

**Order:** Stylommatophora  
**Family:** Rhytididae  
**Taxonomic Name:** *Powellipbanta lignaria johnstoni* (Powell, 1946)  
**Common Names:** Woodformed land snail (Meads 1990a)  
**Synonyms:** *Parypbanta lignaria johnstoni*, *P. unicolorata johnstoni*, *P. lignaria johnstoni* (Powell 1979)  
**M&D Category:** B  
**Conservancy Office:** WC  
**Area Office:** Buller

**Description:** A snail with a light reddish-brown shell, conspicuously spirally banded and lined in dark reddish-brown. The shell base is yellowish-olive. The shell is 40 - 45.5 mm wide, and 23.8 - 25 mm high (Powell 1979).

Shell width: 45.5 mm

**Type Locality:** West side of Chasm Creek towards junction with the Mokihinui River, 30-152 m (Powell 1949).

**Specimen Holdings:** -

**Distribution:** The catchment of Charming Creek in the Mokihinui State Forest north of Westport (Meads et al. 1984). Powell (1979) states a boundary of a block of mountainous coastal country, isolated by the sea to the west, the Mokihinui River to the north, the Ngakawau River to the south, and Chasm and Charming Streams combine to form the eastern boundary. However, snails have subsequently also been found on the true left of both Ngakawau River and Charming Creek, about 1 km east of Powell's original boundary (K. Walker pers. comm. 2000).

**Habitat:** Generally found in rimu (*Dacrydium cupressinum*)/yellow silver pine (*Lepidothamnus intermedius*) forest, but also found in beech forest (Meads et al. 1984).

**Sign of Presence:** Empty shells.

**Threats:** High mortality occurred in the 1980s due to the clearfelling of large areas of forest, followed by a very hot burn, root raking, and the conversion of snail habitat into exotic pine forest (Walker 1982b). There is severe possum predation occurring at all remaining colonies (K. Walker pers. comm. 2000).

**Work Undertaken to Date:** -

**Priority Research, Survey, and Monitoring:** -

**Management Needs:** 1) Keep possum numbers steadily low for the foreseeable future (K. Walker pers. comm. 2000).

**Contacts:** Kath Walker.



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Powell 1979, Plate 62, Figs. 6, 7.

**Order:** Stylommatophora  
**Family:** Rhytididae  
**Taxonomic Name:** *Powelliphanta lignaria lignaria* (Hutton, 1888)  
**Common Names:** Woodformed land snail (Meads 1990a)  
**Synonyms:** *Paryphanta lignaria* (Powell 1979)  
**M&D Category:** B  
**Conservancy Office:** WC  
**Area Office:** Buller

**Description:** A snail with a yellowish-olive shell, and dark reddish-brown axial stripes. It has a smooth bluish-grey parietal callus (the thickened calcareous deposit on the upper part of the inside wall of the aperture). The shell is 47 - 65 mm wide, and 26 - 38.5 mm high (Powell 1979).

Shell width: 65 mm

**Type Locality:** The saddle between the Mokihinui and Lyell Rivers, Nelson (locality probably incorrect) (Powell 1949, 1979). Neotype; about 2.4 km up Marris' Tramway, near junction of Mumm and Stillwater Creeks (Powell 1941 cited in Powell 1949).

**Specimen Holdings:** Neotype in Powell collection AMNZ. Holotype not in CMNZ as stated by Suter (Powell 1949).

**Distribution:** Found in the Karamea Bluffs area, between the Mokihinui River and about Six Mile Creek (Meads et al. 1984), including between Sawyer's and Stillwater Creeks, St Helens, Mokihinui 24-30 m; Hill-top, 274 m, west of Sawyer's Creek; Old Mans Rock, 91 m, Kongahu Point, 6 miles north of Mokihinui River; first watercourse, Mokihinui-Karamea Rd; The Bluff or View Hill Saddle, 419 m, Mokihinui-Karamea Rd; Carlin's Flat, head of Six Miles Creek, 201 m (Powell 1949).

**Habitat:** Broadleaf/podocarp forest, with high rainfall and moderate temperatures. Found in deep, moist leaf litter, where the parent rock is limestone (Meads et al. 1984). Occurs from sea-level to 457 m or more (Powell 1979).

**Sign of Presence:** Empty shells.

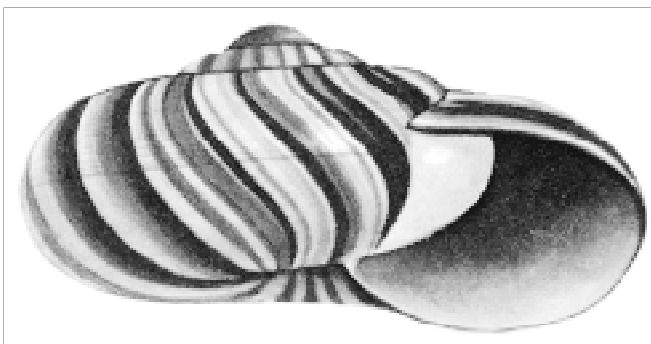
**Threats:** Possums and rats (Walker 1996).

