A Taxonomic Catalogue of Japanese Nemerteans (Phylum Nemertea)

Author: Hiroshi Kajihara
Source: Zoological Science, 24(4) : 287-326
Published By: Zoological Society of Japan
URL: https://doi.org/10.2108/zsj.24.287
[REVIEW]

A Taxonomic Catalogue of Japanese Nemerteans
(Phylum Nemertea)

Hiroshi Kajihara*

Department of Natural History Sciences, Faculty of Science, Hokkaido University,
Sapporo 060-0810, Japan

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 lactiflores, Cephalothrix filiformis, Cephalothrix linearis, Cerebratulus fuscus, Lineus vegetus, Lineus bilineatus, Lineus gesserensis, Lineus grubei, Lineus longifissus, Lineus mcintoshii, Nipponomermes 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: Cosmocephala 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 the proto- troch, a transitory larval structure consisting of a preblastoidal belt of specialized cells derived from the troechoblast 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.

* Corresponding author. Phone: +81-11-706-2755;
Fax : +81-11-746-0862;
E-mail: kazi@sci.hokudai.ac.jp
doi:10.2108/zsj.24.287
Table. 1. List of the nominal species established from Japanese waters arranged by their type locality from north to south. *Type specimen depository: F I 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>
</tr>
</thead>
<tbody>
<tr>
<td>HOKKAIDÔ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rishiri island</td>
<td><em>Lineus fulvus</em> Iwata, 1954</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Oerstedia venusta</em> Iwata, 1954</td>
<td>FI</td>
<td>Also based on the material from Muroran; a nomen dubium.</td>
</tr>
<tr>
<td>Akkeshi</td>
<td>Amphiporus anilusius Iwata, 1954</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Amphiporus parvus Yamaoka, 1940</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cephalothrix notabilis Iwata, 1954</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lineus spathius Iwata, 1954</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Micrura akkeshiensis</em> Yamaoka, 1940</td>
<td>U</td>
<td>Also based on the material from Abashiri.</td>
</tr>
<tr>
<td></td>
<td>Micrura magna Yamaoka, 1940</td>
<td>U</td>
<td>Dakokujima Island.</td>
</tr>
<tr>
<td></td>
<td>Nemertella yamakoi Kajihara et al., 2000</td>
<td>ZIHU-1260</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Oerstedia polyorbis</em> Iwata, 1954</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Tetrastrammm pinnatum</em> Iwata, 1954</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Tetrastrammm stimpsoni</em> Chernyshev, 1992</td>
<td>U</td>
<td>Also based on the material from Abashiri.</td>
</tr>
<tr>
<td></td>
<td>Tubulanus ezonensis Yamaoka, 1940</td>
<td>U</td>
<td>Dakokujima Island.</td>
</tr>
<tr>
<td></td>
<td>Zygonomertes glandulosa Yamaoka, 1940</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zygonomertes jamstedt Kajihara, 2002</td>
<td>ZIHU-1928</td>
<td></td>
</tr>
<tr>
<td>Abashiri</td>
<td><em>Micrura akkeshiensis</em> Yamaoka, 1940</td>
<td>U</td>
<td>Also based upon the material from Akkeshi.</td>
</tr>
<tr>
<td></td>
<td><em>Tetrastrammm stimpsoni</em> Chernyshev, 1992</td>
<td>U</td>
<td>Also based upon the material from Akkeshi.</td>
</tr>
<tr>
<td>Oshoro</td>
<td>Amphiporus musculus Iwata, 1954</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tetrastrammm yamaoka Yamaoka, 1954</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tetrastrammm verinigrum Iwata, 1954</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zygonomertes shintai Kajihara, 2002</td>
<td>ZIHU-1296</td>
<td></td>
</tr>
<tr>
<td>Shizunai</td>
<td>Potamostoma shizunaiense Kajihara et al., 2003</td>
<td>ZIHU-2037</td>
<td>The mouth of the River Shizunai.</td>
</tr>
<tr>
<td>Muroran</td>
<td>Amphiporus regius Iwata, 1954</td>
<td>FI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Micrura uchidai Iwamaoka, 1940</td>
<td>U</td>
<td>Now <em>Nipponomicrura uchidai</em>.</td>
</tr>
<tr>
<td></td>
<td><em>Oerstedia venusta</em> Iwata, 1954</td>
<td>FI</td>
<td>Also based on the material from Rishiri; a nomen dubium.</td>
</tr>
<tr>
<td>Hakodate</td>
<td>Tatsnosia depressa Stimpson, 1857</td>
<td>U</td>
<td>A nomen dubium.</td>
</tr>
<tr>
<td></td>
<td>Tetrastrammm stigmatum Stimpson, 1857</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Further detail of locality not specified</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cerebratulus bellus Stimpson, 1857</td>
<td>U</td>
<td>Now <em>Micrura bella</em>.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus fasciatus Stimpson, 1857</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>HONSHû</td>
<td>AOMORI PREFECTURE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emplectonema kandai Kato, 1939</td>
<td>U</td>
<td>Asamushi.</td>
</tr>
<tr>
<td>IWATE PREFECTURE</td>
<td>Diopsonemertes acanthocephala Kajihara et al., 2001</td>
<td>ZIHU-1290</td>
<td>Ötsuchi.</td>
</tr>
<tr>
<td></td>
<td>Otoyliphonemertes dolichobasis Kajihara, 2007</td>
<td>ZIHU-3200</td>
<td>Ötsuchi.</td>
</tr>
<tr>
<td>IBARAKI PREFECTURE</td>
<td>Hinumanemertes kikuchii Iwata, 1970</td>
<td>FI</td>
<td>Lake Hinuma.</td>
</tr>
<tr>
<td></td>
<td>Sacconemertella lutilenta Iwata, 1970</td>
<td>FI</td>
<td>Lake Hinuma.</td>
</tr>
<tr>
<td></td>
<td>Sacconemertopsis olivera Iwata, 1970</td>
<td>FI</td>
<td>Lake Hinuma.</td>
</tr>
<tr>
<td>CHIBA PREFECTURE</td>
<td>Carcinonemertes mitsukuri Takakura, 1910</td>
<td>U</td>
<td>Among egg masses of <em>Eriocheir japonicus</em> (Decapoda) at the mouth of the River Minatogawa.</td>
</tr>
<tr>
<td></td>
<td>Corea iijimai Takakura, 1922</td>
<td>U</td>
<td>Tateshima; now <em>Hubrechtella iijimai</em>.</td>
</tr>
<tr>
<td></td>
<td><em>Lineus fuscoviridis</em> Takakura, 1898</td>
<td>U</td>
<td>Sunosaki, Tateyama, also based on the material from Misaki; now <em>Notospermus geniculatus</em>.</td>
</tr>
<tr>
<td></td>
<td><em>Lineus mitellatus</em> Takakura, 1898</td>
<td>U</td>
<td>Sunosaki, Tateyama, also based on the material from Misaki; now <em>Notospermus geniculatus</em>.</td>
</tr>
<tr>
<td></td>
<td>Malacobdella japonica Takakura, 1897</td>
<td>U</td>
<td>Kujûkuri, in the mantle cavity of <em>Mactra sachalinensis</em> (Bivalvia).</td>
</tr>
<tr>
<td>KANAGAWA PREFECTURE</td>
<td>Misaki and its vicinity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carninella punctata Takakura, 1898</td>
<td>U</td>
<td>Now <em>Tubulanus punctatus</em>.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus carnosus Takakura, 1898</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cerebratulus communis Takakura, 1898</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lineus alborostatus Takakura, 1898</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lineus bipunctatus Takakura, 1898</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lineus caputoratus Takakura, 1898</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Lineus fuscoviridis</em> Takakura, 1898</td>
<td>U</td>
<td>Also based on the material from Tateyama.</td>
</tr>
<tr>
<td></td>
<td><em>Lineus mitellatus</em> Takakura, 1898</td>
<td>U</td>
<td>Also based on the material from Tateyama; now <em>Notospermus geniculatus</em>.</td>
</tr>
<tr>
<td></td>
<td>Lineus subcingulatus Takakura, 1898</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Micrura dorsovittata Takakura, 1898</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Micrura festiva Takakura, 1898</td>
<td>U</td>
<td>Now <em>Micrura bella</em>.</td>
</tr>
<tr>
<td>Sagami Bay</td>
<td>Amphiporus nagaiensis Iwata, 1957</td>
<td>FI</td>
<td>Now <em>Sagaminemertes nagaiensis</em>.</td>
</tr>
<tr>
<td></td>
<td>Amphiporus parvus Iwata, 1957</td>
<td>FI</td>
<td>Now <em>Kameginemertes parvus</em>.</td>
</tr>
</tbody>
</table>

