



## An updated checklist of inland Cladocera (Crustacea: Orders Ctenopoda and Anomopoda) from Venezuela

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### Abstract

An updated checklist of cladoceran orders Ctenopoda and Anomopoda from inland aquatic habitats in Venezuela is provided, containing a total of 112 species grouped into 39 genera. Recorded cladoceran species of Venezuela represent 30% of the world's described 370 species of Ctenopoda and Anomopoda. The most representative genera are *Alona*, *Diaphanosoma*, *Moina*, *Macrothrix*, and *Chydorus* with 19, 10, 7, 6, and 5 species, respectively. Most records (45%) are Neotropical and about 4% are endemic species. Some aspects related to geographical distribution and species richness in the Venezuelan hydrographic basins are briefly discussed.

**Key words:** Freshwater cladocerans, geographical distribution, species richness, Neotropics

### Introduction

Continental cladocerans are represented by a wide variety of taxa exhibiting many adaptations and ecological niches. Some authors claim these crustaceans constitute a well-defined group (Olesen, 1998, 2000; Martin and Cash-Clark, 1995, Martin and Davis, 2001), others provide evidence supporting a different taxonomic interpretation (Braband, 2002; Frey, 1982, 1987). Fryer (1987) believed similarities between the four orders he proposed were a result of convergence, rather than a common phylogenetic origin. The taxonomy of Cladocera at species and higher levels continues today in a state of flux and former monotypic species can be considered now species complex or groups (Korovchinsky, 2006; Forró, et al., 2008). The aim of this paper is to provide an up-to-date species checklist of Venezuelan cladocerans and not intended as a taxonomic review; synonymies and inaccuracies were investigated with taxonomical revisions.

Research on cladoceran fauna in Venezuela started with the Lake Valencia study by Pearse (1921), who reported *Moinodaphnia macleayi* King and *Lathonura rectirostris* Muller. Due to the fragmentary quality of Pearse's information, it could be stated that taxonomical studies on cladocerans started properly with Brehm (1953; 1956), who described the Neotropical *Bosmina tubicen* Brehm as a new species, and identified other 28 species from samples collected by Franz Gessner during the memorable German Limnological Expedition to Venezuela in 1952. These contributions included several freshwater habitats widely distributed in the country and were published simultaneously with the study by Gessner (1956) of plankton ecology of Lake Maracaibo (including cladocerans).

During the following decades after the German Expedition in 1952, two new *Diaphanosoma* species were described from Venezuelan reservoirs (Herbst 1968, 1975), and a new genus, *Byospilus*, from rainforest moss