

Identification Key to Campbell Island Freshwater Chironomidae Larvae

McMurtrie, Sinton & Winterbourn (2014)



Ablabesmyia mala (Hutton, 1902) INFORMATION SHEET

Classification

Class: Insecta
Order: Diptera
Family: Chironomidae
Subfamily: Tanypodinae
Genus: *Ablabesmyia*
Specific name: *mala*
Common name: midge
Original combination: *Tanypus malus* Hutton, 1902
Previous combination: *Pentaneura (Ablabesmyia) malus* (Hutton) Freeman, 1959

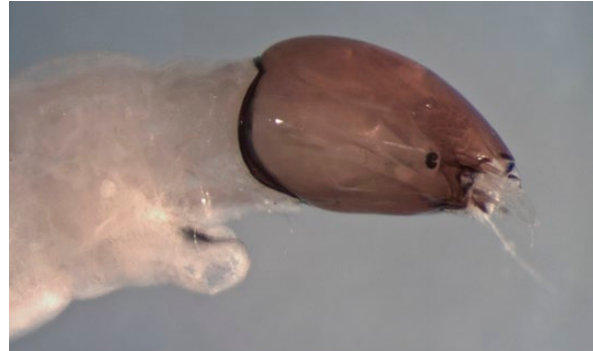


FIGURE 1. Head of a mainland species of Tanypodinae (no photographs of Campbell Island species available)

Distinguishing Features

As a member of the subfamily Tanypodinae, *A. mala* has the following characteristics:

- Body colour yellowish, head relatively long (more or less oval in shape but narrowing anterior to the eyes), yellowish-brown with a dark basal margin; a simple eye on each side of the head (Fig. 1); body length up to 11 mm.
- Antennae half as long as head, retractile into head capsule (Fig. 2).
- Ligula strongly developed with 5 teeth (Fig. 2).
- Prothoracic and posterior prolegs long and narrow, anal gills pointed (Fig. 3).

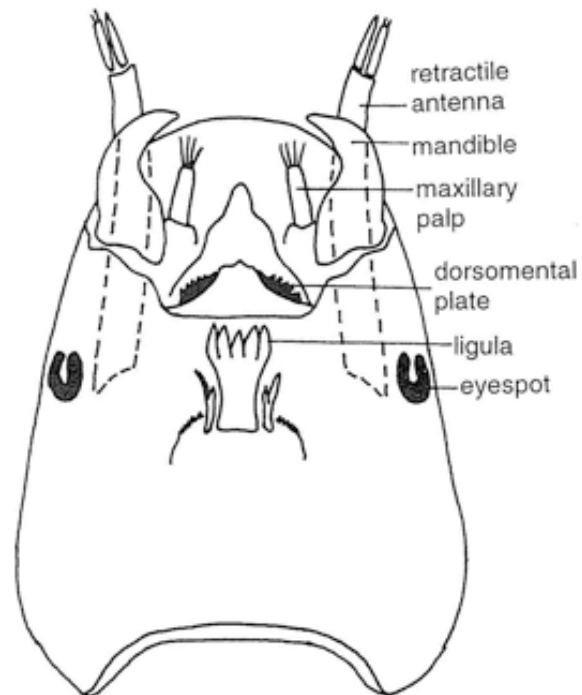


FIGURE 2. Tanypodinae head capsule, ventral view (illustration from Winterbourn *et al.* (2006))

Comments

Ablabesmyia mala was not found during the 2010–11 Campbell Island Bicentennial Expedition, or by Joy & Death (2000), but was reported from Campbell Island by Sublette & Wirth (1980). It is also known from New Zealand.

Original Description

Tanypus malus Hutton (1902): No larval description.