**Work Undertaken to Date:** -

**Priority Research, Survey, and Monitoring:** 1) Undertake effective predator control (refer to draft *Powelliphanta* land snail recovery plan (Walker 2000)).

**Management Needs:** -

**Contacts:** Kath Walker.



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Powell 1979, Plate 61, Fig. 8.

**Order:** Stylommatophora  
**Family:** Rhytididae  
**Taxonomic Name:** *Powelliphanta lignaria lusca* (Powell, 1949)  
**Common Names:** Woodformed land snail (Meads 1990a)  
**Synonyms:** -  
**M&D Category:** B  
**Conservancy Office:** WC  
**Area Office:** Buller

**Description:** A snail with a reddish-brown shell, having dark-brown axial stripes with little space between them. The shell is 55.5 - 57.5 mm wide, and 33 - 35 mm high (Powell 1979).

Shell width: 57.5 mm

**Type Locality:** Mokihinui-Karamea Road at Glass Eye Creek (Powell 1979).

**Specimen Holdings:** AMNZ.

**Distribution:** Found in the catchments of Falls Creek and Glasseye Creek north of Six Mile Creek in the Karamea Bluffs (Meads et al. 1984). Powell (1949, 1979) lists it as from Mokihinui-Karamea Road at Glass Eye Creek and from there to Corbyvale and down to the coast at Little Wanganui.

**Habitat:** Broadleaf/podocarp forest with high rainfall and moderate temperatures. Found in deep, moist leaf litter, where the parent rock is limestone (Meads et al. 1984).

**Sign of Presence:** Empty shells.

**Threats:** Rats (Meads et al. 1984) and possums (Walker 1999 unpub.).

**Work Undertaken to Date:** -

**Priority Research, Survey, and Monitoring:** 1) Undertake effective predator control (refer to draft *Powelliphanta* land snail recovery plan (Walker 2000)).

**Management Needs:** -

**Contacts:** Kath Walker.

See Plate 4, No. 11.



Photo: Kath Walker.

**Order:** Stylommatophora  
**Family:** Rhytididae  
**Taxonomic Name:** *Powelliphanta lignaria oconnori* (Powell, 1938)  
**Common Names:** Woodformed land snail (Meads 1990a)  
**Synonyms:** -  
**M&D Category:** C  
**Conservancy Office:** NM, WC  
**Area Office:** Motueka, Buller

**Description:** A snail with a cinnamon-brown shell, crossed by a few narrow dark sepia axial stripes. The shell is 43 - 51.5 mm wide, and 36.5 - 42 mm high (Powell 1979).

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*Shell width: 51.5 mm*

**Type Locality:** Headwaters of the Leslie River, tributary of the Karamea River, 609 m (Powell 1938).

**Specimen Holdings:** AMNZ.

**Distribution:** In Kahurangi National Park in the headwaters of the Karamea River, between the Crow and Leslie Rivers on the western flanks of the Arthur Range. Also in the lower Karamea River in the Kakapo and Cuckoo River catchments (K. Walker pers. comm. 2000).

**Habitat:** Around the Leslie River it is found in tall podocarp forest (matai (*Prumnopitys taxifolia*), rimu (*Dacrydium cupressinum*), miro (*Prumnopitys ferruginea*) and kahikitea (*Dacrycarpus dacrydioides*)) at about 610 m, in an area of large limestone bluffs (Meads et al. 1984). In the Kakapo River area it is found on limestone under beech forest (K. Walker pers. comm. 2000).

**Sign of Presence:** Empty shells.

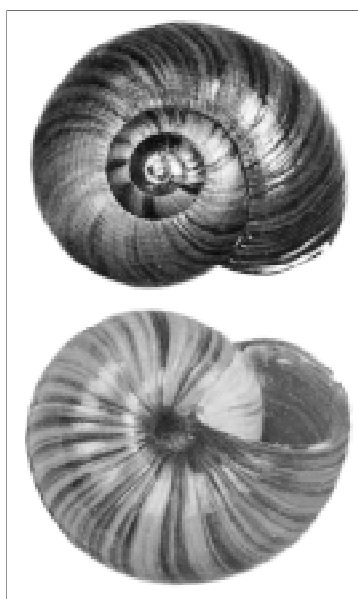
**Threats:** Rats (Meads et al. 1984), and possums.

**Work Undertaken to Date:** -

**Priority Research, Survey, and Monitoring:** 1) Undertake effective predator control (refer to draft *Powelliphanta* land snail recovery plan (Walker 2000)).

