakatsu, 1998

*Prostoma ohmienne* *Chernyshev et al.,* 1998: 53–60, figs. 2–6; on rocks with overgrowing algae, 2 m depth, Lake Biwako, off Kitakomatsu, Shiga-chō, Shiga-gun, and off Shin-asahi-chō, Takashima-gun, Shiga Prefecture. *Crandall et al.,* 2002: 14, 21, 29, 43.

**TYPE MATERIAL:** The holotype and two paratypes are supposed to be deposited in Biwako Museum, according to the original description. However, due to confusion arising during transportation of the specimens, the holotype cannot be identified among the specimens in the museum (Dr. Mark J. Grygier, pers. comm.).

**Genus Quasitetrastemma Chernyshev, 2004**

*Quasitetrastemma* Chernyshev, 2004: 152.

**TYPE SPECIES:** *Tetrastemma nigrifrons* Coe, 1904, by original designation.

**Quasitetrastemma nigrifrons** (Coe, 1904)

[Japanese name: menoko-himomushi]

*Prostoma nigrifrons:* *Yamaoka,* 1940a: 249–251, pl. XVI, fig. 14, pl. XVII, figs. 9–12, text figs. 26–29; lower intertidal...
under stones, Akkeshi and Abashiri, Hokkaido Prefecture; sublittoral, among the canal system of sponges attached to gastropod shells collected from a depth of several meters, Akkeshi, Hokkaido Prefecture. Okuda, 1947: 1469, fig. 4142 (1–8).


Tetrastemma nigrifrons var. bilineatum: Ivata, 1957a: 27, pl. I, fig. 14; collected subtidally from 4–6 m depth on 8 December 1953 by His Majesty Emperor Shôwa, Samejima at Hayama, Kanagawa Prefecture. Crandall et al., 2002: 14, 21, 29, 36, 41.

Tetrastemma nigrifrons var. punctatum: Crandall et al., 2002: 14, 21, 29, 36, 41.

Tetrastemma nigrifrons var. spadix: Crandall et al., 2002: 14, 21, 29, 37, 41.

NOTE: Originally described as Tetrastemma nigrifrons by Coe (1904: 159) from Pacific Grove (36°38’N 121°56’W) and San Pedro, California, USA, the species was recently transferred to Quasitetrastemma by Chernyshev (2004b). Known from the Pacific coasts of North and Central America (Puget Sound, Washington, to Salinas Bay, Costa Rica) (Gibson, 1995: 520), the species shows a high degree of polymorphism in color pattern (Coe, 1940: 305). The following varieties have been named: var. albino Manchenko and Kulikova, 1996b; var. bicolor Coe, 1904; var. bilineatum Ivata, 1954a; var. pallidum Coe, 1904; var. punctata Ivata, 1954a; var. purpureum Coe, 1904; var. spadix Ivata, 1954a; and var. zonatum Coe, 1940. Manchenko and Kulikova (1996b) demonstrated by isozyme analyses that the five sympatric varieties albino, bicolor, pallidum, punctata, and purpureum are conspecific. Incidentally, Manchenko and Kulikova’s (1996b) description of their var. albino that possesses no pigmentation gives the impression that it might represent Quasitetrastemma stimsoni.

Quasitetrastemma stimsoni (Chernyshev, 1992)

Prostoma stigmatum: Yamaoka, 1940a: 251–253, pl. XVII, fig. 13, text figs. 30, 31; intertidal under stones or among algae, Akkeshi and Abashiri, Hokkaido Prefecture.


NOTE 1: Although Stimpson’s (1857) original description of Tetrastemma stigmatum was brief and accompanied by no illustration, Yamaoka (1940a) and Ivata (1954a) considered their material as conspecific with Stimpson’s. Based upon literature, Chernyshev (1992) regarded Prostoma stigmatum sensu Yamaoka (1940a) as different from Tetrastemma stigmatum Stimpson, 1857 and gave to Yamaoka’s taxon a new name, Tetrastemma stimsoni Chernyshev, 1992, while he considered the name Tetrastemma stigmatum to be a nomen dubium. Later, Chernyshev (2004b) transferred Tetrastemma stigmatum (=Prostoma stigmatum sensu Yamaoka (1940a) into Quasitetrastemma Chernyshev, 2004, ascribing “Quasitetrastemma stigmatum” (Yamaoka, 1940).” Chernyshev’s (1992, 2004b) treatment of the names raises the following two issues: 1) Homonymy. Chernyshev (2004b) states “Prostoma stigmatum” Yamaoka, 1940 was replaced by a new name Tetrastemma stimsoni,” although Yamaoka (1940a) did not establish any nominal species bearing the epithet stigmatum. Accordingly, there was no homonymy when Chernyshev (1992) created a new name. 2) Authorship. As mentioned, Chernyshev (2004b) appears to misinterpret Yamaoka (1940a) as establishing a new nominal species Prostoma stigmatum. Since Stimpson’s material is deemed to belong to a different species from Yamaoka’s, the latter taxon name should be ascribed as Quasitetrastemma stimsoni (Chernyshev, 1992).

NOTE 2: It seems likely that Yamaoka did not have access to a copy of Stimpson’s 1857 paper, and probably had to refer to Bürger (1904) for the identification of his material as Prostoma stigmatum. Unfortunately, the German translation of an excerpt of Stimpson’s (1857) Latin description of the species in Bürger (1904) lacked an important sentence for the identification of tetrastemmatids, namely, the presence and coloration of the cephalic patch. Nothing equivalent to the sentence in Stimpson (1857: 163) “pone ocellos anteriores fascia transversa obscure rubra” [behind the anterior eyes there is a dark red transverse band] can be found in Bürger (1904). This could account for why Yamaoka (1940a) identified his material without a cephalic patch as Tetrastemma stigmatum, and also why he later established a new species that possessed a red cephalic patch as Tetrastemma roseocephalum.

