

Case 2721

***Bathynomus* A. Milne Edwards, 1879 (Crustacea, Isopoda): proposed precedence over *Palaega* Woodward, 1870**

Joel W. Martin & Hans G. Kuck

Life Sciences Division, Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, California 90007, U.S.A.

Abstract. The purpose of this application is to conserve the name of a well known genus of deep-sea isopods, *Bathynomus* A. Milne Edwards, 1879. It is threatened by the fossil genus *Palaega* Woodward, 1870, with which it is sometimes synonymized.

1. Alphonse Milne Edwards (1879, p. 21) first recognized the genus *Bathynomus* and described the genus and its type species, *Bathynomus giganteus*, from a single immature male, which is therefore the holotype. No illustration was given until the publication of Filhol's popular account of deep-sea life (Filhol, 1885, p. 147). About nine extant species and several possible fossil species are known (see Bruce, 1986, p. 126; Hessler, 1969, p. R374; Wetzer, 1986, p. 26). Because of the large size of species in this genus (up to 46 cm body length in *B. giganteus*; Wetzer, 1986), *Bathynomus* is a widely recognized name in deep-sea biology and is often included in popular accounts of Crustacea and of deep-sea life (e.g. Schmitt, 1965; Holthuis & Mikulka, 1972; Wetzer, 1986). The genus is included as an example of the Isopoda and as an example of deep-sea crustaceans in most invertebrate text books (e.g. Barnes, 1987, p. 769). The large size has also made *Bathynomus* an ideal subject for demonstrating isopod morphology and has facilitated studies on isopod physiology. It is probably the most widely known marine isopod genus. As far as we know, *Bathynomus* is the only name that has been used for these isopods since 1879 (Richardson, 1905, p. 130; Holthuis & Mikulka, 1972, p. 575).

2. The genus *Palaega* was established by Woodward (1870, p. 496), based on four specimens of the posterior part of a Cretaceous isopod for which he established the species *P. carteri* (p. 496). Because the posterior part of isopods is similar in a great variety of genera and families, many fossil isopods have subsequently been placed in the genus *Palaega* (see Hessler, 1969, p. R380; Wieder & Feldmann, 1989). *Palaega* is of doubtful validity (Hessler, 1969, p. R380) and is acknowledged by paleontologists to be 'a form genus including individuals from several flabelliferan families distinguished from one another by parts rarely seen in fossil specimens such as the mouthparts' (Wieder & Feldmann, 1989, p. 78).

3. Imaizumi (1953) placed fossil fragments of a pleon from the Miocene of Japan in *Bathynomus* and suggested that Woodward's specimens should be placed in *Bathynomus* rather than *Palaega*. Recent finds of well preserved fossils described as *Palaega* (*P. goedertorum* Wieder & Feldmann, 1989) suggest that at least some fossils currently placed in *Palaega* and the extant genus *Bathynomus* might be equivalent, although the principal distinguishing characters needed for precise generic placement are not visible in the fossils. For example, even on the best preserved fossils, no ventral morphology

can be discerned, and mouthpart and pleopod morphology is unknown. Despite this and the statement quoted in para. 2 above, Wieder & Feldmann (1989, pp. 73, 75) treated *Palaega* as the senior synonym of *Bathynomus*. We consider that this synonymy is unwarranted on morphological grounds and is unlikely to be followed by other workers.

4. Because *Bathynomus* is a well known and clearly defined genus, whereas *Palaega* is a vague taxon based on incomplete fossils, we consider that it would be in the interests of maintaining stability of usage and avoiding confusion for the name *Bathynomus* to be given precedence over *Palaega* whenever these two genera are considered synonyms.

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

- (1) to use its plenary powers to give precedence to the name *Bathynomus* A. Milne Edwards, 1879 over the name *Palaega* Woodward, 1870 whenever the two are considered to be synonyms;
- (2) to place on the Official List of Generic Names in Zoology the following names:
 - (a) *Bathynomus* A. Milne Edwards, 1879 (gender: masculine), type species by monotypy *Bathynomus giganteus* A. Milne Edwards, 1879, with the endorsement that it is to be given precedence over *Palaega* Woodward, 1870 whenever the two names are considered to be synonyms;
 - (b) *Palaega* Woodward, 1870 (gender: feminine), type species by monotypy *Palaega carteri* Woodward, 1870, with the endorsement that it is not to be given priority over the name *Bathynomus* A. Milne Edwards, 1879 whenever the two names are considered to be synonyms;
- (3) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *giganteus* A. Milne Edwards, 1879, as published in the binomen *Bathynomus giganteus* (specific name of the type species of *Bathynomus* A. Milne Edwards, 1879);
 - (b) *carteri* Woodward, 1870, as published in the binomen *Palaega carteri* (specific name of the type species of *Palaega* Woodward, 1870).

Acknowledgements

We thank R. C. Brusca and L. B. Holthuis for helpful advice in the preparation of this request.

References

- Barnes, R. D. 1987. *Invertebrate Zoology*, Ed. 5. 893 pp. Saunders College Publishing, Philadelphia.
- Bruce, N. L. 1986. Cirolanidae (Crustacea: Isopoda) of Australia. *Records of the Australian Museum*, Supplement 6: 1-239.
- Filhol, H. 1885. *La vie au fond des mers. Les explorations sousmarines et les voyages du Travailleur et du Talisman*. viii + 303 pp. Masson, Paris.
- Hessler, R. R. 1969. Peracarida. Pp. R360-393, In Moore, R.C. (Ed.), *Treatise on Invertebrate Paleontology*. Part R, Arthropoda 4. Geological Society of America and University of Kansas Press, Lawrence, Kansas.
- Holthuis, L. B. & Mikulka, W. R. 1972. Notes on the deep-sea isopods of the genus *Bathynomus* A. Milne Edwards, 1879. *Bulletin of Marine Science*, 22: 575-591.
- Imaizumi, R. 1953. Note on *Bathynomus* sp., (Crustacea) from the Miocene of Japan. *Short Papers, Institute of Geology and Paleontology, Tohoku University, Sendai*, No. 5: 84-87.

- Milne Edwards, A.** 1879. Sur un isopode gigantesque des grandes profondeurs de la mer. *Comptes Rendus de l'Académie des Sciences*, Paris, **88**: 21–23.
- Richardson, H.** 1905. Monograph on the isopods of North America. *Bulletin of the United States National Museum*, No. 54, vii–liii + 1–727.
- Schmitt, W. L.** 1965. *Crustaceans*. 204 pp. University of Michigan Press, Ann Arbor, Michigan.
- Wetzer, R.** 1986. *Bathynomus*, a living sea monster. *Terra*, Natural History Museum of Los Angeles County, **25**(2): 26–29.
- Wieder, R. W. & Feldmann, R. M.** 1989. *Palaega goedertorum*, a fossil isopod (Crustacea) from Late Eocene to Early Miocene rocks of Washington State. *Journal of Paleontology*, **63**(1): 73–80.
- Woodward, H.** 1870. Contributions to British fossil Crustacea. *Geological Magazine*, **7**: 493–497.