



Peripatus

A guide to New Zealand's velvet worms / ngaokeoke

How can you help?

Any forest on or near your property may be home to peripatus. Therefore, you can help by:

- Protecting forest areas by fencing out stock, and controlling browsing and predatory animal pests and weeds
- Enhancing forest areas by planting local native plants, e.g. tree fuchsia (*Fuchsia excorticata*)
- Considering the need for corridors, linkages and riparian strips
- Retaining fallen trees, logs and forest floor debris, and avoiding breaking apart old rotten logs
- Considering legally protecting the land by gift or sale to create a reserve, or retaining ownership but creating a QEII Trust or Reserves Act covenant
- Volunteering on revegetation projects
- Reporting any sightings to the Department of Conservation



Peripatoides sp. 'Mt Peel'

Potential sources of funding for peripatus protection work:

- DOC—Biodiversity Condition Fund, Biodiversity Advice Fund, Nature Heritage Fund, Nga Whenua Rahui
- Ministry for the Environment—Community Environment Fund
- QEII Trust Covenants
- Lotteries Environment and Heritage grants
- World Wildlife Fund—Habitat Protection Fund, Conservation Innovation Fund, Environmental Education Action Fund
- Dunedin City Council Biodiversity fund
- Transpower Community Care Fund
- AirNZ Environmental Trust
- ASB Community Trust



Ooperipatellus viridimaculatus

Further information

Department of Conservation
 Conservation House,
 77 Lower Stuart Street, Dunedin
 Phone: 03 477 0677; email: otago@doc.govt.nz
www.teara.govt.nz/en/peripatus/1
www.onychophora.com/

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Peripatus are unusual animals of the forest floor. Called 'living fossils' because they are remarkably unchanged from 500 million years ago and a 'missing link' for their similarity to both worms and insects, they attract much scientific interest—yet they are cryptic, reclusive and not well understood. Apparent declines in populations as a result of habitat loss from development have led to more attention being focused on what can be done to protect them.

What are peripatus?

Peripatus or velvet worms are invertebrate animals that range in length from 2 to 8 cm. They look a bit like caterpillars and have pairs of stumpy legs along the length of their body. They are believed to live for about 5 years and the females can produce 10–20 offspring each year. Some species lay eggs, but most hatch them internally and bear live young.

Peripatus are so different from other invertebrates that they have their own phylum: Onychophora. This uniqueness makes them important in studying the evolutionary and geographic relationships of animals. There are approximately 200 species of peripatus worldwide. In New Zealand, there may be up to 30 different species; however, only 9 species belonging to two genera (*Peripatoides* and *Ooperipatellus*) have been described to date.

ONYCHOPHORA— Peripatopsidae

New Zealand has possibly 30 species of peripatus, but only 9 have been described:

- Peripatoides aurorbis*
- Peripatoides suteri*
- Peripatoides indigo*
- Peripatoides sympatrica*
- Peripatoides kawakaensis*
- Peripatoides morgani*
- Peripatoides novaezealandiae*

- Ooperipatellus viridimaculatus*
- Ooperipatellus nanus*

They appear superficially similar although with 14, 15 or 16 pairs of legs. *Ooperipatellus* lay eggs rather than bearing live young.



Peripatoides indigo



Peripatoides sp.
adult and young

Where are they found?

Peripatus are distributed around the equator and southern hemisphere. They are found in most forested parts of New Zealand, but also linger in remnant patches, scrub and gardens. They are also occasionally found in pasture, alpine and city park sites. The velvety skin of peripatus has permanently open pores, which means that they can easily dry out. Consequently, they are mostly found in shady, cool and damp areas. They hide deep within rotting logs and under leaves and debris during the day, venturing out at night to prey on other invertebrates, which they catch with jets of sticky fluid.

Why do they need protection?

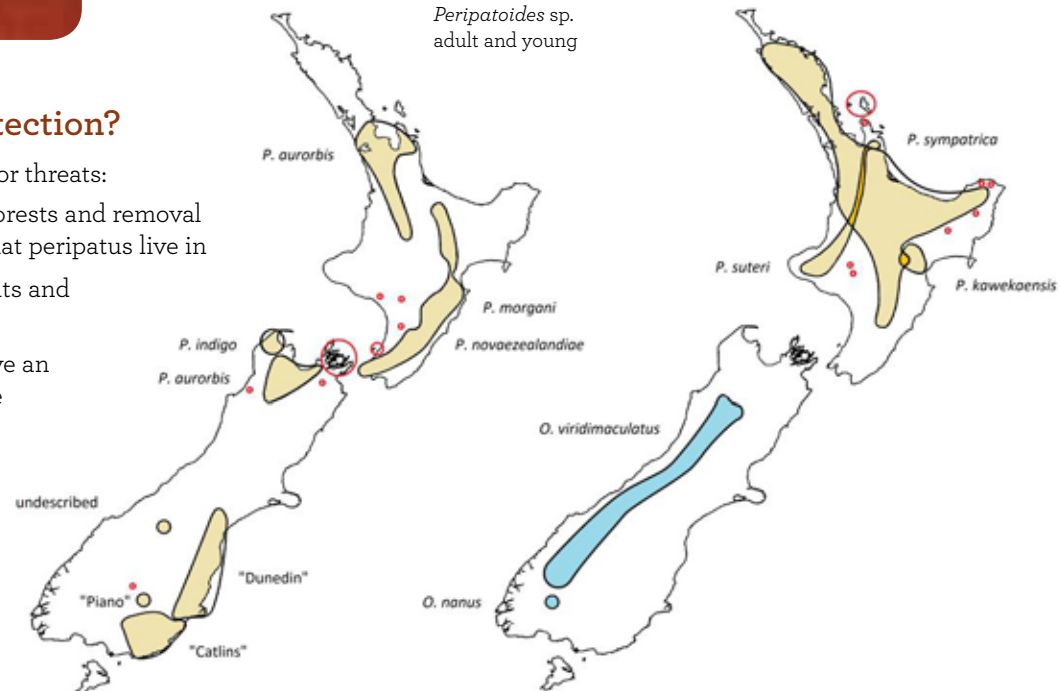
Peripatus are subject to four major threats:

Habitat loss—The clearing of forests and removal of the rotting logs and stumps that peripatus live in

Predators—Introduced birds, rats and hedgehogs may eat individuals

Collectors—Collectors may have an impact both directly, through the removal of adults, and indirectly, by disturbing peripatus habitat

Insufficient knowledge—Not enough is known about how many species New Zealand has, their ecology and distribution



Distribution of New Zealand's *Peripatoides* and *Ooperipatellus* species (after Trewick 2000). Red spots and circles = additional records of uncertain species.