

Case 3849 – EMPLECTONEMATIDAE Bürger, 1904 and *Emplectonema* Stimpson, 1857 (Nemertea, Monostilifera): proposed conservation of current usage by reversal of precedence of the family name with respect to EUNEMERTIDAE Joubin, 1894 and designation of a new type species for the genus

Hiroshi Kajihara

Department of Biological Sciences, Faculty of Science, Hokkaido University, N10W8 Kita-ku, Sapporo 060-0810, Japan
(kajihara@eis.hokudai.ac.jp)

Mark J. Grygier

Center of Excellence for the Oceans, National Taiwan Ocean University, No. 2, Beining Rd., Zhongzheng District, Keelung City 202301, Taiwan
(thecostracans@gmail.com)

Sônia C. S. Andrade

Departamento de Genética e Biologia Evolutiva, Instituto de Biociências, Universidade de São Paulo, Rua do Matão 277, São Paulo 05508-090, Brazil
(soniacsandrade@gmail.com)

Thomas Bartolomaeus

Institute of Evolutionary Biology and Ecology, University of Bonn, An der Immenburg 1, D-53121 Bonn, Germany
(tbartolomaeus@evolution.uni-bonn.de)

Irina A. Cherneva

Department of Invertebrate Zoology, Lomonosov Moscow State University, Leninskie gory 1/12, Moscow 119234, Russia
(mira.cherneva@gmail.com)

Alexei V. Chernyshev

A.V. Zhirmunsky National Scientific Center of Marine Biology, Far East Branch of the Russian Academy of Sciences, Palchevskogo Street 17, Vladivostok 690041, Russia
(nemertea1969@gmail.com)

Jörn von Döhren

Institute of Evolutionary Biology and Ecology, University of Bonn, An der Immenburg 1, D-53121 Bonn, Germany
(jdoehren@evolution.uni-bonn.de)

Christina I. Ellison

Oregon Institute of Marine Biology, University of Oregon, 63466 Boat Basin Road, Charleston, Oregon 97420, U.S.A.
(cellison@uoregon.edu)

Ray Gibson

School of Biological and Environmental Sciences, Liverpool John Moores University, 3 Byrom Street, Liverpool L3 3AF, U.K.
(bfginc@hotmail.co.uk)

Gonzalo Giribet

Museum of Comparative Zoology & Department of Organismic and Evolutionary Biology, Harvard University, 26 Oxford Street, Cambridge, Massachusetts 02138, U.S.A.
(ggiribet@g.harvard.edu)

Terra C. Hiebert

Oregon Institute of Marine Biology, University of Oregon, 63466 Boat Basin Road, Charleston, Oregon 97420, U.S.A.
(terrah@uoregon.edu)

Natsumi Hookabe

Misaki Marine Biological Station, The University of Tokyo, 1024 Koajiro, Misaki, Miura, Kanagawa 238-0225, Japan
(sofeechan312@gmail.com)

Juan Junoy

Departamento de Ciencias de la Vida, Facultad de Ciencias, Apdo. 20, Universidad de Alcalá, 28805 Alcalá de Henares, Spain
(juan.junoy@uah.es)

Sebastian Kvist

Department of Natural History, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario M5S 2C6, Canada
Department of Ecology and Evolutionary Biology, University of Toronto, 25 Willcocks Street, Toronto, Ontario M5S 2B4, Canada
(sebastian.kvist@utoronto.ca)

Svetlana A. Maslakova

Oregon Institute of Marine Biology, University of Oregon, 63466 Boat Basin Road, Charleston, Oregon 97420, U.S.A.
(svetlana@uoregon.edu)

Cecili B. Mendes

Laboratório de Diversidade Genômica, Departamento de Genética e Biologia Evolutiva, Instituto de Biociências, Universidade de São Paulo, Rua do Matão 277, São Paulo 05508-090, Brazil
(cecilimendes@ib.usp.br)

Jon L. Norenburg

Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington DC 20560-0163, U.S.A.
(NORENBUR@si.edu)

Neonila E. Polyakova

A.V. Zhirmunsky National Scientific Center of Marine Biology, Far Eastern Branch, Russian Academy of Sciences, Palchevskogo Street 17, Vladivostok 690041, Russia
(nila.polyakova@gmail.com)

Christina Sagorny

Institute of Evolutionary Biology and Ecology, University of Bonn, An der Immenburg 1, D-53121 Bonn, Germany
(csagorny@evolution.uni-bonn.de)

Megan L. Schwartz

School of Interdisciplinary Arts and Sciences, University of Washington Tacoma, 1900 Commerce Street, Tacoma, Washington 98402-3100, U.S.A.
(megansc@uw.edu)

Malin Strand

Swedish Species Information Centre, Swedish University of Agricultural Sciences, Box 7007, SE-750 07 Uppsala, Sweden
(malin.strand@slu.se)

Shichun Sun

Institute of Evolution & Marine Biodiversity, Ocean University of China, 5 Yushan Road, Qingdao 266003, China
(sunsc@ouc.edu.cn)

James M. Turbeville

Department of Biology, Virginia Commonwealth University, Richmond, Virginia 23284, U.S.A.
(jmturbeville@vcu.edu)

Eduardo E. Zattara

Instituto Nacional de Investigaciones en Biodiversidad y Medio Ambiente (INIBIOMA), CONICET - Universidad Nacional del Comahue, Quintral 1250, Bariloche, 8400 Río Negro, Argentina
(ezattara@comahue-conicet.gob.ar)

<http://zoobank.org/urn:lsid:zoobank.org:pub:489C6A11-936A-4445-B82F-726B779B1CE4>
<http://dx.doi.org/10.21805/bzn.v78.a045>

Abstract. The purpose of this application, under Articles 23.9.3, 41, 65.2, and 70.2 of the Code, is to conserve the current usage and year of priority of the name EMPECTONEMATIDAE Bürger, 1904 for a family of ribbon worms by reversing its precedence with respect to a senior synonym, EUNEMERTIDAE Joubin, 1894, and to conserve the current concept and usage of its type genus, *Emplectonema* Stimpson, 1857, by designating *Emplectonema viride* Stimpson, 1857 as the type species. In preparation for these rulings, a common type species, *Nemertes gracilis* Johnston, 1837, is designated herein for the nominal genera *Nemertes* Johnston, 1837 (a largely neglected junior homonym of *Nemertes* Cuvier, 1816) and *Eunemertes* Joubin, 1894, thereby rendering the latter an objective junior synonym of the former and of its valid substitute name. The type species of *Nemertes* Cuvier, 1816 was excluded from NEMERTIDAE sensu McIntosh, 1874 and sensu Hubrecht, 1879, which, having been recognized as a valid grouping by later authors, required a new name. Of the two available candidates, EUNEMERTIDAE Joubin, 1894 has been almost unused since the 1900s, whereas EMPECTONEMATIDAE Bürger, 1904 has been in universal use since its proposal. The latter name has an uncertain date of priority; 1874, 1894 or 1904, depending on whether and how Art. 40.2 applies to it. *Emplectonema viride* Stimpson, 1857, or its senior synonym *Emplectonema gracile* (Johnston, 1837), has universally been regarded as the type species of *Emplectonema* since the 1950s; however, two overlooked fixations in 1892 and 1893 of *Borlasia camillea* Quatrefages, 1846 as the type species of this genus now threaten the stability of nemertean genus- and family-level taxonomy.

