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Two New Species of Land Snails from Northland

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Abstract

Flammulina albozonata (Flammulinidae) and *Laoma* (*Phrixgnathus*) *waipoua* (Laomidae) are described as new species. Both appear to have a rather limited distributional range in Northland, New Zealand.

INTRODUCTION

THE species described here were taken from Waipoua Forest some years ago. Despite further collecting in other parts of Northland only two further localities have been found. These two species may have a similar distributional pattern to that group of land snails, both taenioglossid and pulmonate which appear to have originated in the northwestern portion of Northland and are apparently still restricted to the area between Dargaville and the Ninety Mile Beach. It includes such species as *Cytora aranea* Powell, *Liarea turriculata waipoua* Powell, *Therapsiella elevata* Cumber, *Laoma* (*Phrixgnathus*) *larochei* Powell and *Rhytida forsythi* Powell.

Family FLAMMULINIDAE

FLAMMULINA Martens, 1873

Flammulina albozonata n.sp. Figs. 1-5.

Shell small, thin, depressed turbiniform, imperforate, fulvous, translucent with no colour pattern. Spire half height of aperture. Protoconch one and a half spirally striate whorls, spirals on the last half whorl crossed by protractive axials, resulting in diagonally latticed pattern. Whorls three and a half, regularly increasing and evenly rounded. Sculpture of irregularly spaced fine, slightly raised but rounded growth lines; odd ones sometimes more raised and appearing as fine white lines on the penultimate and body whorls, but not extending on to base. Axials intersected by fine incised spirals, more apparent on base where they are twice their own width apart. Interstitial surface finely pitted. Suture impressed. Umbilicus completely closed and glazed over with a heavy white callosity raised on outer margin and extending as a thin glaze beyond the aperture and across parietal wall. Aperture oblique, lunate. Outer lip with a slight sinus in sutural area. Columella oblique, thickened and reflexed.

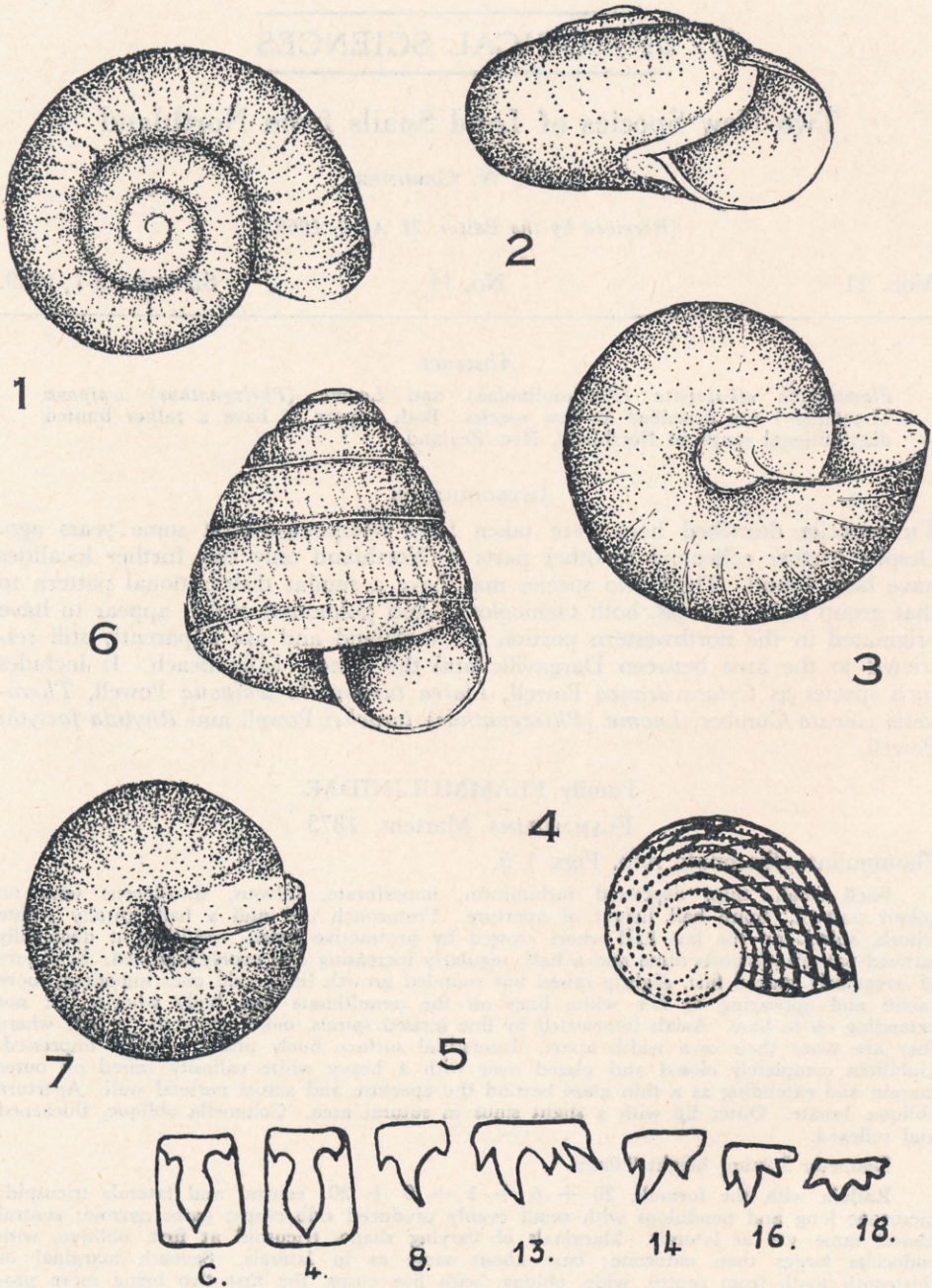
Diameter 3.2mm; height 2.0mm.

