



Cladocerans of the *Alona affinis* (Leydig, 1860) group from South Africa

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Abstract

Study of South African populations of chydorid cladocerans in the *Alona affinis*-group (Anomopoda: Chydoridae) revealed two closely related species, *Alona affinis* (Leydig, 1860) and a second, previously unknown, species *A. martensi* sp. n.

No significant differences were seen between South African and Eurasian populations of *A. affinis* sensu stricto. *A. martensi* sp. n. differs from other species of the *affinis*-group by a shorter spine on the basal segment of antennal exopodite, and can be distinguished from *A. affinis* by a number of additional morphological characters.

A. affinis is distributed mainly in the East and South regions of the Republic of South Africa, and is less frequented in this region. Confined mainly to artificial water bodies its presence may be human-mediated. *A. martensi* sp. n. seems to be endemic to the Drakensberg mountains within the borders of the KwaZulu-Natal Province and Lesotho.

Key words: Anomopoda, Chydoridae, *Alona martensi* sp. n., morphology, systematic, endemic

Introduction

Recent studies on taxonomy and distribution of the *affinis*-group within the genus *Alona* Baird, 1843 (Sinev, 1997, 1998) suggest that *A. affinis* (Leydig, 1860) is not a cosmopolitan species, as earlier perceived by Smirnov (1971). Instead, *A. affinis* sensu stricto is defined with a distribution in the Palaearctic, while in America we find the closely related species *A. ossiani* Sinev, 1998, first described from Brazil and separated from *A. affinis* based on male morphology. According to Sinev (1998), based on several minor characters, females of *A. ossiani* can also be discriminated from *A. affinis* females. However, my recent investigations have revealed a significant variability of "defining" characters in female *A. ossiani*, and I therefore find discriminating between these two species, based on female morphology to be less useful. In effect, a closer look at reported *A. affinis* population from Paraguay (Daday 1905) reveals males conforming to *A. ossiani*. Additionally, based on male morphology, I have identified populations of *A. ossiani* from Maine and Florida (USA) in the G.O. Frey collection at the National Museum of Natural History, Washington, DC. Consequently, due to the fact that males of *A. affinis* sensu stricto are to date not reported from America, its distribution in the New World remains unconfirmed.

In Australia, *A. affinis* has not been reported, but is inhabited by two *Alona* endemics, *A. kendallensis* Henry, 1922 and *A. elliptica* Sinev, 1997. In tropical Asia and Africa *A. affinis* are reported, but taxonomic status of populations in these regions still remain unclear (Sinev 1997).

Focusing on Africa, previous records of *A. affinis* are reported from the the West Cape Province in South Africa (Sars 1916, Harding 1961), and recent observations of *A. affinis* sensu stricto in rainforests of Cameroon confirm presence in Africa (Dumont & Chiambeng 2005). In this study I attempt to clarify the taxonomic status of *A. affinis*-group populations from South Africa.