Keywords. Nomenclature; taxonomy; Nemertea; Hoplonemertea; Monostilifera; Eumonostilifera; EMPECTONEMATIDAE; EUNEMERTIDAE; NEMERTIDAE; *Borlasia*; *Borlasia camillea*; *Emplectonema*; *Emplectonema viride*; *Eunemertes*; *Nemertes*; *Nemertes antonina*; *Nemertes borlasii*; *Nemertes gracilis*; *Nemertes neesii*; *Nemertes viridis*; type species; synonym; nomen oblitum; overlooked type fixation; substitute name; ribbon worms.

1. Cuvier (1816: 37) established *Nemertes* Cuvier, 1816 for *Nemertes borlasii* Cuvier, 1816, its type species by monotypy. These two nominal taxa have long been and are still now regarded as junior synonyms of the heteronemertean genus *Lineus* Sowerby, 1806 and the bootlace worm *Lineus longissimus* (Gunnerus, 1770), respectively (Johnston, 1837; Gibson, 1995). Despite this, the genus name *Nemertes* remained in use for a different concept for a very long time afterwards.

2. In an unpaginated textbook, the relevant text of which was published in 1831, Ehrenberg (1828–1831) introduced the name *Nemertina* Ehrenberg, 1831 for a “Familia” of worms consisting of two genera, including “*Nemertes* Cuvier” with three new species. There was no mention of the North Atlantic type species *N. borlasii*, nor of *Lineus longissimus*, but since Ehrenberg’s work dealt with African and Asian “turbellarians”, this is not surprising. With the spelling corrected in accordance with Article 32.5.3.1 of the Code, NEMERTIDAE Ehrenberg, 1831 is an available family-group name, although it has apparently never been cited as such before. The possible relevance of Art. 65.2.1 (altered concept of the type genus) to this name is discussed in detail in paragraph 5 below.

3. Johnston (1837: 529) explicitly stated his intention to establish a new genus based on a concept different from, but with the same name as, the existing *Nemertes* Cuvier, 1816 and (on p. 534) described the monostiliferous hoplonemertean *Nemertes gracilis* Johnston, 1837. In the taxonomic heading for the genus, he cited himself as the naming authority: “Genus *Nemertes** *Johnston*.”, and in the footnote corresponding to the asterisk he remarked [spacing and italics as in the original], “* *Nemertes*—one of the Nereides.—The genus so named by Cuvier (Reg. Ani., iii. p. 259,) for the reception of the sea Long-worm of Borlase, had been previously named *Lineus* by Sowerby ; and Cuvier’s name being thus unnecessary, I have thought myself warranted in taking it as the designation of some worms nearly allied to *Lineus*, but which are certainly generically distinct.” Therefore, *Nemertes* Johnston, 1837 must be regarded as an available name distinct from and homonymous with *Nemertes* Cuvier, 1816, although it has only rarely been interpreted that way, e.g., by Bürger (1904: 149) and Friedrich (1955: 170–171). Among the nine nominal species that Johnston (1837) assigned to his *Nemertes*, five (including *N. gracilis*) were assigned to the nominotypical subgenus and none was designated as the type species of either the genus or subgenus. The much later designation by Friedrich (1955: 171) of *Nemertes antonina* Quatrefages, 1846 as the type species of *Nemertes* Johnston, 1837 was accepted by Kirsteuer (1974: 164) but was invalid because *N. antonina* was not one of the originally included nominal species. [Friedrich invalidly reduced *Nemertes* Johnston to this single species, resulting in a novel genus concept that was later formalized under the name *Tetranemertes* Chernyshev, 1992 (p. 134), with *N. antonina* as type species.] We hereby designate *Nemertes gracilis* Johnston, 1837, the first-listed of the species discussed by Johnston (1837), as the type species of *Nemertes* Johnston, 1837. This is in accordance with most subsequent authors’ concepts of *Nemertes*, with exceptions including Örsted (1843, 1844) and Diesing (1850). Furthermore, under Art. 67.8, *N. gracilis* will thereby become the type species of any nomen novum proposed for Johnston’s invalid genus name.

4. Stimpson (1857: 163) described the monostiliferous hoplonemertean *Emplectonema viride* Stimpson, 1857 and placed it in his new genus *Emplectonema* Stimpson, 1857 along with *Borlasia camillea* Quatrefages, 1846 [as “*E. camillea*” with the basionym in synonymy; now *Emplectonema neesii* (Örsted, 1843) or *Neesia neesii* (Örsted, 1843)]. Stimpson did not designate a type species for *Emplectonema* despite later claims by Verrill (1892: 413; 1895: 528), echoed much later by Corrêa (1955: 67–68), that Stimpson had designated *Borlasia camillea* as type—referred to by Verrill (1892) as “*E. camillea* (Quatr. sp. = *E. Neësii* (Örsted sp.)”. Under Art. 69.1.1 and Recommendation 67B of the Code, Verrill (1892) is deemed to have inadvertently designated *Borlasia camillea* Quatrefages, 1846 as the type species of *Emplectonema* by subsequent designation. The following year, in an unequivocally clear statement, Girard (1893: 278) also designated

Borlasia camilea [sic] Quatrefages, 1846 as the type species of *Emplectonema*, apparently independently of Verrill (1892). Under Arts. 67.6 and 69.2.1, Girard's misspelling of the specific name means that he is deemed to have designated it as the type species under its correct spelling "*camillea*", but this designation was superfluous because of Verrill's priority.

5. In his classification of nemerteans, McIntosh (1873–1874: 132, 133, 135) included a subfamily NEMERTINAE for "*Nemertes*, Cuvier" after having mentioned (p. 17) Ehrenberg's (1831) family NEMERTINA; therefore, NEMERTINAE sensu McIntosh was not intended to represent a new taxon but could be deemed simply a reuse and demotion of Ehrenberg's family-group name if not for the circumstances mentioned below. McIntosh's work was published in two parts, with pp. 1–96 and pls I–X being issued in 1873, and pp. 97–214 and pls XI–XXIII in 1874. The subfamily name appeared in a diagram on p. 132, with diagnostic remarks on p. 133 and a formal diagnosis on p. 135, so the publication date of McIntosh's use of the name is 1874. Despite recognizing Cuvier as the author of the genus name *Nemertes*, McIntosh (1873–1874) failed to list Cuvier's type species *Nemertes borlasii* (= *Lineus longissimus*) within this genus. While placing *Nemertes gracilis* Johnston, 1837 (now *Emplectonema gracile*), *N. neesii* Örsted, 1843 (now *Emplectonema neesii* or *Neesia neesii*) and *N. carcinophila* Kölliker, 1845 (now *Carcinonemertes carcinophila*) in *Nemertes* in Enopla, he placed *N. borlasii* Cuvier, 1816 in the synonym list of *Lineus marinus* (Montagu, 1804) (now *Lineus longissimus*) in Anopla; Anopla and Enopla are two now-abolished higher taxa, which formerly comprised Nemertea (Strand et al., 2019). The name *Nemertes* was, therefore, used at least by McIntosh in a sense other than that of *Nemertes* Cuvier, 1816. Owing to the inclusion of *N. gracilis*, *Nemertes* sensu McIntosh, 1874 can be said to correspond to *Nemertes* Johnston, 1837. NEMERTINAE sensu McIntosh was thus in fact based on *Nemertes* Johnston, not *Nemertes* Cuvier, and could potentially be regarded as an available nominal subfamily (NEMERTINAE McIntosh, 1874) distinct from NEMERTIDAE Ehrenberg, 1831. If so, under Art. 65.2, the misidentified type genus ("interpreted in a sense other than defined by its type species") requires the situation to be referred to the Commission for a ruling. Art. 65.2 might also apply to NEMERTIDAE Ehrenberg, 1831 (see para. 2 above), but because Ehrenberg said nothing about *N. borlasii* and did not claim that his species list for *Nemertes* was meant to be comprehensive, there is no clear evidence that Ehrenberg's concept of the genus actually excluded the type species.