FIGURE 3. Posterior of a mainland species of Tanypodinae (no photographs of Campbell Island species available)

References & Further Reading

- Freeman, P. 1959. A study of the New Zealand Chironomidae (Diptera, Nematocera). *Bulletin of the British Museum (Natural History), Entomology Series* 7 (9): 395–437.
- Hutton, F.W. 1902. On a small collection of Diptera from the southern islands of New Zealand. *Transactions and proceedings of the New Zealand Institute* 34: 169–175.
- Joy, M.K. & Death, R.G. 2000. Stream invertebrate communities of Campbell Island. *Hydrobiologia* 439: 115–124.
- Sublette, J. E. & Wirth, W. W. 1980. The Chironomidae and Ceratopogonidae (Diptera) of New Zealand's subantarctic islands. *New Zealand Journal of Zoology* 7: 299–378.
- Winterbourn, M.J., Gregson, K.L.D. & Dolphin, C.H. 2006. *Guide to the aquatic insects of New Zealand* (4th edition). Bulletin of the Entomological Society of New Zealand 14. 108pp.

How to Cite this Information Sheet

- McMurtrie, S.A., Sinton, A.M.R., & Winterbourn, M.J. 2014. Lucid Identification Key to Campbell Island Freshwater Chironomidae Larvae: *Ablabesmyia mala* information sheet. EOS Ecology, Christchurch, New Zealand.

ACKNOWLEDGEMENTS – The creation of the Lucid Key and information sheets were supported by the TFBIS (Terrestrial and Freshwater Biodiversity Information System) Fund administered by the Department of Conservation (TFBIS Contract No. 278), and by EOS Ecology. Invertebrate specimens were collected by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (CIBE), made possible by the 50° South Trust.



Identification Key to Campbell Island Freshwater Chironomidae Larvae

McMurtrie, Sinton & Winterbourn (2014)



Chironomus subantarcticus Sublette & Wirth, 1980

INFORMATION SHEET

Classification

Class:	Insecta
Order:	Diptera
Family:	Chironomidae
Subfamily:	Chironominae
Tribe:	Chironomini
Genus:	<i>Chironomus</i>
Specific name:	<i>subantarcticus</i>
Common name:	midge; bloodworm (the red larva)

Distinguishing Features

- Body red in life, whitish-grey in ethanol (Fig. 1); head grey-brown; two eyespots on each side spaced well apart vertically (Fig. 2); body length up to about 17 mm.
- Mentum broad with 15 teeth; ventromental plates fan-like,

vertically striated; premandibles bifid; mandibles dark with basal striations (Fig. 3).

- Antennae 5-segmented (Fig. 4); Lauterborn organs on the distal end of antennal segment 2; blade extending beyond the base of segment 4 (Fig. 5); ring organ about one third from base of segment 1.
- Procercus with a short setal brush (Fig. 6).
- Posterior ventral tubules absent (Fig. 6).

Comments

This is the largest chironomid found on Campbell Island. The larva is typical of the genus and very similar to the larvae of New Zealand *Chironomus* species. *C. subantarcticus* also occurs on the Auckland Islands where a second species, *C. antipodensis* is also found. In contrast to *C. subantarcticus*, the larva of *C. antipodensis* has one small pair of ventral tubules.



