

Phylum Platyhelminthes

(Gr. *platys*, flat + *helmins*, worm)

Common name: Flatworms, flukes, tapeworms

Characteristics: Mouth is the only opening into the digestive tract. Digestive tract absent in tapeworms.

Class: Turbellaria (L. *turbellae*, disturbance)

Common name: Free-living flatworms

Characteristics: Mostly free-living flatworms with the body covered by cilia.

Order: Tricladida (Gr. *treis*, three + *klados*, branch)

Common name: Planarians (for freshwater and terrestrial species)

Characteristics: Mouth and pharynx located in the middle of the body.

Order: Tricladida
Family: Geoplanidae
Taxonomic Name: *Artioposthia mariae* (Dendy, 1895)
Common Names: -
Synonyms: *Geoplana mariae* (Fyffe 1947)
M&D Category: I
Conservancy Office: NM
Area Office: Golden Bay, Motueka, St Arnaud

Description: A flatworm, very pale brownish-yellow, thickly marbled with dark brown speckles on its back. It has a rather narrow paler band with less marbling in the middle of its back, and this is edged on either side with an ill defined darker band. The front tip of the body is pink. The underneath surface is pale yellow sprinkled with brown (Fyffe 1947). The body is thick and strap-like, flattened top and bottom (Dendy 1895), and is about 97 mm long, and 5 mm wide, when crawling. The mouth is found two-thirds of the length from the front end (Fyffe 1947).

Type Locality: Jackson's, on the Taremakau River, west of Otira Gorge (Dendy 1895).

Specimen Holdings: NHML (Fyffe 1947).

Distribution: North-west Nelson, and on the West Coast as far south as Arthurs Pass. Very common (P.Johns pers. comm. 1999).

Habitat: Usually found under logs and stones in fairly moist situations (Dendy 1895).

Threats: Not known.

Work Undertaken to Date: Likely to be assigned to a new genus, *Australopacifica* (P.Johns pers. comm. 1999).

Priority Research, Survey, and Monitoring: -

Management Needs: 1) Recommend that this species is removed from the list based on current available information.

Contacts: Peter Johns.

Body length: 97 mm

Phylum Nemertea

(Gr. *Némertés*, a nereid)

Common name: Ribbon worms, nemertines, nemerteans

Characteristics: Possess a long evertible proboscis. Dorsoventrally flattened and covered by a ciliated epidermis.

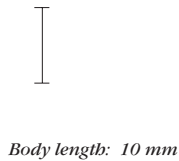
Class: Enopla (Gr. *enoplos*, armed)

Nemertea

Ribbon worms

Order: Hoplonemertea
Family: Prosorhochmidae
Taxonomic Name: *Antiponemertes allisonae* (Moore, 1973)
Common Names: -
Synonyms: *Geonemertes allisonae* (Gibson & Moore 1981)
M&D Category: I High Priority
Conservancy Office: CA
Area Office: North Canterbury

Description: A terrestrial nemertine worm with a mottled brown back. It has a large proboscis with a clear stripe over it, and two relatively large eyes. The body is 10 mm long, 0.5 - 1 mm wide, and ciliated (having hair-like processes) (Moore 1973; Gibson & Moore 1981; Wells et al. 1983). It leaves behind a slimy trail and can glide forwards or backwards. In living specimens, the eversion of a proboscis is the only certain diagnosis of a nemertine (Moore 1989).



Type Locality: Under fallen logs in valley at edge of bush, Menzies Bay, Banks Peninsula (Moore 1989).

Specimen Holdings: NHML (Pantin Collection) (Moore 1973).

Distribution: Open bush near Menzies Bay, Banks Peninsula (Moore 1973).

Habitat: Found in open bush (Wells et al. 1983) under rotten logs, tree ferns, or rarely under stones. Logs must not be too wet (i.e. sodden with fungi), or too dry (i.e. running with ants), and they must be sited on leaf litter on fairly level ground, not too close to a water course. They only survive in cool, damp conditions, sheltered from direct sunlight (Moore 1989).

