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A review of the *Canthyporus exilis* group, with the description of two new species (Coleoptera: Dytiscidae)

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Abstract

Canthyporus namaqualacrimus **sp. nov.** and *Canthyporus pallidus* **sp. nov.** are described from the Namaqualand region of South Africa, both members of the *exilis* group. A revised key to species of the group is provided, together with details of the external and spermathecal tract morphology of the female of *Canthyporus aenigmaticus* Biström & Nilsson, 2006, a species previously known only from the male holotype. The opportunity is also taken to present new ecological and distributional data on members of the *exilis* group, most of which are primarily associated with springs and seepage habitats.

Key words: Coleoptera, Dytiscidae, *Canthyporus*, new species, new records, ecology, South Africa

Introduction

Canthyporus Zimmermann, 1919 is one of the most diverse genera of hydroporine diving beetles in the Cape region of South Africa (Biström & Nilsson 2006), where 25 of the 35 known species occur; the remaining 10 being restricted to other parts of the Afrotropical region (Nilsson 2015). The genus represents a relatively basal lineage within Hydroporinae, being recovered as sister to the austral South American *Laccornellus* Roughley & Wolfe, 1987 in most analyses (e.g. Roughley & Wolfe 1987; Ribera *et al*. 2008). These two genera make up the tribe Lacornellini in the phylogeny of Miller & Bergsten (2014), itself sister to all other Hydroporinae, with the exception of *Laccornis* Gozis, 1914. Whilst published data on the ecology of these beetles are sparse, *Canthyporus* species are found in both running and standing waterbodies. Some species are apparently restricted to either lentic or lotic waters, whilst others occur across both habitat types (Biström & Nilsson 2006; D. T. Bilton *pers. obs.*), and the presence of both lentic and lotic taxa in a number of *Canthyporus* species groups suggests that multiple transitions between running and standing waters have occurred during the evolutionary radiation of the genus.

The *Canthyporus exilis* group (sensu Biström & Nilsson 2006) currently includes four species: *C. aenigmaticus* Biström & Nilsson, 2006, *C. brincki* Omer-Cooper, 1965, *C. exilis* (Boheman, 1848) and *C. nebulosus* Omer-Cooper, 1965; of which the first two are known only from the holotypes. Here I describe two new members of the *exilis* group, found during recent fieldwork in Namaqualand, South Africa. I also provide new ecological and distributional data for three of the known species of the group, as well as illustrating the habitus and male genitalia of all known species and the spermathecal tract of all five for which females are now known, alongside a revised key.

Material and methods

Specimens were studied using Leica MZ8 and M205C stereomicroscopes, with a Fluopac FP1 fluorescent illuminator. Digital photographs were taken with a Canon EOS 500D camera fitted to a Leica Z6 Apo macroscope, equipped with a 2x objective lens. Specimens were illuminated using two Fluopac FP1 illuminators. Genitalia were

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