FIGURE 1. *Chironomus subantarcticus* whole animal



FIGURE 2. *Chironomus subantarcticus* head

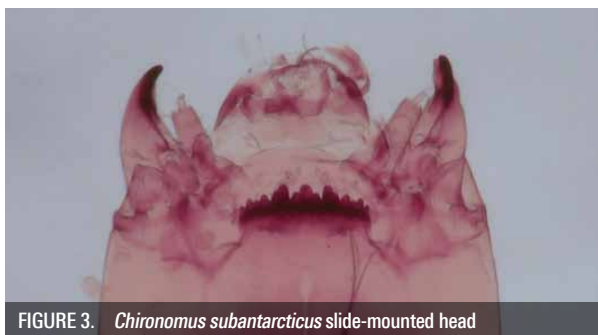


FIGURE 3. *Chironomus subantarcticus* slide-mounted head

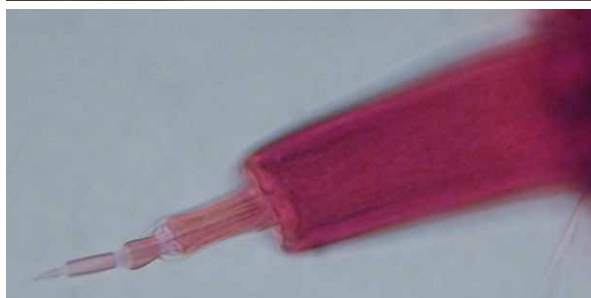


FIGURE 4. *Chironomus subantarcticus* antenna

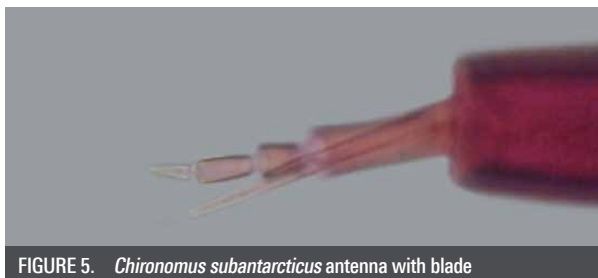


FIGURE 5. *Chironomus subantarcticus* antenna with blade

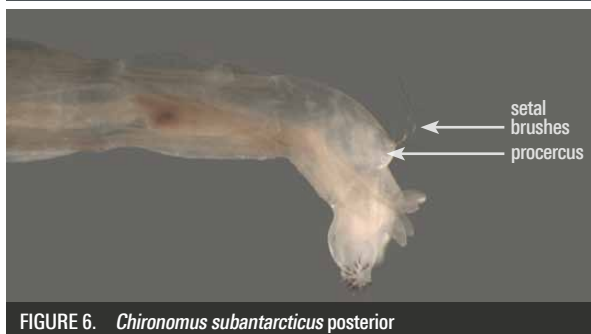
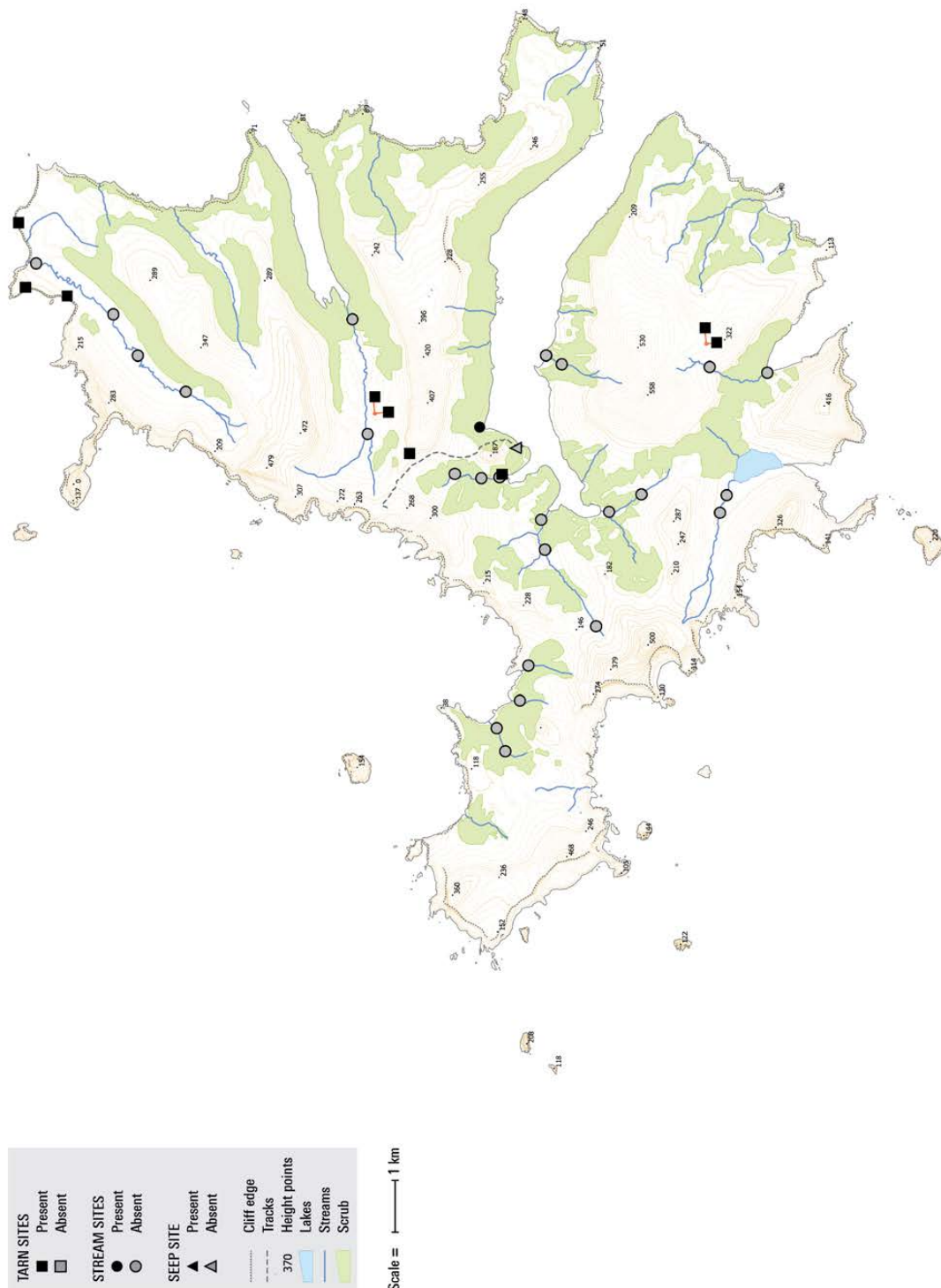