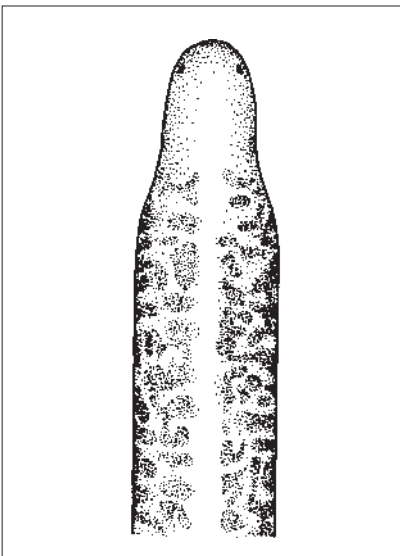
Threats: Habitat has largely been destroyed by shrub clearance (Wells et al. 1983). The Menzies Bay valley has been intensively grazed by sheep and deer (Moore 1989).

Work Undertaken to Date: A search in 1988 failed to find any specimens, it may be extinct (Moore 1989).

Priority Research, Survey, and Monitoring: 1) Search suitable sites on Banks Peninsula in an effort to locate this species. These are a cryptic species and failure to locate them does not necessarily mean they are not present.

Management Needs: -

Contacts: Peter Johns.



Dorsal view of anterior end.
 Permission: Academic Press Ltd. Moore 1973,
 p 302, Fig. 5.

Phylum Annelida

(L. *annulus*, ring + Gr. *eidos*, form)

Characteristics: Segmented worms, possessing a linear segmented body.

Class: Polychaeta (Gr. *polys*, many + *chaite*, hair)

Common name: Polychaete worms

Characteristics: Have paired segmented appendages (parapodia). Head is usually highly developed, bearing sensory or feeding structures.

Order: Phyllodocida
Family: Nereididae
Taxonomic Name: *Namanereis tiriteae* (Winterbourn, 1969)
Common Names: -
Synonyms: *Namalycastis tiriteae*, *Namalyclastis vuwaensis* (Glasby 1999)
M&D Category: I
Conservancy Office: WG, WL
Area Office: Palmerston North, Wairarapa



Body length: 21 mm

Description: A worm, up to 21 mm long, and with a maximum width of 0.8 mm (without parapodia). It has 61 - 80 segments, narrows posteriorly, and has no eyes (Winterbourn 1969). This worm is pale pink throughout when alive (Glasby 1999), but in alcohol is white, and semi-transparent, with the dorsal and ventral longitudinal blood vessels red and prominent (Winterbourn 1969).

Type Locality: Tiritea [=Turitea] Stream (Glasby 1999).

Specimen Holdings: MONZ.

Distribution: Tiritea (now Turitea) Stream, near Massey University, Palmerston North (Collier 1992b, Glasby 1999); Ngawapurua, Mangatainoka River, just above confluence with the Manawatu River (Henderson 1995, Glasby 1999), in the Manawatu mainstream and tributaries upstream of the Manawatu Gorge (Fowler & Henderson 1999, 2000) and in lowland streams in the Hawkes Bay region (Glasby 1999), including Tukituki, Ongaonga, and Mangatewainui Streams (Fowler pers comm. 2000). The Fijian species *Namalycastis vuwaensis* has recently been declared a junior synonym of *Namanereis tiriteae*, and has been collected from Wainsavulevu Creek above Vuwu Falls, Viti Levu (Glasby 1999).

Habitat: At Tiritea (now Turitea) Stream it is found in a stream bed of large stable stones embedded in smaller gravel and mud. Silting occurs in extensive stretches of dead water overlying silt and present at the stream margins. A bacterial and algal scum covered much of the substratum (Winterbourn 1969). At the Mangatainoka River it was found in a riffle composed of gravel and cobble. May occupy a specialised habitat, possibly the hyporheos (Henderson 1995; Fowler 2000).