6. NEMERTINAE McIntosh was subsequently used as valid only rarely, and not after 1899. Hubrecht (1879: 204–205, 230) recognized a "Familia *Nemertidae* Mac Intosh" for the sole genus *Nemertes* Cuvier, 1816 while explicitly employing the name *Nemertes* in a sense different from Cuvier (1816). He provided an emended diagnosis for this genus, assigning six species including *Nemertes gracilis* Johnston, 1837 and *Nemertes antonina* Quatrefages, 1846. Referring to a "rule that generic names may not stand when applied in a sense different from what they were intended for by their author (as may be judged from the species on which he primitively established the genus: the type species, or typical specimens)", Hubrecht (1879: 197) also wrote, "Rigidly speaking the name *Nemertes* Cuv. was applied to a worm quite different from those which later authors united under that name. However not only Quatrefages and Mac Intosh but Kölliker ... and many others have all applied the name *Nemertes* to armed species and so here we may feel justified in maintaining it in this modified sense". Hubrecht thus appealed to "prevailing usage" while neglecting Ehrenberg's (1831) claim to the name NEMERTIDAE.

7. A number of other genera and families that are immediately or potentially relevant to the present Case have been described. First, Verrill (1873: 439) proposed the generic name *Macronemertes* Verrill, 1873 for the single species *Macronemertes gigantea* Verrill, 1873, but he later (Verrill, 1892: 412) synonymized it with *Emplectonema* Stimpson, 1857. *Emplectonema giganteum* has been poorly known, and its internal morphology has been described only briefly (Coe, 1943: 262). Reliable generic and familial placement of the species referred to by the name *gigantea* Verrill, 1873 thus require additional data.

8. Next, Vaillant (1890: 600, 612–613) proposed the generic name *Eunemertes* Vaillant, 1890 for *Nemertes* sensu McIntosh (1873–1874) and Hubrecht (1879), but not Cuvier (1816), with the explicit exclusion of one nominal species that is currently known as *Carcinonemertes carcinophila*. *Eunemertes* was thus envisioned as containing five nominal species, and no type species was designated. Because Vaillant (1890) only explicitly mentioned *Eunemertes gracilis* (Johnston, 1837) and *Eunemertes neesii* (Örsted, 1843), Art. 67.2 (especially 67.2.3) specifies that only these two—under their original combinations, *Nemertes gracilis* Johnston, 1837 and *Amphiporus neesii* Örsted, 1843, respectively (Recommendation 67B)—are eligible to be subsequently designated as the type species of *Eunemertes*.

9. Joubin (1894: 202) established EUNEMERTIDAE Joubin, 1894 for *Eunemertes* Vaillant, 1890, but for unexplained reasons he attributed the family name to “Mac Intosh, 1873”. Although not established as such, this name is a junior subjective synonym of NEMERTINAE McIntosh, 1874 (see para. 5), and it has been almost unused since its proposal. A few usages early in the 20th century (Benham, 1901: 170; Punnett, 1901: 270, 1903: 8) prevent EUNEMERTIDAE Joubin, 1894 from fulfilling the requirements of Art. 23.9.1.1 and, therefore, it does not qualify under Art. 23.9.2 for the status of nomen oblitum with respect to any other family-group name.

10. Girard (1893: 286) proposed *Neesia* Girard, 1893 for *Amphiporus neesii* Örsted, 1843. *Neesia* was regarded as a junior subjective synonym of *Emplectonema* by Gibson (1995: 427)—and implicitly also by Herrera-Bachiller et al. (2014)—but it has been used as a valid name in recent taxonomic reviews (Chernyshev, 2005: S30; Chernyshev & Maslakova, 2011: 15, 18) and molecular phylogenetic work (Chernyshev & Polyakova, 2019: fig. 5). However, uncertainty persists as to the taxonomic identity of its type species (see Herrera-Bachiller et al., 2014). According to McIntosh (1873–1874: 178), Bürger (1904: 22–23) and Gibson (1995: 290), *E. neesii* includes four other nominal species in its synonymy (including *Borlasia camillea* Quatrefages, 1846), with inconsistent reporting on whether the stylets are grooved or not (McIntosh, 1873–1874; Gibson, 1982b, 1994; Chernyshev & Maslakova, 2011; Herrera-Bachiller et al., 2014), something that ought to be uniform within a single species. Ascertaining whether the nomenclaturally significant *Amphiporus neesii* Örsted, 1843 and *Borlasia camillea* represent a single or two different species will require further taxonomic scrutiny. In the meantime, Chernyshev (2005) established NEESIIDAE Chernyshev, 2005 (p. S30) for *Neesia* Girard, 1893.

11. Coe (1901: 23) considered *Nemertes gracilis* Johnston, 1837 and *Emplectonema viride* Stimpson, 1857 to be conspecific and on this basis synonymized *Nemertes* sensu McIntosh (1873–1874) and *Eunemertes* Vaillant, 1890 with *Emplectonema* Stimpson, 1857.

12. Like Coe (1901) (see para. 11 above), Bürger (1904: 21) regarded *Nemertes* auct. non Cuvier (1816) and *Eunemertes* Vaillant, 1890 as synonymous with *Emplectonema* Stimpson, 1857. At the same time, he placed NEMERTINAE (-IDAE) McIntosh, 1874 and

EUNEMERTIDAE Joubin, 1894 in the synonymy of his new family EMPLECTONEMATIDAE Bürger, 1904, without comment or explanation. EMPLECTONEMATIDAE effectively served as a new substitute name for these, but Bürger did not justify his act on account of any synonymy of the type genus of any of them, a necessary condition for applying Art. 40.2 Code (see para. 13 below). EMPLECTONEMATIDAE has been in prevailing usage for this family since its proposal, as shown in the following list of 52 publications from the past 115 years by 79 authors: Bürger (1897–1907) [EMPLECTONEMATIDAE appears on pp. 401, 418, published in 1905], Wijnhoff (1912), Southern (1913), Yamaoka (1940, 2005), Humes (1942), Coe (1944), Korotkevitch (1971), Kussakin (1975), McDermott (1976, 1988), Sundberg (1977, 1985), Fleming & Gibson (1981), Gibson (1982a, b, 1988, 1989, 1994, 1997), McDermott & Roe (1985), Herring (1987), Kem (1988), Moore & Gibson (1988), Wickham & Kuris (1988), Chernyshev (1991, 2005, 2008, 2011, 2013), Vernet & Anadon (1991), Kussakin & Kostina (1996), Tunnicliffe et al. (1997), Gibson & Sundberg (2003), Thollesson & Norenburg (2003), Kajihara (2007), Iwata (2008), Munari (2008), Rueckert et al. (2010), von Döhren et al. (2010), Andrade et al. (2012), Çinar (2014), Gonzalez-Cueto et al. (2014), Hao et al. (2015), Krämer & von Döhren (2015), Kvist et al. (2015), Mans (2016), Ostrovsky et al. (2016), Xu et al. (2016), Beckers et al. (2018), Faasse et al. (2018), Göransson et al. (2019) and Gerwing et al. (2020).

