

Invertebrates in the Abel Tasman National Park

The terrestrial biodiversity in the Abel Tasman National Park is awesome! Listed below are some of the species commonly found in the park. See the species identification pages to find out more about each one. Also look for the instructions on how to attract invertebrates into your garden with wētā motels and wooden disks.

Invertebrates

About 97% of all known animals are invertebrates!

Invertebrates are animals without a backbone/spine and are the most varied group of animals on the planet.

Most invertebrates in New Zealand are found nowhere else in the world and there are thousands of invertebrates species in New Zealand. Invertebrates are an important part of ecosystems to help to keep the balance in nature in numerous ways. They are responsible for pollinating plants, recycling nutrients and keeping population of other living things stable. Some break down pollutants, build and maintain soils and deal with natural waste. Invertebrates are an important food source for many animals such as native birds, frogs, lizards, fish and bats. Some invertebrates also eat other invertebrates (e.g. dragonflies eat mosquitoes). Without invertebrates ecosystems could not survive: they are essential for a healthy environment .

In the Abel Tasman National Park we see invertebrates such as: wētā, snails - *powelliphanta hochstetteri* & *rhytida oconnori*, giant earthworm, leaf-veined slug & cicadas.

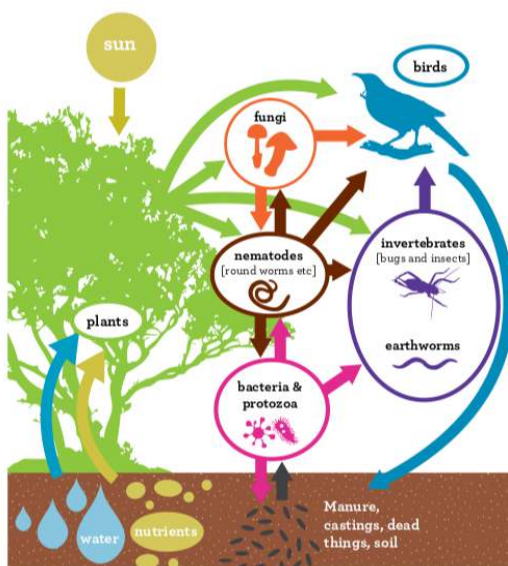


Image: Experiencing invertebrates in your green spaces, p26,
Department of Conservation, *te papa atawhai*



Rhytida oconnori



Habitat

New Zealand rhytida snails typically live under fern or leaf litter and in damp rock piles in unmodified native forest, and under tussock or scrub in the subalpine zone. They have been seen in the Wainui Valley and studied just outside the Abel Tasman, in the higher altitude area by Harwoods Hole.

Diet

All rhytida snails are carnivores, as shown by their simple, elongated teeth, the lack of a jaw and the strong musculature around the mouth. They eat other invertebrates such as snails, slugs and worms. Carrion feeding is also suggested by the occurrence of rhytida species inside shells of dead *Powelliphanta*.

Threats

Habitat degradation, predation by introduced species pigs, rats, possum, hedgehogs and song thrush and native bird species such as weka.

Lifespan

Unknown.

Breeding

Rhytida oconnori lay larger eggs than fellow rhytida species and will lay less than 12 eggs in a cluster.

Behaviour

Rhytida oconnori which are found in the Abel Tasman National Park grow up to 33mm.

Fun fact - Rhytida are more rare and deemed more sociable than their neighbours, *powelliphanta*!

Distribution and status of native carnivorous land snails in the genera *Wainuia* and *Rhytida*, Efford, Murray. Photo credit: fernphotos.com, Ruth Bollongino, Project Janszoon

Powelliphanta hochstetteri



Habitat

Powelliphanta typically live under fern or leaf litter and in damp rock piles in unmodified native forest. In the Abel Tasman National Park they are found in the upper reaches of the Wainui Valley and the Canaan area.

Diet

They are carnivorous and feed on giant earthworms, snails and slugs.

Threats

Habitat degradation and predation by introduced species pigs, rats, possum, hedgehogs and song thrush. Native species such as weka and kea, also prey on powelliphanta.

Lifespan

Up to 20 years.

Breeding

These snails are hermaphrodites therefore can mate with any other adult Powelliphanta. They produce 2-10 eggs per year. Each egg is up to 12 mm long, pearly pink and hard-shelled - just like a small bird's egg!

Behaviour

Powelliphanta are nocturnal and travel about 5m² a night. They possess around 6,000 teeth but will suck earthworms up through their mouth just like we eat spaghetti.

Fun facts - Powelliphanta are giants of the snail world. They can grow up to 8-9cm across and weigh 60-90grams! Their large shells come in an array of colours and patterns, ranging from hues of red and brown to yellow and black.

Department of Conservation, *te papa atawhai*, Photo credit: Fay McKenzie, Abel Tasman Eco Tours & Project Janszoon.

