INTRODUCED SLUGS AND SNAILS

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Summary

Even though the names of some of the introduced slugs are being revised it is possible to distinguish live specimens of species or species groups of slugs and snails. It is important to identify material accurately because differences in behaviour and annual cycle affect the ability of each species to survive in crops and pasture.

INTRODUCTION

When Coleman (1970) reviewed the literature on introduced slugs in New Zealand he pointed out that there were large gaps in our knowledge of these animals which together with at least one of the introduced snails, cause damage to plants of economic importance and of value to the home gardener. In Europe from where these molluscs originate, there has been confusion over the names and precise identification of many of the species referred to by Coleman (1970). G. Barker of MAF, Ruakura, is currently trying to establish the identity and distribution of the species present in New Zealand. It is important to identify specimens because of the differences in their annual cycle and behaviour, which affect the survival of each species in crops and pasture. Much of this information is summarised by Runham and Hunter (1970).

It is possible with only a little experience to determine the genus of live slugs and even place them provisionally in species or species groups. Indigenous slugs are flat and leaf-like (Fig. 1a) and are rarely seen in crops or on horticultural plants. The introduced slugs are very different in appearance (Fig. 1b). Four genera are found in New Zealand and can be distinguished by the form of the mantle using the characters mentioned in the following key based on Cloudsley-Thompson and Sankey (1961).

1	– Mantle concentrically ridged like a thumb-print (Fig. 1c); respiratory orifice towards the posterior end of the mantle	2	
	– Mantle roughened (shagreened); respiratory orifice near centre or anterior end of mantle	3	
2	– Posterior margin of mantle obtusely angled; nucleus of mantle ridges above respiratory opening and on longitudinal mid-line of the mantle; tail pointed when seen in profile		<i>Limax</i>
	– Posterior margin of mantle rounded; nucleus of mantle ridges above respiratory opening but to right of longitudinal mid-line; tail obliquely truncated in profile		<i>Agriolimax</i>
3	– Mantle divided by a horse-shoe-shaped groove into central and lateral areas (Fig. 1b); respiratory orifice about central		<i>Milax</i>
	– Mantle not divided; respiratory orifice near anterior end of mantle (Fig. 1d)		<i>Arion</i>

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Slugs and Snails

FIG. 1: Some diagnostic features of slugs found in New Zealand.

While the species names may be in doubt there are distinctive forms of slugs. The following notes on the species seen in studies on pasture fauna and in gardens, supplement the descriptions of Coleman (1970).

Arion hortensis (Ferussac) – yellow sole to foot

Milax budapestensis (Hazay) – foot with a darker median area; keel yellow or orange, paler than rest of dorsal surface.

M. gagates (Draparnaud) – pale sole to foot; keel same colour as rest of dorsal surface.

Limax flavus (L.) – tentacles steely blue.

L. maximus (L.) – tentacles brown.

Agriolimax reticulatus (Muller) – varied colour, reticulated appearance; thumb print on mantle often indistinct.

A. laevis (Muller) – smaller; chestnut brown.

Slugs and Snails

The three introduced terrestrial snails that I have seen are even more distinctive. The large garden snail *Helix aspersa* (Muller) is familiar to most people. *Oxychilus cellarius* (Muller) is smaller, up to 10 mm diameter with a glossy brown, flattened shell and is common around Auckland if not elsewhere. The other species that I have seen is *Vallonia excentrica* (Sterki). It has a tiny white shell 3 mm diameter and can be abundant in pasture soils.

REFERENCES

- Cloudsley-Thompson, J. L. and Sankey, J., 1961. Land Invertebrates, London, Methuen & Co. Ltd. pp. 156.
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