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Ecological studies of a marine terrace sequence in the Waitutu Ecological District of southern New Zealand. Part 5: Land snails

G. M. Mason*

INTRODUCTION

Previous information on the terrestrial molluscs of the Waitutu District is very sparse and has been summarised by Elliott and Ogle (1985:100f). To gain further information on the species present and their distribution and ecology, the author joined the team conducting a survey of the area, as described by Mark *et al.* (1988).

METHODS

In the field, at most of the study sites (see Mark *et al.* 1988, Fig. 1) the animals were collected by hand from under stones and logs, off vegetation and from under bark, for periods of 20-30 minutes. When it became feasible to do so, leaf-litter samples of about 4-5 litres were also taken. Some hunting by torch-light after dark yielded a few athoracophorid slugs and occasional snails. Live material in the field was relaxed and drowned in cold boiled water on which was floated a little powdered menthol, fixed in 4% formaldehyde for twenty minutes to 30 hours depending on the size of the animal, and then preserved in 70% ethanol.

In the laboratory the litter samples were dried at 36°C for a few days, then split into sub-samples using 10 and 6 mm sieves. The sub-6mm fraction was placed in 25 litre tubs of water and after a few hours steeping, the floating fraction was skimmed off, air dried and then hand-picked for snails. The 10 and 6 mm fractions were treated in the same way. The species recovered (Table 1) are deposited with Dr F. M. Climo, National Museum.

RESULTS

Of the 45 species given in Table 1, only 18 were collected by both the author and Elliott and Ogle (1985). This suggests that there are many more species to be recorded in the area.

Repeated attempts to find similarity/dissimilarity values between the various samples failed due to the uneven collecting techniques.

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Table 1—List of Gastropoda collected along a transect line on marine terraces of the Waitutu Ecological District (for locations see Mark *et al.* 1988, fig. 1). Generic names in quotation marks are for taxa which have been placed conventionally but which will be moved to related new genera when taxonomic revisions in progress (F. M. Climo, unpubl.) are completed. The punctid numbering system follows the convention outlined by Solem, Climo and Roscoe (1981). The asterisk denotes a species collected by the author that was also recorded by Elliott and Ogle (1985); species denoted with # were recorded only by Elliott and Ogle. The letters C, F, S, W in the Habitat column stand for: Coastal, Forest, Shrubland, and Woodland respectively.

GASTROPODA	Altitude Range (M)	Habitat
Liareidae		
* <i>Cytora chiltoni</i> (Suter, 1896)	50-140	F
Rhytididae		
* <i>Rhytida otagoensis</i> (Powell, 1930)	5-295	F
Endodontacea		
Punctid n.sp. No. 50	3-315	CFW
* Punctid n.sp. No. 32	3	C
Punctid n.sp. cf. No. 1	4-5	C
# Punctid n.sp. No. 15	—	
# Punctid n.sp. cf. n.sp. No. 10	—	
# Punctid n.sp. No. 1	—	
Punctid n.sp. No. 8	30-310	FW
* <i>Phrixgnathus celia</i> Hutton, 1883	3-135	CF
# <i>Ph. stewartensis</i> (Dell, 1954)	—	
<i>Pasmaditta jungermanniae</i> (Petterd, 1879)	135	F
<i>Taguahelix subantarctica</i> (Suter, 1909)	4-310	CFW
T. n.sp.	4-30	CF
* <i>T. viridula</i> (Suter, 1909)	80-140	F
* <i>Aeschrodomus stipulata</i> (Reeve, 1852)	3-140	CF
* <i>Allodiscus planulatus</i> (Hutton, 1883)	125	F
* ? <i>Allodiscus</i> n.sp. "crinkley"	3-355	CFW
<i>Alsolemia takahea</i> (Dell, 1954)	3-380	CFW
# <i>A. hiarara</i> (Dell, 1954)	—	
* <i>Cavellia</i> n.sp. cf. <i>reeftonensis</i>	4-140	CF
* <i>C. sylvia</i> (Hutton, 1883)	3-80	CF
* <i>C. otagoensis</i> (Suter, 1899)	3-380	CFW
<i>C. tapirina</i> (Hutton, 1883)	3	C
* " <i>Charopa</i> " <i>bianca</i> (Hutton, 1883)	3-140	F
"C." <i>pilsbryi</i> (Suter, 1895)	125-140	F
"C." n.sp. cf. <i>pilsbryi</i>	135	F
* " <i>Flammoconcha</i> " <i>glacialis</i> (Suter, 1891)	30-315	FW
* "F." <i>laingi</i> (Suter, 1905)	125-652	FWS
* <i>Flammulina zebra</i> (Le Guillou, 1842)	3-380	CFW
* <i>F. perditia</i> (Hutton, 1883)	130	F
"F." <i>lateaperta</i> (Dell, 1955)	5	C
# "F." <i>feredayi</i> (Suter, 1892)	—	
<i>Huonodon gadus</i> (Dell, 1954)	50-300	FW
* <i>H. hectori</i> (Suter, 1890)	50-355	FW
* <i>Ptychodon wairarapa</i> (Suter, 1891)	3-140	CF
<i>Pt. blacki</i> (Dell, 1955)	50	F
# <i>Pt. protoleioda</i> (Climo, 1978)	—	
<i>Mocella rakiura</i> (Powell, 1939)	5	C
<i>Phacusa costata</i> (Suter, 1899)	—	
<i>Phacusa</i> sp.	125-570	FW
<i>Phenacharopa pseudanguicula</i> (Iredale, 1913)	30-140	F
"White <i>Phenacohelix</i> " n.gen. et sp.	30	F
<i>Therasia cressida</i> (Hutton, 1883)	50	F
# <i>Thalassohelix igniflua</i> (Reeve, 1852)	—	

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