To be continued.
<table>
<thead>
<tr>
<th>Tabel. 1. continued.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amphiporus reduncus</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Amphiporus retrotumidus</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Cephalomastax brevis</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Cerebratulus albocirculus</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Cerebratulus formosus</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Cerebratulus macronem</strong> Hubrecht, 1887</td>
</tr>
<tr>
<td><strong>Cerebratulus penniger</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Cerebratulus superniger</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Drepanophorus longiceps</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Euborlasia proteres</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Eupolia nipponensis</strong> Hubrecht, 1887</td>
</tr>
<tr>
<td><strong>Micrura multinotara</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Nectonemertes japonica</strong> Foshay, 1912</td>
</tr>
<tr>
<td><strong>Paranemertes plana</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>Pelagonemertes moseleyi</strong> Bürger, 1895</td>
</tr>
<tr>
<td><strong>Tetramys ramicerebrus</strong> Iwata, 1957</td>
</tr>
<tr>
<td><strong>SHIZUOKA PREFECTURE</strong></td>
</tr>
<tr>
<td><strong>Amphiporus ogumai</strong> Yamaoka, 1947</td>
</tr>
<tr>
<td><strong>Cosmocephala japonica</strong> Stimpson, 1857</td>
</tr>
<tr>
<td><strong>Emplectonema mitsuii</strong> Yamaoka, 1947</td>
</tr>
<tr>
<td><strong>Polina cervicalis</strong> Stimpson, 1857</td>
</tr>
<tr>
<td><strong>Prostoma roseocephalum</strong> Yamaoka, 1947</td>
</tr>
<tr>
<td><strong>Lake Hamanako</strong></td>
</tr>
<tr>
<td><strong>Calinera nishikawai</strong> Kajihara, 2006</td>
</tr>
<tr>
<td><strong>Carinina plecta</strong> Kajihara, 2006</td>
</tr>
<tr>
<td><strong>Hubrechtella kimuraorum</strong> Kajihara, 2006</td>
</tr>
<tr>
<td><strong>MIE PREFECTURE</strong></td>
</tr>
<tr>
<td><strong>Uchidana parasita</strong> Iwata, 1967</td>
</tr>
<tr>
<td><strong>Amphiporus insolitus</strong> Iwata, 1954</td>
</tr>
<tr>
<td><strong>Lineus cancelli</strong> Iwata, 1954</td>
</tr>
<tr>
<td><strong>Nemertopsis miteicola</strong> Kajihara, 2007</td>
</tr>
<tr>
<td><strong>SHIGA PREFECTURE</strong></td>
</tr>
<tr>
<td><strong>Prostoma ohiense</strong> Chernyshev et al., 1998</td>
</tr>
<tr>
<td><strong>HIROSHIMA PREFECTURE</strong></td>
</tr>
<tr>
<td><strong>Paralinoposis taki</strong> Iwata, 1993</td>
</tr>
<tr>
<td><strong>Stichostemma grandis Ikeda, 1913</strong></td>
</tr>
<tr>
<td><strong>KYUSHU and OKINAWA</strong></td>
</tr>
<tr>
<td><strong>KUMAMOTO PREFECTURE</strong></td>
</tr>
<tr>
<td><strong>Micrura japonica</strong> Iwata, 1952</td>
</tr>
<tr>
<td><strong>Paranemertes incola</strong> Iwata, 1952</td>
</tr>
<tr>
<td><strong>Procephalothrix fasciculus</strong> Iwata, 1952</td>
</tr>
<tr>
<td><strong>Tetramys insolens</strong> Iwata, 1952</td>
</tr>
<tr>
<td><strong>NAGASAKI PREFECTURE</strong></td>
</tr>
<tr>
<td><strong>Carinesta uchidai</strong> Iwata, 1952</td>
</tr>
<tr>
<td><strong>Euborlasia gotoensis</strong> Iwata, 1952</td>
</tr>
<tr>
<td><strong>Micrura japonica</strong> Iwata, 1952</td>
</tr>
<tr>
<td><strong>Tetramys insolens</strong> Iwata, 1952</td>
</tr>
<tr>
<td><strong>Tubulanus lucidus</strong> Iwata, 1952</td>
</tr>
<tr>
<td><strong>KAGOSHIMA PREFECTURE</strong></td>
</tr>
<tr>
<td><strong>Diplopleura japonica</strong> Stimpson, 1857</td>
</tr>
<tr>
<td><strong>Tanegashima</strong></td>
</tr>
<tr>
<td><strong>Dichelis rubra</strong> Stimpson, 1857</td>
</tr>
<tr>
<td><strong>Nakanoshima</strong></td>
</tr>
<tr>
<td><strong>Lineus nigrostriatus</strong> Iwata, 1954</td>
</tr>
<tr>
<td><strong>Amamiôshima</strong></td>
</tr>
<tr>
<td><strong>Cerebratulus nigrofuscus</strong> Stimpson, 1857</td>
</tr>
<tr>
<td><strong>Dichilus obscurus</strong> Stimpson, 1857</td>
</tr>
<tr>
<td><strong>Taeniosoma aequale</strong> Stimpson, 1857</td>
</tr>
<tr>
<td><strong>Kikaijima</strong></td>
</tr>
<tr>
<td><strong>Meckella piperata</strong> Stimpson, 1855</td>
</tr>
<tr>
<td><strong>OKINAWA PREFECTURE</strong></td>
</tr>
<tr>
<td><strong>Meckella albovittata</strong> Stimpson, 1855</td>
</tr>
<tr>
<td><strong>Meckella subacuta</strong> Stimpson, 1857</td>
</tr>
<tr>
<td><strong>Nareda sepenenina</strong> Stimpson, 1855</td>
</tr>
<tr>
<td><strong>Prostoma spectaculum</strong> Yamaoka, 1940</td>
</tr>
<tr>
<td><strong>TYPE LOCALITY UNKNOWN</strong></td>
</tr>
<tr>
<td><strong>Lineus nipponensis</strong> Senz, 2001</td>
</tr>
<tr>
<td><strong>Tubulanus roretzi</strong> Senz, 1997</td>
</tr>
</tbody>
</table>
Table 2. List of 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>
<thead>
<tr>
<th>Higher Taxa</th>
<th>Nominal species</th>
<th>Type specimen*</th>
<th>Type locality and comments.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PALAONEMERTEA</td>
<td>Calineria nishikawai Kajihara, 2006</td>
<td>ZIHU-3133</td>
<td>Lake Hamanako, Shizuoka Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Carinella punctata Takakura, 1898</td>
<td>U</td>
<td>Mysi, Kanagawa Prefecture; now <em>Tubulanus punctatus</em>.</td>
</tr>
<tr>
<td></td>
<td>Carinesta uchidai Iwata, 1952</td>
<td>FI</td>
<td>Fukue, Nagasaki Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Carinina plecta Kajihara, 2006</td>
<td>ZIHU-3123</td>
<td>Lake Hamanako, Shizuoka Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Cephalothrix notabilis Iwata, 1954</td>
<td>FI</td>
<td>Akkeshi, Hokkaido Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Procephalothrix fasciculata Iwata, 1952</td>
<td>FI</td>
<td>Tomioka, Kumamoto Prefecture; now <em>Cephalothrix fasciculata</em>.</td>
</tr>
<tr>
<td></td>
<td>Procephalothrix simula Iwata, 1952</td>
<td>FI</td>
<td>Fukue, Nagasaki Prefecture; now <em>Cephalothrix simula</em>.</td>
</tr>
<tr>
<td></td>
<td>Tubulanus eozoenis Yamaoka, 1940</td>
<td>U</td>
<td>Daikokujiama Island, Akkeshi, Hokkaido Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Tubulanus lucidus Iwata, 1952</td>
<td>FI</td>
<td>Fukue, Nagasaki Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Tubulanus rotreti Senz, 1997</td>
<td>NHMW-EV 3565/1886</td>
<td>Precise type locality unknown.</td>
</tr>
<tr>
<td>PILIDIOPHORA</td>
<td>Cephalomastax brevis Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus albicirculus Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus bellus Stimpson, 1857</td>
<td>U</td>
<td>Hokkaido; now <em>Micrura bellus</em>.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus carnosus Takakura, 1898</td>
<td>U</td>
<td>Mysi, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus communis Takakura, 1898</td>
<td>U</td>
<td>Mysi, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus fasciatus Stimpson, 1857</td>
<td>U</td>
<td>Hokkaido.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus formosus Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus macroren Hubrecht, 1887</td>
<td>?</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus nigrofuscus Stimpson, 1857</td>
<td>U</td>
<td>Amamioshima, Kagoshima Prefecture; now <em>Lineus nigrofuscus</em>.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus penniger Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Cerebratulus superniger Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Coelia iijimai Takakura, 1922</td>
<td>U</td>
<td>Tateyama, Chiba Prefecture; now <em>Hubrechtella iijimai</em>.</td>
</tr>
<tr>
<td></td>
<td>Diplopleura japonica Stimpson, 1857</td>
<td>U</td>
<td>Kagoshima Bay, Kagoshima Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Euborlasia gotoensis Iwata, 1952</td>
<td>FI</td>
<td>Fukue, Nagasaki Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Euborlasia proteres Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Eupolia nipponensis Hubrecht, 1887</td>
<td>?</td>
<td>Sagami Bay, Kanagawa Prefecture; now <em>Baseodiscus nipponensis</em>.</td>
</tr>
<tr>
<td></td>
<td>Hinunamemertes kikuchii Iwata, 1970</td>
<td>FI</td>
<td>Lake Hinuma, Ibaraki Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Hubrechettia kimiruoraum Kajihara, 2006</td>
<td>ZIHU-3127</td>
<td>Lake Hamanako, Shizuoka Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Lineus albrostratus Takakura, 1898</td>
<td>U</td>
<td>Mysi, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Lineus bipunctatus Takakura, 1898</td>
<td>U</td>
<td>Mysi, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Lineus cancelli Iwata, 1954</td>
<td>FI</td>
<td>Shirahama, Wakayama Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Lineus caputorum Takakura, 1898</td>
<td>U</td>
<td>Mysi, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Lineus fulvus Iwata, 1954</td>
<td>FI</td>
<td>Rishiri Island, Hokkaido Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Lineus fuscoviridis Takakura, 1898</td>
<td>U</td>
<td>Sunosaki, Tateyama, Chiba Prefecture; Misaki, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Lineus mitellatus Takakura, 1898</td>
<td>U</td>
<td>Sunosaki, Tateyama, Chiba Prefecture; Misaki, Kanagawa Prefecture; now <em>Notospermus genticulus</em>.</td>
</tr>
<tr>
<td></td>
<td>Lineus nigrostriatus Iwata, 1954</td>
<td>FI</td>
<td>Nakanoshima, Tokara Islands, Kagoshima Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Lineus nipponensis Sennen, 2001</td>
<td>NHMW-EV 17026/3990</td>
<td>Precise type locality unknown.</td>
</tr>
<tr>
<td></td>
<td>Lineus spatiosus Iwata, 1954</td>
<td>FI</td>
<td>Akkeshi, Hokkaido Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Lineus subcingulatus Takakura, 1898</td>
<td>U</td>
<td>Mysi, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Meckelia albivittata Stimpson, 1855</td>
<td>U</td>
<td>Okinawa; now <em>Lineus albivittatus</em>.</td>
</tr>
<tr>
<td></td>
<td>Meckelia piperata Stimpson, 1855</td>
<td>U</td>
<td>Kikaijima, Kagoshima Prefecture; now <em>Iwatanemertes piperata</em>.</td>
</tr>
<tr>
<td></td>
<td>Meckelia subacuta Stimpson, 1857</td>
<td>U</td>
<td>Naha, Okinawa; nomen dubium.</td>
</tr>
<tr>
<td></td>
<td>Micrura akkeshiensis Yamaoka, 1940</td>
<td>U</td>
<td>Abashiri and Akkeshi, Hokkaido Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Micrura dorsovittata Takakura, 1898</td>
<td>U</td>
<td>Mysi, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Micrura festiva Takakura, 1898</td>
<td>U</td>
<td>Mysi, Kanagawa Prefecture; now <em>Micrura bella</em>.</td>
</tr>
<tr>
<td></td>
<td>Micrura japonica Iwata, 1952</td>
<td>FI</td>
<td>Tomioka, Kumamoto Prefecture; Fukue, Nagasaki Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Micrura magna Yamaoka, 1940</td>
<td>U</td>
<td>Daikokujiama Island, Akkeshi, Hokkaido Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Micrura multiformata Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Micrura uchidal Iyamaoka, 1940</td>
<td>U</td>
<td>Muroran, Hokkaido Prefecture; now <em>Nipponomicrura uchidai</em>.</td>
</tr>
<tr>
<td></td>
<td>Paralanisoeis taki Iwata, 1993</td>
<td>FI</td>
<td>Mukashima, Hiroshima Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Taenirosoma aequale Stimpson, 1857</td>
<td>U</td>
<td>Amamioshima, Kagoshima Prefecture; now <em>Baseodiscus quinquelineatus</em>.</td>
</tr>
<tr>
<td></td>
<td>Tetramys ramicerebrus Iwata, 1957</td>
<td>FI</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td></td>
<td>Uchidana parasitata Iwata, 1967</td>
<td>FI</td>
<td>Mouth of Aikawa River, Mie Prefecture.</td>
</tr>
</tbody>
</table>

