



Revalidation of the genus *Thoracophelia* Ehlers, 1897, replacing *Euzonus* Grube, 1866 (Polychaeta: Opheliidae), junior homonym of *Euzonus* Menge, 1854 (Arthropoda: Diplopoda), together with a literature summary and updated listing of *Thoracophelia* species

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Brewer *et al.* (2011) recently demonstrated that the generic name *Euzonus* was being used in both Arthropoda (Diplopoda) and Polychaeta (Opheliidae) systematics and that the arthropod name was the senior synonym. The diplopod name *Euzonus* Menge, 1854, based on a single species, *E. collulum* Menge, 1854 from Baltic amber predates *Euzonus* Grube, 1866, established for *E. arcticus* Grube, 1866 from the Arctic Ocean. The *Nomenclator Zoologicus* (2005) verifies that both names are listed as uncorrected homonyms.

Brewer *et al.* (2011) suggested that for time being, the genus *Pectinophelia* Hartman, 1938 could be used for those species of Polychaeta currently referred to the genus *Euzonus*. However, prior to Hartman's (1956) referral of these opheliids to the genus *Euzonus*, some species had been included in the genus *Thoracophelia* Ehlers, 1897 and this is clearly the next available name for polychaetes currently referred to *Euzonus* Grube. In the following paragraphs I summarize some key decision points in the taxonomic history of these opheliids, their referral to *Thoracophelia*, and why subgenera, as currently applied, are not necessary.

The polychaetes that have been referred to *Euzonus* are unusual among the Opheliidae in having the body divided into three distinct regions: (1) an anterior cephalic region formed of the prostomium and first two setigers; (2) a swollen thoracic region, usually through setigers 2–10; and (3) a long narrow posterior region with a distinct ventral groove; sometimes the posterior pygidial region is enlarged or modified. Branchiae are limited to the posterior region, but are typically absent from the posteriormost segments. Santos *et al.* (2004) also noted that all species of these opheliids have a lateral modification of setiger 10, either as a flap arising from the body wall or with rows or patches of papillae. Two species referred to the genus *Lobocheilus* Hutchings & Murray, 1984 also share these characters and were referred to *Euzonus* by Santos *et al.* (2004). This synonymy was further supported as part of a cladistic analysis of opheliids by Sene Silva (2007) who demonstrated that the two species of *Lobocheilus* were nested within a monophyletic clade of *Euzonus* species.

The current arrangement of species and subgenera of the opheliids referred to *Euzonus* Grube date from Hartman (1938, 1944, 1956, 1959, and 1969). At time of Hartman's 1938 publication, these polychaetes were included in *Thoracophelia* Ehlers with four known species: *T. furcifera* Ehlers, 1897, *T. mucronata* (Treadwell, 1914), *T. ezoensis* Okuda, 1934, and *T. yasudai* Okuda, 1936. *Euzonus arcticus* Grube had not yet been recognized as belonging to this group of species, despite redescriptions and records of the species by Augener (1912) and Annenkova (1935). Hartman (1938) described two new species that had distinct pinnules arising from the branchiae and established a new genus, *Pectinophelia*, to accommodate them (*P. dillonensis* Hartman, 1938 and *P. williamsi* Hartman, 1938). She also referred both of Okuda's species to this new genus, leaving *T. furcifera* and *T. mucronata*, both with simple branchiae, in *Thoracophelia*. The generic separation among these six species was, therefore, based on the presence or absence of pinnules on the branchiae.

Hartman (1944) retained this classification but extended the range of *T. mucronata* from southern California, where it had originally been reported, to British Columbia where it had been found by Berkeley & Berkeley (1932). Hartman (1944) also reported *T. mucronata* from Dillon Beach, California, where both *Pectinophelia dillonensis* and *P. williamsi* were originally described. This was the first time that all three California species were noted to occur in the same area, sometimes in the same samples.

Hartman (1956) recognized *Euzonus* Grube, 1866, for the first time and referred all species of *Thoracophelia* and *Pectinophelia* to this genus. She retained the earlier branchial distinction through the use of two subgenera: *Euzonus* (*Thoracophelia*) for species having simple branchiae and *Euzonus* (*Euzonus*) for species having branchiae with pinnules.