Genus Sacconemertella Ivata, 1970

Sacconemertella Ivata, 1970a: 147.

TYPE SPECIES: Sacconemertella lutulenta Ivata, 1970 by original designation.

Sacconemertella lutulenta Ivata, 1970

[Japanese name: chibi-kisui-himomushi]


Genus Sacconemertopsis Ivata, 1970

Sacconemertopsis Ivata, 1970a: 142.

TYPE SPECIES: Sacconemertopsis olivifera Ivata, 1970 by original designation.

Sacconemertopsis olivifera Ivata, 1970

[Japanese name: hime-kisui-himomushi]

**Genus Tetrastemma** Ehrenberg, 1831

**Tetrastemma** Ehrenberg, 1831: 61.

**TYPE SPECIES:** *Tetrastemma flavidum* Ehrenberg, 1831, by monotypic designation.

**Tetrastemma candidum** (Müller, 1774)


NOTE: Originally described as *Fasciola candida* Müller, 1774 from Norway, this species was transferred to *Tetrastemma* by Örsted (1844: 88). The species has a circumpolar distribution in the northern hemisphere (British Isles, coasts of Scandinavia, North Sea, Mediterranean, Madeira, Faroe Islands, Iceland, Greenland, Caribbean, Atlantic and Pacific coasts of North America) (Gibson, 1995: 372).

**Tetrastemma insolens** **Iwata**, 1952


**Tetrastemma melanoccephalum** (Johnston, 1837)

*Tetrastemma melanoccephalum* **Yamamoto**, 2005: 153, pl. 1, fig. 5, pl. 2, fig. 5, text fig. 9a–c; intertidal under stones and among algal holdfasts, Shimoda, Shizuoka Prefecture.

NOTE: *Tetrastemma melanoccephalum* was originally described as *Nemertes melanoccephala* by Johnston (1837). The species is reported from west coast of Sweden, Baltic Sea coasts of Germany, Denmark, British Isles, Mediterranean, Adriatic and Black Sea coasts, northern Spain, Madeira, and the Canary Islands (Gibson, 1995).

**Tetrastemma pinnatum** **Iwata**, 1954


**Tetrastemma pseudocoronatum** Chernyshew, 1998


**Tetrastemma pseudocoronatum**: **Crandall et al.**, 2002: 15, 21, 29, 37, 42.

NOTE: *Tetrastemma coronatum* was originally described as *Polia coronata* from Bréhat, France, by Quatrefages (1846: 213) and was later transferred to *Tetrastemma* by Hubrecht (1879: 228). Gibson (1995: 478) stated that the species has been reported from the British Isles, Scandinavia, the Atlantic coast of France, the Mediterranean, the Adriatic and Black Seas, and Madeira, but questioned the validity of the records by Yamaoka (1940a) and Iwata (1954a). Chernyshew (1998) described *Tetrastemma pseudocoronatum* based upon material obtained from Kunashiri Island and regarded *Prostoma coronatum sensu* Yamaoka (1940a) as conspecific.

**Tetrastemma roseocephalum** (Yamaoka, 1947)

*Prostoma roseocephalum* **Yamaoka**, 1947: 1469, fig. 4114 (1–4); under stones and among algal holdfasts; Shimoda, Shizuoka Prefecture.


NOTE: *Tetrastemma roseocephalum* is potentially a junior synonym of *Tetrastemma stigmatum*. See NOTE under *Tetrastemma yamaokai*.

**Tetrastemma stigmatum** Stimpson, 1857

*Tetrastemma stigmatum* **Stimpson**, 1857: 163; sublittoral, under stones or among algae at a depth of about 11 m, Hakodate, Hokkaidō Prefecture. **Crandall et al.**, 2002: 15, 22, 29, 37, 42.

**Tetrastemma stigmatum**: **Crandall et al.**, 2001: 180, pl. 1, figs. 11–14, pl. 2, figs. 17, 17a. **Crandall et al.**, 2002: 15, 22, 29, 37, 42.

NOTE: *Tetrastemma stigmatum* is potentially a senior synonym of the two nominal species *Prostoma roseocephalum* and *Tetrastemma yamaokai*. See NOTE for *Tetrastemma yamaokai*.

**Tetrastemma verinigrum** **Iwata**, 1954


**Tetrastemma yamaokai** (Yamaoka, 1947)


NOTE: Judging from the original description of *Tetrastemma yamaokai* **Iwata**, 1954, the taxonomic identity of this species can be regarded to be encompassed by that of *Tetrastemma roseocephalum* **Yamaoka**, 1947; thus the former name may possibly be a junior synonym of the latter. *Tetrastemma stigmatum* Stimpson, 1857 was regarded by Chernyshew (1992) as a *nomen dubium*, but Stimpson’s (1857) original description contains such
important taxonomic characters for identifying tetrastemmatids as the coloration of the body and cephalic patch. These character states in *Tetrastemma stigmatum* Stimpson, 1857 also apply to *Tetrastemma yamaokai* Iwata, 1954 and *Tetrastemma roseocephalum* Yamaoka, 1947. These might be synonymized by future studies.