HOPLOMERMETEA

| | Amphiporus antifuscus Iwata, 1954 | FI | Akkeshi, Hokkaido Prefecture. |
| | Amphiporus insolitus Iwata, 1954 | FI | Kushimoto, Wakayama Prefecture. |
| | Amphiporus pseudocelatus Iwata, 1956 | FI | Oshoro, Hokkaido Prefecture. |
| | Amphiporus nagaiensis Iwata, 1957 | FI | Sagami Bay, Kanagawa Prefecture; now *Sagaminemertes nagaiensis*. |
| | Amphiporus ogumai Yamaoka, 1947 | U | Shimoda, Shizuoka Prefecture; now *Nipponemertes ogumai*. |
| | Amphiporus parmormatus Iwata, 1957 | FI | Sagami Bay, Kanagawa Prefecture; now *Kameginemertes parmornata*. |

To be continued.
Table. 2. continued.

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Year</th>
<th>Prefecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphiporus parvus</td>
<td>1904</td>
<td>Akkeshi, Hokkaidô Prefecture.</td>
</tr>
<tr>
<td>Amphiporus redunclus</td>
<td>1957</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td>Amphiporus regius</td>
<td>1954</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td>Amphiporus retrotumidius</td>
<td>1957</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td>Carcinonemertes mitsukurii</td>
<td>1910</td>
<td>Mouth of River Minatogawa, Chiba Prefecture.</td>
</tr>
<tr>
<td>Cosmocephalida japonica Stimpson, 1857</td>
<td>U</td>
<td>Shimoda, Shizuoka Prefecture; nomen dubium.</td>
</tr>
<tr>
<td>Dielois rubra Stimpson, 1857</td>
<td>U</td>
<td>Tanegashima Island, Kagoshima Prefecture; nomen dubium.</td>
</tr>
<tr>
<td>Dioceanemertes aponocephala</td>
<td>2001</td>
<td>ZIHU-1290</td>
</tr>
<tr>
<td>Drepanophorus longiceps</td>
<td>1957</td>
<td>Saga Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td>Empelonema kandali Kato, 1939</td>
<td>U</td>
<td>Asamushi, Aomori Prefecture.</td>
</tr>
<tr>
<td>Empelonema mitsui Yamaoka, 1947</td>
<td>U</td>
<td>Shimoda, Shizuoka Prefecture.</td>
</tr>
<tr>
<td>Malacobella japonica</td>
<td>1897</td>
<td>Kujûkuri, Chiba Prefecture.</td>
</tr>
<tr>
<td>Naraenula serpentina Stimpson, 1855</td>
<td>U</td>
<td>Okinawa Prefecture; nomen dubium.</td>
</tr>
<tr>
<td>Nectonemertes japonica</td>
<td>1912</td>
<td>?</td>
</tr>
<tr>
<td>Oerstedia polyorhis</td>
<td>1954</td>
<td>Akkeshi, Hokkaidô Prefecture.</td>
</tr>
<tr>
<td>Oerstedia venusta</td>
<td>1954</td>
<td>F</td>
</tr>
<tr>
<td>Otothyphlonemertes dolichobasis</td>
<td>2007</td>
<td>ZIHU-3200</td>
</tr>
<tr>
<td>Parametarsus incola</td>
<td>1952</td>
<td>U</td>
</tr>
<tr>
<td>Parametarsus katoi</td>
<td>1947</td>
<td>U</td>
</tr>
<tr>
<td>Parametarsus plana</td>
<td>1957</td>
<td>U</td>
</tr>
<tr>
<td>Pelagonepides mooseyi Bürger, 1895</td>
<td>?</td>
<td>Sagami Bay, Kanagawa Prefecture.</td>
</tr>
<tr>
<td>Polina cervicalis Stimpson, 1857</td>
<td>U</td>
<td>Shimoda, Shizuoka Prefecture; nomen dubium.</td>
</tr>
<tr>
<td>Potamostoma shizunai Kajihara et al., 2003</td>
<td>ZIHU-2037</td>
<td>The mouth of the River Shiranui, Hokkaidô Prefecture.</td>
</tr>
<tr>
<td>Prostoma ohiense</td>
<td>1998</td>
<td>U</td>
</tr>
<tr>
<td>Prostoma roseocephala</td>
<td>1990</td>
<td>Shimoda, Shizuoka Prefecture; now Tetrastemma roseocephalum.</td>
</tr>
<tr>
<td>Prostoma specuta</td>
<td>1940</td>
<td>U</td>
</tr>
<tr>
<td>Sacconemertella lutulenta</td>
<td>1970</td>
<td>Lake Hinuma, Ibaraki Prefecture.</td>
</tr>
<tr>
<td>Sacconemertopsis oliviformis</td>
<td>1970</td>
<td>Lake Hinuma, Ibaraki Prefecture.</td>
</tr>
<tr>
<td>Stichostomum grandis Ikeda, 1913</td>
<td>U</td>
<td>Hiroshima Prefecture; nomen dubium.</td>
</tr>
<tr>
<td>Tatinokia depressa</td>
<td>1957</td>
<td>U</td>
</tr>
<tr>
<td>Tetrastemma insolens</td>
<td>1952</td>
<td>U</td>
</tr>
<tr>
<td>Tetrastemma pinnatum</td>
<td>1954</td>
<td>U</td>
</tr>
<tr>
<td>Tetrastemma stigmata</td>
<td>1957</td>
<td>U</td>
</tr>
<tr>
<td>Tetrastemma stipsoni</td>
<td>1992</td>
<td>U</td>
</tr>
<tr>
<td>Tetrastemma yamaokai</td>
<td>1954</td>
<td>U</td>
</tr>
<tr>
<td>Tetrastemma venirigrum</td>
<td>1954</td>
<td>U</td>
</tr>
<tr>
<td>Zygonemertes glandulosa</td>
<td>1940</td>
<td>U</td>
</tr>
<tr>
<td>Zygonemertes jamsteci</td>
<td>2002</td>
<td>ZIHU-1928</td>
</tr>
<tr>
<td>Zygonemertes shintai</td>
<td>2002</td>
<td>ZIHU-1296</td>
</tr>
</tbody>
</table>

INCERTAE CEDIS

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Year</th>
<th>Prefecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dichilus obscurus Stimpson, 1857</td>
<td>U</td>
<td>Amamiôshima, Kagoshima Prefecture; nomen dubium.</td>
</tr>
</tbody>
</table>

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 Japanese waters. 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 Satmmann, 2001). Senz (1997a, 2001) 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). Ambrosius Arnold Willem Hubrecht (1853–1915), Professor of Zoology at Utrecht University, reported the nemerteans obtained during the cruise; his report includes two species of nemerteans collected from Japanese waters (Hubrecht, 1887). One of the major zoological findings made by the Challenger expedition is the discovery of bathypelagic nemerteans. The first specimen was found on 7 March 1874 near the southern verge of the South-Australian current and
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 *Malacoedella 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., Maslakova 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 moseley* 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 palaensis* 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

