

Phylum Arthropoda

(Gr. *arthron*, joint + *pous*, foot)

Common name: Arthropods

Characteristics: Jointed exoskeleton. Segments have jointed pairs of appendages.

Class: Arachnida (Gr. *arachne*, spider)

Common name: Terrestrial chelicerates

Characteristics: Book lungs or tracheae as gas exchange organs.

Order: Araneae (L. *aranea*, spider)

Common name: Spiders

Characteristics: Unsegmented abdomen. Usually eight eyes, sometimes six.
Body divided into two portions, cephalothorax and abdomen.

Order: Araneae
Family: Gradungulidae
Taxonomic Name: *Pianoa isolata* Forster, 1987
Common Names: -
Synonyms: -
M&D Category: A
Conservancy Office: SL
Area Office: Murihiku



Body length: 14 mm

Description: A medium-size, hairy spider, with a chevron pattern on the abdomen. The body is 12 - 14 mm long. The carapace is distinctly longer than wide (Forster et al. 1987). This species is close to *Gradungula sorenseni* but *Pianoa isolata* does not have a median strip on the cephalothorax and abdomen (P. Servid pers. comm. 2000), only occurs in Waikaia area, is lighter in colour, and has a chevron pattern on the abdomen (R & L Forster pers. comm. 1999). There are two claws on the first two pairs of legs, one claw is longer than the other (applies to all gradungulids) (Forster et al. 1987).

Type Locality: Piano Flat, Waikaia Valley (in error for Waikaia Valley), from rotten log on *Nothofagus* forest floor (Forster et al. 1987).

Specimen Holdings: OMNZ.

Distribution: Piano Flat, Waikaia Valley (Forster et al. 1987); Gow Burn; Waikaia Bush; Leithan Bush; Argyle Burn (Edwards 1999). There is also a possible record from Teal Valley, Nelson, which was identified from a single damaged subadult female specimen (Forster et al. 1987) and needs to be confirmed (E. Edwards pers. comm. 1999, I. Millar pers. comm. 1999).

Habitat: Usually found beneath or inside fallen logs which have reached a certain level of decay (Forster et al. 1987; Forster 1993 unpub), predominately beech logs (G. Hall pers. comm. 1999). They are occasionally found under rocks, and apparently juveniles can also be found in leaf litter (E. Edwards pers. comm. 1999). They have no altitude boundary (G. Hall pers. comm. 1999).

Threats: Mice (Forster 1993 unpub.) and possibly moreporks (G. Hall pers. comm. 1999) will prey upon this spider. Recreational usage is damaging the habitat (G. Hall pers. comm. 1999), however, the presence of people may also be allowing regeneration, by forcing deer further back from this area, because it has been noticed that a thicker undergrowth is developing. Fragmentation is still occurring in parts of *P. isolata*'s habitat, and habitat damage from intensive sheep, cattle and deer browse is also occurring. Fire is a potential threat to habitat (E. Edwards pers. comm. 1999).

Work Undertaken to Date: Surveys of Waikaia forest are ongoing, mainly of the known areas.

Priority Research, Survey, and Monitoring 1) Conduct surveys further afield to determine extent of distribution (E. Edwards pers. comm. 1999; G. Hall pers. comm. 1999). Include a survey of the Teal Valley area, Nelson, in an attempt to locate an adult specimen and confirm whether it is *P. isolata* or not.

2) Determine the impact on the population caused by the increase in rodent numbers in mast years (E. Edwards pers. comm. 1999).

3) Monitor the amount of recreational use and changes that may be occurring in the habitat at Piano Flats (G. Hall pers. comm. 1999).

Management Needs: 1) There may be a need to look at rodent control in mast years, when outbreaks occur (E. Edwards pers. comm. 1999).

Contacts: Grace Hall, Eric Edwards.

Order: Araneae
Family: Gradungulidae
Taxonomic Name: *Spelungula cavernicola* Forster, 1987
Common Names: Nelson cave spider (Scott & Emberson 1999)
Synonyms: -
M&D Category: B
Conservancy Office: NM, WC
Area Office: Golden Bay, Buller

Description: A large, cave-dwelling spider with a legspan of 130 mm. The body is about 24 mm long (McLachlan 1993). There are two claws on the first two pairs of legs, one claw is longer than the other (applies to all gradungulids). The carapace is longer than it is wide (Forster et al. 1987). The tarsi ('feet') on the front two pairs of legs are swollen (R & L Forster pers. comm. 1999).

Type Locality: Wonder Sump Cave, Oparara River Area, north-western Nelson (Forster et al. 1987).

