



***Petrodessus conatus* sp. n., a new genus and species of Bidessini from hygropetric habitats in tropical Australia (Coleoptera: Dytiscidae: Hydroporinae)**

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Abstract

Petrodessus conatus sp. n., **new genus and species**, is described from hygropetric habitats in northeastern Australia. The genus is similar to *Uvarus* Guignot, 1939 or *Microdessus* Young, 1967 in lacking a transverse occipital line, a transverse carina on elytral epipleuron at the humeral angle and having both basal elytral and pronotal striae. The genus differs from these in having the anterior margin of the clypeus distinctly modified, flattened and anteriorly produced. This character state is somewhat more like that in *Clypeodytes* Régimbart, 1894, *Leiodytes* Guignot, 1936, *Neoclypeodytes* Young, 1967, but *Petrodessus* n. gen. differs from these in lacking a transverse occipital line and having the basal elytral and pronotal striae distinctly and strongly impressed. This is the first hygropetric diving beetle described from Australia.

Key words: Coleoptera, Dytiscidae, Hydroporinae, Bidessini, new genus, new species, hygropetric habitats, tropical bioregion

Introduction

Hygropetric habitats, where thin layers of water seep over the surfaces of rocks, have recently become a source for a rich diversity of previously unknown water beetles with numerous new species, genera and even family-groups discovered during the past few years (Balke *et al.* 2003; K.B. Miller 2009; K.B. Miller & Spangler 2008; Perkins 2005, 2006; Ribera *et al.* 2002; Short & García 2010; Spangler & Steiner 2005). Diving beetles (Dytiscidae) are well-represented among these new taxa. Given the extensive distribution of uncollected, or undercollected, hygropetric habitats throughout the world, it seems probable that the discovery of new dytiscid taxa will continue for some time as collectors focus more attention on these habitats. The use of permethrin-based chemicals to “fog” wet surfaces has made collecting these habitats much easier. Beetles are agitated by fogging and expose themselves at which point they can be easily collected. Specimens can also be collected at night when they emerge from concealment and move about. The new genus and species described here were discovered using these focused collecting methods in hygropetric habitats in northeastern Australia. The species is in the tribe Bidessini, a group that includes *Fontidessus* K.B. Miller & Spangler, 2008, *Incomptodessus* K.B. Miller & García, 2011, and *Spanglerodessus* K.B. Miller & García, 2011. These three groups, apparently only distantly related to the taxon described here, were recently described from similar hygropetric habitats in northern South America.

Materials and Methods

Measurements. Measurements were taken with an ocular scale on a Zeiss Discovery V8 dissecting microscope. Large and small specimens were measured preferentially to assess the range of sizes. Measurements include: 1) total length (TL), 2) greatest width across elytra (GW), 3) greatest width of pronotum (PW), 4) greatest width of head (HW), and 5) distance between eyes (EW). Several ratios are also calculated provided to give an indication of relative size or shape.