Radula with the formula $20 + 6 + 1 + 6 + 20$; central and laterals tricuspid; mesocone long and pendulous with small evenly produced side cusps; bases narrow; central almost same size as laterals. Marginals of varying shape, tricuspid at first, oblique, with endocone larger than entocone; base about same as in laterals. Seventh marginal or thirteenth tooth from centre, wide, oblong, with five cusps, the first two being more pro-

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nounced; the following tooth similar to earlier marginals, but produced on outer margin and endocone larger; the seventeenth has four cusps, the outer two being smaller; following teeth reduced in size and development.



FIGS. 1-5.—*Flammulina albozonata* n.sp. 3.2×2.0 mm. Four protoconch and five radula.
 FIGS. 6 and 7.—*Laoma (Phrixgnathus) waihoua* n.sp. 1.5×2.0 mm.

TYPE MATERIAL: Holotype in Auckland War Memorial Museum; paratypes in Auckland and Dominion Museums.

TYPE LOCALITY: Leaf litter, three miles south of "Tane Mahuta", Waipoua Forest, Northland. -1-67, N.W.G.

OTHER LOCALITIES: Northern entrance to Waipoua Forest, -1-55, N.W.G.; Church Road, Kaitaia. L. Price, 1960.

REMARKS: This new species superficially resembles *Laoma* (*Phrixgnathus*) *lucida* Suter with which it occurs in the northern area, but is assigned to the genus *Flammulina* on radular features. It is recognised by its fewer whorls, the incised spirals and the distinctive whitish callosity around the umbilical depression. The diagonally latticed sculpture of the latter part of the protoconch is a feature not encountered in other species of the genus. Several species, namely *F. feredayi* Suter, *F. costulata* (Hutton) and *F. pilsbryi* Suter have some spirals on the embryonic whorls. In *Flammulina olivacea* Suter, a few incised spirals are present on the body whorl, but these are not as distinct or regular as in the new species *albozonata*.

The thirteenth tooth of the radula of *Flammulina zebra* (Le Guillou) has a tendency to have the ectocone split into a number of subsidiary cusps (Dell, 1952). A somewhat similar situation occurs in *albozonata* where the oblong thirteenth tooth has a long base with five cutting points. This wide tooth appears as a distinct band running down each side of the radula.

Family LAOMIDAE

Genus LAOMA Gray, 1849

Subgenus PHRIXGNATHUS Hutton

Laoma (*Phrixgnathus*) *waipoua* n.sp. Figs. 6 and 7.

Shell very small, of six whorls, uniformly light brown in colour, with a dome-shaped spire twice the height of aperture. Protoconch of one and a half finely pitted whorls. Post-embryonic whorls only moderately rounded. Suture not markedly impressed. Sculpture consisting of weak, low, rounded, rather vertical and irregularly spaced riblets (approximately 12 per mm) on the body whorl, fading out on base; interstices with weak spiral striae, stronger on base; shell surface microscopically pitted; a low rounded spiral cord present just above suture and usually around periphery of body whorl which is subangled to rounded. Base evenly rounded with an umbilical depression. Aperture lunate, outer lip almost vertical, basal lip evenly rounded. Columella short, vertical, strongly reflexed, partly covering the narrow umbilical perforation.

Diameter 1.5mm; height 2.0mm.

TYPE MATERIAL: Holotype in Auckland War Memorial Museum; paratypes in Auckland and Dominion Museums.

TYPE LOCALITY: Leaf litter, two miles south of "Tane Mahuta", Waipoua Forest, Northland. -1-55 and -7-68, N.W.G.

REMARKS: This rather uncommon mollusc was more frequently found in bush-clad areas with considerable ground cover of *Astelia*. It is readily identified by its dome-shaped profile, small size and sutural thread.

LITERATURE CITED

DELL, R. K., 1952. Otoconcha and its Allies in New Zealand. *Dom. Mus. Rec. Zool.* 1(7): 59-69.

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