



The Trichoptera of Lord Howe Island, including 3 new species, larvae and keys

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Abstract

Three new Trichoptera (caddisfly) species are described for the small south-western Pacific seamount island of Lord Howe, all probably endemics. These are 2 hydropterygids, *Cheumatopsyche erskinensis* **sp. nov.** and *C. howensis* **sp. nov.**, and a leptocerid, *Symphitoneuria nevoissi* **sp. nov.** These are the first species recorded from Lord Howe in the respective genera and increase to 5 the number of genera recorded from the island, and to 9 the number of named species. Features of 2 distinctive but unidentified *Cheumatopsyche* larvae, larval cases of *S. nevoissi* **sp. nov.**, and the larva and case of *Tasiagma eremica* Neboiss are illustrated and described. Life stages of species in 3 other genera are recorded from the island: several larvae and females identified as *Ulmerochorema* (Hydrobiosidae); 2 females of a species of *Triplectides* (Leptoceridae); and a larva of *Plectrocnemia* (Polycentropodidae), which is illustrated. Although, conceivably, none of these 3 has permanent populations, the 3 genera are included in the checklist of Trichoptera of Lord Howe Island and in the identification keys provided for Trichoptera adults and larvae of the island.

Key words: Trichoptera, caddisflies, new species, endemics, larvae, checklist, keys

Introduction

The small western Pacific Ocean sea-mount island of Lord Howe, around 700 km off the north-eastern coast of New South Wales, is well known for 2 flightless terrestrial endemics, the Lord Howe Woodhen, *Gallirallus sylvestris* (Sclater, 1869), and the Lord Howe Phasmid or Land Lobster, *Dryococelus australis* (Montrouzier, 1855). Both were victims of introduced rats: the former teetered close to extinction, but with near eradication of rats, now has a stable population; the latter was believed to be extinct but was rediscovered just off shore on Ball's Pyramid in 2001. Only slightly less vulnerable are the faunas of the 2 or 3 permanent freshwater streams, at risk from climate change. These streams support a small, but interesting, aquatic invertebrate fauna, including many unique components. Among these are 6 Trichoptera species (Neboiss, 1986a; Wells, 1999, 2004) and 8 species of hydrobiid snail (Ponder, 1982) — a 9th hydrobiid is probably extinct. Three further Trichoptera species are newly described here: 2 hydropterygids, *Cheumatopsyche erskinensis* **sp. nov.** and *C. howensis* **sp. nov.**, and a leptocerid, *Symphitoneuria nevoissi* **sp. nov.**, probably all island endemics as well.

At least 3 other Trichoptera species have been collected from the island. Two of these are known from adult females that cannot be identified beyond genus as associated males are still unknown; these are a species of *Triplectides* Kolenati, 1859, and a hydrobiosid that appears to be a species of *Ulmerochorema* Mosely (*in* Mosely & Kimmins, 1953; J. Dean, pers. comm.). Larvae that are probably of those of the *Ulmerochorema* species have been collected, as well as another larva that keys to the polycentropodid genus *Plectrocnemia* Stephens, 1836 (D. Cartwright, pers. comm.). It is curious that on collecting trips in 3 separate years, so few specimens of these have been collected. Both *Triplectides* and *Ulmerochorema* are diverse in eastern mainland Australia and adults could be blown to Lord Howe Island by strong winds, so it is conceivable that they are itinerant, having no permanent populations on the island.

Illustrations are included of the putative *Plectrocnemia* larva, the cases of *Symphitoneuria nevoissi* **sp. nov.** and the larva and case of the tasimiid, *Tasiagma eremica* Neboiss. So, too, are illustrated features of 2 very different *Cheumatopsyche* Wallengren, 1891, larvae, which undoubtedly belong to the 2 new species although at present they cannot be associated with the adults.