**Management Needs:** -

**Contacts:** Kath Walker.



*Permission: Harper Collins Publishers (NZ) Ltd. Powell 1979, Plate 62, Figs. 8, 9.*

**Order:** Stylommatophora  
**Family:** Rhytididae  
**Taxonomic Name:** *Powelliphanta lignaria rotella* (Powell, 1938)  
**Common Names:** Woodformed land snail (Meads 1990a).  
**Synonyms:** *Paryphanta unicolorata rotella*, *P. lignaria rotella* (Powell 1979)  
**M&D Category:** B  
**Conservancy Office:** WC  
**Area Office:** Buller

**Description:** A snail with a dense dorsal pattern of dark reddish-brown spiral lines on the shell, as well as a few bold, widely spaced dark brown axial streaks. There are faint to obsolete spiral lines on the otherwise plain yellowish-olive base. The shell is 42.5 mm wide, and 24.5 - 28 mm high (Powell 1979).

Shell width: 42.5 mm

**Type Locality:** Between headwaters of St Andrew's and St George's Streams, tributaries of the Ngakawau River, 366 m, western slopes of Mt Glasgow, (Powell 1938).

**Specimen Holdings:** AMNZ.

**Distribution:** The western slopes of the Glasgow Range in the Mokihinui Forest, between St Andrew's and St George's Streams, 366 m; the ridge between Coal and Chasm Creeks, 213 m; the hill above the former Hydro (State) Mine, 122 - 152 m; north side of St Andrews Stream on pakihi, 396 - 427 m (Powell 1949; Powell 1979; Meads et al. 1984).

**Habitat:** Pakihi and rimu (*Dacrydium cupressinum*)/yellow silver pine (*Lepidothamnus intermedius*) forest (Meads et al. 1984).

**Sign of Presence:** Empty shells.

**Threats:** Habitat reduction through the logging and conversion of indigenous forest to exotic plantation (Meads et al. 1984). The clearfelling of large areas of forest, followed by a very hot burn, root raking, and conversion to exotic plantation, caused high mortality of snails in the 1980s and reduced the total possible population size (Walker 1982b). Severe possum predation is a problem at all remaining colonies (K. Walker pers. comm. 2000).

**Work Undertaken to Date:** Extensive survey in the 1980s; formal protection of most of the remaining habitat in the 1990s; possum control operation in 1995 with establishment of snail density monitoring plots (K. Walker pers. comm. 2000).

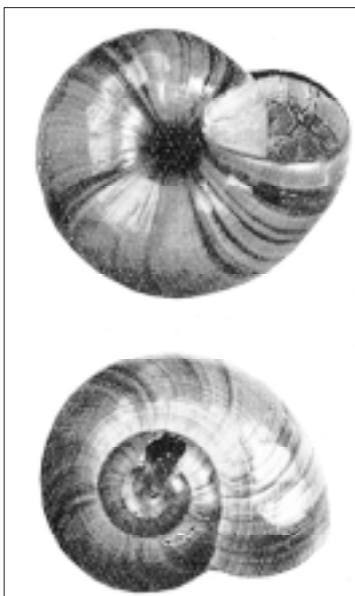
**Priority Research, Survey, and Monitoring:** -

**Management Needs:** 1) Maintain habitat at selected sites.

2) Keep possum numbers at very low levels for the foreseeable future.

3) Habitat restoration at selected sites (K. Walker pers. comm. 2000).

**Contacts:** Kath Walker.



Permission: Auckland Museum.  
Powell 1938, Plate 33, Figs. 8, 9.

**Order:** Stylommatophora  
**Family:** Rhytididae  
**Taxonomic Name:** *Powelliphanta lignaria ruforadiata* (Powell, 1949)  
**Common Names:** Woodformed land snail (Meads 1990a)  
**Synonyms:** -  
**M&D Category:** B  
**Conservancy Office:** WC  
**Area Office:** Buller

**Description:** A snail similar to *Powelliphanta lignaria unicolorata* but larger, and with a darker raw-umber coloured shell, plus an axial pattern of broad, rather sparse, irregular, dark reddish-brown streaks. The shell is 47.5 mm wide, and 29 mm high (Powell 1979).

Shell width: 47.5 mm

**Type Locality:** Eight km north of junction of north and south branches of the Mokihinui River, on flat 6 m above river, in fairly open *Nothofagus* forest (Powell 1949).

**Specimen Holdings:** AMNZ.

**Distribution:** Found on the northern side of the Mokihinui River (Meads et al. 1984). Snails have been collected from 8 km north of the junction of north and south branches of the Mokihinui River; 3.2 km up Maori Gully, near the north branch of the Mokihinui River; 0.8-1.2 km above the main highway bridge at St Helens, Mokihinui River; between Sinclair and Stony Creeks, east side, south branch of Mokihinui River (may be a hybrid population) (Powell 1949).

