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Phylogenetic relationships among families of the order Anomopoda (Crustacea, Branchiopoda, Cladocera)

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Abstract

The phylogenetic relationships among families of the Order Anomopoda (Crustacea, Branchiopoda, Cladocera) were investigated through a cladistic analysis including 93 characters and 37 terminal taxa (2 as outgroups). The strict consensus tree supported the monophyly of the Anomopoda and its families, and indicated the existence of two main clades: (Moinidae+Daphniidae) and (Dumontidae (Ilyocryptidae+Bosminidae+Radopoda)). The later clade was supported by trunk limb characters, probably related to life associated with the bottom or with macrophytes (lifestyle lost in Bosminidae, but still visible in some of its trunk limbs). Within the Radopoda, the Eurycercoidea was monophyletic, but the monophyly of the Macrothricoidea was not supported.

Key words: Anomopoda, Radopoda, phylogeny, trunk limbs, systematics

Introduction

The Anomopoda is considered a well-defined order within the Branchiopoda (Fryer, 1995), possessing many unique characters: loss of trunk limb serial similarity, presence of a pair of ejector hooks on trunk limb I, production of an ephippium protecting the resting eggs, maxillules with 3–4 setae, and a vas deferens opening on the postabdomen. Olesen (1998) pointed out that some of these characters are synapomorphies supporting the monophyly of the Anomopoda.

Until the 1960's, only four anomopod families were recognized: Daphniidae, Bosminidae, Macrothricidae, and Chydoridae. In the last three decades several new families have been proposed. Goulden (1968) proposed the separation of the genera *Moina* and *Moinodaphnia* from the Daphniidae, and the establishment of the family Moinidae. Fryer (1991, 1995) questioned the family-status of the Moinidae, and his position was accepted

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