FIGURE 6. *Chironomus subantarcticus* posterior

Biogeographic Information

Presence/absence on streams, tarns, and a seepage sampled on Campbell Island.

Distribution map based on surveys undertaken by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (www.campbellisland.org.nz). Distribution data © EOS Ecology, 2013.



New Zealand Transverse Mercator
 New Zealand Geodetic 2000
 Created on: 3 December 2013
 Created by: Kirsty Brennan

Chironomus subantarcticus Distribution
CAMPBELL ISLAND
 December 2010–February 2011

Produced by:
 EOS Ecology
 Campbell Island Bicentennial Expedition
 Project name: 06033-EOS01
 Project no.: Shelley McMurtrie
 Project lead: www.eosecology.co.nz



Original Description

The following is a direct excerpt of the larval stage of *C. subantarcticus* from Sublette & Wirth (1980), including figures:

Larva (provisionally associated). Fourth instar. Only weakly differentiated from *C. antipodensis*. Ventral head length 0.331-0.382 mm (3). Head and mouthparts indistinguishable from *C. antipodensis* [Head capsule yellowish brown except for dark mandible tips, labial plate, and occipital ring... Labial plate Fig. 36I... Mandible, Fig. 37D and 39B. Ventral labral structures, Fig. 37E. Maxilla, Fig. 37F; detail of structures, Fig. 38A-D. Hypopharynx, Fig. 38E]. Antenna (Fig. 39G) with 3rd and 4th segments in the proportion 7:11 (cf. 10:12 in *C. antipodensis*). Ventral tubuli not observable on the slide mounted material.

Third instar. Similar to 4th instar. Ventral head length 0.204-0.214 mm (2). Antenna, Fig. 39H. Ventral tubuli apparently lacking.

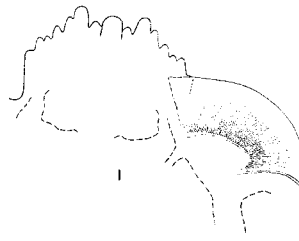


FIGURE 36I.



FIGURE 37D.

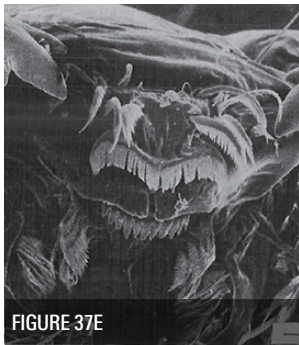


FIGURE 37E.



FIGURE 37F.



FIGURE 38A.

