Megadromus antarcticus “crassalis”: a note

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In 1893, Major Thomas Broun described a new species of ground beetle from Albury, South Canterbury from a female specimen collected by W.W. Smith. He named it Trichosternus crassalis, and stated that it was the largest species of Trichosternus yet found in New Zealand. As well as being noticeably larger and more robust than the otherwise similar and widespread Canterbury species Megadromus antarcticus, the type specimen possessed a pair of “blisters” or lobes on its lower elytra, somewhat reminiscent of those seen more markedly on the Otago/Southland species M. bullatus.

Trichosternus crassalis was later synonomised with Megadromus antarcticus by Everard Britton in his 1940 revision of New Zealand’s pterostichine carabid fauna. But with a paucity of material and knowledge of the beetles from South Canterbury, the question remained as to whether or not this beetle was a species distinct from the smaller M. antarcticus. The possibility of M. crassalis being a separate localised rare species led to consideration of its potential conservation status (McGuinness 200; Johns 2005).

Through the 20th century, only a few similar specimens were collected, found in hill country around the type locality. The smaller typical form of M. antarcticus is common on the Canterbury plains as far south as the Orari river in South Canterbury. It typically occurs on river terraces and among shelter belts and lightly-modified terrain on the plains.

I became interested in the possibility of M. antarcticus being a separate species and carried out occasional searches in the river
valleys near Albury in the 1980s and 90s, albeit with no success. Two smaller *Megadromus* species occur in the area, *M. temukensis* and a yet-undescribed species similar in size to typical *M. antarcticus*. It wasn’t until around 2004 that I first saw a live specimen of *crassalis*, when one was brought into the South Canterbury Museum where I work. It was quite something to see this large 35mm-long beetle with metallic green and reddish reflections on its glossy black body. The beetle had been found crawling on the floor of a garage on a hilltop farm on The Brothers hill range, to the east of Albury. This specimen was kept in a terrarium for a couple of months before eventually being passed on to Lincoln University for further analysis. A search of the farmsite revealed a few elytra but no further specimens. The farming family eventually found more, and my visits to various sites along The Brothers range yielded several living and dead specimens. I further discussed this “rediscovery” and aspects of the beetle’s distribution and ecology in two articles in *The Weta* (Howe 2006; Howe 2011).

Apart from its larger size, *crassalis* was anatomically identical to typical *antarcticus*. The similarity was further confirmed by molecular research into Canterbury-wide populations of *M. antarcticus* carried out by Emily Fountain and included in her PhD thesis that reviewed molecular makeup of the endangered Canterbury knobbled weevil *Hadramphus tuberculatus* (Fountain 2013). Her work indicated that the southernmost populations of *M. antarcticus* that were identifiable as Broun’s *crassalis* were definitely within the wider *antarcticus* lineage. *Megadromus antarcticus* populations appear to have diverged during the Pleistocene, echoing geological and climatic changes (Fountain 2013).

Several *crassalis*-form beetles from hill country around the Fairlie basin and inland Geraldine area have been recorded in a number of recent faunal surveys carried out on farming stations as part of the tenure review process. Four specimens collected in the 1920s by C. E Clarke from this area are housed in the Auckland War Memorial
Museum. The larger size of the beetles and hill country habitat, rather than river valley and coastal plains, seem to be the two main ways in which the southern form of *M. antarcticus* differs from typical populations.

I had always been interested in the fact that no recent specimen that I observed possessed the two elytral lobes described by Broun in 1893. I had the opportunity recently to view his type specimen in the British Museum of Natural History. The lobes were apparent, as seen in the photograph I took. I can only surmise that they are an example of individual, not specific, variation.

Above: Thomas Broun’s type specimen of *Trichosternus crassalis*. The two elytral lobes or “blisters” are indicated by the red arrows.
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References


