



Description of new *Chimarra* (Trichoptera: Philopotamidae) species from the Solomon Islands

KJELL ARNE JOHANSON^{1,3} & MARIANNE ESPELAND^{1,2}

¹Entomology Department, Swedish Museum of Natural History, Box 50007, SE-104 05 Stockholm, Sweden.

E-mail: kjell.arne.johanson@nrm.se

²Zoological Institute, University of Stockholm, SE-106 09 Stockholm, Sweden. E-mail: marianne.espeland@nrm.se

³Corresponding author

Abstract

Nine new species of *Chimarra* (Philopotamidae) are described from the Solomon Islands. *Chimarra maculata*, *C. veveensis*, *C. babarensis*, and *C. ventrospina* are described from Kolombangara Island; and *C. talinensis*, *C. kolombangensis*, *C. vitapinensis*, *C. solomonensis*, and *C. rosavensis* were described from both Guadalcanal Island and Kolombangara Island. *Chimarra biramosa* Kimmins was collected from both Kolombangara Island and Guadalcanal Island.

Key words: Trichoptera, Philopotamidae, *Chimarra*, Solomon Islands, new species

Introduction

The Solomon Islands constitute an archipelago of volcanic Melanesian islands located immediately east of Papua New Guinea and north of the Vanuatu Islands. Most of the terrestrial parts of the islands are covered by rainforest and have stable yearly temperature well above 20°C. There are no distinct dry periods but the precipitation is clearly higher between December and April than over the rest of the year, and a high number of permanent streams and rivers drain the interior highlands of most of the islands. In general, the volume of rainfall is higher along the eastern coasts compared to the western coasts (Taylor & Maffi 1978). The caddisfly (Trichoptera) fauna of the Solomon Islands is poorly known, with only 16 described species in 8 families, all of which can be ecologically associated with running water. Permanent freshwater habitats on the islands are possibly of Miocene age, since Strandberg and Johanson (in press) argued from molecular data that *Apsilochorema* caddisflies (Hydrobiosidae) from the Solomon Islands separated from the mainland Oriental sister species about 16 million years ago. The first caddisfly species described from the country was *Anisocentropus solomonis* Banks, 1939 (Calamoceratidae). Only two subsequent papers were published on the islands' Trichoptera fauna, namely one on the Guadalcanal Trichoptera by Kimmins (1957) and one on Hydropsychidae published by Oláh *et al.* (2006). Twelve of the 16 previously described species from the islands were described by Kimmins (1957) based on material collected by J. D. Bradley on the Guadalcanal Island nearly 60 years ago. Among the families included in the work by Kimmins was the Philopotamidae, a group presently divided into three monophyletic subfamilies (Blahnik, 1998), with the genus *Chimarra* Stephens, 1829, is classified in the Chimarrinae. With about 650 described species globally, *Chimarra* constitutes the second largest caddisfly genus in terms of species diversity, surpassed only by *Rhyacophila* Pictet, 1834 (Rhyacophilidae), and is known from all biogeographical regions except Antarctica. About 2/3rds of the species in *Chimarra* are restricted to the Neotropical and Oriental biogeographical regions, and the lowest diversity (less than 3% of the species) is in the Palaearctic biogeographical region. In all, 63 *Chimarra* species have previously been described from the Australasian Biogeographical Region (28 from Australia, 27 from New Guinea, 5 from the Fiji Islands, 2 from the Solomon Islands and 1 from New Caledonia). Adults of