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## Systematics of the genus *Heterolaophonte* (Crustacea, Copepoda, Harpacticoida), with redescription of *H. uncinata* and *H. curvata*

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### Abstract

Both sexes of *Heterolaophonte uncinata* (Cherniavski, 1868) and *H. curvata* (Douwe, 1929) are redescribed based on newly collected material from the Black Sea and Mediterranean coasts of Turkey in view of the fact that there has been no detailed redescription since their original descriptions. Neotypes are also designated for both species. Detailed comparisons of the characters displayed among *Heterolaophonte* Lang, 1948 species reveal that the genus cannot be defined by any unique apomorphy. We propose that the structure of the male appendages, especially the swimming legs, can provide a considerable number of significant characters that are valuable both for taxonomic identification and phylogenetic inferences. In addition, several mistakes leading to a great confusion in the accurate interpretation of the relationships among species within *Heterolaophonte* are discovered in earlier species descriptions. Therefore, *H. rottenburgi* (T. Scott, 1912), *H. exigua* (T. Scott, 1912), *H. australis* (T. Scott, 1912), and *H. insignis* (T. Scott, 1914) are removed from the genus and placed as incertae sedis in Laophontidae. We also conclude that *H. phycobates* (Monard, 1935), *H. pygmaea* (T. Scott, 1893), *H. tupitskyi* Chislenko, 1976, and *H. curvata micarthros* Marcus & Por, 1960, which still need further taxonomic investigation, have doubtful identity within the genus, and we place them as species inquirendae.

**Key words:** Laophontidae, neotype, taxonomy, Turkey

### Introduction

The family Laophontidae T. Scott 1903 is a large and heterogeneous group, at present including 69 genera and about 300 species (Wells 2007; Gherardyn *et al.* 2007; Cottarelli *et al.* 2008; Huys & Lee 2009). Laophontids are essentially marine, free-living and benthic, and mainly inhabit the intertidal zone or shallow subtidal habitats and are frequently found among algal assemblages (Huys *et al.* 1996). The main problem surrounding laophontid taxonomy is that relationships between the genera are usually not well documented and justified. The origin of this problem lies in the outdated practice of defining a new genus by the particular combination of characters it displays rather than by autapomorphies. Many genera in the family such as the type genus *Laophonte* Philippi 1840 are therefore housing unnatural, polyphyletic assemblages of species (Huys & Lee 2000). Although the boundaries between genera are historically subjective, it is now widely accepted that a genus should constitute a monophyletic group. It is also recognized that formal taxonomic names and classifications should ideally be consistent with the phylogeny of the group. Moreover, there should be convincing phylogenetic reasons and/or an unequivocal unique definition before a new genus is established (Holm & Schoeman 1999).

Lang (1944) did create the name *Heterolaophonte* but, since he did not name a type-species, it was only validated in 1948 when he did nominate a type species for the genus. Hence the date of authorship is 1948, not 1944 (Huys 2009). On the other hand, Huys (2008) noticed that the genus-group names *Mesolaophonte* Nicholls 1941 and *Monolaophonte* Nicholls 1941 were senior subjective synonyms of *Heterolaophonte* since no type species was fixed. Therefore, Huys (2008) requested to ICZN that the generic name *Heterolaophonte* should be conserved, giving it precedence over the unused senior names whenever these names are considered to be synonyms. Huys' (2008) request to ICZN was granted in 2010 (ICZN 2010).

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