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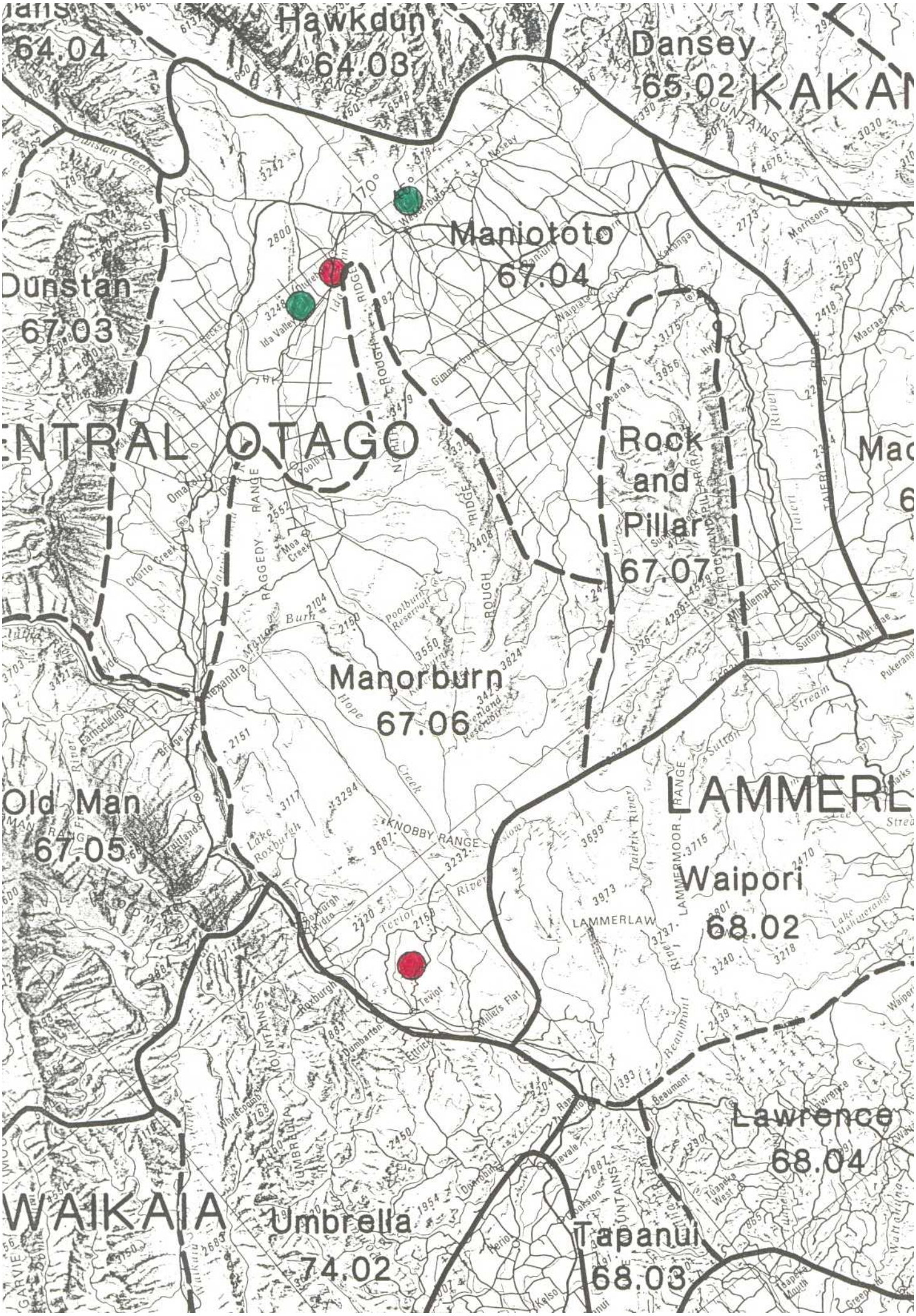
Map. 1. Central Otago and Maniototo area showing localities where *M. laeviceps* has been collected. The red spots show fairly accurate collection sites, and the green spots, approximate localities. The locality not marked by a spot is the Old Man Range, where there is no indication of the actual collection site.

Reproduced from NZMS 242 Sheet 4 (McKewen (1987)


64.04
Hawkdun
64.03
Dansey
65.02
KAKAN
Maniototo
67.04
Dunstan
67.03
CENTRAL OTAGO
Rock
and
Pillar
67.07
Manorburn
67.06
Old Man
67.05
LAMMERL
Waipori
68.02
Lawrence
68.04
WAIKAIA
Umbrella
74.02
Tapanui
68.03

ABUNDANCE

Clearly *M. laeviceps* is very scarce, if not extremely rare. Evidence is presented here of only four specimens known to be in existence in New Zealand collections. Generally, only single specimens seem to have been found by those who have collected the species. Peter Johns noted that he returned to the Oturehua locality in the late 1980s and was unable to find more specimens of *M. laeviceps* despite the environment not having apparently changed much.