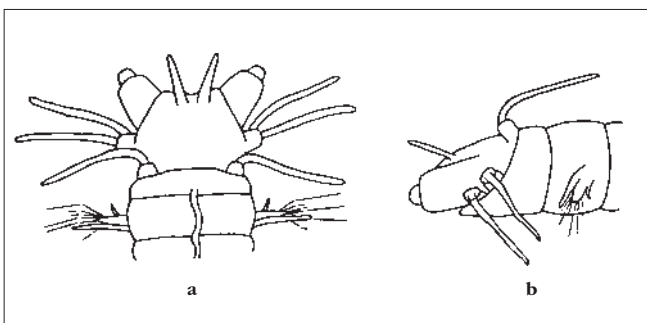
Threats: Was though to be quite rare in New Zealand, but has now been found at several sites in the North Island.

Work Undertaken to Date: -

Priority Research, Survey, and Monitoring:

Management Needs: 1) Likely that this species is fairly secure, and may end up being removed from the list at the next re-ranking.

Contacts: Reece Fowler, Ian Henderson, Mike Winterbourn.



a - dorsal view of anterior end.
b - lateral view of anterior end.

Permission: SIR Publishing. Winterbourn 1969, p 283, Figs. 1,2.

Class Oligochaeta (Gr. *oligos*, few + *chaite*, hair)

Common name: Terrestrial and freshwater annelids

Characteristics: No parapodia, but do have setae present.

Order: Opisthopora (Gr. *opisthe*, behind + *poros*, channel)

Family: Megascolecidae

Common name: Giant worms

Order: Opisthopora
Family: Megascolecidae
Taxonomic Name: *Octochaetus antarcticus* (Beddard, 1889)
Common Names: -
Synonyms: *Acanthodrilus antarcticus* (Smith 1893)
M&D Category: I
Conservancy Office: CA
Area Office: Raukapuka

Description: A large pale pink worm, with a red clitellum (the 'saddle-like' portion on the worm). The body is up to about 250 mm long, 7mm in diameter (Lee 1959a), and comprises 176 segments (Lee 1959b).

Type Locality: Ashburton (Lee 1959b).

Specimen Holdings: NHML (slide only).

Distribution: Found in the Ashburton district (Lee 1959a). It has been collected from the edge of an old swamp on the south bank of the Ashburton River (Smith 1893).

Habitat: Lowland species.

Threats: Not known.

Work Undertaken to Date:

Priority Research, Survey, and Monitoring: 1) Survey wetlands near original collection site at the Ashburton River.

2) Clarify distribution (E. Kennedy pers. comm. 2000).

Management Needs: -

Contacts: -

Order: Opisthopora
Family: Megascolecidae
Taxonomic Name: *Octochaetus michaelseni* Benham, 1904
Common Names: -
Synonyms: -
M&D Category: I
Conservancy Office: WL
Area Office: Poneke, Wairarapa

Description: A large pink (unpigmented) worm, with a purplish red clitellum (the 'saddle-like' portion on the worm). The body is up to about 250 mm in length, 8 mm in diameter (Lee 1959a), and comprises c. 200 segments (Lee 1959b).

Type Locality: Wellington (Benham 1905), type material not located (Lee 1959b).

Specimen Holdings: -

Distribution: Wellington and Wairarapa districts including Tinui; Wairongomai; Miramar; and Taita (Lee 1959a).

Habitat: Found in subsoil and occasionally in topsoil, under forest and occasionally under pasture (Lee 1959a).

Threats: Not known.

Work Undertaken to Date: -

Priority Research, Survey, and Monitoring: 1) Survey to obtain an estimate of distribution and abundance, and determine whether this species is of conservation concern.

Management Needs: -

Contacts: -

Body length: 250 mm

Order: Opisthopora
Family: Megascolecidae
Taxonomic Name: *Octochaetus multiporus* (Beddard, 1885)
Common Names: Milkworm, Maori worm (Foord 1990)
Synonyms: *Acanthodrilus multiporus* (Springett et al. 1998)
M&D Category: I
Conservancy Office: WL, NM, CA, OT, SL
Area Office: Poneke, Wairarapa, Nelson, South Marlborough, North Canterbury, Raukapuka, Coastal Otago, Southern

Description: A large unpigmented, pale pink earthworm, with a darker pink clitellum (the 'saddle-like' portion on the worm) (Springett et al. 1998), often mottled white or grey. A narrow streak of purple runs along the mid-line. The body is 180 - 300 mm long, 8 - 10 mm in diameter (Lee 1959a), and comprises 200 segments (Lee 1959b). (Foord (1990) puts the body length at 1400 mm long, but states that this may relate to *Spenceriella gigantea*, and not *Octochaetus multiporus*). This species is bioluminescent, expelling a thick, slimy fluid giving a bright orange-yellow light (Springett et al. 1998).