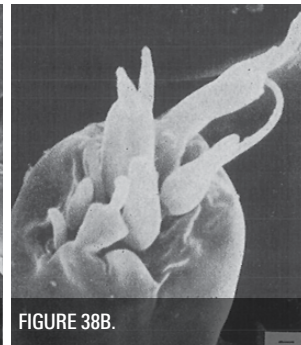


FIGURE 38B.

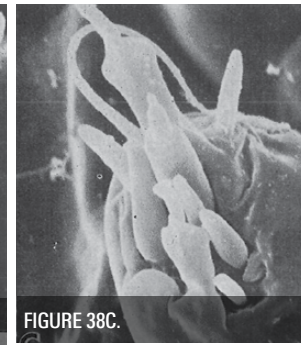


FIGURE 38C.

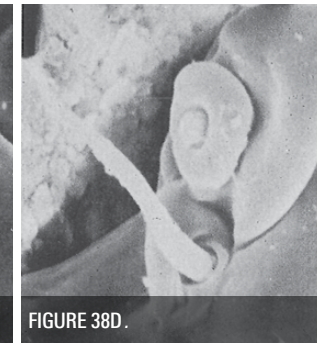


FIGURE 38D.

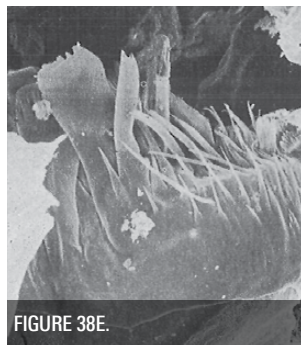


FIGURE 38E.

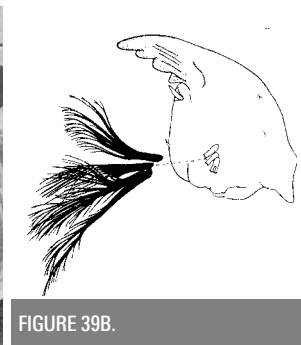


FIGURE 39B.

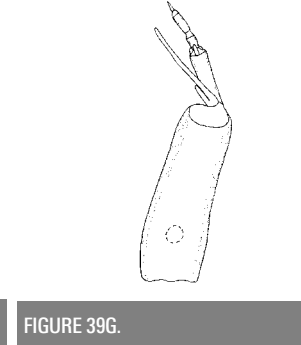


FIGURE 39G.

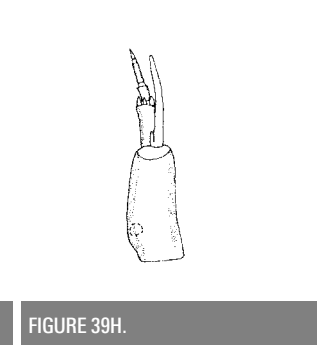


FIGURE 39H.

References & Further Reading

Sublette, J. E. & Wirth, W. W. 1980. The Chironomidae and Ceratopogonidae (Diptera) of New Zealand's subantarctic islands. *New Zealand Journal of Zoology* 7: 299–378.

How to Cite this Information Sheet

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Identification Key to Campbell Island Freshwater Chironomidae Larvae

McMurtrie, Sinton & Winterbourn (2014)



Eukiefferiella heveli Sublette & Wirth, 1980 INFORMATION SHEET

Classification

Class:	Insecta
Order:	Diptera
Family:	Chironomidae
Subfamily:	Orthocladiinae
Genus:	<i>Eukiefferiella</i>
Specific name:	<i>heveli</i>
Common name:	midge

Distinguishing Features

- Body grey-green (Fig. 1); head dark, narrowing anteriorly when viewed dorsally; a narrow, dark occipital band, posteriorly (Fig. 2); eye dark, surrounded by a pale patch (Fig. 2); body length up to 3.3 mm.
- Mentum steep-sided, roughly triangular with longitudinal striations; median tooth strongly bifid; 5 pairs of lateral teeth (Fig. 3).
- Antenna 4-segmented, about as long as the mandibles; two blades on segment 2 reaching to the base of segment 3 (Fig. 4).