**Habitat:** Mixed beech/podocarp/broadleaf forest with a deep litter layer and high rainfall (Meads et al. 1984).

**Sign of Presence:** Empty shells.

**Threats:** Possums and rats (Walker 1996).

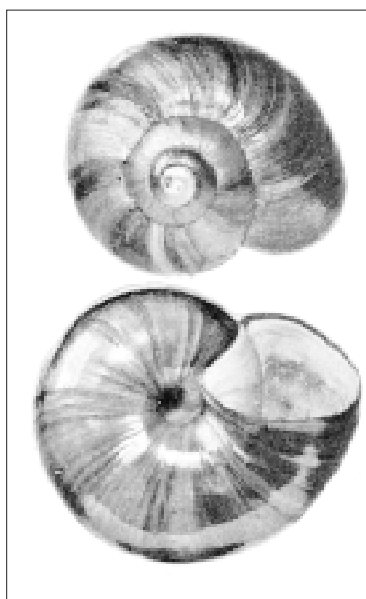
**Work Undertaken to Date:** Possum control over most of the snails range in 1998. Snail density monitoring plot set up in 1998 (K. Walker pers. comm. 2000).

**Priority Research, Survey, and Monitoring:** 1) Survey the northern and eastern boundaries of the subspecies to determine the extent of the range.

2) Establish more 100 m<sup>2</sup> snail density plots and remeasure regularly (K. Walker pers. comm. 2000).

**Management Needs:** 1) Regular possum control using, when possible, poisons which also control rats (K. Walker pers. comm. 2000).

**Contacts:** Kath Walker.



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Powell 1949, Plate 64, Figs. 1, 2.

**Order:** Stylommatophora  
**Family:** Rhytididae  
**Taxonomic Name:** *Powelliphanta lignaria unicolorata* (Powell, 1930)  
**Common Names:** Woodformed land snail (Meads 1990a)  
**Synonyms:** *Paryphanta lignaria* Hutton, 1900 (non *P. lignaria* Hutton, 1888), *P. unicolorata*, *P. lignaria* X *unicolorata* hybrids (Powell 1979)  
**M&D Category:** B  
**Conservancy Office:** WC  
**Area Office:** Buller

**Description:** A small snail with a plain olive-brown shell, but most have a darker raw umber colour with an axial pattern of broad, rather sparse, irregular reddish-brown streaks (Meads et al. 1984). The shell is 45 - 50 mm wide, and 26 - 29 mm high (Powell 1979).

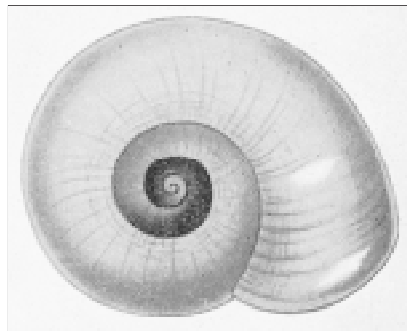


Shell width: 50 mm

**Type Locality:** Seddonville Flat, south side of the Mokihinui River, under flax (*Phormium* sp.) clumps (Powell 1979).

**Specimen Holdings:** -

**Distribution:** Seddonville Flat on the southern side of the Mokihinui River, on the southern side of the Mokihinui Gorge, and on the western side of the South Branch of the Mokihinui River beyond the Forks to Silver Creek and around the mouth of Goat Creek (Meads et al. 1984). See Powell (1949) for specific sites.



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 Powell 1979, Plate 61, Fig. 9.

**Habitat:** Mixed beech/podocarp/broadleaf forest with a deep litter layer and high rainfall (Meads et al. 1984).

**Sign of Presence:** Empty shells.

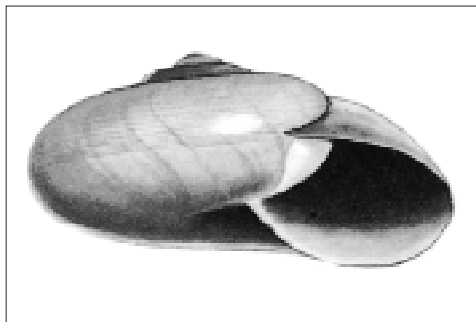
**Threats:** Rats (Meads et al. 1984) and possums.

**Work Undertaken to Date:** -

**Priority Research, Survey, and Monitoring:** 1) Survey the Mokihinui River area to determine distribution and abundance (refer to draft *Powelliphanta* land snail recovery plan (Walker 2000)).

**Management Needs:** -

**Contacts:** Kath Walker.



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 Powell 1930, Plate 6, Fig. 6.