Type Locality: Canterbury Plains (Lee 1959b).

Specimen Holdings: NHML.

Distribution: Very widely distributed in the southern end of the North Island districts, east of the main divide, Nelson, Stewart Island and a number of small off-shore islands (Lee 1959a). It has been found recently at AgResearch's Hill Country Research station, Ballantrae (Springett et al. 1998).

Habitat: Usually found in the subsoil, sometimes in topsoil, under forest, scrub, tussock grassland and pasture (Lee 1959a). Lee (1959b) described it as being numerous in yellow-grey, yellow-brown, and brown-grey earth soils. Most numerous in soils of low to moderate fertility, and those that slope away from the sun. High fertility soils had a similar density to adjacent areas of native forest, indicating that exotic pasture environments can favour this worm in some circumstances. A deeper burrowing species (Springett et al. 1998), which creates a network of burrows that do not open to the surface. The burrows have a diameter of about 10 mm. Several chambers 15 - 20 mm wide are usually within the burrow network, and worms may be found curled up in these (Springett & Gray 1998).

Sign of Presence: Dull white cocoons, which are very smooth and flaccid. They vary considerably in colour passing through several shades of yellow and brown, and finally to dark red as they mature (Smith 1893).

Threats: Not known. Competition with lumbricid earthworms or landuse change through pasture production could be affecting populations (Springett et al. 1998).

Work Undertaken to Date: No work has been done on the distribution of this species since Lee (1959a,b).

Priority Research, Survey, and Monitoring: 1) Survey to obtain an estimate of distribution and abundance, and determine whether this species is of conservation concern.

Management Needs: -

Contacts: -

Class: Hirudinea (L. *hirudo*, leech)

Common name: Leeches

Characteristics: No parapodia or setae. Small head with a sucker around the mouth-parts. Posterior segments form a large sucker behind the anus. 'Looping' surface mode of locomotion.

Order: Arhynchobdellida
Family: Hirudinidae
Taxonomic Name: *Hirudobdella antipodum* (Benham, 1904)
Common Names: Open Bay Island leech
Synonyms: *Hirudo antipodium* (Benham 1904)
M&D Category: A
Conservancy Office: WC
Area Office: South Westland

Description: A large coffee-brown terrestrial leech, with darker stripes on the back (C. Miller pers. comm. 1999). The body is a tapered club shape, and approximately 50 - 70 mm when extended (Miller 1997). Specimens in formol appear pale coffee-brown, faintly tinged with reddish underneath (Benham 1904).

Type Locality: Open Bay Island, off the west coast of the South Island, in amongst the wet roots of grasses, and at the bottom of nests of *Puffinus* sp. (Benham 1904).

Specimen Holdings: -

Distribution: Found on Taumaka Island in the Open Bay Islands group. Presently restricted to a single population under a glacial boulder, an area of approximately 5 m by 2 m (Miller 1999a).

Habitat: Live in damp or wet habitats, generally with a gently sloping floor and free from standing water (Miller 1997). They have been found amongst the wet roots of grasses, at the bottom of *Puffinus* sp. (sooty shearwater) burrows (Benham 1904), and in penguin nests in mud and on the underside of dead sticks (Miller 1999a). In dry conditions they have been found sheltering several inches below the surface in a mass of sticks and mud (Miller 1997, 1999a). Feed on the blood of birds, but may feed opportunistically on other animal groups possibly including fur seals, worms, or frogs (Miller 1999a).

Threats: Weka probably prey upon the leeches (Miller 1997, 1999a).

Work Undertaken to Date: Thought to have been eradicated by weka until rediscovered in 1987 (Miller 1997, 1999b). Population resurveyed in March 1988, January 1992, November 1994, January 1995, and June 1995. No leeches found during the November 1994 survey, four found in January 1995, and one in June 1995. Additional populations were searched for in 1994-1995 without success (Miller 1999a).