Subclass POLYSTILIFERA Brinkmann, 1917
Order REPTANTIA Brinkmann, 1917
Family DREPLANOPHORIDAE Verrill, 1892
Genus Drepanophorus Hubrecht, 1874
*Drepanophorus* Hubrecht, 1874: 42.

*Drepanophorus longiceps* Iwata, 1957
[Japanese name: mikado-himomushi or tsurugi-himomushi]
*Drepanophorus longiceps* *Iwata*, 1957a: 27–30, pl. I, fig. 15, pl. VI, figs. 9, 10, pl. VII, figs. 1–8; dredged from a depth of 50 m on 7 November 1954 by His Majesty Emperor Shôwa, Shimoda, Shizuoka Prefecture. *Iwata*, 1960c: 169, pl. 64, fig. 17. *Iwata*, 1965a: 216. *Iwata*, 1965b: 401, figs. a, b. *Iwata*, 1992: 199, fig. 7-5B.

*Kameginemertes parmiornata* [nomen nudum]: Crandall et al., 2002: 11, 22, 27, 39.

**Genus Kameginemertes** Iwata, 1998
TYPE SPECIES: *Amphiporus parmiornatus* Iwata, 1957 by original designation.

*Kameginemertes parmiornata* (Iwata, 1957)

NOTE: *Iwata* (1998) redescribed *Amphiporus parmiornatus* Iwata, 1957 based on the original material, establishing a new genus; in his 1998 paper, the locality is noted as “On off-shore reef at Kamegisho, near Nagai.”

**Family SAGAMINEMERTIDAE** Chernyshev, 2003
**Genus Sagaminemertes** Friedrich, 1968
*Sagaminemertes* Friedrich, 1968: 34.
TYPE SPECIES: *Amphiporus nagaiensis* Iwata, 1957 by monotypic designation.

*Sagaminemertes nagaiensis* (Iwata, 1957)
[Japanese name: nagai-himomushi]
*Amphiporus nagaiensis* *Iwata*, 1957a: 23–24, pl. I, fig. 11, pl. VI, figs. 6, 7; dredged sublittorally from 100–130 m depth on 7 August 1950 by His Majesty Emperor Shôwa, northern Nakafukari near Nagai, Sagami Bay, Kanagawa Prefecture.

Order PELAGICA Brinkmann, 1917
**Family NECTONEMERTIDAE** Verrill, 1892
**Genus Nectonemertes** Verrill, 1892
*Nectonemertes* Verrill, 1892: 447.
TYPE SPECIES: *Nectonemertes mirabilis* Verrill, 1892 by monotypic designation.

*Nectonemertes japonica* Foshay, 1912
[Japanese name: hoso-oyogi-himomushi]
*Nectonemertes japonica* Foshay, 1912: 50–53, fig. 1; off Misaki, Kanagawa Prefecture, “taken in the vicinity of Misaki..., but no depth is recorded.” Crandall et al., 2002: 12, 22, 28, 31, 42.

NOTE: Brinkmann (1917: 9) synonymized *Nectonemertes japonica* Foshay, 1912 with *Nectonemertes mirabilis* Verrill, 1892. Coe (1926: 174) proposed separating these species, but later synonymized *Nectonemertes japonica* with *Nectonemertes mirabilis* (Coe, 1954: 259). Korotkevitch (1955: 72, 81–82; 1977: 17) retained *Nectonemertes japonica* under its original name. Gibson (1995: 425) listed *Nectonemertes japonica* as a valid species name. Future studies must settle the problem of which name should be applied to the Japanese species. *Nectonemertes mirabilis* was originally described from the Atlantic, but is known to be distributed in the North, equatorial and South Atlantic and North Pacific (Gibson, 1995: 426), while *Nectonemertes japonica* is only known from Japanese waters.

**Family PELAGONEMERTIDAE** Moseley, 1875
**Genus Pelagonemertes** Moseley, 1875
*Pelagonemertes* Moseley, 1875a: 168.
TYPE SPECIES: *Pelagonemertes rollestoni* Moseley, 1875 by monotypic designation.

*Pelagonemertes moseleyi* Bürger, 1895
[Japanese name: oyogi-himomushi]
*Pelagonemertes rollestoni* Moseley, 1875b: 377–383, pl. XI, figs. 1–5; trawled from 420–755 fathoms by H.M.S. *Challenge* on 5 June 1875, obtained by Willemoes-Suhm, 34°58′N, 139°30′E, about halfway between Ōshima (the Metropolis of Tōkyô) and Cape Sagami (Kanagawa Prefecture).

*Pelagonemertes moseleyi*: Komai, 1919: 294, fig. 1. Kato and Tanaka, 1938: 595–598, pl. XL, figs. A–F, text figs. 1 and 2; “In the middle of November, 1937, one of the writers, Otohiko Tanaka, obtained several specimens of pelagic nemertean along with a large number of deep-sea medusae, copepods, arrow-worms, etc., by the vertical net from about 1,000 meters to the surface, at a station 3 miles off Hasima in Sagami Bay.” Kato, 1940: 101, two
Cephalothrix linearis, 1960c: 169; pl. 84, fig. 18. Satô and Itô, 1961: 187, fig. 7.1.8. 
Iwata, 1965a: 169, 217. Kato and Iwata, 1965: 401, one figure. Iwata, 
1992: 201, fig. 7-4F. Crandall et al., 2002: 13, 22, 29, 32.