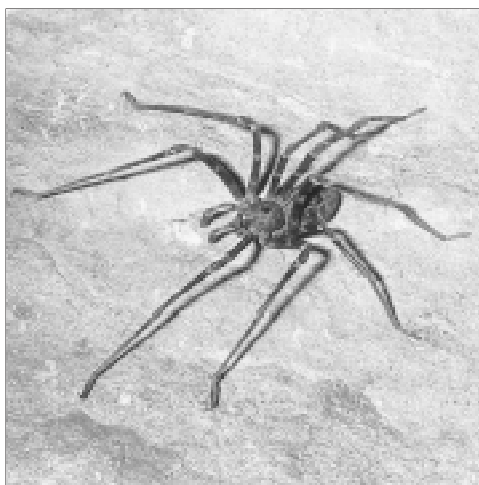
Specimen Holdings: MONZ, LUNZ.

Distribution: Known from three main areas in north west Nelson; Council (Motupipi) Cave, Heaphy River Mouth, and Oparara Valley. Found at the following sites in the Stony Creek Limestone Belt; Crazy Paving Cave, Box Canyon Cave, Stardraft Cave, Tubeway Crawl Cave, Drone Comb Cave, and the Honeycomb Hill System ("Spare Parts" Passage, Worker Passage, Rodney's Additional Passage) all in the Oparara Valley, Fenian Creek, and Splinter Creek (both near Karamea); Wonder Sump Cave; Ida Cave (information from Forster et al. 1987; Johns 1991; McLachlan 1993); Field Cave and Megamania Cave, lower Heaphy Valley (I. Millar pers. comm. 2000). These are all on the West Coast. In Nelson/Marlborough it is known from Water Supply Cave and another unnamed cave in the Pohara Valley, Council Cave near Motupipi and caves in marble near Hamama. A number of potential sites exist but are still to be checked (I. Millar pers. comm. 1999).

Habitat: Lives underground in limestone caves, mainly in complete darkness. Cave wetas are normally associated with their presence (McLachlan 1993). Very rarely this spider will build a brief, irregular web consisting of a few lines, but it is not known to be used to capture prey. They do frequently hang down on a dragline, especially the smaller sized spiders (A. McLachlan pers. comm. 2000). They hunt on the cave walls and roof (Forster et al. 1987), and are a 'sit and wait' predator. They are mainly found within 10-20 m from the cave entrance, although individuals have been found up to 85 m from the entrance in the Honeycomb Hill Cave System. A single spider has been seen just outside a cave entrance (A. McLachlan pers. comm. 2000).

Sign of Presence: Egg sacs hanging down from cave ceiling, suspended by silk threads. Presence of exuviae (cast skins) (I. Millar pers. comm. 1999).

Threats: No major threats known, minor threats may possibly include cave usage and possibly rats (I. Millar pers. comm. 1999). The collection



Above left : Body length: 24 mm
 Above right: Leg span: 130 mm

Permission: University of Otago Press.
 Forster & Forster 1999, p 76, Fig. 5.7 (above).

of *Spelungula* egg sacs by cave visitors is a minor threat also (A. McLachlan pers. comm. 2000)

Work Undertaken to Date: Ongoing surveys to estimate population size (I. Millar pers. comm. 1999).

Priority Research, Survey, and Monitoring: 1) May require more work but this will depend on the results of the current survey (I. Millar pers. comm. 1999).

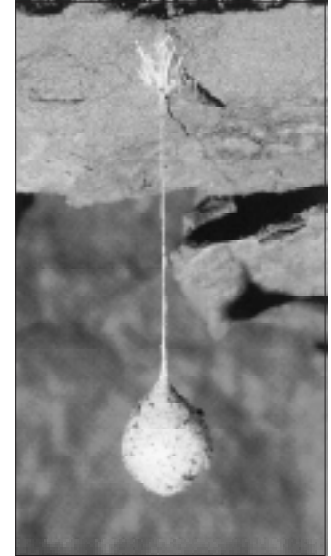
Management Needs: -

Contacts: Ian Millar, Andrew McLachlan.

Right: Leg showing the proclaw and the smaller superior claw.

Far Right: Typical Spelungula cavernicola egg sac, suspended from an 80 mm long stalk attached to the roof of a cave.

Permission: University of Otago Press. Forster & Forster 1999, p 76, Fig. 5.7 (above right); p77 Fig 5.9a.



Order: Araneae
Family: Holarchaeidae
Taxonomic Name: *Holarchaea* sp.
Common Names: -
Synonyms: -
M&D Category: I
Conservancy Office: NL
Area Office: Kaitaia

H

Body length: 1.5 mm

Description: A tiny spider with a raised carapace. Its fangs are long, and project outwards (R. Forster pers. comm. 1999).

