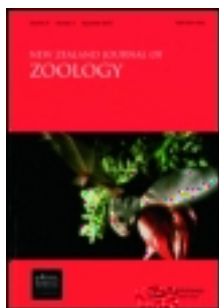


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## New Zealand Journal of Zoology

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/tnzz20>

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Version of record first published: 30 Mar 2010.

To cite this article: Steven A. Trewick (2001): Scree weta phylogeography: Surviving glaciation and implications for Pleistocene biogeography in New Zealand, *New Zealand Journal of Zoology*, 28:3, 291-298

To link to this article: <http://dx.doi.org/10.1080/03014223.2001.9518271>

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## Scree weta phylogeography: surviving glaciation and implications for Pleistocene biogeography in New Zealand

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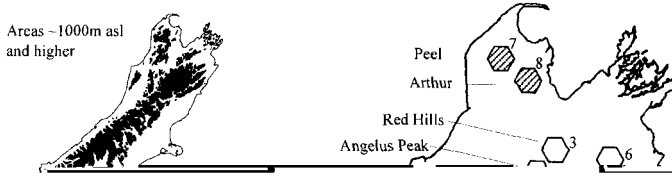
### INTRODUCTION

Pleistocene climate change and glaciation have been advanced to explain distribution patterns among many New Zealand organisms. Two types of effect

invertebrates in New Zealand are few (but see Emerson & Wallis 1995; King et al. 1996; Buckley et al. 1998; Trewick 2000a). Phylogeography has been an effective in revealing the extent to which the method of Sunnucks & Hales (1996). Molecular analysis used primers that target part of the mitochondrial DNA (mtDNA) cytochrome oxidase I gene (COI). These primers are known to be highly

**Fig. 1** Unrooted neighbour joining (NJ) network of  $K2n$  distances





**Fig. 2** Map of the South Island, New Zealand, showing sites sampled for scree weta. Filled hexagons correspond with those in Fig. 1. Insert maps indicate: approximate maximal extent of Pleistocene glaciers (re-drawn from Pillans et

ranges are extensive but ice was scarce during comparatively low in the central waist of the South

possible when the alpine zone extended more widely than today (McGlone 1988), resulting in the wide distribution of lineage a (Fig. 1). The presence of

this region are alpine specifics (McGlone 1985), but some alpine endemics are present (Cockayne 1917; Wardle 1963; Burrows 1965). The evidence from

Modern montane habitats in the South Island are **REFERENCES**

considered to be more similar (more humid and with

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