---

**References**: For a comprehensive list of references, please consult the original publication.
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 (1974)
   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) Hubrechella iijimai (Takakura, 1922)
   13) Hubrechella kimuraorum Kajihara, 2006
   14) Tetramyis 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 macroren Hubrecht, 1887
   22) Cerebratulus marginatus Renier, 1804
   23) Cerebratulus montgomeryi Coe, 1901
   24) Cerebratulus penniger Iwata, 1957
   25) Cerebratulus subacutus (Stimpson, 1857)
   26) Cerebratulus supermannig 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) Hinunamerneteres kikuchi Iwata, 1970
   32) Iwatanemertes pipera Stimpson, 1855)
   33) Lineus alborosstratus Takakura, 1898
   34) Lineus albobvittatus (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 nigrosfus 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 alakensis Coe, 1901
   48) Micrura bella (Stimpson, 1857)
   49) Micrura dorsovittata Takakura, 1898
   50) Micrura japonica Iwata, 1952
   51) Micrura magna Yamaoka, 1940
   52) Micrura multinotara Iwata, 1957
   53) Nipponomicrura uchidai (Yamaoka, 1940)
   54) Notospermus genericulus (Delle Chiage, 1828)
   55) Paralineopsis taki Iwata, 1993
   56) Uchidana parasita Iwata, 1967
6) Family VALENCINIIDAE Hubrecht, 1879
57) Baseodiscus curtes (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
3) Class HOPLONEMERTEA Hubrecht, 1879
1) Subclass MONOSTILIFERA Brinkmann, 1917
7) Family AMPHIPORIDAE McIntosh, 1874
   64) Amphiporus anticusus Iwata, 1954
   65) Amphiporus formidabilis Griffin, 1898
   66) Amphiporus gelatinosus Coe, 1905
   67) Amphiporus imparipinosus Griffin, 1898
   68) Amphiporus insolitus Iwata, 1954
   69) Amphiporus musculus Iwata, 1954
   70) Amphiporus parvus Yamaoka, 1940
   71) Amphiporus reduncus Iwata, 1957
   72) Amphiporus regius Iwata, 1954
   73) Amphiporus retrotrumidus Iwata, 1957
   74) Potamostoma shizunaiense Kajihara, Gibson and Mawatari, 2003
   75) Zygonemertes glandulosa Yamaoka, 1940
   76) Zygonemertes jamsteci Kajihara, 2002
   77) Zygonemertes shintai Kajihara, 2002
8) Family CARCINONEMERTIDAE Sumner, Osburn and Cole, 1913
   78) Carcinonemertes mitsukurii Takakura, 1910
9) Family CRATENEMERTIDAE Friedrich, 1968
   79) Nipponnemertes bimaculata (Coe, 1901)
   80) Nipponnemertes ogumai (Yamaoka, 1947)
   81) Nipponnemertes punctatula (Coe, 1905)
10) Family EPLECTONEMIDAE Bürger, 1904
   82) Empelctonemus baikeri Coe, 1901
   83) Empelctonemus gracile (Johnston, 1837)
   84) Empelctonemus kanoi Kato, 1939
   85) Empelctonemus mitsuii Yamaoka, 1947
   86) Nemertopsis mitchelli Kajihara, 2007
   87) Nemertopsis quadripunctata (Quoy and Gaimard, 1833
   88) Paranemertes incola Iwata, 1952
   89) Paranemertes kotai Yamaoka, 1947
   90) Paranemertes peregrina Coe, 1901
   91) Paranemertes plana Iwata, 1957
11) Family MALACOBDELLIDAE Blanchard, 1847
   92) Malacobdella japonica Takakura, 1897
12) Family OTOTYPHLONEMERTIDAE Bürger, 1895
   93) Ototypenemertes dolichobasis Kajihara, 2007
   94) Ototypenemertes martynovi Chernyshev, 1993
   95) Ototypenemertes nikolai Chernyshev, 1998
13) Family POSEIDONEMERTIDAE Chernyshev, 2002
   96) Diopsonemertes acanthocephala Kajihara, Gibson and Mawatari, 2001
14) Family PROSORHOCHMIDAE Bürger, 1895
   97) Geonemertes pelaensis 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 Iwata, 1954
   102) Prostoma ohmiiense Chernyshev, Timoshkin and Kawakatsu, 1998
   103) Quasitetrastemma nigrifrons (Coe, 1904)
   104) Quasitetrastemma stipsoni (Chernyshev, 1992)
   105) Sacconemertella lutulenta Iwata, 1970
   106) Sacconemertopsis olivifera Iwata, 1970
   107) Tetrastemma candidum (Müller, 1774)
   108) Tetrastemma insolens Iwata, 1952
   109) Tetrastemma melanocephalum (Johnston, 1837)
   110) Tetrastemma pinnatum Iwata, 1954
   111) Tetrastemma pseudocoronatum Chernyshev, 1998
   112) Tetrastemma roseocephalum (Yamaoka, 1947)
   113) Tetrastemma stigmatum Stimpson, 1857
   114) Tetrastemma verigrum Iwata, 1954
   115) Tetrastemma yamaokai Iwata, 1954

2) Subclass POLYSTILIFERA Brinkmann, 1917
   1) Order REPTANTIA Brinkmann, 1917
   16) Family DREPANOPHORIDAE Verrill, 1892
   16) Drepanophorus longiceps Iwata, 1957
   117) Kameginemertes parmiornata (Iwata, 1957)
   17) Family SAGAMINEMERTIDAE Chernyshev, 2003
   118) Sagaminemertes nagaensis (Iwata, 1957)
   2) Order PELAGICIDA Bergendal, 1901
   18) Family NECTONEMERTIDAE Verrill, 1892
   19) Family PELAGONEMERTIDAE Moseley, 1875
   120) 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 with a macron (e.g., É, à), to avoid confusion between, e.g., “Ōshima” 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 anesthetization.

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 “Cephalothricidae” 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 “Cephalotrichos,” 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), Hylborn (1957: 553, 1993: 173), Moretto (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).

Cephalothricella 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 is 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 fasciculasic [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 fasciculus. The species is characterized by the posterior end of its rhynchocoel 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


**Cephalothrix simula** (Iwata, 1952)


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*. *Iwata* (1954a) synonymized *Cephalothrix linearis sensu* Yamaoka (1940) and *Procephalothrix simula sensu* *Iwata* (1954a) with *Procephalothrix simulata sensu* *Iwata* (1952). *Cephalothrix* (= *Procephalothrix simulata sensu* *Iwata* (1952)) is characterized by the absence between the rhynchocoel and alimentary canal of a longitudinal muscle plate (*Iwata*, 1952), which, however, is present in *Cephalothrix linearis sensu* *Yamaoka* (1940a) and *Procephalothrix simulata 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 Tubulanidae 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 Tubulanidae “should be cited with the date ’1905 (1874).’” The ICZN's ruling, basically following Melville's proposal, states that “the name Tubulanidae 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 Tubulanidae was published in 1905 (pp. 401, 402, 405). However, the name Tubulanidae had already appeared prior to 1905 in Bürger (1904). Thus the family name should be cited as “Tubulanidae 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


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 Cephalothricidae. 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. TYPE MATERIAL: Holotype, ZIHU-3127, male, 1 August 1971; paratypes, ZIHU-3128–3131, two males, 1 August 1971; ZIHU-3132–3134, two females, 1 August 1971.
NOTE: 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.
NOTE: Apart from the records from Japanese waters, Tubulanus punctatus is also known from Posjiet Bay (Peter the Great Bay) (Korotkevitsch, 1971), Sakhalin, the Kuril Islands and Kamchatka Penninsula (Korotkevitsch, 1982), Vostok Bay (Kulikova, 1988), and Shandon Province (Qingdao, Huangdao, and Jiaonan), China (Yin et al., 1988).

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 HUBRECHTELLIDAE Chernyshev, 2003
Genus Hubrechtella Bergendal, 1902
Hubrechtella Bergendal, 1902: 9.
TYPE SPECIES: Hubrechtella dubia Bergendal, 1902, by monotypic designation.

Hubrechtella ijimai (Takakura, 1922)
[Japanese name: ijima-himomushi]

Hubrechtella kimuraorum Kajihara, 2006
Hubrechtella kimuraorum Kajihara, 2000: 37–43, figs. 20–23; sandy to muddy tidal flat, 34°41′04″N, 137°35′59″E, Ikarise, 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 (2003) 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]

Tetramys ramicerebrum [sic] Iwata, 1957a: 3–5, pl. I, fig. 1, pl. II, figs. 1–6; dredged sublittorally from 20 m depth on 9 February 1955 by His Majesty Emperor Shōwa, sediment type not recorded, Higashihōne, Sagami Bay, Kanagawa Prefecture. Iwata, 1965a: 201. Iwata, 1965b: 391, figs. a–d.

Tetramys ramicerebrus: Crandall et al., 2002: 14, 16, 29, 41.

Family LINEIDAE McIntosh, 1874
Genus Cerebratulus Renier, 1804

Cerebratulus Renier, 1804: 21.

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

Type species: Cerebratulus marginatus by subsequent designation of Gibson (1995).

Cerebratulus albocirculus Iwata, 1957

Cerebratulus albobicirculum Iwata, 1957a: 17–18, pl. I, fig. 7, pl. V, figs. 6, 7; “Mosaic at Kameyzo,” dredged sublittorally from 10 m depth on 23 July 1956 by His Majesty Emperor Shōwa, Sagami Bay, off Kanagawa Prefecture. Iwata et al., 2002: 10, 17, 26, 38.

NOTE: The place indicated by the name “Mosaki at Kamezyo,” a bank located at approximately 139°35’N, 35°12’E.

Cerebratulus carnosus Takakura, 1989


Cerebratulus arnosus: Crandall et al., 2002: 10, 17, 26, 33.

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 Crandall et al., 2002: 14, 16, 29, 38.

Cerebratulus communis Takakura, 1998

[japanese name: nami-himomushi]


Cerebratulus communis: Kaburaki, 1927: 1666, fig. 3189.


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 Shōwa, Naka-fukari 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 Ōshima, the Metropolis of Tōkyō. 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 macraren 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]

Cerebratulus L.C. marginatus: Yamaoa, 1940a: 222–224, pl. XV, figs. 6–8, text fig. 9; lower intertidal or sublittoral in soft mud or among fine sand under stones, Akkeshi, Hokkaidō Prefecture. Coe, 1944: 29. Okuda, 1947: 1472, fig. 4150. Iwata, 1954a: 14; sublittoral among soft mud, Hokkaidō Prefecture (Akkeshi, Kushiro and Nemuro); sublittoral among soft mud, Misaki, Kanagawa Prefecture. Iwata,

NOTE: Cerebratulus marginatus 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

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 sublittorally from 380 m depth on 28 September 1953 by His Majesty Emperor Shōwa, Naka-fukari at Hayama, Sagami Bay, off Kanagawa Prefecture. *Crandon et al.*, 2002: 10, 17, 27, 38.

*Cerebratulus subacutus* (Stimpson, 1857)

*Cerebratulus subacutus*: *Crandon 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. *Crandon et al.*, 2002: 10, 17, 27, 39.

*Cerebratulus zebra* Punnett and Cooper, 1909

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

TYPE SPECIES: *Diplopleura japonica* Stimpson, 1857 by monotypic designation.

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: gotō-himomushi]


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

**Genus Hinumanemertes** Iwata, 1970


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

Type Species: *Meckelia piperata* Stimpson, 1855 by original designation.

*Iwatanemertes piperata* (Stimpson, 1855)

[Japanese name: ryûkyû-himomushi]

*Meckelia piperata* Stimpson, 1855: 381; habitat not recorded, Kikai-shima, Kagoshima Prefecture.

*Lineus piperatus* Stimpson, 1857: 160; sublittoral between stones and among algae, Kikai-shima, Kagoshima Prefecture; originally recorded as *"In portu insulis 'Kikai-shima' Japoniae Australis; sublittoralis inter lapillus et algas."*

*Yamaoka*, 1940b: 13–15, figs. 1, 2; habitat not recorded, Shi-iaru, Minami-Izu, Shizuoka Prefecture; habitat not recorded, Naha, Okinawa Island, Okinawa Prefecture.

*Iwata*, 1954a: 13, fig. 2C; intertidal among algae, Enoshima and Misaki, Kana-gawa Prefecture.

*Lineus albostratus* (Stimpson, 1863: 12; fig. 1; habitat not recorded, Okinawa Prefecture; originally recorded as "Loo Choo.")

*Lineus bipunctatus* Takakura, 1898


*Lineus cancelli* Iwata, 1954

*Lineus caputornatus* Takakura, 1898

*Lineus fulvus* Iwata, 1954: 13, fig. 2C; intertidal among gravelly shores, commonly found in the Inland Sea of Seto.