Type Locality: Not described.

Specimen Holdings: -

Distribution: Cape Reinga is stated in Molloy & Davis (1994), however, not aware of a holarchaeid being present there (R. Forster pers. comm. 1999). There is a species present at the Three Kings Islands, which was originally believed to be a holarchaeid. This has now been described as *Paranapis isolata* in the family Anapidae (G. Hall pers. comm. 2000). The genus *Holarchaea* is widespread, but not common (R. Forster pers. comm. 1999).

Habitat: Leaf litter dweller.

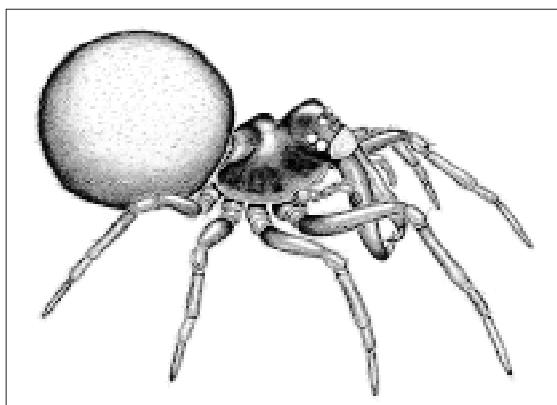
Threats: As long as habitat is okay, this species will be okay (R. Forster pers. comm. 1999).

Work Undertaken to Date: -

Priority Research, Survey, and Monitoring: -

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

Contacts: Phil Servid.



Holarchaea novaeseelandiae.
Permission: Otago Museum. Forster 1967, Fig. 173.

Order: Opiliones (L. *opilion*, shepherd)

Common name: Harvestmen

Characteristics: Segmented abdomen. Abdomen broadly joined to cephalothorax so body appears as one unit. Legs usually very long and thin.

Order: Opiliones
Family: Acropsopilionidae
Taxonomic Name: *Zeopsopilio neozealandiae* Forster, 1948
Common Names: -
Synonyms: -
M&D Category: I
Conservancy Office: AU, WG, WL, CA

Area Office: Auckland, Palmerston North, Poneke, Waimakariri

Description: A minute yellowish-brown harvestman, with a yellow eye mound, and a black area around the eyes (Forster 1948). The pedipalp is folded back to rest along the median groove of the eye mound, and the conspicuous white portions of the pedipalp contrast with the black pigment surrounding the eyes (Forster 1948). The eyemound is greatly developed, being as wide as the cephalothoracic carapace. The body is about 1.5 mm long (Forster 1962). The most distinctive feature are the two huge eyes on a mound, which make up half of the body (R. Forster pers. comm. 1999).

H

Body length: 1.5 mm

Type Locality: Johnson's Park, Feilding, under logs and fallen branches. (Forster 1948)

Specimen Holdings: NZAC, Tube 2/57

Distribution: Johnson's Park, Feilding; Homer Forks; Lower Hollyford Valley; Mount Algidus, Rakaia Gorge; Peel Forest; Titirangi; Wellington (Forster 1948).

Habitat: Leafmould dwellers (Forster 1962). They have also been found under stones, logs and fallen branches, and in moss and lichen (Forster 1948).

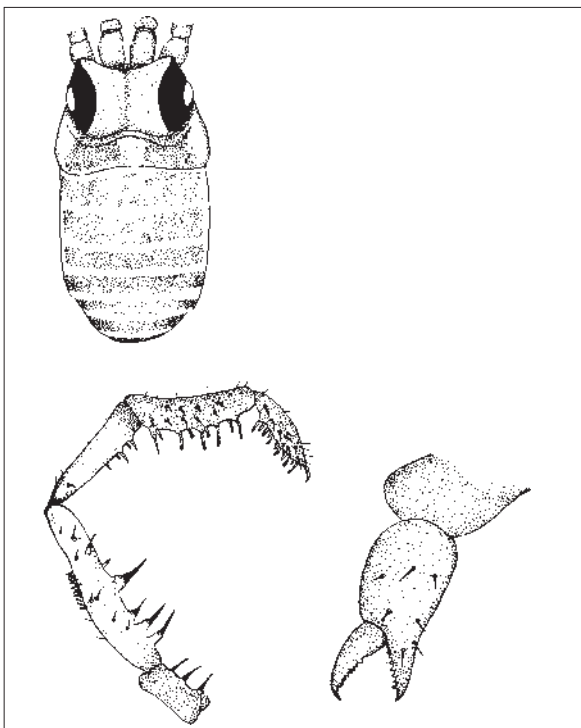
Threats: Not known.