NOTE: *Pelagonomerestes mosselyi* was first reported by 
Moseley (1875b) as a young individual of *Pelagonomerestes rollestoni*, which was also obtained during the scientific 
cruise of H.M.S. Challenger (Moseley, 1875a). Later, 
Bürger (1895: 596) regarded the former as different from the latter and gave it a new name, *Pelagonomerestes mosselyi*; this species has been found in the North and tropical 
Atlantic and the North Pacific (Gibson, 1995: 463).

**Records for Which Application of the Species**

**Name is Doubtful**

Class PALÆONEMERTEA Hubrecht, 1879

Family CEPHALOTRICHIDAE McIntosh, 1874

*Cephalothrix filiformis* (Johnston, 1829)

[Japanese name: daikoku-hoso-himomushii]

*Procephalothrix filiformis*: Iwata, 1954a: 7, fig. 18, D; under 
stones near the low-water level on a stony beach, 
Daikokujima Island, Akkeshi, Hokkaidô Prefecture.


Crandall et al., 2002: 14, 16, 29, 36, 41. Thollesson and 
Norenburg, 2003: 409; Akkeshi Bay, Hokkaidô Prefec-
ture.

NOTE: *Cephalothrix filiformis* was originally described as 
*Planaria filiformis* by Johnston (1828) from the British 
Isles. Johnston’s type material is presumably not extant.

The taxonomic identity of *Cephalothrix filiformis sensu*
*Iwata* (1954a) requires further investigation, since the 
ocurrence in Japanese waters is quite outside the range 
of this species based on other records from the British 
Isles, the coast of France, and northern Spain (Gibson,

*Cephalothrix linearis* (Rathke, 1799)

[Japanese name: hoso-himomushii]

*Cephalothrix linearis*: Takakura, 1898: 119, fig. 4; intertidal 
among *Sargassum thunbergii*, Jôgashima, Kanagawa 
Prefecture. 

*Kaburaki*, 1927: 1662, fig. 3181. Kaburaki, 1947: 1474, 
fig. 4156. *Iwata*, 1951: 135; habitat not recorded, 
Onomichi, Hiroshima Prefecture. *Iwata*, 1952: 132; inter-
tidal under stones, Tomioka, Amakusa, Kumamoto Prefe-
ture and Fukue, Gotô Islands, Nagasaki Prefecture.

*Yamaoka*, 1940a: 215, pl. XIV, figs. 5–8, text figs. 5, 6; 
under stones on sandy beach near high-water level, 
Akkeshi, Hokkaidô Prefecture. *Utinomi*, 1956: 31, pl. 16, 
fig. 2. *Iwata*, 1960c: 166, pl. 83, fig. 4. *Utinomi*, 1960: 31, 
pl. 16, fig. 2. Satô and Itô, 1961: 187, fig. 7.1.2. Inaba, 
1963: 227; lower intertidal to shallow sublittoral under 
stones on rocky to gravelly shores; commonly found in the 
Inland Sea of Seto. *Iwata*, 1965a: 169. Kaburaki and 
2. Honma and Kitami, 1978: 14; Sado Island, Niigata Prefec-
ture. Inaba, 1988: 225; lower intertidal to shallow sub-
littoral under stones on rocky to gravelly shores; commonly 
found in the Inland Sea of Seto. Ali et al., 1990: 1083; 
tidal, Shimoda, Shizuoka Prefecture, identified by Dr. 
Minoru Imajima. Noguchi et al., 1991: 846; Shimoda, 
Shizuoka Prefecture. *Iwata*, 1992: 195, fig. 7-3A.

Asakawa et al., 2000: 764; among shells of the oyster,
*Crassostrea gigas*, Hiroshima Bay, Hiroshima Prefecture, 
identified by Prof. Iwata. Crandall et al., 2002: 10, 16, 24,
26, 33, 38.

*Procephalothrix similus* [sic]: *Iwata*, 1954a: 6, fig. 1A; under 
stones or among laminarian holdfasts, Hokkaidô Prefec-
ture (Akikashi, Murokan, Hiroo, Nemuro and Oshoro).


tidal, Akkeshi, Hokkaidô Prefecture. *Iwata*, 1960c: 
166, pl. 83, fig. 5. *Uchida et al.*, 1963: 17. *Iwata*, 
1971: 62. Honma and Kitami, 1978: 14; Sado Island, Niigata Prefecture. *Iwata*, 1983: 181, 182, 193, figs. 8-5a, b, c, 8-
Norenburg, 2003: 409; Akkeshi Bay, Hokkaidô Prefec-
ture.

NOTE: *Cephalothrix similus* was originally described as *Pla-
naria linearis* by Rathke (1799) from the North Sea coast 
of Denmark, based on two specimens. The original 
description was so brief and uninformative that Jensen 
(1878) even suspected that Rathke’s two specimens rep-
resented two different species. Because of the vagueness 
of the taxonomic identity of this species, determining 
whether or not the Japanese population identified as *C. 
linearis* can be included in the same species will require 
further investigation. Comparative toxicological (Dr. 
Manabu Asakawa, unpublished) and molecular (Kajihara, 
unpublished) data from Hiroshima Bay, Ôtsuchi Bay, 
and Akkeshi Bay indicate that the species previously recorded 
as *Cephalothrix similus* from Japanese waters appears to 
be conspecific with *Cephalothrix similus sensu* *Iwata* 
(1954a). The species possesses strong toxicity due to a 
high concentration of tetrodotoxin and/or related chemicals 
nominal species contained in this taxon include *Procep-
halothrix fasciculus* *Iwata*, 1952 and *Procephalothrix arenaria* 
Gibson, 1990.

