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Copepods associated with polychaete worms in European seas

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Abstract

Descriptions are given of 18 species of copepods that live in symbiotic association with polychaete worms in European Seas. Three new genera and six new species of the family Clausiidae Giesbrecht, 1895 are described: *Boreoclausia recta* **n. gen. et n. sp.** is described from *Galathowenia fragilis* (Nilson & Holthe, 1985), *Boreoclausia holmesi* **n. gen. et n. sp.** is described from *Myriochele danielsseni* Hansen, 1879, *Sheaderia bifida* **n. gen. et n. sp.** from *Euclymene oerstedii* (Claparède, 1863), *Vivgottoia garwoodi* **n. gen. et n. sp.**, was found inside the tail fragment of a terebellid host (probably *Phisidia aurea* Southward, 1956), *Rhodinicola tenuis* **n. sp.** from an unknown host, and *R. similis* **n. sp.**, from *Rhodine gracilor* (Tauber, 1879). In addition, four other clausiid species, *Clausia lubbockii* Claparède, 1863, *Mesnilia cluthae* (T. and A.Scott, 1896), *Rhodinicola gibbosus* Bresciani, 1964 and *R. rugosum* (Giesbrecht, 1895), are redescribed in detail on the basis of newly collected material. The previously-unknown hosts of *C. lubbockii* were found to be species of the spionid polychaete genus *Dipolydora* Verrill, 1881. *Clausia unisetata* Bocquet & Stock, 1960 were recognized as a junior subjective synonym of *C. lubbockii*, and *Mesnilia martinensis* Canu, 1898 was recognized as a junior subjective synonym of *M. cluthae*. The sole species of the monotypic family Anomoclausidae Gotto, 1964, *Anomoclausia indrehusae* Gotto, 1964, is redescribed based on new material. The host of *A. indrehusae*, reported here for the first time, is the spionid *Pseudopolydora paucibranchiata* (Okuda, 1937). Four new species of the family Nereicolidae Claus, 1875 are described, three belonging to the genus *Anomopsyllus* Sars, 1921: *Anomopsyllus bifurcus* **n. sp.** from *Notomastus latericeus* M. Sars, 1851, *A. geminus* **n. sp.** from *Ampharete lindstroemi* Malmgren, 1867, and *A. hamiltonae* **n. sp.**, from *Mugga wahrbergi* Eliasson, 1955. The fourth new species is *Vectoriella gabesensis* **n. sp.**, both sexes of which are described from the paraonid *Aricidea catherinae* Laubier, 1967 collected in the Mediterranean Sea off the coast of Tunisia. Another nereicolid, *Sigecheres brittae* Bresciani, 1964 is redescribed based on new material collected from the type host *Sige fusigera* Malmgren, 1865. It is recognized as a junior subjective synonym of *Nereicola concinna* T. Scott, 1902 and the valid name of this taxon becomes *Sigecheres concinna* (T. Scott, 1902) new combination. A new species of the family Spiophanicolidae Ho, 1984, *Spiophanicola atlanticus* **n. sp.**, is described based on European material. Previously European material of *Spiophanicola* Ho, 1984 has been reported as *S. spinulosus* Ho, 1984, but based on consistent differences between the Californian *S. spinulosus* and material from Norway and the British Isles, there is sufficient justification to establish a new species for the European material. Finally one new genus and species is described which cannot be placed, with confidence, in any existing family. This new parasite, *Notomasticola frondosus* **n. gen. et n. sp.**, is based on material from two hosts, a spionid (*Pseudopolydora paucibranchiata*) and a capitellid (*Notomastus latericeus*). It is highly derived and may represent a terminal branch within an existing family. The cluster of families using polychaetes as hosts is in need of revision based on a comprehensive phylogenetic analysis.

Key words: parasitic copepod, polychaete host, new genera, new species

Introduction

Copepods live symbiotic association with virtually every other marine metazoan phylum (Huys & Boxshall, 1991). Eleven families of cyclopoid copepods are recorded exclusively from polychaete hosts, but several other families include one or more species that live in association with polychaetes (Boxshall & Halsey, 2004). In this paper we report on 12 new species of copepods collected from polychaete hosts in European Seas, and provide re-descriptions of another six. Parasitic copepods from polychaete hosts are relatively rarely reported and one reason for this might be that they exist at very low prevalence rates, which means that it is necessary, on average, to search large samples of host individuals before encountering parasites. This paper stems from collaboration between specialists working on macrobenthos and copepod taxonomists: the former (A.S. and M.O'R.) have found these parasites while processing large samples of macrobenthic material containing polychaetes, and the latter (I.H.K. and G.A.B.) have generated the descriptions.

Representatives of four families that exclusively parasitise polychaetes are described or redescribed here. The only known species from the monotypic family Anomoclausidae is redescribed. Three new genera and six new species of the family Clausiidae are described and four are redescribed (*Clausia lubbockii*, *Mesnilia cluthae* and two species of *Rhodinicola*) based on new material. Four new species from two genera of Nereicolidae are described and the only known species of *Sigecheres* Bresciani, 1964 is redescribed. The valid name of this species is *S. concinna* (T. Scott, 1902), as this is shown to be a senior synonym of *S. brittae* Bresciani, 1964. A second species of the hitherto monotypic family Spiophanicolidae is described based on European material. In addition a new genus and species is described but remains of uncertain familial affinity at present.

The Polychaeta is now recognised as a paraphyletic stem group within the Annelida (Nielsen, 1995), but we