Work Undertaken to Date: Nothing done since R Forster's work in 1947 (R. Forster pers. comm. 1999).

Priority Research, Survey, and Monitoring: 1) The harvestman group has not been revised, this needs to be done to determine if threatened (R. Forster pers. comm. 1999).

Management Needs: -

Contacts: Phil Servid.



Top: Dorsal view of body

Left: Outer view of pedipalp

Right: Chelicera

Permission: SIR Publishing, Forster 1948, Plate 10, Figs. 1, 3, 4.

Class: Insecta (L. *insectus*, segmented)

Common name: Insects

Characteristics: Body composed of head, thorax and abdomen. Thorax bears three pairs of legs and usually two pairs of wings.

Order: Diplura (Gr. *diploos*, double + *oura*, tail)

Common name: Diplurans

Characteristics: Small, blind, soil inhabiting arthropods with antennae. Some appear superficially like earwigs.

Order: Diplura
Family: Japygidae
Taxonomic Name: *Burmjapyx* sp.
Common Names: -
Synonyms: -
M&D Category: I

Conservancy Office: NM

Area Office: Golden Bay

Description: A pale whitish yellow dipluran, approximately 18 mm long (P. Johns pers. comm. 1999). These insects have no eyes, and bear a very superficial resemblance to an earwig.

Type Locality: Not described.

Specimen Holdings: -

Distribution: Council Cave, Takaka, Golden Bay (P. Johns pers. comm. 1999). Possibly also in Water Supply Cave, Pohara (I. Millar pers. comm. 1999).

Habitat: Cave mud floors with organic debris present (I. Millar pers. comm. 1999).

Threats: Not known.

Work Undertaken to Date: Seen on a regular basis at Council Cave. An immature specimen in Water Supply Cave, Pohara Valley, may have been the same species, but no taxonomic description is available to check this (I. Millar pers. comm. 1999).

Priority Research, Survey, and Monitoring: 1) Urgent need to be able to discriminate this species taxonomically. Other caves to be checked for presence/absence (I. Millar pers. comm. 1999).

Management Needs: 1) Maintain habitat at Council Cave.

Contacts: Ian Millar.



Body length: 18 mm

Order: Blattodea

Common name: Cockroaches, kokoroihi

Blattodea

Cockroaches

Order: Blattodea
Family: Blattidae
Taxonomic Name: *Maoriblatia rufoterminata* (Brunner von Wattenwyl, 1865)
Common Names: Black cockroach (kekerengu) (Scott & Emberson 1999)
Synonyms: *Polyzosteria rufoterminata* (in error), *Platyzosteria rufoterminata*, *P. brunni* (as in McKittrick 1964, not Alfken 1901), *Maoriblatti brunni* (Wise 1977), *Melanozosteria brunni* (as in McKittrick 1964, not Alfken 1901) (Johns 1966)

M&D Category: I

Conservancy Office: NL, AU, WK

Area Office: Kerikeri, Warkworth, Auckland, Great Barrier, Hauraki

Description: A dark brown to black cockroach, with the legs and thinner parts of the integument (cuticle and epidermis) red-brown. The male body is 15 mm long, the female 18 mm long. This species is very similar to *Platyzosteria novaeseelandiae*, but is smaller in size, and after the first 9 - 11 antennal segments the colour changes from brown to yellow-brown (Johns 1966).



Body length: 15 mm

Type Locality: New Zealand (Johns 1966).

Specimen Holdings: AMNZ, CMNZ, MONZ, NZAC, NHMV.

Distribution: Confined to northern parts of the North Island (Johns 1966), including Waipoua Kauri Forest; Piha; Auckland; Pollok; Little Barrier Island; Great Barrier Island; Hunua Ranges (Johns 1966); Coromandel Peninsula; North Auckland Peninsula (Johns 1974).

Habitat: Appears to have an association with kauri (*Agathis australis*) forest, or scrub following milling of such forest (Johns 1966). It is found under the bark of trees and in logs, and probably prefers scrubby forest with a lot of kanuka (*Kunzea ericoides*) and manuka (*Leptospermum scoparium*) present (P. Johns pers. comm. 1999).

Threats: Patchy distribution, but probably secure unless a decline in habitat occurs (P. Johns pers. comm. 1999).

Work Undertaken to Date: -

Priority Research, Survey, and Monitoring: 1) None required.

Management Needs: 1) None required.

Contacts: Peter Johns.



Photo: Andrew Townsend.