Class PILIDIOPHORA Thollesson and Norenburg, 2003

Family LINEIDAE McIntosh, 1874

*Cerebratulus fuscus* (McIntosh, 1874)

*Cerebratulus fuscus*: Takakura, 1898: 426–427, fig. 24; on 
the surfaces of rocks obtained sublittorally from a depth 
of several fathoms on a muddy sand substrate, Jôgashima, 
Kanagawa Prefecture. Crandall et al., 2002: 10, 17, 27, 38.

NOTE: *Cerebratulus fuscus* was originally described as *Micrura fuscus* by McIntosh (1873–1874) from the British 
Isles and later transferred to *Cerebratulus* by Hubrecht (1879: 
219). The species is distributed in European waters, including 
the Mediterranean (Gibson, 1994: 78). Records from North 
American and Greenland are related to *Cerebratulus mar-
ginatus* Renier, 1804 (Coe, 1940: 276, 1943: 255). Gibson
(1995: 417) doubted the validity of Wheeler’s (1934: 232, 1940: 32) records from South Africa. Takakura’s (1898) record of C. fuscus from Japan is based on external characters and thus requires further investigation.

**Lineus veinutus** Coe, 1931

**Lineus cf. vetatus** [sic]: Inaba, 1988: 225; lower intertidal to shallow sublittoral, sandy to muddy sediment; a specimen collected on May 1976 in Bizen, Okayama Prefecture, is deposited in Mukaiasha Marine Biological Station, Hiroshima University.

**Lineus veutus**: Iwata, 1997: 53, species name appearing as the caption of a color photograph taken by Fumio Iwata, locality not indicated.

**NOTE**: **Lineus veinutus** was originally described by Coe (1931) from California, USA, as possessing a strong capacity for regeneration. It was later synonymized with the nominal species *Ramphogordius sanguineus* Rathke, 1799 by Riser (1994), who established a new genus *Myoisophagos* to accommodate the species, along with the two nominal species *Planaria sanguinea* Rathke, 1799 and *Lineus pseudolacteus* Gontcharoff, 1951. However, as the genus *Myoisophagos* Riser, 1994 constitutes a junior synonym of *Ramphogordius* Rathke, 1843, the species should now called *Ramphogordius sanguineus* Rathke, 1799 (Riser, 1998). There is no taxonomic account of any material of this species from Japanese waters, and the use of the species name by Inaba (1988) and Iwata (1997) should be regarded as questionable.

**Lineus bilineatus** (Renier, 1804) sensu Iwata (1954a)

[Japanese name: hutasuji-himomushi]


**NOTE**: **Lineus bilineatus**, originally described as *Cerebratulus bilineatus* Renier, 1804 from the Adriatic Sea (presumably near Padua), has a color pattern and number of eyes different from the Japanese form identified under this name (Gibson, 1995: 330–331).

**Lineus gesserensis** (Müller, 1774) sensu Takakura, 1988

**Lineus gesserensis**: Takakura, 1898: 335, fig. 17; intertidal among algae, Koajiro, Kanagawa Prefecture.

**NOTE**: **Lineus gesserensis**, originally described by Müller (1778: 32) as *Planaria gesserensis* from Denmark, was subsequently synonymized with *Lineus ruber* (Müller, 1774) by Bürger (1904: 101). However, Gibson (1982a: 90; 1994: 94) noted that forms identified as *Lineus gesserensis* also contain what should now be referred to as *Lineus viridis* (Müller, 1774). Takakura’s (1898) description of the external features of what he called *Lineus gesserensis* equally applies to both *Lineus ruber* and *Lineus viridis*, so the identity of Takakura’s material cannot be determined. *Lineus ruber* and *Lineus viridis* were recently transferred to the genus *Poseidon* Girard, 1852 by Chernyshev (2004c).

**Lineus grubei** (Hubrecht, 1879) sensu Takakura, 1988

**Lineus grubei**: Takakura, 1898: 331–332, fig. 11; among algae from 2–3 fathoms depth, Misaki and Jōgashima, Kanagawa Prefecture.

**NOTE**: Originally reported from Naples as *Cerebratulus grubei* by Hubrecht (1879: 215–126), this species was transferred to *Lineus* by Bürger (1892: 160). Gibson (1995: 335) stated that Takakura’s (1898) report of this species from Japan “cannot be substantiated.”

**Lineus longifissus** (Hubrecht, 1887) sensu Takakura (1898) and Iwata (1952)

[Japanese name: murasaki-himomushi]


**NOTE**: **Lineus longifissus** was originally described as *Cerebratulus longifissus* Hubrecht, 1887, based on material from Marion Island, South Africa obtained during the cruise of H.M.S *Challenger*. It was later transferred to *Lineus* by Wheeler (1934: 255), and more recently to *Heteronemertes* by Chernyshev (1995: 15). *Lineus longifissus* differs from Takakura’s (1898) and Iwata’s (1952) descriptions in the degree of posterior extension of the lateral cephalic grooves; the Japanese form belongs to a different species and will be given a different name when it is redescribed.

**Lineus mcintoshii** (Langerhans, 1880) sensu Takakura (1898)

**Lineus mcintoshii** [sic]: Takakura, 1898: 187, fig. 10; intertidal, Koajiro, Kanagawa Prefecture.

**NOTE**: Collected among algae on a rocky shore in Madeira and originally described as *Cerebratulus mcintoshii* by Langerhans (1880), this species was later transferred to *Lineus* by Bürger (1904: 95). It appears to differ from Takakura’s (1898) material in the color pattern of the cephalic region. The taxon recognized by Takakura (1898) must be given a different name when additional material has been found and redescribed.

