

## The Australian Museum Lord Howe Island Expedition 2017—Land Snail Fauna

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**ABSTRACT.** Land snail surveys undertaken in 2016 and 2017 on Lord Howe Island by members of the Australian Museum have produced new occurrence records of at least 44 species of land snail. These include three probably species new as well as six introduced species.

**KEYWORDS.** Lord How Island; Mollusca; Gastropoda; Neritimorpha; Eupulmonata; Caenogastropoda.

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### Introduction

The land snail fauna of Lord Howe Island comprises 62 currently recognised, extant native species (or subspecies), of which 59 are endemic to the island. One species, *Epiglypta howinsulae*, is extinct most likely as result of rodent predation. In addition, twelve introduced species have so far been documented, some of which are generally considered as pests (Stanisic *et al.*, 2010).

The endemic species represent ten different families belonging to three major gastropod clades, the Neritimorpha, Eupulmonata and Caenogastropoda. Each of these families must have colonized Lord Howe Island at least once independently and most families have since radiated into more or less diverse flocks of endemic species. Neritimorphs are represented by the Hydrocenidae (1 species), eupulmonates are represented by Achatinellidae (4 species), Bulimulidae (1 species), Charopidae (13 species), Helicarionidae (6 species or subspecies), Microcystidae (11 species), and Punctidae (12 species), and caenogastropods are represented by Assimineidae (3 species) and Diplommatinidae (10 species) (Table 1).

In addition, up to 37 potentially undescribed species have been identified among material held by the Australian Museum through curatorial work (Table 2). Clarifying the taxonomic status of these candidate species requires verification by detailed comparative taxonomic study. Preferably, such studies should include examinations of morphological, anatomical and molecular genetic characters. Hence, the need to collect additional samples that are suitable for such systematic investigations in the near future.

Five gastropod species are currently listed as Endangered or Critically Endangered nationally (EPBC Act 1999), and one species is extinct (Table 1). Predation by introduced rodents is considered as the single most significant threat causing on-going decline in these species. However, based on the limited distribution of all island species and the ubiquitous presence of rodents on the island, it is probable that additional species are eligible for listing as endangered or critically endangered in accordance with the criteria of the EPBC Act.

Current knowledge of the distribution and abundance of most species is based on a series of comprehensive surveys undertaken since the early 19070s, namely in 1971 (534