



Re-evaluating the threatened Alpine and Mount Stirling stonefly species

Research Background

The endemic stonefly genus *Thaumatoperla* is iconic and unique to the Victorian alpine areas and one of the top predators in alpine streams. Two of the species *T. alpina* (Bogong High Plains) and *T. flaveola* (Mt Buller-Mt Stirling) are listed on the FFG Act 1988 with *T. alpina* also listed as endangered on the EPBC Act 1999. The lack of knowledge on the species and their populations has meant that developing an understanding of the specific threats to the species has been highly restricted. The threats that have been identified for *Thaumatoperla* are of a more generalised nature for alpine/freshwater organisms and this restricts the ability to manage these threatened species.

Reassessing the previously recorded populations and developing a deeper understanding of the populations through genetic mapping (i.e. dispersal mechanisms, gene-flow, genetic variability, population connectivity) will enable the identification of key populations and key sites for the species. Understanding the connectivity, dispersal mechanism and key populations/sites for both species will enable future resources to be targeted to the most useful areas which is extremely important for land managers. This important baseline knowledge will be used to guide further research and will enable the development of specific threats to those populations.



Objectives

The major objectives of this project were to:

- undertake a broad survey for the listed *Thaumatoperla* species at previously listed sites and identify new locations for the species
- collect genetic material to assess the genetic diversity and connectivity within the species and populations and to gain an insight into the dispersal mechanism for the species, either terrestrially as adults or stream-based as larvae
- re-assess the currently identified threats for the species and identify any other potential threats to the species.

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