**Genus Lineus Soweby, 1806**

*Lineus* Sowerby, 1806: 15.


Type Species: *Ascaris longissima* Gunnerus, 1770 by monotypic designation.

*Lineus alborostratus* Takakura, 1898

[Japanese name: takakura-himomushi]


**Lineus fuscoviridis** Takakura, 1898


**Lineus nigrofusus** (Stimpson, 1857)


**Lineus nigrostriatus** Iwata, 1954


**Lineus nipponensis** Senz, 2001

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

**Lineus fuscoviridis** Takakura, 1898 [Japanese name: midori-himomushi or midori-hera-himomushi]


**Lineus torquatus** Coe, 1901

[Japanese name: kasuri-himomushi or kasuri-hera-himomushi]


**Lineus subcingulatus** Takakura, 1898

[Japanese name: koajiro-himomushi]

monotypic designation.

**Micrura akkeshiensis** Yamaoka, 1940
[Japanese name: akkeshi-himomushi]


NOTE: Apart from the records from Hokkaidô, **Micrura akkeshiensis** is also known from Vostok Bay, Russia (Kulikova, 1988).

**Micrura alaskensis** Coe, 1901


NOTE: Originally described from Alaska (at New Metlakatla 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, Kokkaidô Prefecture; originally reported as “Prope oras insulae ‘Jessy’; in conchis desertis e fundo limoso profunditatis sex organiarium.”

**Micrura festiva** **Takakura**, 1898: 336, fig. 20; sublittoral 2–3 fathoms (=3.7–5.6 m) depth, Jôgashima, Kanagawa Prefecture. **Kaburaki**, 1927: 1666, fig. 3188. **Crandall et al.**, 2002: 12, 18, 28, 35, 40.


NOTE: **Micrura bella** possesses a striking body color pattern, which is an off-white background with a deep vermilion tip of the head and a longitudinal dorsal band composed of broad purple rectangles separated by narrow spaces. There are at least three different names for similar-looking forms: **Lineus striatus** **Griffin**, 1898, **Micrura impressa** **Stimpson**, 1857, and **Micrura verrilli** **Coe**, 1901. **Crandall et al.** (2002) pointed out that the difference among these forms is whether or not the head marking encircles the tip. **Crandall et al.** (2002) suggested that the head marking is complete in the western-Pacific forms, while it is restricted to the dorsal half in the eastern-Pacific forms. Future assessment will be required to delineate these forms for the proper application of their names.

**Micrura dorsovittata** **Takakura**, 1898

**Micrura dorsovittata**: *Takakura*, 1898: 337, fig. 21; habitat not recorded, Jôgashima, Kanagawa Prefecture. **Crandall et al.**, 2002: 12, 18, 28, 35, 40.

NOTE: **Micrura dorsovittata** is so far known only by its original description. It resembles **Micrura kulikovae** **Chernyshev**, 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 rhynchocoel 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


NOTE: Besides its original description, *Micrura magna* is also known from Vostok Bay, Russia (Kulikova, 1988).

*Micrura multinotata* Iwata, 1957

*Micrura multinotata* [sic] **Iwata**, 1957a: 19–20, pl. I, fig. 8, pl. V, figs. 8, 9; dredged from 30–40 m depth on 20 January 1949 by His Majesty Emperor Shôwa, Tateishi at Ogashima, Kanagawa Prefecture. **Crandall et al.**, 2002: 13, 18, 28, 40.

*Genus Nipponomicrura* Chernyshev, 1995

*Nipponomicrura* Chernyshev, 1995: 15.

**TYPE SPECIES:** *Micrura uchidai* Yamaoka, 1940, by original designation.

*Nipponomicrura uchidai* (Yamaoka, 1940)

[Japanese name: uchida-himomushi]


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

*Genus Notospermus* Huschke, 1830

*Notospermus* Huschke, 1830: 682.

**TYPE SPECIES:** *Notospermus drepanensis* Huschke, 1830 (from Sicilia, Italy; now regarded as a junior synonym of *Polia geniculata* Delle Chiaje, 1828) by monotypic designation.

*Notospermus geniculatus* (Delle Chiaje, 1828)

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


? *Lineus genicalatus* [sic]: **Iwata**, 1997: 53, a color photograph taken in life by Eiichi Kurasawa, possibly depicting a species of the genus *Cerebratulus* that lost its tail.


NOTE: **Iwata** (1954b) synonymized *Lineus mitellatus sensu* Takakura (1898) and *sensu* Iwata (1952) with *Lineus geniculatus*, which was originally described as *Polia geniculata* by Delle Chiaje (1828: 177) from Naples, Italy. The species has been redescribed as *Notospermus geniculatus* by **Riser** (1991: 428–434). Outside Japanese waters it is also known from the Black Sea, Mediterranean (France, Italy, Greece, Malta), Canary Is., Gulf of Guinea (West Africa), Australia, New Zealand, and the western coasts of tropical America (Gulf of California, Panama, and Peru) (Gibson, 1995: 480).

*Genus Paralineopsis* Iwata, 1993


**TYPE SPECIES:** *Paralineopsis taki* Iwata, 1993, by original designation.

*Paralineopsis taki* Iwata, 1993


NOTE: **Iwata** (1951) originally identified his material as *Zygeupolia litoralis* 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

Uchidana Iwata, 1967: 123.

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 Diesing, 1850

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

Baseodiscus Diesing, 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]


Baseodiscus delineatus var. curta: Utinomi, 1960: 31, pl. 16, fig. 7. Saito and Suzuki, 1974: 38; intertidal, Niiashi 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]


NOTE 1: Baseodiscus delineatus was originally described as Polia delineata Delle Chiaje, 1825 from Naples, Italy, then transferred to Baseodiscus by Diesing (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., Mariana 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 his 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, Coëtvoy 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 curtus* **Yamaoka**, 1940a: 234–236, pl. XVI, fig. 8–11, text fig.13; lower intertidal between or under stones, Daikokujima, Akkeshi, Hokkaidô Prefecture; synonymized by Bürger (1954a: 15).


NOTE: Originally described as *Taeniosoma princeps* Coe, 1901 from Alaska (Cape Fox, Yukatuk, 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: kurosui-jihimomushi]

*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).


NOTE: Originally described as *Borlasia quinquelineata* by Quoy and Gaimard (1833: 285) from Dorey, New Guinea, transferred to *Baseodiscus* by Bürger (1904: 83). *Baseodiscus quinquelineatus* is distributed in the western Pacific (Japan, Singapore, Indonesia [Java, Timor, Ambon], New Guinea, Solomon Is., Loyalty Is., Torres Straits, and east coast of Australia, including the Great Barrier Reef) (Gibson, 1995: 310).

**Genus Cephalomastax** **Iwata**, 1957

*Cephalomastax* **Iwata**, 1957a: 5.


**Cephalomastax brevis** **Iwata**, 1957

[Japanese name: amadaiba-himomushi]


Class HOPLOMERTEA 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

*Amphiporus cervicalis*: **Yamaoka**, 2005: 143, pl. 1, figs. 2, 4, text fig. 2; **Susaki, Sotoura, and Manazuru**, near Shimoda, Shizuoka Prefecture; Muroran, Hokkaidô Prefecture.


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 Kodiak 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 \textit{Amphiporus cervicalis} (Stimpson, 1857), \textit{Amphiporus depressus} (Stimpson, 1857), and \textit{Amphiporus lactiflorus} (Johnston, 1828) from Japanese waters appear to represent \textit{A. imparispinosus}. \textit{Pantinonemertes daguilarensis} Gibson and Sundberg, 1992, described from Hong Kong, might be conspecific with \textit{Amphiporus imparispinosus}. The taxonomic identity of this species should be delineated by future studies.

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

\textbf{Amphiporus musculus} Iwata, 1954

\textbf{Amphiporus parvus} Yamaoka, 1940

\textbf{Amphiporus redundus} Iwata, 1957
\textit{Amphiporus redundus} \textit{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. \textit{Crandall et al.}, 2002: 9, 19, 26, 33. NOTE: Gibson and Crandall (1989) regarded this form as a species inquirenda, with the comment that it may be related to the genus \textit{Nipponnemertes} or some similar taxon. It might also prove to be a reptant polystiliferan (Crandall, pers. comm.).

\textbf{Amphiporus regius} Iwata, 1954
\textit{Amphiporus regius} \textit{Iwata}, 1954a: 27–29, fig. 7; lower intertidal under stones on rocky shores, Muroran, Hokkaidô Prefecture. \textit{Yamaguchi and Yamada}, 1955: 70. \textit{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 \textit{Tetras TAMMIA} or a related taxon.

\textbf{Amphiporus retrotumidus} Iwata, 1957
\textit{Amphiporus retrotumidus} \textit{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. \textit{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 \textit{Nipponnemertes} or some similar taxon. It might also prove to be a reptant polystiliferan (Crandall, pers. comm.).

\textbf{Genus Potamostoma} Kajihara, Gibson, and Mawatari, 2003
\textit{Potamostoma} \textit{Kajihara et al.}, 2003: 492. TYPE SPECIES: \textit{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 Amphiporidae because of similarities in eye pattern (multiple and grouped) and the nature of the rhynchocoel wall (two-layered). Confirmation of this familial placement will have to be resolved by future studies, hopefully involving molecular data.

\textbf{Potamostoma shizunaiense} Kajihara, Gibson, and Mawatari, 2003
\textit{Potamostoma shizunaiense} \textit{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’N, 142°22’E, Shizunai, Hokkaidô Prefecture. TYPE MATERIAL: Holotype ZIHU-2037, immature female, complete series of transverse sections, 7 μm, 81 slides. Paratypes: ZIHU-1930, 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.

\textbf{Genus Zygonemertes} Montgomery, 1897
\textit{Zygonemertes} Montgomery, 1897: 2. TYPE SPECIES: \textit{Amphiporus virescens} Verrill, 1879 by monotypic designation.

\textbf{Zygonemertes glandulosa} Yamaoka, 1940
[Japanese name: fujikasa-himomushi]

\textbf{Zygonemertes jamsteci} Kajihara, 2002
\textit{Zygonemertes jamsteci} \textit{Kajihara}, 2002: 131–140, figs. 6–9; about 1 m deep, among eelgrass (\textit{Zostera marina}),
Akkeshi Bay, Hokkaidô Prefecture.

