



## A new species related to *Alona costata* Sars, 1862 (Cladocera: Anomopoda: Chydoridae) from South Africa

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### Abstract

A new species of the genus *Alona* (Cladocera: Chydoridae), related to *Alona costata* Sars, 1862 was found in the Drakensberg Mountains, South Africa. *Alona natalensis* sp. n. differs from all other species of the *costata*-group by its unique carapace sculpturing. The position of the new species within the genus and its morphological peculiarities are discussed. A key for the world fauna of the *costata*-group is provided. *A. natalensis* sp. n. is confined to the Eastern Escarpment area; all occurrences are located within the area with an effective temperature index below 14 °C. A complex of five endemic species of *Anostraca* (Hamer & Brendonk, 1997) as well as four recently described species of Chydoridae and Ilyocryptidae are confined to this area. Unlike widely distributed related species, *A. natalensis* sp. n. seems to be a relict species as defined by Korovchinsky (2006), confined to the restricted mountainous habitats.

**Key words:** *Alona natalensis* sp. n., Cladocera, Chydoridae, systematics, morphology

### Introduction

The *costata*-group of the genus *Alona* (Cladocera: Chydoridae: Aloninae) is a well-defined species complex characterized by the unique morphology of lateral head pores (Sinev, 1999). They are slit-shaped, with pocket-like cavities below, the length of the lateral pore and size of its pocket varies from species to species. Other distinctive features of the group include: a distally narrowing postabdomen with well-developed single marginal denticles and weakly developed lateral fascicles of setules, IDL with three setae, limb VI in the shape of a rounded lobe, and a penis-like process on the male postabdomen.

The two best known species of the group, *A. costata* Sars, 1862 and *A. rustica* Scott, 1901, were described from northern Europe, and were previously considered as cosmopolitan taxa (Smirnov, 1971). In the middle of the 20th century, these species were the only ones recognized within the group. *A. iheringi* Sars, 1901 (now *A. iheringula* Kotov et Sinev, 2004), described from Brazil and closely related to *A. rustica*, had been dismissed as a synonym of the latter, and its validity was only recently confirmed (Sinev, 2001a). Neither was the Australian species *A. setigera* Brehm, 1931, originally described as a variety of *A. guttata* Sars, 1862, regarded as a member of the group until the end of 20th century (Sinev, 1999). Discrimination of *A. costata* from *A. rustica* provided a significant taxonomical problem, since both taxa were considered as a closely related pair of “sibling-species” (Flössner, 1967).

An intensive study of the group commenced during the second half of the 20th century. Several new species were described – *A. bicolor* Frey, 1965 from North America, *A. bessei* Dumont, 1983 from underground waters of Europe, *A. rusticoides* Hudec, 1998 (now *A. hudeci* Sinev, 1999) from South America, and *A. cheni* Sinev, 1999 from South Asia. Flössner & Frey (1970) thoroughly compared European and North American