Giant earthworms



Habitat

New Zealand's native earthworms are mostly confined to areas where the soil is disturbed less often – forests, old gardens, hills and mountains. There are 36 known native species that live in native forest litter. Their skin is permeable, allowing water to pass through. They must live in damp habitats or they will dry out and die.

Diet

Earthworms feed on organic material and play an important role in mixing mineral and organic matter in the upper layer of soil. This improves its fertility and ability to hold water and support better plant production.

Threats

Birds such as kiwi, kōtare, toutouwai, pāteke and paradise shelducks eat earthworms. On farms, red-billed and black-billed gulls and mynas. Thrushes, blackbirds and starlings eat earthworms in gardens and on farms. Rooks, magpies and little owls are also partial to them. NZ native snail, *Powelliphanta hochstetteri* eat them like spaghetti.

Lifespan

Unknown.

Breeding

Earthworms are hermaphrodite: each individual has both male and female organs. But they are not self-fertile, and structures for mating lie on the rear part of the body.

Behaviour

During summer it aestivates (the equivalent of hibernating in winter) – often about 30 centimetres below ground.

Fun Fact! Several native species grow to 30 centimetres or more. The longest, *Spenceriella gigantea*, grows to 1.3 metres.

Leaf-veined Slug



Habitat

It is generally found in wooded areas or shrub inside rotting logs or into cavities.

Diet

The leaf-veined slug grazes on fungi and algae found on leaf surfaces.

Threats

Native snails, pigs and birds such as weka.

Lifespan

Unknown.

Breeding

The eggs of a native veined slug are protected by a cover called 'papillae' which is a nipple-like structure.

Behaviour

It is nocturnal and grows to about 60 mm long.

Fun Facts! - There are many species of native New Zealand slugs, and all of them can be recognized by the characteristic leaf-vein pattern on their dorsal side. This leaf-vein pattern is absent in introduced species.

Wasps

wāpi



Habitat

Wasps will live wherever there is a good food source. They enjoy the Abel Tasman National Park because it is a beech forest which has an abundance of honeydew. Seasonally in some beech forests there are an estimated 12 nests, or 10,000 worker wasps, per hectare. This makes the total combined body-weight of wasps in these areas higher than the weight of all native birds, stoats and rodents, put together.

Diet

Wasps will consume massive amounts of honeydew. In the autumn, wasps seek protein and will eat a huge number of native insects and have been seen killing newly hatched birds.

Threats

No natural predators in NZ.

Lifespan

Workers (sterile females) have an average lifespan of 12-22 days, drones (fertile males) have a slightly longer lifespan than workers, and queens (fertile females) have an average lifespan of 12 months.

Breeding

Both species live in large colonies, about the size of a soccer ball, but they can become much bigger if they survive over winter.

Behaviour

Wasps are a nuisance to forestry gangs, a worry to tourist operators and unwelcome guests at summer picnics and barbecues. No-one finds a wasp sting a fun experience. Wasps do not die when they sting, they can sting multiple times. The venom from a wasp sting contains several toxins that can cause a hypersensitive or allergic reaction in some people. Social wasps live as colonies in nests of honeycomb-like cells. They form complex social groups and all members of a colony help raise the young.

Why are they here?

New Zealand has several kinds of native wasps which have evolved here and have never become a nuisance. But five social species of wasps have been accidentally introduced since the 1940s and are classed as pests (German, common and 3 paper wasps).

Wētā



Habitat

Wētā have a variety of habitats including grassland, shrub land, forests, and caves. They excavate holes under stones, rotting logs, or in trees, or occupy pre-formed burrows. There are 5 broad groups of wētā - tree, ground, cave, tussock and giant. The Abel Tasman has both the tree wētā, which love living in the holey māhoe tree and cave wētā which are found in caves at Anchorage, Bark Bay and others dotted along the coastline.

Diet

Wētā are mainly herbivorous in the wild and eat native plants but are also known to eat insects. A Wētā's diet will depend on which species it is.

Threats

Predation by rats, mustelids, cats, and hedgehogs, habitat destruction by humans and habitat modification by browsers.

Lifespan

Unknown, though some tree wētā have been known to live for several years in high altitude forests.

Breeding

Having achieved adulthood in approximately 14–24 months, wētā commence breeding 1 to 2 months after maturity. The females will lay eggs throughout their adult life, generally producing between 100 to 300 cigar-shaped eggs.

Behaviour

Wētā go through 11 'instars' before reaching adulthood, meaning they shed or moult their hard outer covering (exoskeleton) an incredible 11 times. Moulting is necessary for them to grow in size. They are nocturnal.

Fun Facts! There are over 70 endemic species of wētā in New Zealand and they are older than tuatara – 190,000,000 years. There are several 'wētā motels' around the camp at Anchorage in the Abel Tasman National Park.