Priority Research, Survey, and Monitoring: 1) Regularly monitor the known population, preferably every 2 years, during January or early February (Miller 1997).

2) Survey Taumaka Island and mainland sites, focusing on the nesting colonies of Fiordland crested penguins between Haast and Fiordland, including Caswell Sound where a similar leech has been found (Miller 1997), in an attempt to locate additional populations .

Body length: 70 mm



Photo: Craig Miller.

3) Establish an ex situ population (Miller 1999a) to act as an insurance population.

Management Needs: 1) Liaise with the owners of Popotai and Taumaka Islands, and invite discussion on ways of preserving the indigenous biodiversity of these islands (Miller 1997).

Contacts: Craig Miller.

Phylum Onychophora

(Gr. *onychos*, claw + *pherein*, to bear)

Common name: Peripatus, ngaokeoke, insect-worms, velvet worms

Characteristics: Numerous pairs of short peg-like legs. Pair of antennae.

Family: Peripatopsidae

Common name: Southern velvet worms

Onychophora

Peripatus

Order: Onychophora
Family: Peripatopsidae
Taxonomic Name: *Ooperipatellus insignis* (Dendy, 1890)
Common Names: -
Synonyms: *Peripatus viridimaculatus*, *Ooperipatellus viridimaculatus* (Gleeson 1996), *Ooperipatus viridimaculatus*, *Ooperipatus insignis* (Tait & Briscoe 1995)

M&D Category: I

Conservancy Office: NM, WC

Area Office: Golden Bay, Motueka, Greymouth, South Westland

Description: A velvety, caterpillar-like animal with 14 pairs of legs. It is dark grey, mottled with orange, and has a distinctive double row of green spots along the back. The papillae are cream and the female has an obvious yellowish ovipositor (Hudson 1974) (based on synonym *O. viridimaculatus*, which is likely to be reinstated as a separate species). The body is about 30-50 mm long.

Type Locality: *O. insignis* was originally described from Mt Macedon, Victoria, Australia. The New Zealand species was initially described from the headwaters of Lake Te Anau (Tait & Briscoe 1995).

Specimen Holdings: -

Distribution: Found over most of the South Island alpine zone including Haast; Arthurs Pass; Lewis Pass; Te Anau (D. Gleeson pers. comm. 1999); Fox Glacier (Hudson 1974); Shenandoah Saddle, near Murchison; north branch of Temple Creek near Lake Ohau; headwaters of Lake Te Anau (Tait 1992). Has not been found in south-west Fiordland (D. Gleeson pers. comm. 1999).

Habitat: Found in beech forests in damp environments, such as under stones, decaying logs, or leaf litter (Hudson 1974). Has been recorded between 300-1650 m (D. Gleeson pers. comm. 2000).

Threats: Microhabitat especially important, stock a problem through trampling and destroying habitat, and the collection of fallen logs for firewood etc. is also a concern (D. Gleeson pers. comm. 1999).

Work Undertaken to Date: *O. viridimaculatus* synonymised with the Australian species *O. insignis* based on morphology. However, on the basis of a limited data set comparing allozyme mobility states, New Zealand *O. insignis* are not conspecific with *O. insignis* from the Australian type locality (Tait & Briscoe 1995). The New Zealand individuals currently assigned to *O. insignis*, will end up being *O. viridimaculatus*, as it is certainly not conspecific with *O. insignis* (H. Ruhberg pers. comm.) Surveys are ongoing (D. Gleeson pers. comm. 1999).

Priority Research, Survey, and Monitoring: 1) Clarify taxonomy of the New Zealand specimens originally assigned to *Ooperipatellus viridimaculatus*, to confirm whether they are the same as *O. insignis* or a separate species.

Body length: 50 mm



Ooperipatellus insignis (NZ specimen, originally *O. viridimaculatus*) Photo: Rubberg/Bosch. Permission: D Gleeson, Landcare Research (NZ) Ltd.

Management Needs: -

Contacts: Dianne Gleeson.

See Plate 3, No. 19.