13. Whether Art. 40.2 applies to EMPLECTONEMATIDAE Bürger, 1904, and in what manner, depends on whether this name is to be deemed a “substitute name” for NEMERTINAE McIntosh, 1874 and/or EUNEMERTIDAE Joubin, 1894, and if so, whether one can infer that the synonymy of either of their type genera was a reason for this substitution, even if not explicitly stated by Bürger (1904). If Art. 40.2 does not apply, EMPLECTONEMATIDAE Bürger, 1904 is threatened by its senior synonym EUNEMERTIDAE Joubin, 1894 [assuming that *Emplectonema* Stimpson, 1857 and *Eunemertes* Vaillant, 1890 are actually synonymous; see paragraph 16(4) below]. Reinstating the latter name under the Principle of Priority (Art. 23.3.5) would likely result in confusion because of the prevailing usage of the former. EMPLECTONEMATIDAE is not threatened by the senior synonym NEMERTINAE McIntosh, 1874, because this name is an invalid junior homonym of NEMERTIDAE Ehrenberg, 1831.

14. If Art. 40.2 does apply to EMPLECTONEMATIDAE Bürger, 1904, other difficulties arise, primarily concerning its date of priority: 1) 1874, if it is considered to have been a replacement name for NEMERTIDAE McIntosh, 1874 and if the replacement is deemed to have been in response to the synonymy of the type genus of the latter; or 2) 1894, if this interpretation is rejected, and instead Bürger’s name is regarded as a replacement name for EUNEMERTIDAE Joubin, 1894, with the same qualification about the synonymy of the type genus. Under option 1, the family name could be cited according to Recommendation 40A as EMPLECTONEMATIDAE Bürger, 1904 (1874). Deciding this point would have to be part of the Commission’s ruling to resolve McIntosh’s (1874) altered concept of the type genus *Nemertes* as required by Art. 65.2.1. On the other hand, under option 2, the family name could be cited according to Recommendation 40A as EMPLECTONEMATIDAE Bürger, 1904 (1894). Neither of these two advanced priority dates, nor the respective modes of citation, corresponds to current usage.

15. One more problem remains to be resolved: whether to accept the long-overlooked fixation of *Borlasia camillea* Quatrefages as the type species of *Emplectonema* Stimpson, 1857 (para. 4 above) or to ask the Commission to validate the current usage of *Emplectonema viride* Stimpson, 1857 as the type species by a ruling of the Commission taken under Art. 70.2. Both Verrill’s (1892) and Girard’s (1893) designations of *Borlasia*

camillea as the type species of *Emplectonema* were overlooked by all subsequent workers until Corrêa (1955: 67–68) found fault with Verrill's choice and attempted to designate "*E. gracile* (Johnston 1837)" (i.e., *Nemertes gracilis*) instead. Almost simultaneously, Friedrich (1955: 172) listed *Nemertes gracilis* Johnston, 1837 as the type species of this genus. Because Corrêa followed Coe (1901: 23–25) in regarding *N. gracilis* as synonymous with *Emplectonema viride* Stimpson, 1857, the latter being one of *Emplectonema*'s two originally included nominal species, under Art. 69.2.2 she is deemed to have designated the latter nominal species as the type species of *Emplectonema*. Both Corrêa's type designation and Friedrich's (if taken as such) were invalid because of the priority of Verrill's (1892) type species designation (paragraph 4). Despite this, since 1955 only *Emplectonema viride* Stimpson, 1857 or its subjective senior synonym *Emplectonema gracile* (Johnston, 1837), and never *Borlasia camillea* Quatrefages, 1846, has been treated as the type species of *Emplectonema* Stimpson, 1857 (Gibson, 1995: 363; Kajihara, 2007: 307; Herrera-Bachiller et al., 2014: 2). Furthermore, some of the authors of the present application have recently confirmed with morphological and molecular data that *E. gracile* and *E. viride* are distinct species (Mendes et al., 2021). The situation takes on added urgency in light of the likelihood that future taxonomic revisions will place *Emplectonema neesii* and *E. gracile/viride* in two different genera and possibly even different families. Riser in Gibson (1995: 290) suggested that *E. neesii* should be transferred to *Paranemertes* Coe, 1901 based on morphological similarity. Likewise, Chernyshev & Maslakova (2011: 18) remarked, "It is possible that further studies will result in combining these two genera [= *Neesia* Girard, 1893 and *Paranemertes* Coe, 1901]". Recent molecular phylogenetic analyses (Strand & Sundberg, 2005; Sundberg et al., 2009; Andrade et al., 2012) support this, showing that *E. neesii* is more closely related to *Paranemertes peregrina* Coe, 1901 (type species of *Paranemertes*) and *Amphiporus lactifloreus* (Johnston, 1828) (type species of *Amphiporus* Ehrenberg, 1831, which in turn is the type genus of AMPHIPORIDAE Örsted, 1843) than to *E. gracile*.

16. Here we review the consequences of the four potential type-species combinations for *Eunemertes* Vaillant, 1890 (paragraph 8 above) and *Emplectonema* Stimpson, 1857 (paras. 4 and 15):

- (1) If we designate *Nemertes gracilis* Johnston, 1837 as the type species of *Eunemertes* Vaillant, 1890 and accept *Borlasia camillea* Quatrefages, 1846 as the type species of *Emplectonema* Stimpson, 1857, then *Eunemertes* Vaillant, 1890 (or possibly *Macronemertes* Verrill, 1873, a name of uncertain application; see para. 7) and EUNEMERTIDAE Joubin, 1894 would become the valid names for what are currently known as *Emplectonema* Stimpson, 1857 and EMPECTONEMATIDAE Bürger, 1904 (paras. 7, 8, 9, 15). Along with *Neesia* Girard, 1893, *Emplectonema* as defined by this type designation will very likely become a junior subjective synonym of *Amphiporus* Ehrenberg, 1831 and/or a senior subjective synonym of *Paranemertes* Coe, 1901 (para. 15). Even if *Emplectonema* remains taxonomically distinct from *Amphiporus*, its taxonomic identity would remain unstable because of the uncertainty surrounding the precise application of the specific names *neesii* Örsted, 1843 and *camillea* Quatrefages, 1846 (para. 15). Furthermore, both EMPECTONEMATIDAE Bürger, 1904 and Neesiidae Chernyshev, 2005 will very likely become junior subjective synonyms of AMPHIPORIDAE Örsted, 1843 (para. 10, 15). In light of this cascade of instability, we view this option as

unfavorable.