Comments

The adult and larva were described by Sublette & Wirth (1980). Freshwater samples collected during the 2010–11 Campbell Island Bicentennial Expedition contained larvae, adults and pupae, some of which had fully developed male genitalia and showed the adult character of hairs between the eye facets well. Pupae were 2.0–2.2 mm long with thread-like respiratory siphons that are slightly curved and expanded into a broad cone, basally.



FIGURE 1. *Eukiefferiella heveli* whole animal

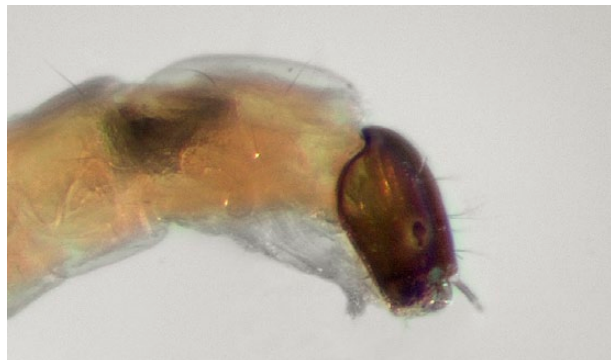


FIGURE 2. *Eukiefferiella heveli* head

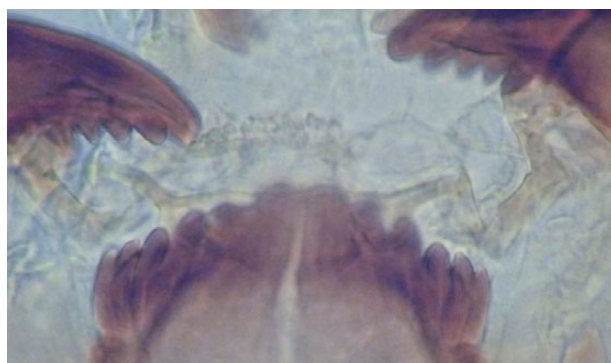


FIGURE 3. *Eukiefferiella heveli* mentum

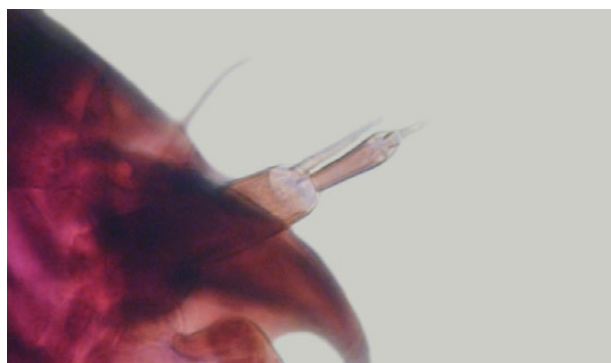
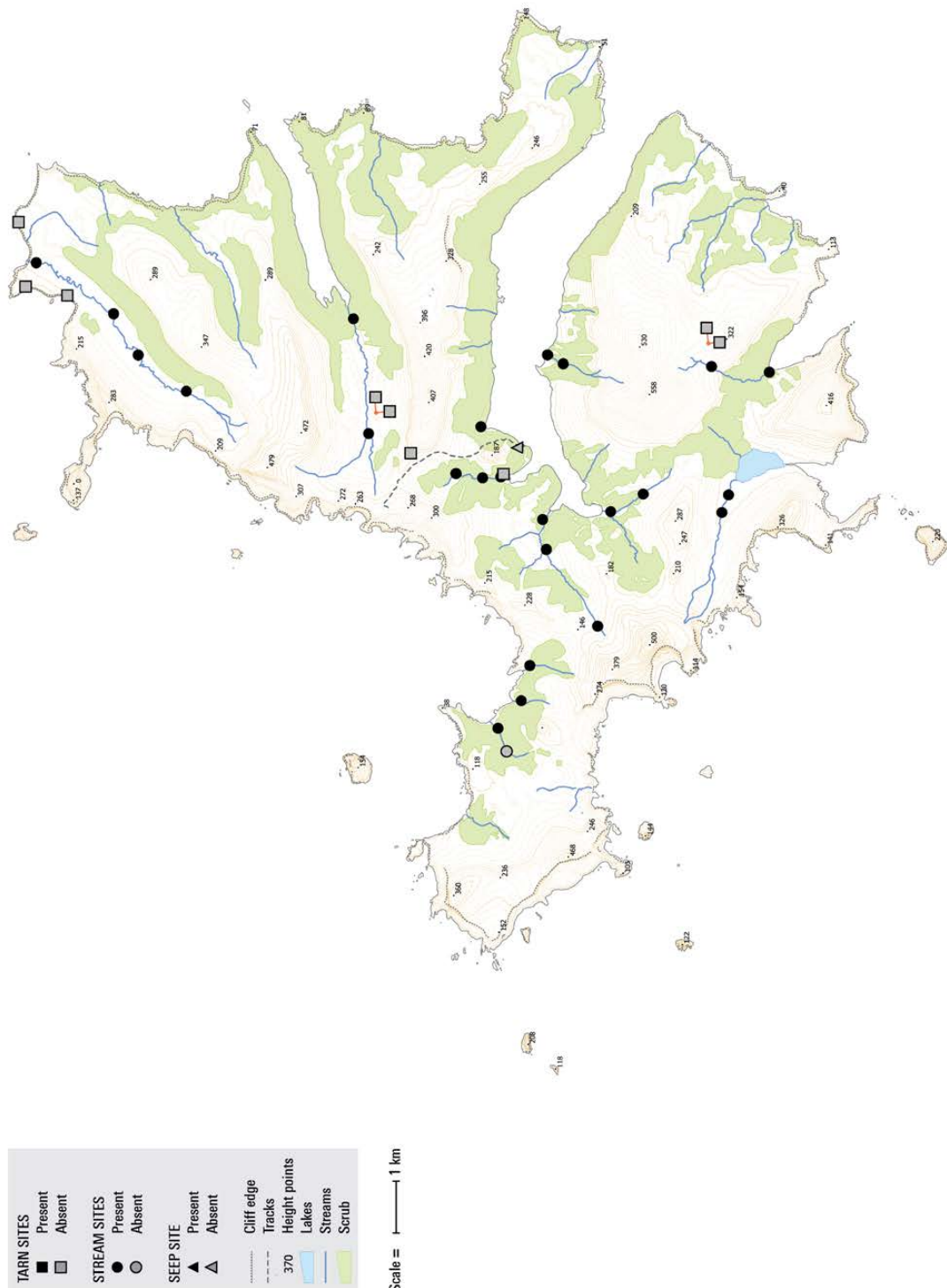


FIGURE 4. *Eukiefferiella heveli* antenna

Biogeographic Information

Presence/absence on streams, tarns, and a seepage sampled on Campbell Island.

Distribution map based on surveys undertaken by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (www.campbellisland.org.nz). Distribution data © EOS Ecology, 2013.



Original Description

The following is a direct excerpt of the larval stage from Sublette & Wirth (1980), including figures:

Larva (presumptively associated). Head capsule dark brown; occipital ring blackish; eye spots contiguous, surrounded by a narrow paler area. Ventral head length 0.163 mm. Labial plate, Fig. 16C and 17J. Antenna, Fig. 16D,E. Ventral labral structures, Fig. 17F and 18A. Maxillary palpus, Fig. 18B. Mandible, Fig. 17K.

Anterior prolegs stalked, with pectinate claws (Fig. 18C). Posterior prolegs with 11 smooth claws (Fig. 18E). Preanal papillae about as high as wide (Fig. 18D), each with 7 long terminal setae and 1 shorter setae on anterior face.



FIGURE 16C.

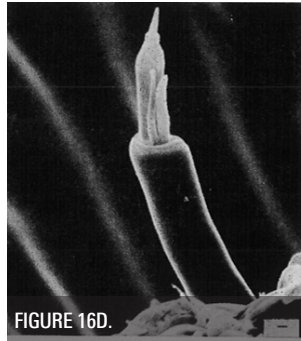


FIGURE 16D.