Class HOPLOMERTEA Hubrecht, 1879
Subclass MONOSTILIFERA Brinkmann, 1917
Family AMPHIPORIDAE McIntosh, 1874
*Amphiporus cervicalis* (Stimpson, 1857)

[Japanese name: yajirobei-himomushi]

*Polina cervicalis* Stimpson, 1857: 165; intertidal under stones, Shimoda, Shizuoka Prefecture; transferred to *Amphiporus* by Bürger (1904: 39).


Yamaguchi and Yamada, 1955: 70. Utinomi, 1956: 32, pl. 16, fig. 13. Iwata, 1960c: 169, pl. 84, fig. 15; habitat not recorded, Asamushi, Aomori Prefecture; habitat not recorded, Cape Muroto, Köchi Prefecture. Utinomi, 1960:

**Amphiporus cervicaris** [sic]: inaba, 1988: 226; lower intertidal to shallow sublittoral, on algae or under stones on gravelly to rocky shores; a specimen collected 18 July 1977 at Shijūshima, Hiroshima University.

**NOTE:** The original description of *Polina cervicalis* contains little information about the arrangement of the ocelli, and the description can be applied as well to the conditions in both *Amphiporus formidabilis* Griffin, 1898 and *A. imparispinosus* Griffin, 1898. Records of nemerteans under the name *Amphiporus cervicalis* from Japanese waters probably represent either *A. formidabilis* or *A. imparispinosus*, or even another taxon.

**Amphiporus depressus** (Stimpson, 1857)

**Tatsnoskia depressa** Stimpson, 1857: 165; sublittoral on sandy bottom at a depth of about 3–5 m, Hakodate, Hokkaidō Prefecture; originally recorded as "in portu ‘Hakodadi’ insulae ‘Jesso;' in fundo arenoso, e 6–10 org. profundo accepta"; transferred to *Amphiporus* by Bürger (1904: 44).


**NOTE:** Gibson and Crandall (1989: 458) regarded *Amphiporus depressus sensu* Stimpson (1857) as a *nomen dubium*, but *Amphiporus depressus sensu* Iwata (1954a) as a different taxon. The illustration of Iwata's (1954a) taxon resembles *Amphiporus imparispinosus*.

**Amphiporus lactiflores** (Johnston, 1828)


**NOTE:** *Amphiporus lactiflores* was originally described from the British Isles as *Planaria lactiflorea* by Johnston (1828: 489). Gibson (1995: 469) questioned the conspecificity between Iwata’s material and Johnston’s taxon. Iwata’s (1954a) taxon may represent *Amphiporus imparispinosus*.

**Family CRATENEMERTIDAE**

**Nipponnemertes pulchra** (Johnston, 1837)

**Nipponnemertes pulchra**: Yamaoka, 2005: 147, pl. 2, fig. 2, text fig. 5a–d; subtidal, 50 m depth, muddy sediment, off Kawazu, near Shimoda, Shizuoka Prefecture; habitat not recorded, Hashima Island, near Itō, Shizuoka Prefecture.

**NOTE:** *Nipponnemertes pulchra* was originally described as *Nemertes pulchra* from Berwickshire, UK, by Johnston (1837: 536). The species has been reported in the northern hemisphere from the east coast of North America, Greenland, the Faroe Islands, the White Sea, and northern Europe from the Atlantic coast of France to Scandinavia; also reported in the southern hemisphere from Chile, South Africa, and Antarctica (Gibson, 1995). Yamaoka's (2005) material differs from the other records of *N. pulchra* in possessing a white head, and probably represents a different species.

**NOTE:** Gibson (1995: 447) regarded the name *Oerstedia venusta* as a *nomen dubium*.

**Prostoma graecense** (Bömig, 1892)

[Japanese name: mamizu-himomushi]


**Prostoma hokkaidoensis** [sic] Stiasny-Wijnhoff, 1938: 222.

**Prostoma lacustre** [sic]: Sudzuki, 1953: 218; habitat not recorded, Sapporo, Hokkaidō Prefecture.

**Prostoma graecens** [sic]: **Iwata**, 1965a: 217; Urawa, Saitama Prefecture; Sapporo, Hokkaidō Prefecture.

**Prostoma gracense** [sic]: **Crandall et al.**, 2002: 14, 21, 29, 43.

**Prostoma hokkaidoense**: **Crandall et al.**, 2002: 14, 21, 29, 43.

**NOTE:** Ishizuka (1933) identified his material from Sapporo as *Prostoma gracense* (type locality: a local botanic garden in Graz, Austria). Stiasny-Wijnhoff (1938) created a new name, *Prostoma hokkaidoense*, to refer to the Sapporo form, attributing the naming authority to Ishizuka. Sudzuki (1953) regarded the Sapporo form as *Prostoma lacustre* (du Plessis, 1892) (type locality: under pebbles on a beach of Lac Léman at Anière, near Genéve, Switzerland), while he identified the form from Urawa and Sugashima as *Prostoma gracense* (Bömig, 1892). Iwata (1954a) listed *Prostoma hokkaidoense* and *Prostoma lacustre sensu* Sudzuki (1953) as synonymous with *Prostoma gracense*. Chernyshev et al. (1998: 62) argued that since previous records of *Prostoma* from Japan lack histological information about internal morphology, the specimens involved cannot be identified with certainty, and concluded that “all previous records of *Prostoma* from Japan should be cited as *Prostoma* sp. (or spp.?)”.

