

A review of the hyperiidean amphipod superfamily Archaeoscinoidea Vinogradov, Volkov & Semenova, 1982 (Crustacea: Amphipoda: Hyperiidea)

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Abstract

A taxonomic review of the superfamily Archaeoscinoidea is presented, based predominantly on collections held by the Zoological Museum, University of Copenhagen, Denmark. The superfamily includes just one family, Archaeoscinidae, comprising two genera, *Archaeoscina* and *Paralanceola*. Prior to this review, *Archaeoscina* was known from two species, *A. steenstrupi* and *A. stebbingi*, with the status of the latter in doubt. Despite the loss of the unique type of *A. stebbingi* it is regarded as valid species for the time being. In addition, one new species of *Archaeoscina*, *A. danae* **sp. nov.**, is described from the Pacific, Indo-Pacific and Atlantic Ocean. *Paralanceola* was known only from the unique type of *P. anomala* Barnard, 1930. Remains of the type were re-examined to determine unique characters such as the morphology of the second antennae. More specimens of *P. anomala* were not found but two additional species are described as new to science; *P. wolffi* **sp. nov.** from the South Pacific and Atlantic Ocean and *P. oleseni* **sp. nov.** from the tropical Atlantic Ocean. Two new characters were discovered during this study; the presence of a partial ventral suture between urosomites 2 & 3 in all specimens and the presence of male genital papillae in *P. oleseni* **sp. nov.** An examination of other members of the Physosomata revealed that these characters are also present in most other genera. Thus, they may be of phylogenetic significance. Keys are provided for genera and all species.

Key words: Amphipoda, Hyperiidea; Archaeoscinoidea, Archaeoscinidae, *Archaeoscina*, *Paralanceola*, review, taxonomy, new species

Introduction

The superfamily Archaeoscinoidea was proposed by Vinogradov *et al.* (1982) for the family Archaeoscinidae because it is distinguished from other families of the infraorder

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References

- Barnard, K.H. (1930) Crustacea. Part X1: Amphipoda. *British Antarctic (Terra Nova) Expedition 1910, Zoology*, 8(4), 307–454.
- Barnard, K.H. (1932) Amphipoda. *Discovery Reports*, 5, 1–326.
- Bovallius, C. (1885) On some forgotten genera among the amphipodous Crustacea. *Bihang till Kungliga Svenska Vetenskaps-Akademiens Handlingar*, 10(4), 1–17, 1 pl.
- Bovallius, C. (1887a) Systematical list of the Amphipoda Hyperiidea. *Bihang till Kungliga Vetenskaps-Akademiens Handlingar*, 11(16), 1–50.
- Bovallius, C. (1887b) Arctic and Antarctic hyperiids. *Ur "Vega"-expeditionens Vetenskapliga iakttagelser*, 4, 543–582, pls 40–47.
- Bovallius, C. (1889) Contributions to a monograph of the Amphipoda Hyperiidea; Part 1: 2. The families Cyllopodidae, Paraphronimidae, Thaumatopsidae, Mimonectidae, Hyperiidae, Phronimidae and Anchylomeridae. *Kongliga Svenska Vetenskaps-Akademiens Handlingar*, 22(7), 1–434, pls 1–18.
- Bowman, T.E. & Gruner, H.-E. (1973) The families and genera of Hyperiidea (Crustacea: Amphipoda). *Smithsonian Contributions to Zoology* No. 146, 1–64.
- Bulycheva, A.I. (1955) Hyperiids (Amphipoda: Hyperiidea) of the north-west Pacific Ocean. *Akademiya Nauk SSSR, Doklady*, 102(5), 1047–1050. [In Russian].
- DeBroyer, C. & Jazdzewski, K. (1993) Contribution to the marine inventory. A checklist of the Amphipoda (Crustacea) of the Southern Ocean. *Documents de travail de l'Institut royal des sciences naturelles de Belgique*, 73, 1–154.
- Hurley, D.E. (1969) Amphipoda Hyperiidea. *In: Antarctic Map Folio Series, Folio 11, Distribution of selected groups of marine invertebrates in waters south of 35°S Latitude, sheets 1–2*. American Geographical Society, pp. 32–34.
- International Code of Zoological Nomenclature (1999) *International code of Zoological Nomenclature*, 4th edition. The International Trust for Zoological Nomenclature and The Natural History Museum, London, 306 pp.
- Jespersen, P. & Tåning, A.V. (1934) Introduction to the Reports from the Carlsberg Foundations Oceanographical Expedition Round the World 1928–30 and list of stations. *Dana Report*, 1, 7–130.
- Lowry, J.K. & Stoddart, H.E. (1997) Amphipoda Crustacea IV. Families Aristiidae, Cyphocarididae, Endeavouridae, Lysianassidae, Scopelocheiridae, Uristidae. *Memoirs of the Hourglass Cruises*, 10(1), 1–148.
- Martin, J.W. & Davis, G.E. (2001) *An updated classification of the recent Crustacea*. Natural History Museum of Los Angeles County, Science Series No. 39, 124 pp.
- Pirlot, J.M. (1939) Sur des Amphipodes Hypérides provenant des croisières du Prince Albert 1^{er} de Monaco. *Résultats des Campagnes Scientifiques Accomplies sur son Yacht par Albert 1er Prince Souverain de Monaco*, fascicule 102, 1–64.

