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Redescriptions of six species of *Ilyodromus* Sars, 1894 (Crustacea, Ostracoda, Cyprididae) from New Zealand and Eastern Australia

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Abstract

In this paper, we redescribe six species of the genus *Ilyodromus* Sars, 1894: *I. stanleyanus* (King, 1855), *I. varrovillius* (King, 1855), *I. smaragdinus* Sars, 1894, *I. obtusus* Sars, 1894, *I. substriatus* Sars, 1894 and *I. viridulus* (Brady, 1886) using materials stored in the Oslo museum (Norway) and (re-) described by G.O. Sars. For each species examined, we have identified a number of additional diagnostic characters to those used by Sars and earlier authors. In particular, the length of setae, claws and segments of the antennule, antenna, sixth limb, and caudal ramus appear to be important for species delineation in the genus, as does the internal structure of the valves.

Key words: taxonomy, systematics, diversity, morphology, SEM

Introduction

A significant proportion of the world's crustacean diversity is undocumented (Balian *et al.* 2008; Boxshall & Defaye 2008; Väinölä *et al.* 2008; Wilson 2008), and a sound taxonomic understanding is essential to efficient description of the many new species likely to be described. Many older crustacean descriptions made use of light microscopes to prepare sometimes striking illustrations of species (Sars 1887, 1894, 1896, 1922-1928). Nevertheless, the development of a chaetotaxal model (Broodbakker & Danielopol 1982; Martens 1987; Meisch 2000), the advancement of dissection techniques, higher magnification compound microscopes and scanning electron microscopy have since enabled the illustration of a larger suite of taxonomic characters (e.g. Halse & McRae 2004; Savatnalinton & Martens 2009), while the use of genetic species identification methods in new species descriptions (Martens *et al.* 2012, 2013; Shearn *et al.* 2012) further adds to the available set of taxonomic characters. The resulting disparity of character sets between old and new descriptions has often made comparison of closely related species difficult during species diagnosis. These situations can often be improved with detailed species redescriptions, using original or new materials that illustrate a larger set of characters (e.g. Rossetti & Martens 1996).

The genus *Ilyodromus* Sars, 1894 belongs to the ostracod family Cyprididae, and has (presently) 18 nominal species, distributed mainly throughout Australasia (Brady 1886; De Deckker 1981, 1982a, 1982b; King 1855; McKenzie 1966; Sars 1894, 1896; Smith *et al.* 2011; Victor & Fernando 1981), but also occurring in the Palaearctic region (Müller 1906; Smith & Sayers 1971), North America (Sharpe 1908), South America (Baird 1862; Daday 1905), and with at least one invasive species in Europe (Fox 1965; Ghetti 1973; Ghetti & McKenzie 1981; Petkovski & Meisch 1995). The genus was erected by Sars (1894) in light of shared characters that were detected amongst six species; *Candona stanleyana* King, 1855, *Cypris varrovillia* King, 1855, *Herpetocypris viridula* Brady, 1886, *I. obtusus* Sars, 1894, *I. smaragdinus* Sars, 1894 and *I. substriatus* Sars, 1894. The (re-) descriptions

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