**Prostoma grande** (**Ikeda**, 1913)

[Japanese name: mimizu-himomushi]

**Stichostemma grandis** **Ikeda**, 1913:239–256, pl. IV, figs. 1–5;


**Prossoma grandis** [sic]: **Okugawa**, 1932: 70; in paddy fields over much of Japan, including Hokkaidô, but excepting Kyushu and Shikoku.


**NOTE**: Described from Hiroshima by **Ikeda** (1913), *Prostoma grande* has been widely reported from Japan by various authors. **Suzuki** (1953) regarded *Prostoma grande* (*Ikeda, 1913*) as synonymous with *Prostoma lombricoideum* *Dugès*, 1830 (type locality: Montpellier [?], France). The comments of **Chernyshyv et al.** (1998: 62) above (see ‘NOTE’ under *Prostoma gracense*) equally apply to *Prostoma grande*. **Chernyshyv et al.** (1998: 62) further commented, “Future taxonomic studies on the comparative morphology and histology of *Prostoma* samples from elsewhere in Japan, including the type localities of the nominal species *P. grande* and *P. hokkaidoense*, are necessary.”

**Species That Cannot With Certainty Be Assigned to Valid Genera**

**Cosmocephala japonica** Stimpson, 1857

**Cosmocephala japonica** Stimpson, 1857: 165; intertidal under stones and in rock crevices, Shimoda, Shizuoka Prefecture.


**Amphiporus japonicus**: **Crandall et al.**, 2002: 9, 19, 26, 33.

**NOTE**: **Bürger** (1904: 48) regarded this form as a subspecific taxon, *Amphiporus angulus japonicus*. **Iwata** (1952: 144) mentioned the similarity between the cephalic marking of *Amphiporus angulus japonicus* and those of *Amphiporus punctatulus* *Coe*, 1905 (now *Nipponemertes punctatula*); the former, having a uniform dorsal body coloration, can be differentiated from the latter, in which the dorsal coloration is mottled. **Gibson** and **Crandall** (1989: 460) regarded *Amphiporus japonicus* as a *nomen dubium*. The external appearance of a specimen I recently collected in Hiroshima Bay agrees with the original description of this species, but also resembles that of the *Nipponemertes* species. This might mean that *Cosmocephala* is a senior synonym of *Nipponemertes*, which must be determined by future studies. If this proves to be the case, however, the nomenclature of *Crateneidae* will have to be altered to a large extent.

**ORIGINAL DESCRIPTION**: **Stimpson** (1857) gave the following diagnosis: “Corpus subelongatum, untrineque obtusum; lateribus in extentione fere parallelis. Color supra brunnea, subtus alba; caput linea mediana et maculis minutis irregularibus incoloratis; fronte, et maculis cervicalibus triangulatis, albis. Caput brevem subsidere tum fronte rotundata, ad aperturas profunde fissa. Cervix utriusque pseudorima obliqua, antrosum curvata. Ocelli sat magni, in capitis marginibus antero-lateralibus, utriusque 10–15. Long. 4; lat. 0.18 poll.” [Free translation: Body somewhat elongated, sometimes blunt; when extended the lateral margins are parallel. Dorsally brown, ventrally white; head with a white median line and irregularly-shaped small white dots; anterior end of the head and triangle-shaped neck spots are white. Head wide, somewhat discrete, anteriorly rounded, deeply splits toward proboscis pore. Neck on each side with pseudo-crevices antero-obliquely curved. Eyes sufficiently large, arranged on the antero-lateral margins of the head, 10–15 on each side. 10 cm long, 4.5 mm wide.]

**Dicelis rubra** Stimpson, 1857

**Dicelis rubra** Stimpson, 1857: 164; sublittoral, between barnacles and sponges at a depth of about 7–8 m, Tanegashima, Kagoshima Prefecture.

**NOTE**: **Bürger** (1904) included this species in a group of dubious nemertean taxa. **Gibson** (1995) regarded the name as invalid.

**ORIGINAL DESCRIPTION**: **Stimpson** (1857: 164) gave the following diagnosis for the genus *Dicelis*: “Corpus lineare, depressissimullum, utriusque obtusum. Caput continuum vel subdiscretum, fronte margina, apertura proboscis terminalis. Ocelli duo simplices, rotundati, subterminales. Maricolae.” [Free translation: Body filiform, dorsoventrally flattened, blunt on both ends. Head continuous to, or somewhat discrete from, body; frontally convex, proboscis pore terminal. Two rounded eyes subterminally. Marine.]. The diagnosis for the species was given as: “Subfiliformis, depressissimula, antice subattenuata; colore rubra vel purpurea. Cervix quam caput vix angustior. Caput antice rotundata et marginata. Ocelli duo parvi subterminales. Long. 1.5; lat. 1.03 [sic. probably 0.03] poll.” [Free translation: somewhat filiform, dorsoventrally flattened, anteriorly somewhat tapered; red or purple in color. Neck hardly narrower than head. Head anteriorly rounded and convex. Two eyes slightly subterminally. 3.75 cm long, 0.75 mm wide.]

**Dichilus obscurus** Stimpson, 1857

**Dichilus obscurus** Stimpson, 1857: 163; intertidal between stones, Amamiôshima, Kagoshima Prefecture; originally recorded as “In portu insulae ‘Ousima;’ littoralis inter lapillolus.”

**NOTE**: **Bürger** (1904) included this species in a group of dubious nemertean taxa. **Gibson** (1995) regarded the name as invalid.

pseudo-crevices. Marine.