- (2) If we designate *Amphiporus neesii* Örsted, 1843 as the type species of *Eunemertes* Vaillant, 1890 and accept *Borlasia camillea* Quatrefages, 1846 as the type species of *Emplectonema* Stimpson, 1857, then *Eunemertes* Vaillant, 1890 and *Neesia* Girard, 1893 will become objective synonyms (para. 10). *Emplectonema*, *Eunemertes* and *Neesia* will also most likely become junior subjective synonyms of *Amphiporus* Ehrenberg, 1831 and/or senior subjective synonyms of *Paranemertes* Coe, 1901 (paras. 7, 8, 15). Even if *Emplectonema* remains taxonomically distinct from *Amphiporus*, its taxonomic identity would be unstable for the reasons given in (1) above. Furthermore, in consequence of these generic synonymies, EUNEMERTIDAE Joubin, 1894 would become an objective junior synonym of NEESIIDAE Chernyshev, 2005 (Arts. 61.3.2 and 61.3.3, owing to a shared type species), and both families, along with EMPECTONEMATIDAE Bürger, 1904, would also very likely constitute subjective junior synonyms of AMPHIPORIDAE Örsted, 1843 (para. 15). Finally, what is currently understood as *Emplectonema* may become *Macronemertes* Verrill, 1873 (with the caveats mentioned in (1) above; see also paragraph 7), and what is currently understood as EMPECTONEMATIDAE may well become ZYGONEMERTIDAE Chernyshev, 2005 (p. S32) on account of the close relationship suggested between *Emplectonema gracile* and *Zygonemertes* Montgomery, 1897 by Chernyshev & Polyakova (2019). We view this outcome as unfavorable, too.
- (3) If we designate *Amphiporus neesii* Örsted, 1843 as the type species of *Eunemertes* Vaillant, 1890 and a ruling by the Commission fixes *Emplectonema viride* Stimpson, 1857 in place of *Borlasia camillea* Quatrefages, 1846 as the type species of *Emplectonema* Stimpson, 1857, then *Eunemertes* Vaillant, 1890 and *Neesia* Girard, 1893 will become objective synonyms (para. 10; Art. 61.3.3, owing to a shared type species) and both genera will likely also become junior subjective synonyms of *Amphiporus* Ehrenberg, 1831 and/or senior subjective synonyms of *Paranemertes* Coe, 1901 (para. 15). In consequence of this, EUNEMERTIDAE Joubin, 1894 and NEESIIDAE Chernyshev, 2005 would become objective synonyms (Arts. 61.3.2 and 61.3.3, owing to a shared type species), and most likely also junior subjective synonyms of AMPHIPORIDAE Örsted, 1843 (para. 15). We view this option more favorably than (1) and (2) above because the names *Emplectonema* Stimpson, 1857 and EMPECTONEMATIDAE Bürger, 1904 would be maintained. On the other hand, this option would also have the unfavorable effect of invalidating *Neesia* Girard, 1893 and NEESIIDAE Chernyshev, 2005 even if these are regarded as distinct from *Amphiporus* Ehrenberg, 1831 and AMPHIPORIDAE Örsted, 1843, respectively.
- (4) If we designate *Nemertes gracilis* Johnston, 1837 as the type species of *Eunemertes* Vaillant, 1890 and a ruling by the Commission fixes *Emplectonema viride* Stimpson, 1857 in place of *Borlasia camillea* Quatrefages, 1846 as the type species of *Emplectonema* Stimpson, 1857, then *Eunemertes* (and perhaps *Macronemertes* Verrill, 1873 as well; see (1) above and para. 7) will become a junior subjective synonym of *Emplectonema* as currently understood. Uncertainty will remain as to the

year of priority of EMPLECTONEMATIDAE Bürger, 1904 as well as its validity in relation to EUNEMERTIDAE Joubin, 1897 (see paras. 13 and 14) but that can be addressed in the Commission's ruling on this Case (see para. 18). As in all four options, *Neesia* Girard, 1893 and NEESIIDAE Chernyshev, 2005 will most likely become junior subjective synonyms of *Amphiporus* Ehrenberg, 1831 and AMPHIPORIDAE Örsted, 1843, respectively (para. 15). We view this option as providing the most favorable outcome because it would maintain the current prevailing usage of the names *Emplectonema* and EMPLECTONEMATIDAE.

17. We hereby designate *Nemertes gracilis* Johnston, 1837 as the type species of *Eunemertes* Vaillant, 1890. This act not only makes *Eunemertes* Vaillant, 1890 an objective junior synonym of *Nemertes* Johnston, 1837, and thus a potentially valid substitute name for it (see para. 3 above), but also rules out the options in paras. 16(2) and 16(3).

18. We the authors, comprising a majority of nemertean taxonomists in the world, wish to maintain both *Emplectonema* Stimpson, 1857 and EMPLECTONEMATIDAE Bürger, 1904 (with the date of priority also as 1904) in their accustomed use of the past century (paras. 12 and 16(4)) in preference to EUNEMERTIDAE Joubin, 1894. This is consistent with our choice of a common type species for *Nemertes* Johnston, 1837 (para. 3) and *Eunemertes* Vaillant, 1890 (para. 17). Under Art. 70.2, acceptance of Verrill's (1892) overlooked fixation of *Borlasia camillea* Quatrefages, 1846 as the type species for *Emplectonema* Stimpson, 1857 would necessitate immediate changes in nemertean genus- and family-level nomenclature, resulting in instability and confusion, and it could potentially engender more instability depending on which genus-level synonymies are adopted (paras. 16(1) and 16(2)). The same instability and confusion would result if Girard's (1893) designation of *B. camillea* as type species were accepted instead (paras. 16(1) and 16(2)). Affirming the date of priority of the family name as 1904 will remove any complications regarding potential synonymies involving related families such as TETRASTEMMATIDAE Hubrecht, 1879, OTOTYPHLONEMERTIDAE Bürger, 1895 and PROSORHOCHMIDAE Bürger, 1895. The related problem concerning the applicability of Art. 65.2.1 to NEMERTINAE McIntosh, 1874, and perhaps also NEMERTIDAE Ehrenberg, 1831, can be solved most efficiently by having the Commission either confirm or newly recognize both family-group names as available, with the respective type genera of *Nemertes* Johnston, 1837 (also explicitly recognized as available) and *Nemertes* Cuvier, 1816 (despite the lack of explicit inclusion of Cuvier's type species in Ehrenberg's concept). Doing so will also assure the invalidity of NEMERTINAE McIntosh, 1874 under Art. 39, because its type genus will be a junior homonym of the type genus of NEMERTIDAE Ehrenberg, 1831.

19. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to:
 - (a) set aside all previous type fixations for the family-group name NEMERTINAE McIntosh, 1874 and fix as the type genus *Nemertes* Johnston, 1837, deemed an available name with the type species *Nemertes gracilis* Johnston, 1837;
 - (b) set aside all previous type fixations for *Emplectonema* Stimpson, 1857 and designate *Emplectonema viride* Stimpson, 1857 as the type species;
 - (c) suppress the family-group name NEMERTINAE McIntosh, 1874, a senior

- objective synonym of EUNEMERTIDAE Joubin, 1894, for the purposes of the Principle of Priority but not for the purposes of the Principle of Homonymy;
- (d) grant the family-group name EMPECTONEMATIDAE Bürger, 1904 precedence over its senior subjective synonym EUNEMERTIDAE Joubin, 1894 whenever the two are considered synonyms;
- (2) to use its specific powers to:
- (a) confirm *Nemertes* Cuvier, 1816 as the type genus of the family-group name NEMERTIDAE Ehrenberg, 1831 (originally proposed as NEMERTINA);
- (b) confirm that, for the purposes of Article 40.2, EMPECTONEMATIDAE Bürger, 1904 is not to be deemed a substitute name for either NEMERTINAE McIntosh, 1874 or EUNEMERTIDAE Joubin, 1894 proposed because of synonymy of the type genus;
- (3) to place on the Official List of Generic Names in Zoology the following names:
- (a) *Emplectonema* Stimpson, 1857 (gender: neuter), type species: *Emplectonema viride* Stimpson, 1857 as ruled in (1)(b) above;
- (b) *Eunemertes* Vaillant, 1890 (gender: feminine), type species: *Nemertes gracilis* Johnston, 1837 by subsequent designation herein;
- (4) to place on the Official List of Family-Group Names in Zoology the following names:
- (a) NEMERTIDAE Ehrenberg, 1831, a mandatory correction of NEMERTINA Ehrenberg, 1831, type genus *Nemertes* Cuvier, 1816 as ruled in (2)(a) above;
- (b) EUNEMERTIDAE Joubin, 1894, type genus *Eunemertes* Vaillant, 1890, with the endorsement that it is not to be given precedence over EMPECTONEMATIDAE Bürger, 1904 when the two taxa are considered to be synonymous, as ruled in (1)(d) above;
- (c) EMPECTONEMATIDAE Bürger, 1904, type genus *Emplectonema* Stimpson, 1857, with the endorsements that (i) it is to be given precedence over EUNEMERTIDAE Joubin, 1894 whenever the two taxa are considered to be synonymous, as ruled in (1)(d) above, and (ii) for the purposes of Article 40.2, it is not to be deemed a substitute name for either NEMERTINAE McIntosh, 1874 or EUNEMERTIDAE Joubin, 1894 proposed because of synonymy of the type genus, as ruled in (2)(b) above;
- (5) to place on the Official List of Specific Names in Zoology the name *viride* Stimpson, 1857, as published in the binomen *Emplectonema viride*, type species of *Emplectonema* Stimpson, 1857 as ruled in (1)(b) above;
- (6) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name NEMERTINAE McIntosh, 1874 (*Nemertea*, *Monostilifera*), type genus *Nemertes* Johnston, 1837 as ruled in (1)(a) above and suppressed as in (1)(c) above, a junior homonym of NEMERTIDAE Ehrenberg, 1831; and
- (7) to place on the Official Index of Rejected and Invalid Family-Group Names in Zoology the name *Nemertes* Johnston, 1873 (gender: feminine), type species *Nemertes gracilis* Johnston, 1837 (by subsequent designation herein), a junior homonym of *Nemertes* Cuvier, 1816.