BIOLOGY AND ECOLOGY

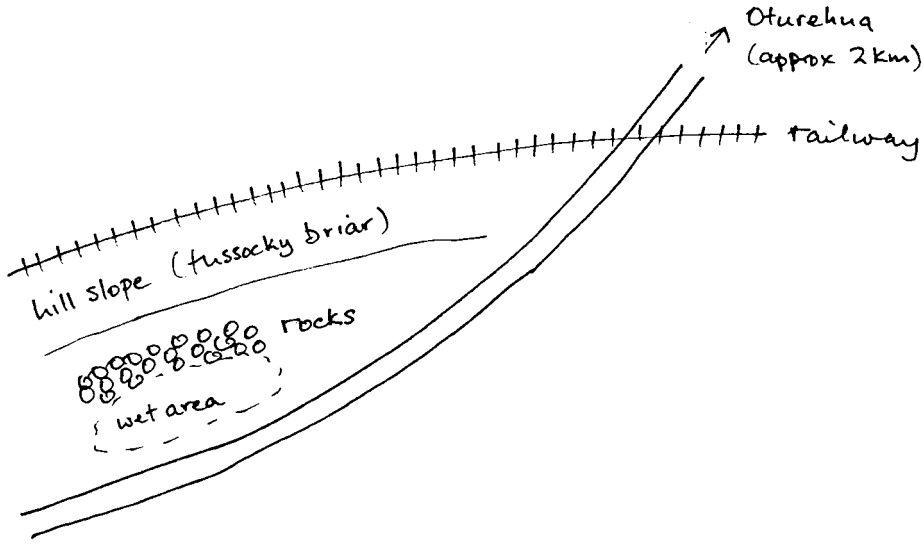
Very little can be said about the natural habitat, phenology or ecology of *M. laeviceps* because so few specimens have been found. Altitude records are only available for two specimens, which range from 450-479m. Malcom Foord, who's Mt. Teviot specimen collected in 1944 was examined by Britton (1949) found the individual in an area of tussock grassland, either under a rock or amongst tussock litter. Peter Johns found the only confirmed male that has been recorded, under a rock in an area that was almost scree-like. Surrounding vegetation was tussock and briar, with a wet area at the bottom of a slope below the railway line (see Fig. 2). Other localities for the Old Man Range and the Ida/Wedderburn specimen are too imprecise to speculate on vegetation type. Possibly the species was a forest, or forest margin/shrubland dweller, and loss of this type of habitat may have influenced the range and survival of the species. Alternatively, if such forest margin/ shrubland habitats are searched, more specimens may be recovered as was the case with *M. chiltoni.* Ian Townsend made the suggestion that the Naseby Forest may be worth investigating, bearing in mind the *M. chiltoni* recoveries in the Irthing Stream area in November 1993.

DETERMINATION OF CONSERVATION STATUS

Peter Johns collected *M. laeviceps* in 1964 at Oturehua (see Table 1). He visited this site again in the late 1980s and although, as mentioned above, as far as he could recall, the site had not changed, no further specimens were seen. He remarked further that in his view the species is very rare. The information presented here supports this, and

furthermore, there is no evidence to suggest that any localities where *M. laeviceps* has been found have any form of protected or conservation status. A live specimen of the species has not been found for 30 years.

Fig. 2. Sketch map of Oturehua locality where *M. laeviceps* was found by Mr Peter Johns (reproduced from his drawing).


Oturehua
(approx 2km)
railway
hill slope (tussocky briar)
rocks
wet area

RECOMMENDATIONS

Clearly an investigation into the current distribution and abundance of *M. laeviceps* is warranted, with any information about the preferred habitat and biology being of great value. Since the Oturehua locality, where the most recently discovered specimen was found is well defined by Peter Johns further searching concentrated in this area would seem to be worthwhile. The Wedderburn area and northern parts of the Ida Valley, which includes Oturehua, should probably be the wider focus of this survey, since most specimens, including the type appear to have come from this area. At Mt Teviot, the tussock grassland vegetation may have been significantly modified by agricultural development since Malcom Foord's specimen was found, nevertheless would also be worth surveying. Should searching either of these localities be successful, similar nearby habitats would be worth investigating.

Survey methods that should be adopted are specified in Barratt (1993).

CONCLUSION

The status of *M. laeviceps* appears to be extremely rare, if indeed it still exists. A field survey therefore warrants high priority so that a conservation strategy can be put in place to protect this species if positive recoveries are made.

ACKNOWLEDGEMENTS

I am very grateful to all those who supplied information that was put together in this report. Having never seen this species, living or preserved, I have depended entirely on my colleagues who have, and the information they have been able to provide. These are Rowan Emberson, Peter Johns, Ian Townsend, John Early, Ron Ordish, Systematics staff at Landcare Research NZ Ltd., Anthony Harris (Otago Mueum), Anthony Savill (Canterbury Museum).

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