The diagnosis for the species is given as: “Corpus supra pallide rubro-fulvum, maculis duabus oblongis in capite. Ocelli fusci, sat magni, subdistantes, in maculis siti. Pseudorimae cervicales tres; una mediana longitudinalis, ex cujus media aliae versus merginem utrinque oblique extendunt. Long. 3; lat. 0.08 poll.” [Free translation: Body dorsally pale reddish brown, with two oblong cephalic patches. Ocelli brown, large, rather separately situated in the cephalic patch. Three pseudo-crevices on neck; one mediologistudinal, from which other median ones extend obliquely towards the margins respectively. 7.5 cm long, 2mm wide.]

*Diplomma serpentina* (Stimpson, 1855)

*Nareda serpentina* Stimpson, 1855: 381; habitat not recorded, Okinawa Prefecture.

*Diplomma serpentina*; Stimpson, 1857: 164; intertidal under stones on muddy sand, Okinawa Prefecture.

**NOTE:** Bürger (1904) included this species in a group of dubious nemertean taxa. Gibson (1995) regarded the name as invalid. It appears that *Diplomma serpentina* is conspecific with *Amphiporus insolitus* Iwata, 1954 and *Paranemertes sp. sensu* Yamaoka (2005). The identity of this taxon should be clarified by future studies.

**ORIGINAL DESCRIPTION:** “Elongated, somewhat flat: length 2 1/2 inches” (Stimpson, 1855: 381).

**Records of Specimens Not Identified to Species**

Class PALAEONEMERTEA Hubrecht, 1879

Family TUBULANIDAE Bürger, 1904 (1874)

Class PALAEONEMERTEA Hubrecht, 1879

Family TUBULANIDAE Bürger, 1904 (1874)

*Carinella* sp.

*Carinella* sp.; *Takakura*, 1898: 119; Misaki, Kanagawa Prefecture.

**NOTE:** The genus *Carinella* Johnston, 1833 was synonymized with *Tubulanus* Renier, 1804, by Bürger (1904). This form differs from *Tubulanus punctatus* (Takakura, 1898) in possessing continuous longitudinal stripes on the mid-dorsal and lateral surfaces of the body.

Class HOPLOMERTEA Hubrecht, 1879

Subclass MONOSTILIFERA Brinkmann, 1917

Family AMPHIPORIDAE McIntosh, 1874

*Amphiporus* sp.

*Amphiporus* sp.; *Yamaoka*, 2005: 142, pl. 1, fig. 3; text figs. 6b, c; among shelly bottom, several meters depth, Susaki, Shimoda, Shizuoka Prefecture.

**NOTE:** *Yamaoka*’s (2005) specimens were 10–12 mm long, 0.7 mm wide; anterior cephalic furrows ventrally forming M-shape; posterior cephalic furrows encircling body in esophageal region, curving forward on both dorsal and ventral surfaces; body color pure white, yellowish white, or yellow, with scattered small brown patches. The large cerebral organs extending behind the brain in this form is characteristic of the Cratenemertidae.

Class HOPLOMERTEA Hubrecht, 1879

Subclass MONOSTILIFERA Brinkmann, 1917

Family AMPHIPORIDAE McIntosh, 1874

*Amphiporus* sp.

*Amphiporus* sp.; *Yamaoka*, 2005: 142, pl. 1, fig. 3; text figs. 6b, c; among shelly bottom, several meters depth, Susaki, Shimoda, Shizuoka Prefecture.

**NOTE:** *Yamaoka*’s (2005) specimens were 10–12 mm long, 0.7 mm wide; anterior cephalic furrows ventrally forming M-shape; posterior cephalic furrows encircling body in esophageal region, curving forward on both dorsal and ventral surfaces; body color pure white, yellowish white, or yellow, with scattered small brown patches. The large cerebral organs extending behind the brain in this form is characteristic of the Cratenemertidae.

Family EMPLECTONEMATIDAE Bürger, 1904

*Paranemertes* sp.

*Paranemertes* sp.; *Yamaoka*, 2005: 142, pl. 1, fig. 6; text fig. 1; Itado, near Shimoda, Shizuoka Prefecture.

**NOTE:** Body 6 cm long, 0.7 mm wide; uniformly bright chestnut-brown in color, except for white margins on cephalic tip. This form may be conspecific with *Diplomma serpentina* (Stimpson, 1855) and *Amphiporus insolitus* Iwata, 1954. Future study should clarify the identity of this taxon.

Family TETRASTEMMATIDAE Hubrecht, 1879

*Prostoma* sp.

[Japanese name: toyama-mamizu-himomushi]

*Prostoma* sp.; *Iwata*, 1997: 53, with two color photographs taken in life by Dr. Fumio Iwata; under stones near a spring in a small pond near a paddy field, Asahi-chô, Toyama Prefecture.

**NOTE:** The body is about 1 cm long, 0.5 mm wide, pale orange in color. The proboscis retractor muscle is well developed (Iwata, 1997).
**Tetrastemma** sp.


**NOTE:** Body 2 cm long, 1 mm wide, yellowish green in basement body color, with four darker longitudinal stripes on the dorsal surface; with four eyes (*Iwata*, 1954a).

**Tetrastemma** sp.

*Tetrastemma* sp. *Yamaoka*, 2005: 155, pl. 2, fig. 1, text figs. 9d, e; 10; subtidal, about 5 fathoms deep, Shirahama, near Shimoda, Shizuoka Prefecture.

**NOTE:** Body 1 cm long, 2 mm wide; dorsally reddish brown, paler ventrally, with dark brown mid-dorsal stripe (*Yamaoka*, 2005).

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