

## ***Megadromus crassalis* - coming out of the X-Files?**

Philip Howe

*South Canterbury Museum, Timaru District Council, Perth Street, P.O. Box 522, Timaru, New Zealand (philiph@timdc.govt.nz)*

In 1893, Captain Thomas Broun described a new species of large carabid from South Canterbury. He named it *Trichosternus crassalis* and commented on its similarity, but larger size, compared to *Trichosternus* (now *Megadromus*) *antarcticus*, the widespread mid and north Canterbury species. His description was based on the single female specimen captured at Albury, inland from Timaru. In E.B. Britton's (1940) revision of New Zealand Pterostichini he saw fit to reduce *M. crassalis* to a synonym of *M. antarcticus*, which is perhaps not surprising considering the huge amount of overdescription that Broun had indulged in when describing New Zealand beetles, particularly within the Carabidae.

In the years that followed, the odd report surfaced of large *Megadromus* specimens in South Canterbury. Inspired by the notion of seeing the largest known *Megadromus*, I went on several trips to the Albury area during the 1980s and 90s. Here I concentrated on searching in what seemed like ideal *M. crassalis* or *antarcticus* habitat – river flat scrub, limestone cliffs and one or two remaining patches of low-lying native forest. There was no sign of *M. crassalis*, but I did turn up two other local endemic species; the small *Megadromus temukensis* and a larger black undescribed species, as well as the local *Mecodema brittoni*.

In the 1990s, reports of a *crassalis*-like *Megadromus* surfaced from further north in the hill country behind Geraldine. Here Peter Johns and the Department of Conservation (DoC) had located what seemed like a small population up on a hillside, rather than down on the river flats where I had been searching. I had found typical (25 – 28 mm) *M. antarcticus* north of here in riverbank scrub at the Orari Gorge, which seemed to be the southernmost point that it reached. There were also one or two reports of specimens from hill country in the Hakataramea Valley area. A picture seemed to be emerging of a handful of possible *M. crassalis* specimens found at a few South Canterbury hill country areas (Peter Johns, *personal communication*).

*Megadromus crassalis* rated a mention in the DoC publication *Conservation requirements of New Zealand's nationally threatened invertebrates* (McGuinness 2001). Here it was classified as being in Category X, species for which we do not have enough information to understand their exact conservation requirements. Peter Johns has now added more information about the species in his recent DoC publication about South Island carabid beetles (Johns 2005).

I finally got to see *M. crassalis* alive for myself in March 2005. However, it wasn't in the field, but at my place of work, the South Canterbury Museum in Timaru. In March, a young woman arrived with a jar containing a "bug" that was found in her parent's garage on a farm up on the Brothers range above Albury. Sure enough it was a very robust-looking *Megadromus* that fitted Broun's description of *M. crassalis*. I immediately made contact with the captors, Sandy and Duncan Evans, and was rewarded a few days later with another live specimen that had turned up under a trough in their pigpen. These were kept in terrariums at my home. A visit to the site turned up a pair of elytra in the rocky gullies behind the house, at around 500 m altitude. Sandy and Duncan have continued to encounter the odd live specimen around their house and farm buildings. At least two males were encountered wandering in the garage, while females or pairs were found when shifting debris or farm equipment in muddy soil.

Another dead specimen was brought into the Museum that had been found at the Opihi Gorge walkway several kilometres north of the Evans's site. Its finder has recently mentioned seeing dead specimens along the walkway area in early 2006.

All of the specimens I have seen were about 35mm in length and certainly appear to be more robust than the largest *M. antarcticus* specimens I have seen from further north. I was able to locate and photograph the male shown in Figure 1 in January at about 500 m altitude on the west side of the Brothers range. It would seem that *M. crassalis* is certainly present at several sites along the Brothers overlooking Albury and the Te Ngawai river.



**Figure 1.** A male *Megadromus crassalis* at 500 m altitude on the Brothers range, South Canterbury.

Two of the three specimens from the Evans's site that I have kept alive have now died and have been passed on to Peter Johns for further study and possible molecular analysis. The question remains, are these merely a large southern form of *M. antarcticus* or do they represent a separate species? Certainly in appearance and behaviour they are very *antarcticus*-like, but their uniformly larger size, altitude preference and distribution pattern seem to indicate something different.

I now think that it is likely that *M. crassalis*, whatever its status, probably occurs across hillsides above say 350 m or more, across an area encompassing several South Canterbury localities. It will be interesting to carry out further surveys in the future to determine the exact geographical and altitudinal range of this beetle, and how that fits into the distribution of other *Megadromus* species locally. The fact that *M. crassalis* occurs at several sites along the Brothers range, including one that is highly modified by farming activities, would indicate that it is not under any immediate threat.

## References

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