Acknowledgements

MJG's appointment as Research Fellow in National Taiwan Ocean University's Center of Excellence for the Oceans was funded by the Featured Areas Research Center Program within the Taiwan Ministry of Education's Higher Education Sprout Project.

References

- Andrade SC, Strand M, Schwartz M, Chen H, Kajihara H, von Döhren J, Sun S, Junoy J, Thiel M, Norenburg JL, Turbeville JM, Giribet G, Sundberg P (2012) Disentangling ribbon worm relationships: multi-locus analysis supports traditional classification of the phylum Nemertea. *Cladistics* 28 (2): 141–159.
- Beckers P, Krämer D, Bartolomaeus T (2018) The nervous systems of Hoplonemertea (Nemertea). *Zoomorphology* 137 (4): 473–500.
- Benham WB (1901) The Platyhelminthes, Mesozoa, and Nemertini [pp. 1–204]. In: Lankaster ER (Ed), *A treatise on zoology, Part IV. Adam & Charles Black, London*, 204 pp.
- Bürger O (1895) Die Nemertinen des Golfes von Neapel und der angrenzenden Meeres-Abschnitte. Friedländer & Sohn, Berlin, xvi + 743 pp, 31 pls.
- Bürger O (1897–1907) Nemertini (Schnurwürmer). Dr. H.G. Bronn's Klassen und Ordnungen des Tier-Reichs, wissenschaftlich dargestellt in Wort und Bild. Vierter Band [Volume 4]. Supplement. C.F. Winder, Leipzig, viii + 542 pp. [pp. 1–176 published in 1897; pp. 177–240 in 1898; pp. 241–288 in 1899; pp. 289–384 in 1903; pp. 385–480 in 1905; pp. 481–542 in 1907]
- Bürger O (1904) Nemertini. Das Tierreich. Eine Zusammenstellung und Kennzeichnung der rezenten Tierformen. 20. Lieferung. Platyhelminthes. R. Friedländer und Sohn, Berlin, xviii + 151 pp.
- Chernyshev AV (1991) *Tortus tokmakovae* sp. n. (Hoplonemertini; Emplectonematidae) from the Sea of Japan. *Zoologicheskii Zhurnal* 70 (1): 129–132.
- Chernyshev AV (1992) On the names of some nemertines. *Zoologicheskii Zhurnal* 71 (2): 134–136.
- Chernyshev AV (2005) System of families of enoplan nemerteans of the order Eumonostilifera (Nemertea: Enopla). *Russian Journal of Marine Biology* 31 (1): S27–S33.
- Chernyshev AV (2008) Fauna of nemerteans of Amursky Bay and the adjacent areas [pp. 267–278]. In: Lutaenko KA, Vaschenko MA (Eds), *Ecological studies and the state of the ecosystem of Amursky Bay and the estuarine zone of the Razdolnaya River (Sea of Japan). Volume 1. Dalnauka, Vladivostok*.
- Chernyshev AV (2011) Comparative morphology, systematics and phylogeny of the nemerteans. *Dalnauka, Vladivostok*, 309 pp.
- Chernyshev AV (2013) Phylum Nemertea [pp. 49–53]. In: Sirenko BI (Ed), *Check-list of species of free-living invertebrates of the Russian Far Eastern seas. Russian Academy of Sciences, Zoological Institute, St. Petersburg*.
- Chernyshev AV, Maslakova SA (2011) Phylum Nemertea [pp. 3–34]. In: Sirenko BI (Ed), *Illustrated keys to free-living invertebrates of Eurasian Arctic Seas and adjacent deep waters. Alaska Sea Grant, University of Alaska Fairbanks, Fairbanks, Alaska*.
- Chernyshev AV, Polyakova NE (2019) Nemerteans from the deep-sea expedition KuramBio II with descriptions of three new hoplonemerteans from the Kuril-Kamchatka Trench. *Progress in Oceanography* 178: 102148.
- Çinar ME (2014) Checklist of the phyla Platyhelminthes, Xenacoelomorpha, Nematoda, Acanthocephala, Myxozoa, Tardigrada, Cephalorhyncha, Nemertea, Echiura, Brachiopoda, Phoronida, Chaetognatha, and Chordata (Tunicata, Cephalochordata, and Hemichordata) from the coasts of Turkey. *Turkish Journal of Zoology* 38: 698–722.
- Coe WR (1901) Papers from the Harriman Alaska Expedition. XX. The nemerteans. *Proceedings of the Washington Academy of Sciences* 3: 1–110.
- Coe WR (1943) Biology of the nemerteans of the Atlantic coast of North America. *Transactions of the Connecticut Academy of Arts and Sciences* 35: 129–328.