TYPE MATERIAL: Holotype, ZIHU-1928, mature male, full series of transverse sections, 43 slides. Paratypes: ZIHU-1929, mature female, serial longitudinal sections of anterior portion of the body, nine slides; ZIHU-2045, mature male, full series of transverse sections, 41 slides; ZIHU-2046, mature male, full series of transverse sections, 36 slides; ZIHU-2047, mature female, serial transverse sections of anterior portion of the body, three slides; ZIHU-2048, mature female, serial transverse sections of the anterior portion of the body, 14 slides. All collected on 8 July 1997.

Zygonemertes shintai Kajihara, 2002

Zygonemertes shintai Kajihara, 2002: 122–131, figs. 1–5; intertidal, among blue mussels (Mytilus trossulus Gould), Oshoro, Hokkaidô Prefecture.


Family CARCINONEMERTIDAE Sumner, Osburn and Cole, 1913

Genus Carcinonemertes Coe, 1902

Carcinonemertes Coe, 1902: 440.


Carcinonemertes mitsukurii Takakura, 1910

[Japanese name: kani-himomushi]


Family CRATENEMERTIDAE Friedrich, 1968

Genus Nipponnemertes Friedrich, 1968

Nipponnemertes Friedrich, 1968: 34.

TYPE SPECIES: Friedrich (1968) did not designate the type species, and the name Nipponnemertes was thus unavailable. This introduced nomenclatural confusion. Gibson and Crandall (1989: 463) designated Amphiporus drepanophoroides Griffin, 1898 as the type species. Gibson (1995: 442) later indicated Nipponnemertes pulchra (Johnston, 1837) as the type species. Finally, Crandall (2001: 106) designated Amphiporus punctatulus Coe, 1905. Crandall (2001: 106) was correct in that Gibson’s (1995) listing of 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 drepanophoroides, 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]


**Amphiporus punctatulus** [sic]: **Honma and Kitami**, 1978: 15; Sado Island, Nïgata Prefecture.

**Cratenemertes punctatulus**: **Iwata**, 1992: 202, pl. 44-9, fig. 7-2E.

**Nipponnemertes punctatulus** [sic]: **Uchida et al.**, 1972: 55; habitat not recorded, Horomui, Hokkaidô Prefecture.

**Iwata**, 1997: 53 (with a color drawing), 55. **Shimomura et al.**, 2001: 46; intertidal on a rocky shore, Akahama, Òtsuchi Bay, Iwate Prefecture. **Th离子sson and Norem-**

**burg**, 2003: 408; Oshoro, Hokkaidô Prefecture.

**Nipponnemertes punctatula**: **Crandall et al.**, 2002: 12, 20, 25, 28, 35, 40.

NOTE: **Takakura’s** (1933) record of **Amphiporus nebulosus** Coe, 1901 from the Kurile Islands was regarded as **Amphiporus punctatulus** by **Iwata** (1951), whereas **Amphiporus nebulosus s. str.**, known only from its type locality Kukak Bay, Alaska Peninsula, was regarded as a species inquirenda by **Gibson** and **Crandall** (1989). **Crandall et al.** (2002) noted that there are two coexisting species of cratenemertids in Japanese waters that possess a brown dorsal blotch pattern, **Nipponnemertes arenaria** (Uschakov, 1927) and **Nipponnemertes punctatula** (Coe, 1905), and the records of the latter by **Iwata** in the 1950s were probably of **Nipponnemertes arenaria**.

**Family EMPLECTONEMATIDAE** **Bürger**, 1904

**Genus Emplectonema** Stimpson, 1857

**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 Ôshima, the Metropolis of Tôkyô.

**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 **Emplecto-**

**nema** 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, Medi-

terranean, 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 lumi-

nescent species in the phylum.

**Emplectonema mitsuui** **Yamaoka**, 1947

[Japanese name: mitsu-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

**Nemertopsis** **Bürger**, 1895: 548. TYPE SPECIES: **Nemertes peronea** Quatrefages, 1846 (now regarded as a junior synonym of *Polia bivittata* Delle 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-
onym, *Colpocephalus* Diesing, 1850 (type species *Borlasia quadripunctata* Quoy and Gaimard, 1833). As far as I am aware, the name *Colpocephalus* Diesing, 1850 has not been used as valid since the year 1899, meeting the condition in Article 23.9.1.1 of the Code (ICZN, 1999). The junior subjective synonym *Nemertopsis* was used during the decade from 1989 to 1998 in the following 27 works, published by 25 authors, and thus meets the condition in Article 23.9.1.2 of the Code (ICZN, 1999): Fish and Fish (1899), Morton (1989), Riser (1989), Britton (1990), Gibson (1990a, b, 1997a,b, 1998), Gibson and Knight-Jones (1990), Turbeville (1991), Iwata (1992), Roe (1993), Hansson (1994), Henry and Martindale (1994, 1996, 1997a, b), Sun and Pan (1994), Walker (1994), Martindale and Henry (1995), Senz (1997b), Boyer and Henry (1998), Envall (1998), Hochberg and Lunianski (1998), Norenburg and Roe (1998), and Stricker and Folsom (1998). The name *Nemertopsis* Bürger, 1895 is herein regarded to have precedence over *Colpocephalus* Diesing, 1850, whenever the two names are considered to be synonymous, according to Article 23.9.2 of the Code (ICZN, 1999).

**Nemertopsis mitellicola** Kajihara, 2007
*Nemertopsis mitellicola* 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, anterior end of body (1 cm long), 12 slides; 8 μm, rest of the body, 40 slides. Paratypes: 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]

*Nemertopsis gracilis* *Iwata*, 1954b: 38–39, fig. 2A; in the mantle cavity of *Capitulum mitella* (Linnaeus), Shirahama, Wakayama Prefecture.

**INHABITANCE:** Upper to mid intertidal, in the mantle cavity of *Capitulum mitella* (Linnaeus), Shirahama, Wakayama Prefecture.

**Utomori** 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.

**Genus Paranemertes Coe, 1901**

**Paranemertes incola** *Iwata*, 1952


**Paranemertes katoi** *Yamaoka*, 1947

[Japanese name: katô-himomushi]

**Paranemertes katoi** *Yamaoka*, 1947: 1467, fig. 4135.


NOTE: Yamaoka’s manuscript reported the species as intertidally abundant 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 “Goroomo of southern Minamiaamadiaba” [sic], Sagami Bay, off Kanagawa Prefecture.


**Hieda and Takahashi,** 1986: 42, with two color photographs of a specimen taken at Yakumo, Hokkaidô Prefecture.

**Iwata, 1992:** 203, figs. 7-4J, 7-5E. *Crandall et al.*, 2002: 13, 21, 25, 28, 36, 41.

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 peregrina** *Coe, 1901*

**Paranemertes peregrina** *Yamaoka*, 1940a: 240–243, pl. XVII, figs. 3–5, text figs. 17–19; intertidal under or between stones; Akkeshi, Abashiri, and Muroran, Hokkaidô Prefecture.

**Coe, 1944:** 29. *Okuda, 1947:* 1467, fig. 4136. *Iwata, 1954a:* 15; lower intertidal under stones or among laminarian holdfasts, Hokkaidô Prefecture (Akkeshi, Monbetsu, Muroran, Nemuro, Oshoro and Rishiri Island).


**Hieda and Takahashi,** 1986: 42, with two color photographs of a specimen taken at Yakumo, Hokkaidô Prefecture.

**Iwata, 1992:** 203, figs. 7-4J, 7-5E. *Crandall et al.*, 2002: 13, 21, 25, 28, 36, 41.

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).
Malacobdella japonica Takakura, 1897

[Japanese name: himobiru]

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

Family OTOTYPHLONEMERTIDAE Bürger, 1895

Genus Ototyphlonemertes Diesing, 1863

Ototyphlonemertes Diesing, 1863: 180.

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

Ototyphlonemertes dolichobasis Kajihara, 2007

Ototyphlonemertes sp. Shimomura et al., 2001: 47.


Ototyphlonemertes martynovi Chernyshev, 1993


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


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 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 pelaensis Semper, 1863, by monotypic designation.

Geonemertes pelaensis Semper, 1863

[Japanese name: ogasawara-rikou-himomushi]
Geonemertes pelaensis: Oki et al., 1987: 69–75, figs. 1–4; among roadside bushes and under a flowerpot in a garden, Chichijima Island, Ogasawara Islands, the Metropolis of Tōkyō. Kawakatsu, 1991: 2, fig. 15. Kawakatsu, 1999: 11–12, figs. 1–5.

NOTE: Semper’s (1863) original description of Geonemertes pelaensis 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


NOTE: The genus Pantinonemertes Moore and Gibson, 1981 now contains nine species (Sun, 2001), but the generic name has a subjective senior synonym Neone- mertes Girard, 1893 (Chernyshev, pers. comm.). Moore and Gibson (1981) recognized the genus Pantinonemertes as including three nominal species: Pantinonemertes winsori Moore and Gibson, 1981, Pantinonemertes enalos Moore and Gibson, 1981, and Tetras temma agri cola 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 *Prostomoporus* Bürger, 1890. The name *Prostomoporus* 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 speculaca*: 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 “Tetra-stemmatidae” under Article, 29.3. of the Code (ICZN, 1999), since the name of its type genus *Tetra-stemma* (neuter gender) gives the genitive singular “Tetra-stemmatos” and the stem “Tetra-stemmat-.”

**Genus Nemertellina** Friedrich, 1935


**TYPE SPECIES:** *Nemertellina oculata* Friedrich, 1935 by subsequent designation of Friedrich (1955: 164).

*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 Sundberg, 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
Catalogue of Japanese Nemerteans 311
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 con-
tained among these forms. Numerous varieties have been
named, including three reported from Japanese waters: var.
aequalis Iwata, 1954a, var. albolineata Bürger, 1895,
and var. viridis Bürger, 1895. Until future studies deter-
mine whether or not these varieties warrant separate tax-
onomic status, these are regarded as synonyms with
Oerstedia dorsalis.

Oerstedia polyorbis Iwata, 1954
Oerstedia polyorbis Iwata, 1954a: 18–19, fig. 4B; lower
intertidal among the hydrozoan Eudendrium annulatum
Norman, Daikokujima Island, Akkeshi, Hokkaidô Prefec-
ture. Yamaguchi and Yamada, 1955: 69. Uchida et al.,
Akkeshi Bay, Akkeshi, Hokkaidô Prefecture.
?Oerstedia venusta: Thollesson and Norenburg, 2003:
408; Akkeshi Bay, Akkeshi, Hokkaidô Prefecture.