- Schellenberg, A. (1927) Amphipoda des Nordischen Plankton. *Nordisches Plankton, Zoologischer Teil*. Kiel, Leipzig. Vol. 3, pp. 589–722.
- Shih, C.-T. & Hendrycks, E.A. (2003) A new species and new records of the genus *Vibilia* Milne-Edwards, 1830 (Amphipoda: Hyperiidea: Vibiliidae) occurring in the eastern Pacific Ocean. *Journal of Natural History*, 37, 253–296.
- Shoemaker, C.R. (1945) The Amphipoda of the Bermuda Oceanographic Expeditions, 1929–1931. *Zoologica*, New York, 30, 185–266.
- Stebbing, T.R.R. (1904) Biscayan plankton collected during a cruise of H.M.S. Research, 1900. Part II. The Amphipoda and Cladocera, with notes on a larval Thyrostracan. *Transactions of the Linnean Society of London*, series 2. *Zoology*, 10(2), 13–45, pls 2 & 3.
- Stephensen, K. (1923) Crustacea Malacostraca, V. (Amphipoda. 1) *Danish Inggolf-Expedition*, 3(8), 1–100, figs 1–22.
- Stephensen, K. (1932) The Tanaidacea and Amphipoda of the Arctic. *Fauna Arctica*, 6, 343–378.
- Stephensen, K. (1933) Amphipoda. The Godthaab Expedition. *Meddelelser om Grönland*, 79(7), 1–88, figs 1–33.
- Stephensen, K. & Pirlot, J.M. (1931) Les Amphipodes Hypérides du genre *Mimonectes* Bovallius (inclus: *Sphaeromimonectes* Woltereck et *Parascina* Stebbing) et de quelques genres voisins (*Archaeoscina* Stebbing, *Micromimonectes* Woltereck, *Microphasma* Woltereck et *Proscina* n. g.). *Archives de Zoologie Expérimentale et Générale*, 71(4), 501–553.
- Vinogradov, G.M. (1999) Amphipoda. In: Boltovskoy, D. (Ed.) *South Atlantic Zooplankton*. Vol. 2. Backhuys, Leiden, The Netherlands, pp. 1141–1240.
- Vinogradov, G.M., Hernández, F., Tejera, E. & León, M.E. (2004) Pelagic amphipods from the Cape Verde Islands (TFMCBM/98 cruise, Macaronesia 2000-project). *Vieraea*, 32, 7–27.
- Vinogradov, M.E. (1956) Hyperiid (Amphipoda: Hyperiidea) of the western Bering Sea. *Zoologicheskii Zhurnal*, 35(2), 194–218. [In Russian].
- Vinogradov, M.E. (1957) Hyperiid (Amphipoda) of the Northwest Pacific Ocean. 1. Tribe Hyperiidea Physosomata. *Trudy Instituta Okeanologii Akademiyi Nauk SSSR* 20: 186–227. [In Russian]. English translation by American Institute of Biological Sciences, Washington D.C., 1959, *Marine Biology*, 149–184.
- Vinogradov, M.E. (1962) Hyperiidea (Amphipoda) collected by the Soviet Antarctic Expedition on M/V Ob south of 40°S. Issledovaniya Fauny Morei I (IX), Resultaty biologicheskikh issledovaniy Sovetskoi antarkticheskoi ekspeditsii (1955–1958) 1: 1–35. [In Russian]. English translation: *Biological Reports of the Soviet Antarctic Expedition* (1955–1958) 1, 1–32. Jerusalem: Israel Program for Scientific Translations, 1966.
- Vinogradov, M.E. (1970) New data on the amphipods Hyperiidea Physosomata of the northwest part of the Pacific. *Trudy Instituta Okeanologii Akademiyi Nauk SSSR* 86: 382–400. [In Russian]. English translation: In: Bogorov, V.G. (Ed.) *Fauna of the Kurile-Kamchatka Trench and its Environment*, pp. 398–418. Israel Program for Scientific Translations, Jerusalem, 1972.
- Vinogradov, M.E., Volkov, A.F. & Semenova, T.N. (1982) *Amfipody-Giperiidy (Amphipoda: Hyperiidea) Mirovogo Okeana*. Akademiya Nauk SSSR, Opredeliteli po Faune SSSR No. 132. Leningrad, 492 pp. [In Russian]. English translation, 1996, Smithsonian Institution Libraries, Washington D.C., D. Siegel-Causey, Scientific Editor.
- Woltereck, R. (1904a) Dritte Mitteilung über die Hyperiden der Deutschen Tiefsee-Expedition: *Sphaeromimonectes Valdiviae* nov. gen., nov. spec. *Zoologischer Anzeiger* 27(20/21), 620–627.
- Woltereck, R. (1904b) Erste Notiz über die Amphipoden der Deutschen Südpolar-Expedition: *Sphaeromimonectes gausi* nov. spec. *Zoologischer Anzeiger*, 27(20/21), 627–629.
- Woltereck, R. (1906) Fünfte Mitteilung über die Hyperiden der Valdivia-Expedition: *Micromimonectes* n. gen. *Zoologischer Anzeiger*, 30(7), 187–194.
- Woltereck, R. (1909) Reports on the scientific results of the expedition to the eastern tropical Pacific in charge of ALEXANDER AGASSIZ, by the U.S. Fish Commission Steamer “Albatross” from October, 1904, to March, 1905, Lieutenant-Commander L.M. Garrett, U.S.N., Commanding. Amphipoda. Die Hyperiidea Gammaroidea. *Bulletin of the Museum of Compar-*

- ative Zoology, Harvard*, 52(9), 145–168, pls 1–8.
- Zeidler, W. (1991) Crustacea Amphipoda: Hyperiiidea from MUSORSTOM cruises. *In*: Crosnier, A. (Ed.) *Résultats des campagnes MUSORSTOM*, 9. *Mémoires du Muséum national d'Histoire naturelle A (Zoologie)* 152, 125–137.
- Zeidler, W. (2003) A review of the hyperiidean amphipod superfamily Vibilioidea Bowman & Gruner, 1973 (Crustacea: Amphipoda: Hyperiiidea). *Zootaxa*, 280, 1–104.