- Coe WR (1944) Geographical distribution of the nemerteans of the Pacific coast of North America, with descriptions of two new species. *Journal of the Washington Academy of Sciences* 34 (1): 27–32.
- Corrêa DD (1955) Os gêneros *Emplectonema* Stimpson e *Nemertopsis* Bürger (Hoplonemertini Monostilifera). *Boletim da Faculdade de Filosofia, Ciências e Letras, Universidade de São Paulo* 20: 67–78.
- Cuvier [G] (1816) Le règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Tome IV, contenant les Zoophytes, les tables, et les planches. "1817". Deterville, Paris, France, viii + 255 pp.
- Diesing CM (1850) *Systema helminthum*, Vol. I. W. Braumüller, Vindobonae [= Vienna], xiii + 679 pp.
- Ehrenberg CG (1828–1831) *Phytozoa Turbellaria Africana et Asiatica in Phytozoorum Tabula IV. et V. delineata*. [pp. 53–67, pls IV–V, without formal pagination]. In: Hemprich FG & Ehrenberg CG (Eds), *Symbolae physicae, seu icones et descriptiones corporum naturalium novorum aut minus cognitorum quae ex itineribus per Libyam, Aegyptium, Nubiam, Dongalam, Syriam, Arabiam et Habessiniam, pars Zoologica II, animalia evertebrata exclusis insectis*. Officina Academica, Berlin. [Plates published in 1828; text in 1831]
- Faasse M, van Dam-Bijleveld M, Dekker R, Turbeville J (2018) Naamlijst van de mariene snoerwormen van Nederland, met vijf nieuwe soorten (Nemertea). *Nederlandse Faunistische Mededelingen* 51: 83–92.
- Fleming LC, Gibson R (1981) A new genus and species of monostiliferous hoplonemerteans, ectohabitant on lobsters. *Journal of Experimental Marine Biology and Ecology* 52 (1): 79–93.
- Friedrich H (1955) Beiträge zu einer Synopsis der Gattungen der Nemertini monostilifera nebst Bestimmungsschlüssel. *Zeitschrift für Wissenschaftliche Zoologie* 158: 133–192.
- Gerwing TG, Cox K, Gerwing AMA, Campbell L, Macdonald T, Dudas SE, Juanes F (2020) Varying intertidal invertebrate taxonomic resolution does not influence ecological findings. *Estuarine, Coastal and Shelf Science* 232: 106516.
- Gibson R (1982a) *Nemertea* [pp. 823–846]. In: Parker SP (Ed), *Synopsis and classification of living organisms, volume 1*. McGraw-Hill, New York.
- Gibson R (1982b) *British nemerteans*. Cambridge University Press, Cambridge, vii + 212 pp.
- Gibson R (1988) Evolutionary relationships between mono- and polystiliferous hoplonemerteans: *Nipponnemertes* (Cratenemertidae), a "missing link" genus? *Hydrobiologia* 156 (1): 61–74.
- Gibson R (1989) Redescription and taxonomic reappraisal of *Amphiporus elongatus* Stephenson (Nemertea, Enopla) from the Firth of Clyde. *Zoologica Scripta* 18 (3): 357–364.
- Gibson R (1994) *Nemerteans*. Field Studies Council, Shrewsbury, vii + 224 pp.
- Gibson R (1995) *Nemertean genera and species of the world: an annotated checklist of original names and description citations, synonyms, current taxonomic status, habitats and recorded zoogeographic distribution*. *Journal of Natural History* 29: 271–561.
- Gibson R (1997) An annotated checklist of the *Nemertea* recorded from the Cape D'Aguilar Marine Reserve, Hong Kong [pp. 31–36]. In: Morton B (Ed), *The marine flora and fauna of Hong Kong and southern China IV*. Hong Kong University Press, Hong Kong.
- Gibson R, Sundberg P (2003) The nemerteans of Hong Kong: their diversity, origins and endemism [pp. 109–119]. In: Morton B (Ed), *Perspectives on marine environment change in Hong Kong and southern China, 1977–2001*. Proceedings of an international workshop reunion conference, Hong Kong 21–26 October 2001. Hong Kong University Press, Hong Kong.
- Girard C (1893) Recherches sur les Planariés et les Némertiens de l'Amérique du Nord. *Annales des Sciences Naturelles, Zoologie* 15: 145–310.
- Gonzalez-Cueto J, Quiroga S, Norenburg J (2014) A shore-based preliminary survey of marine ribbon worms (Nemertea) from the Caribbean coast of Colombia. *ZooKeys* (439): 83.
- Göransson U, Jacobsson E, Strand M, Andersson HS (2019) The toxins of nemertean worms. *Toxins* 11 (2): 120.
- Gunnerus JE (1770) Nogle smaa rare og meestendeelen nye Norske Sædyr. Skrifter, som udi det

- Kiøbenhavnse Selskab af Lærdoms og Videnskabers Elskere ere Fremlagte og Oplæste 10: 166–176.
- Hao Y, Kajihara H, Chernyshev AV, Okazaki RK, Sun SC (2015) DNA taxonomy of *Paranemertes* (Nemertea: Hoplonemertea) with spirally fluted stylets. *Zoological Science* 32 (6): 571–578.
- Herrera-Bachiller A, Pérez J, Junoy J (2014) Occurrence of the ribbon worm *Emplectonema neesii* (Nemertea: Hoplonemertea) on the Atlantic coast of Spain. *Marine Biodiversity Records* 7: E8.
- Herring PJ (1987) Systematic distribution of bioluminescence in living organisms. *Journal of Bioluminescence and Chemiluminescence* 1 (3): 147–163.
- Hubrecht AAW (1879) The genera of European nemerteans critically revised, with description of several new species. *Notes from the Leyden Museum* 1: 193–232.
- Humes AG (1942) The morphology, taxonomy, and bionomics of the nemertean genus *Carcinonemertes*. *Illinois Biological Monographs* 18 (4): 1–105.
- Iwata F (2008) On three monostiliferous hoplonemerteans from the San Juan archipelago, Washington State, USA. *Publications of the Seto Marine Biological Laboratory* 40: 9–45.
- Johnston G (1828) Contributions to the British fauna. *Zoological Journal* 3: 486–491.
- Johnston G (1837) *Miscellanea zoologica*. II. A description of some planarian worms. *Magazine of Zoology and Botany* 1: 529–538.
- Joubin L (1894) *Fauna française—les némerteans*. Société d'Éditions Scientifiques, Paris, 235 pp., 4 pls.
- Kajihara H (2007) A taxonomic catalogue of Japanese nemerteans (phylum Nemertea). *Zoological Science* 24 (4): 287–326.
- Kem WR (1988) Pyridine alkaloid distribution in the hoplonemertines. *Hydrobiologia* 156: 145–151.
- Kirsteuer E (1974) Description of *Poseidonemertes caribensis* sp. n., and discussion of other taxa of Hoplonemertini Monostilifera with divided longitudinal musculature in the body wall. *Zoologica Scripta* 3: 153–166.
- Kölliker A (1845) Drei neue Gattungen von Würmern. *Verhandlungen der Schweizerischen Naturforschenden Gessellschaft bei ihrer Versammlung zu Chur* 29: 86–98.
- Korotkevitch VS (1971) K ekologii i sistematike nemertin Zaliva Poseta Yaponskogo Morya II. *Issledovaniya Fauny Morei* 8 (16): 109–122.
- Krämer D, von Döhren J (2015) *Arenogigas armoricus*, a new genus and species of a monostiliferous hoplonemertean (Nemertea) from the north-west coast of France. *Zoological Science* 32 (6): 605–614.
- Kussakin OG (1975) A list of the macrofauna in the intertidal zone of the Kurile Islands, with remarks on zoogeographical structure of the region. *Publications of the Seto Marine Biological Laboratory* 22 (1–4): 47–74.
- Kussakin OG, Kostina EE (1996) The intertidal biota of volcanic Yankich Island (middle Kuril Islands). *Publications of the Seto Marine Biological Laboratory* 37 (3–6): 201–225.
- Kvist S, Chernyshev AV, Giribet G (2015) Phylogeny of Nemertea with special interest in the placement of diversity from Far East Russia and northeast Asia. *Hydrobiologia* 760 (1): 105–119.
- Mans DR (2016) Exploring the global animal biodiversity in the search for new drugs—marine invertebrates. *Journal of Translational Science* 2 (3): 170–179.
- McDermott JJ (1976) Observations on the food and feeding behavior of estuarine nemertean worms belonging to the order Hoplonemertea. *Biological Bulletin* 150 (1): 57–68.
- McDermott JJ (1988) The role of hoplonemerteans in the ecology of seagrass communities. *Hydrobiologia* 156: 1–11.
- McDermott JJ, Roe P (1985) Food, feeding behavior and feeding ecology of nemerteans. *American Zoologist* 25 (1): 113–125.
- McIntosh WC (1873–1874) A monograph of the British Annelids. Part I. The nemerteans. Ray Society, London, pp. 1–96, pls I–X [published in 1873]; pp. 97–214, pls XI–XXIII [published in 1874].