NOTE 1: Iwata (1954: 18) established Oerstedia polyorbis,
which is about 5 mm in body length, with about 30 trans-
verse 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 (Paroerstediella) 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
cephalic glands extending behind brain; there was a pair
of pores on the ventral surface of the head, which rep-
resented the openings of the cerebral organ ducts, but
there were no distinct anterior cephalic furrows (Kajihara,
pers. obs.). This overlap in characters indicates that Oer-
stedia zebra might be a junior synonym of Oerstedia poly-
orbis.

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 trans-
verse dorsal bands that were present in the latter. How-
ever, 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 Oer-
stedia zebra (Chernyshev, 1993) sensu Thollesson and
Norenburg (2003) and Oerstedia venusta Iwata, 1954
sensu Thollesson and Norenburg (2003) as synonymous,
with the basis of genetic similarity. However, as the taxo-
nomic identity of the latter is unclear, Strand and Sundberg’s
(2005a) synonymization may require additional topotypic
data before it is substantiated.

Genus Prostoma Dugès, 1828
Prostoma Dugès, 1828: 140.
Stichostemma Montgomery, 1894: 8; synonymized by Bürger
(1904: 53).
TYPE SPECIES: The genus Prostoma was long used for
species of Tetrastemma, until Stiasny-Wijnhoff (1938) cir-
cumscribed Prostoma to include only freshwater species.
The single species included in the nominal genus Pro-
istema when it was established was Prostoma clepsinoides
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 lombricoideum Dugès,
1830) as the type species of Prostoma, and recently
Gibson (1995: 495) indicated Prostoma gracense (Bömig,
1892). These nomenclatural acts cannot be regarded as
valid designations of the type species, according to Article 67.2 of the Code (ICZN, 1999). Mean-
while, the taxonomic identity indicated by the name Pro-
istema clepsinoides 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 Limne-
meres, nomenclatural actions will be required, such as
either 1) removing the name-bearing function from Pro-
istema clepsinoides and bestowing it on a well-known spe-
cies like Prostoma gracense, or 2) designating a neotype
for Prostoma clepsinoides, ideally obtained from the type
locality, probably Montpellier, France.

Prostoma ohmiense Chernyshev, Timoshkin, and Kawakatsu, 1998
Prostoma ohmiense Chernyshev et al., 1998: 53–60, figs.
2–6; on rocks with overgrowing algae, 2 m depth, Lake
Biwako, off Kitakomatsu, Shiga-chô, Shiga-gun, and off
Shin-asahi-chô, Takashima-gun, Shiga Prefecture. Crandall
et al., 2002: 14, 21, 29, 43.
TYPE MATERIAL: The holotype and two paratypes are sup-
posed to be deposited in Biwako Museum, according to
the original description. However, due to confusion arising
during transportation of the specimens, the holotype can-
not be identified among the specimens in the museum (Dr.
Mark J. Grygier, pers. comm.).

Genus Quasitetrastemma Chernyshev, 2004
Quasitetrastemma Chernyshev, 2004b: 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, Hokkaidô Prefecture; sublittoral, among the canal system of sponges attached to gastropod shells collected from a depth of several meters, Akkeshi, Hokkaidô Prefecture. Okuda, 1947: 1469, fig. 4142 (1–8). Tetrastemma nigrifrons: Iwata, 1954a: 30–32, fig. 8B. Yamaguchi and Yamada, 1955: 71, fig. 18b. Utinomi, 1956: 32, pl. 16, fig. 15. Iwata, 1960c: 169, pl. 84, fig. 16. Utinomi, 1960: 32, pl. 16, fig. 15. Uchida et al., 1963: 17. Iwata, 1965a: 169, 218. Okuda and Iwata, 1965: 400, figs. a–h. Utinomi, 1969: 32, pl. 16, fig. 15. Okada et al., 1971: 62. Uchida et al., 1972: 55; habitat not recorded, Horomui, Hokkaidô Prefecture. Iwata, 1992: 203, fig. 7–41. Shimomura et al., 2001: 47; shallow sublittoral, among sessile organisms on mooring floats, Akahama, Ôtsuchi Bay, Iwate Prefecture. Crandall et al., 2002: 14, 21, 29, 36, 41. Tetrastemma nigrifrons var. bilineatum: Iwata, 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 Iwata, 1954a; var. pallidum Coe, 1904; var. punctata Iwata, 1954a; var. purpureum Coe, 1904; var. spadix Iwata, 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 stigmatum.

Quasitetrastemma stigmatum (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, Hokkaidô Prefecture. Tetrastemma stigmatum: Iwata, 1954a: 35; intertidal under stones and among algae, Hokkaidô Prefecture (Abashiri, Akkeshi and Hiroo), Yamaguchi and Yamada, 1955: 72. Uchida et al., 1963: 17. Non Stimpson, 1857: 163. Tetrastemma stimpsoni Chernyshev, 1992: 135. Crandall et al., 2002: 15, 22, 25, 29, 37, 42. Quasitetrastemma stigmatum: Chernyshev, 2004b: 154. NOTE 1: Although Stimpson’s (1857) original description of Tetrastemma stigmatum was brief and accompanied by no illustration, Yamaoka (1940a) and Iwata (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 stimpsoni 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 stimpsoni,” 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 taxonomic name should be ascribed as Quasitetrastemma stimpsoni (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 Iwata, 1970
Sacconemertella Iwata, 1970a: 147.
TYPE SPECIES: Sacconemertella lutulenta Iwata, 1970 by original designation.

Sacconemertella lutulenta Iwata, 1970 [Japanese name: chibi-kisui-hiomomushi]

Genus Sacconemertopsis Iwata, 1970
Sacconemertopsis Iwata, 1970a: 142.
TYPE SPECIES: Sacconemertopsis olivifera Iwata, 1970 by original designation.

Sacconemertopsis olivifera Iwata, 1970 [Japanese name: hime-kisui-hiomomushi]
Sacconemertopsis olivifera Iwata, 1970a: 143–147, fig. 1D-
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 melanochelum** (Johnston, 1837)
*Tetrastemma melanochelum* **Yamaoka**, 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 melanochelum* was originally described as *Nemertes melanochela* 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 pseudocoronoratum** **Chernyshev**, 1998

**Tetrastemma pseudocoronoratum** **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). Chernyshev (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.
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 verinigrum** var. **meridianum** **Iwata**, 1954b: 41, fig. 2C; lower intertidal under stones, Kushimoto, Wakayama Prefecture. **Crandall et al.**, 2002: 15, 22, 30, 37, 42.
NOTE: Apart from the records from Japanese waters, *Tetrastemma verinigrum* is also known from Hong Kong (Gibson, 1990a).

**Tetrastemma yamaokai** **Iwata**, 1954
[Saninuri-himomushi]
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 Chernyshev (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 DREPANOPHORIDAE Verrill, 1892**

**Genus Drepanophorus Hubrecht, 1874**

*Drepanophorus* Hubrecht, 1874: 42.

**TYPE SPECIES:** *Drepanophorus rubrostriatus* Hubrecht, 1874 by subsequent designation of Gibson (1995: 360).

*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. 84, fig. 17. *Iwata*, 1965a: 216. *Iwata*, 1965b: 401, figs. a, b. *Iwata*, 1992: 199, fig. 7-5B.

*Hirohitonemertes* longiceps [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. *Sagaminemertes nagaiensis* *Iwata*, 1988: 115–123, figs. 1–7; *Iwata*, 1992: 199, fig. 7-5A. Crandall et al., 2002: 14, 22, 29, 41.

NOTE: Iwata (1988) redescribed *Amphiporus nagaiensis* Iwata, 1957 based on the original material, establishing a new genus. Iwata (1988) indicated the depth as 100–110 m, whereas Iwata (1957) gave it as 100–130 m.

**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-o-yogi-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* 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 moseleyi* Bürger, 1895: 377–383, pl. XI, figs. 1–5; trawled from 420–755 fathoms by H.M.S. Challenger on 5 June 1875, obtained by Willemoes-Suhm, 34°58'N, 139°30'E, about halfway between Ōshima (the Metropolis of Tôkyô) 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

NOTE: *Pelagomenetes moseleyi* was first reported by Moseley (1875b) as a young individual of *Pelagomenetes rollestonei*, which was also obtained during the scientific cruise of H.M.S. Challenger (Moseley, 1875a). Later, Bürger (1885: 596) regarded the former as different from the latter and gave it a new name, *Pelagomenetes moseleyi*; 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 PALAEONEMERTEA Hubrecht, 1879

Family CEPHALOTRICHIDAE McIntosh, 1874

*Cephalothrix filiformis* (Johnston, 1829)

[Japanese name: daikoku-hoso-himomushi]


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 occurrence 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, 1994: 60, 1995: 467).

*Cephalothrix linearis* (Rathke, 1799)

[Japanese name: hoso-himomushi]


*Procephalothrix simula*: Crandall et al., 2002: 14, 16, 29, 36, 41.


NOTE: *Cephalothrix linearis* was originally described as *Planaeria 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 represented 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 linearis* from Japanese waters appears to be conspecific with *Cephalothrix simula sensu* *Iwata* (1954a). The species possesses strong toxicity due to a high concentration of tetrodotoxin and/or related chemicals (Ali et al., 1990; Asakawa et al., 2000, 2003). Possible nominal species contained in this taxon include *Procephalothrix fasciculatus* *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 *Micrustra 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 marginatus* 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 vegetus** 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 Mukaiša Marine Biological Station, Hiroshima University.

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

NOTE: **Lineus vegetus** 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 pseudoleucus* 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, 1989

**Lineus gesserensis**: Takakura, 1989: 335, fig. 17; intertidal among algae, Koajiro Bay, 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, 1989

**Lineus grubei**: Takakura, 1898: 331–332, fig. 11; among algae from 2–3 fathoms depth, Misaki and Jôgashima, 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 *Het eronemertes* 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 mcdintoshii** (Langerhans, 1880) *sensu* Takakura (1898)

**Lineus Mcdintoshii** [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 mcdintoshii* 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 HOPLONEMERTEA 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).

Catalogue of Japanese Nemerteans 317


**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 Shijôshima, Hiroshima Prefecture, is deposited in Mukaishima Marine Biological Station, 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, Hokkaidô Prefecture; originally recorded as "In portu 'Hokkaidi' 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 lactiflora* 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 Itô, 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.

Family TETRASTEMMATIDAE Hubrecht, 1879

**Oerstedia venusta** **Iwata**, 1954
[Japanese name: hime-himomushi]


NOTE: Enwall and Sundberg (1993: 313) stated, "It is not possible from the brief description of this species to identify it to the genus *Oerstedia*." Gibson (1995: 447) regarded the name *Oerstedia venusta* as a nomen dubium.

**Prostoma graecense** (Bömig, 1892)
[Japanese name: mimizu-himomushi]


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

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

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

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

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

NOTE: Ishizuka (1933) identified his material from Sapporo as *Prostoma graecense* (type locality: a local botanic garden in Graz, Austria). Stiasny-Wijnhoff (1938) created a new name, *Prostoma hokkaidoensis*, 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 Genève, Switzerland), while he identified the form from Urawa and Sugashima as *Prostoma graecense* (Bömig, 1892). Iwata (1954a) listed *Prostoma hokkaidoensis* and *Prostoma lacustre sensu* Sudzuki (1953) as synonymous with *Prostoma graecense*. 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. *Sudzuki* (1953) regarded *Prostoma grande* (Ikeda, 1913) as synonymous with *Prostoma lubricoides* *Dugêès*, 1830 (type locality: Montpellier [?], France). The comments of *Chernyshev et al* (1998: 62) above (see ‘NOTE’ under *Prostoma gracense*) equally apply to *Prostoma grande*. *Chernyshev 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 *Nipponnemertes 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 *Nipponnemertes* species. This might mean that *Cosmocephala* is a senior synonym of *Nipponnemertes*, which must be determined by future studies. If this proves to be the case, however, the nomenclature of *Cratene-mertidae* will have to be altered to a large extent.

ORIGINAL DESCRIPTION: *Stimpson* (1857) gave the following diagnosis: “Corpus subelongatum, utrinque obtusum; lateribus in extentione fere parallelis. Color supra brunnea, subtus alba; caput linea mediana et maculis minutis irregularibus incoloratis; fronte, et maculis cervicalibus triangularibus, albis. Caput breve subsidiscrum fronte rotundata, ad aperturam profunde fissa. Cervix utrinque pseudorima obliqua, antorsum curvata. *Ocelli* sat magni, in capitis marginibus antero-lateralibus, utrinque 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 anterogradely 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, depressusculum, utrinque obtusum. Caput continuum vel subsidiscrum, apertura proboscidis terminal. *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, depressuscula, antice subattenuata; colore rubra vel purpurea. *Cervix* quam caput vix angustior. Caput antice rotundata et emarginata. *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 lapillus.”

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

ORIGINAL DESCRIPTION: *Stimpson* (1857: 163) gave the following diagnosis for the genus *Dichilus*: “Corpus lineare depressusculum, utrinque obtusum. *Caput* subelongatum, utrinque obtusum; lateribus in extentione fere parallelis. Color supra brunnea, subtus alba; caput linea mediana et maculis minutis irregularibus incoloratis; fronte, et maculis cervicalibus triangularibus, albis. Caput breve subsidiscrum fronte rotundata, ad aperturam profunde fissa. Cervix utrinque pseudorima obliqua, antorsum curvata. *Ocelli* sat magni, in capitis marginibus antero-lateralibus, utrinque 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 anterogradely 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.”]
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 mediologitudinal, 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 Amphisporus 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: under stones on muddy sand, Okinawa Prefecture.

Zygonemertes

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).

NOTE: This form can be identified as a member of the genera Zygonemertes or Phereonemertes by possessing post-cerebral ocelli; proper generic identification of this form will require histological examination of its internal morphology. The body is about 3 cm long, 1 mm wide, pale blue in color without any marking. There are short, double longitudinal lines on the mid-dorsal surface of the head (Iwata, 1954a).

Family CRATENEMERTIDAE Friedrich, 1968

Nipponemertes sp. 1

Nipponemertes sp. 1. Yamaoka, 2005: 151, pl. 2, fig. 3; text figs. 6b, c, 7; intertidal, under stones, Shitaru, near Shimo, Shizuoka Prefecture; subtidal, several meters depth, Susaki, Shimoda, Shizuoka Prefecture.
NOTE: The form can be identified as Nipponemertes by the interwoven longitudinal and circular muscle fibers in the rynchocoel wall. Detailed external features illustrated by Yamaoka (2005) will suffice for identification when this species is again encountered. The body is 2.5 cm long, 0.8 mm wide, yellowish brown in color, rarely with small brown dots; about 15 eyes are irregularly arranged on either side of head. Remarkably, Yamaoka’s (2005) specimen possessed only one accessory stylet pouch.

Nipponemertes sp. 2

Nipponemertes sp. 2. Yamaoka, 2005: 152, text fig. 8; subtidal, 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 Amphisporus 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*).

**ACKNOWLEDGMENTS**

Thanks are due to Dr. Mark J. Grygier, Lake Biwa Museum, for information about the type specimens of *Prostoma ohi-mienise*, and to Dr. Manabu Asakawa, Hiroshima University, for his unpublished toxicological data on nemertanes from some places in Japan. I wish to express my gratitude to Dr. Alexei V. Chernyshev (Institute of Marine Biology, Far East Division, Russian Academy of Sciences, Russia), Dr. Frank B. Crandall (Department of Invertebrate Zoology, National Museum of Natural History, USA), Dr. Ray Gibson (Professor Emeritus of Liverpool John Moores University, UK), Dr. Svetlana Asakawa M, Toyoshima T, Ito K, Bessho K, Yamaguchi C, and Dr. Mark J. Grygier, Lake Biwa Museum, for their valuable comments on an earlier version of the manuscript. This study was supported by Grants-in-Aid from the Japan Society for the Promotion of Science (research grant numbers 16770059 and 16207005).

**REFERENCES**


Bergendal D (1900) Über ein Paar sehr eigenthümliche nordische Nemertinen. Zool Anz 23: 313–328


Catalogue of Japanese Nemerteans

Coe WR (1930) Two new species of nemertean belonging to the family Cephalotrichidae. Zool Anz 89: 97–103


Coe WR (1940) Revision of the nemertean fauna of the Pacific coasts of North, Central, and northern South America. Allan Hancock Pac Exped 2: 247–322


Delle Chiave S (1825) Memorie Sulla Storia e Notomia Degli Animali Senza Vertebre del Regno di Napoli Vol 2. Societa' Tipografica, Napoli


Diesing CM (1850) Systema Helminthum Vol I. W Braumuller, Vin-dobonae


Gibson R (1998) Epilogue - one hundred years of nemertean research: Bürger (1895) to the present. Hydrobiologia 365: 301–310


Hansson HG (1994) Sydskandinaviska marina flercelliga eve- trener. Lanstryckeriet i Goteborg, Goteborg


axial properties in the nemertean, *Cerebratulus lacteus*. Dev Biol 180: 713–721


Hubrecht AAW (1874) Aanteekeningen Over de Anatomie, Histologie en Ontwikkelingsgeschiedenis van Eeneigm Nemertinen. JL Beijer, Utrecht

Hubrecht AAW (1879) The genera of European nemertean critically revised, with description of several new species. Note Leyden Mus 1: 193–232


Hylbom R (1993) A proposal for a check-list of characteristics to be used in the descriptions of palaeonemertean species. Hydrobiologia 266: 169–174

Ikeda I (1913) A new fresh-water nemertine from Japan (*Stichos temma grandis*). Ann Zool Jpn 8: 239–256

Inaba A (1963) Fauna and Flora of the Inland Sea of Seto. Mukaishima Marine Biological Station, Faculty of Science, Hiroshima University, Hiroshima

Inaba A (1988) Fauna and Flora of the Seto Inland Sea. 2nd ed, Mukaishima Marine Biological Station, Faculty of Science, Hiroshima University, Hiroshima


Iwata F (1954b) Some nemertean worms from the coasts of the Kii Peninsula. Publ Seto Mar Biol Lab 4: 33–42

Iwata F (1954c) Invertebrate fauna of the intertidal zone of the Tokara Islands. X. Nemertini. Publ Seto Mar Biol Lab 4: 27–31


Iwata F (1967) *Uchidana parasita* nov. gen. et nov. sp., a new parasitic nemertean from Japan with peculiar morphological characters. Zool Anz 178: 122–136

Iwata F (1970a) On the brackish water nemertean from Japan, provided with special circulatory and nephridial organs useful for osmoregulation. Zool Anz 184: 133–154


Rathke J (1804) Prospetto Della Classe dei Vermi, Nominati e Ordinati Secondo il Sistema di Bosc. pp xv–xxvii [A work commonly attributed to the year 1804, rejected for nomenclatural purposes by ICZN with Opinion 316 as not duly published within the meaning of Article 25 of the Règle Internationales de la Nomenclature Zoologique, thereby placed on the Official Index of Rejected and Invalid Works in Zoological Nomenclature (Work No. 25) in 1954; names of animals contained in this work were subsequently ruled to be unavailable by ICZN with Opinions 427 and 436, thereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology and Official Index of Rejected and Invalid Specific Names in Zoology in 1956 and 1957, respectively; later, a certain number of these names were reinstated by the plenary power of ICZN, including the nemertean names Cerebratulus marginatus (Opinion 477) in 1957 and Tubulanus polymorphus (Opinion 1486) in 1988]
Saito H, Itô T (1861) Musekitsui Dōbutu Saishū Shiiku Jikenbō. [Methods of Sampling, Raring, and Experiments on Invertebrates]. Hokuryûkan, Tokyo [In Japanese]


Tizard TH, Moseley HN, Buchanan JY, Murray J (1885) Japan. Rep Challenger Exped, Narrative 1: 744–750


Ultonomi H (1956) Coloured Illustrations of Sea Shore Animals of Japan. 1st ed, Hoikusha, Osaka

Ultonomi H (1960) Coloured Illustrations of Sea Shore Animals of Japan. 4th ed, Hoikusha, Osaka

Ultonomi H (1969) Coloured Illustrations of Sea Shore Animals of Japan. 2nd ed, Hoikusha, Osaka


Yamaoka T (1939) Two nemerteans from Formosa. Ann Zool Jpn 18: 283–289


Yamaoka T (1940b) Two nemerteans from the Rikiu Islands. Ann Zool Jpn 19: 13–18


(Received September 1, 2006 / Accepted November 8, 2006)