- Mendes C, Delaney P, Turbeville JM, Hiebert T, Maslakova S (2021) Redescription of *Emplectonema viride*—a ubiquitous intertidal hoplonemertean found along the West Coast of North America. *ZooKeys* 1031: 1–17.
- Montagu G (1804) Description of several marine animals found on the south coast of Devonshire. *Transactions of the Linnean Society of London* 7: 61–85.
- Montgomery TH (1897) Descriptions of new metanemerteans, with notes on other species. *Zoologische Jahrbücher. Abtheilung für Systematik, Geographie und Biologie der Thiere* 10 (1): 1–14.
- Moore J, Gibson R (1988) Further studies on the evolution of land and freshwater nemerteans: generic relationships among the paramonostiliferous taxa. *Journal of Zoology* 216 (1): 1–20.
- Munari C (2008) Organism responses to habitat fragmentation in two shallow-water brackish environments: the Goro Lagoon (Adriatic Sea) and the Padrongiano Delta (Tyrrhenian Sea). *Marine Biological Association of the United Kingdom* 88 (7): 1309.
- Ørsted AS (1843) Forsøg til en ny classification af planarierne (*Planaria* Dugès) grundet paa mikroskopisk-anatomiske undersøgelser. *Naturhistorisk Tidsskrift* 4: 519–581.
- Ørsted AS (1844) Entwurf einer systematischen Eintheilung und speciellen Beschreibung der Plattwürmer auf microscopische Untersuchungen. C.A. Reitzel, Copenhagen, 96 pp.
- Ostrovsky AN, Lidgard S, Gordon DP, Schwaha T, Genikhovich G, Ereskovsky AV (2016) Matrotrophy and placentation in invertebrates: a new paradigm. *Biological Reviews* 91 (3): 673–711.
- Punnett RC (1901) *Lineus*. *Proceedings and Transactions of the Liverpool Biological Society* 15: 242–278.
- Punnett RC (1903) On the nemerteans of Norway. *Bergens Museums Aarvog* 2: 1–35.
- Quatrefages A de (1846) Étude sur les types inférieurs de l'embranchement des annelés. *Annales des Sciences Naturelles, Série 3, Zoologie* 6: 173–303.
- Rueckert S, Chantangsi C, Leander BS (2010) Molecular systematics of marine gregarines (Apicomplexa) from North-eastern Pacific polychaetes and nemerteans, with descriptions of three novel species: *Lecudina phyllochaetopteri* sp. nov., *Difficilina tubulani* sp. nov. and *Difficilina paranemertis* sp. nov. *International Journal of Systematic and Evolutionary Microbiology* 60 (11): 2681–2690.
- Southern R (1913) Nemertinea. *Proceedings of the Royal Irish Academy* 31: 1–20. [Biological Survey of Clare Island in the County of Mayo, Ireland and of the Adjoining District, Section 3, Part 55]
- Sowerby J (1806) *The British miscellany: or coloured figures of new, rare, or little known animal subjects; many not before ascertained to be inhabitants of the British Isles*. Taylor, London, 136 pp.
- Stimpson W (1857) *Prodromus descriptionis animalium evertebratorum, quae in Expeditione ad Oceanum Pacificum Septentrionalem, a Republica Federata missa, Cadwaladaro Ringgold et Johanne Rodgers Ducibus, observavit et descripsit. Pars II. Turbellarieorum Nemertineorum*. *Proceedings of the Academy of Natural Sciences of Philadelphia* 9: 159–165.
- Strand M, Sundberg P (2005) Genus *Tetrastemma* Ehrenberg, 1831 (phylum Nemertea)—a natural group? Phylogenetic relationships inferred from partial 18S rRNA sequences. *Molecular Phylogenetics and Evolution* 37: 144–152.
- Strand M, Norenburg J, Alfaya JE, Fernández-Álvarez FÁ, Andersson HS, Andrade SCS, Bartolomaeus T, Beckers P, Bigatti G, Chernyeva I, Chneryshev A, Chung BM, von Döhren J, Giribet G, Gonzalez-Cueto J, Herrera-Bachiller A, Hiebert T, Hookabe N, Junoy J, Kajihara H, Krämer D, Kvist S, Magarlamov TY, Maslakova S, Mendes CB, Okazaki R, Sagorny C, Schwartz M, Sun S-C, Sundberg P, Turbeville JM, Xu CM (2019) Nemertean taxonomy—implementing changes in the higher ranks, dismissing Anopla and Enopla. *Zoologica Scripta* 48 (1): 118–119.
- Sundberg P (1977) Littoral nemerteans from the Faroe Islands. *Sarsia* 63 (3): 185–190.
- Sundberg P (1985) Nemertean systematics and phenetic classification: an example from a group of

- hoplonemerteans. *Zoological Journal of the Linnean Society* 85 (3): 247–266.
- Sundberg P, Chernyshev AV, Kajihara H, Kånneby T, Strand M (2009) Character-matrix based descriptions of two new nemertean (Nemertea) species. *Zoological Journal of the Linnean Society* 157: 264–294.
- Thollessen M, Norenburg JL (2003) Ribbon worm relationships: a phylogeny of the phylum Nemertea. *Proceedings of the Royal Society of London. Series B: Biological Sciences* 270 (1513): 407–415.
- Tunncliffe V, Embley RW, Holden JF, Butterfield DA, Massoth GJ, Juniper SK (1997) Biological colonization of new hydrothermal vents following an eruption on Juan de Fuca Ridge. *Deep Sea Research Part I: Oceanographic Research Papers* 44 (9–10): 1627–1644.
- Vaillant L (1890) Lombriciniens, Hirudiniens, Bdellomorphes, Térétilariens et Planariens. *Histoire Naturelle des Annelés Marins et d’Eau Douce* 3 (2): 341–768.
- Vernet G, Anadon N (1991) Littoral nemerteans from Spain. North and north-west Atlantic coasts species. *Italian Journal of Zoology* 58 (1): 91–93.
- Verrill AE (1873) Brief contributions to zoology from the Museum of Yale College. No. XXV. Results of recent dredging expeditions on the coast of New England. *American Journal of Science* (3) 6: 435–441.
- Verrill AE (1892) The marine nemerteans of New England and adjacent waters. *Transactions of the Connecticut Academy of Arts and Sciences* 8: 382–456.
- Verrill AE (1895) Supplement to the marine nemerteans and planarians of New England. *Transactions of the Connecticut Academy of Arts and Sciences* 9: 523–534.
- von Döhren J, Beckers P, Vogeler R, Bartolomaeus T (2010) Comparative sperm ultrastructure in Nemertea. *Journal of Morphology* 271: 793–813.
- Wickham DE, Kuris AM (1988) Diversity among nemertean egg predators of decapod crustaceans. *Hydrobiologia* 156: 23–30.
- Wijnhoff [Wynhoff in print] G (1912) List of nemerteans collected in the neighbourhood of Plymouth from May–September, 1910. *Journal of the Marine Biological Association of the United Kingdom* 9: 407–434.
- Xu Y, Li X, Wang H, Zhang B, Shuai L (2016) Characteristics of a macrozoobenthic community in the sea adjacent to the Yangtze River estuary during the wet season. *Biodiversity Science* 24 (7): 811–819.
- Yamaoka T (1940) The fauna of Akkeshi Bay. IX Nemertini. *Journal of the Faculty of Science, Hokkaido Imperial University, Series VI, Zoology* 7 (3): 205–263.
- Yamaoka T (2005) On fourteen monostiliferous hoplonemerteans from the Izu Peninsula, Middle Japan. *Publications of the Seto Marine Biological Laboratory* 40: 141–158. [Posthumous publication by Fumio Iwata]

Acknowledgement of receipt of this application was published in BZN 78: 3.

Comments on this case are invited for publication (subject to editing) in the Bulletin; they should be sent to the Secretariat, International Commission on Zoological Nomenclature, c/o Lee Kong Chian Natural History Museum, 2 Conservatory Drive, Singapore 117377, Republic of Singapore (e-mail: iczn@nus.edu.sg).