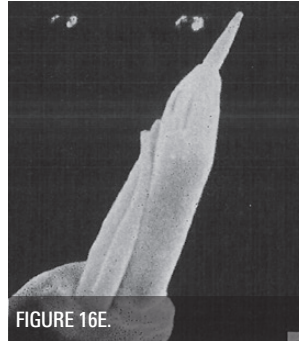


FIGURE 16E.



FIGURE 17F.



FIGURE 17J.

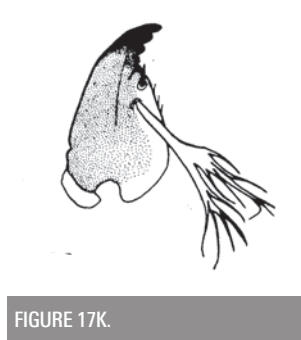


FIGURE 17K.

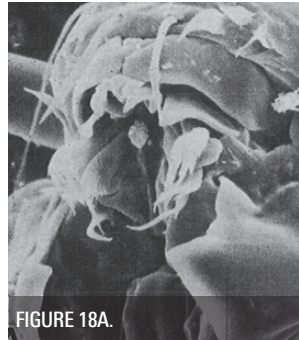


FIGURE 18A.

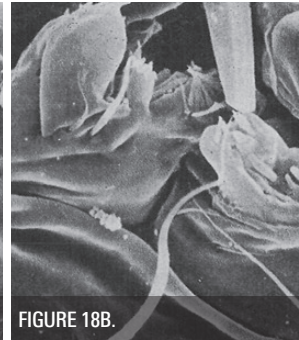


FIGURE 18B.

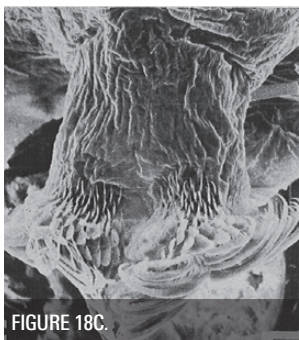


FIGURE 18C.

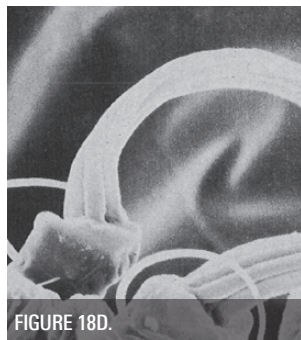


FIGURE 18D.



FIGURE 18E.

References & Further Reading

Sublette, J. E. & Wirth, W. W. 1980. The Chironomidae and Ceratopogonidae (Diptera) of New Zealand's subantarctic islands. *New Zealand Journal of Zoology* 7: 299–378.

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Hevelius carinatus Sublette & Wirth, 1980 INFORMATION SHEET

Classification

Class: Insecta
Order: Diptera
Family: Chironomidae
Subfamily: Orthocladiinae
Genus: *Hevelius*
Specific name: *carinatus*
Common name: midge

Distinguishing Features

- Body greenish-grey; head medium brown; eye black, prominent; mouthparts dark and appearing “plate-like” under a dissecting microscope; body length up to 2.5 mm (Fig. 1 and 2).
- Mentum with a single median tooth and 5 lateral teeth; sides of mentum shallowly concave alongside the premental plates; a second set of “square” premental plates appear to be present at the base of the mentum.
- Premandibles with a slight indication of being bifid.
- Antennae 5-segmented, the third segment very short; a blade reaches beyond the tip of the antenna (Fig. 3).
- Prothoracic and posterior prolegs fairly short, the latter with dark claws.
- Procercal hairs short.

Comments

Sublette & Wirth (1980) provided a short description of the larva of *H. carinatus* and provided a large number of illustrations, mainly scanning electron microscope images. Our material differs from their material only in the antennal blade being shorter than shown by them. They did not state the size of the larva but a body length of 2.5 mm is consistent with the small size of the adult.



FIGURE 1. *Hevelius carinatus* whole animal



FIGURE 2. *Hevelius carinatus* head

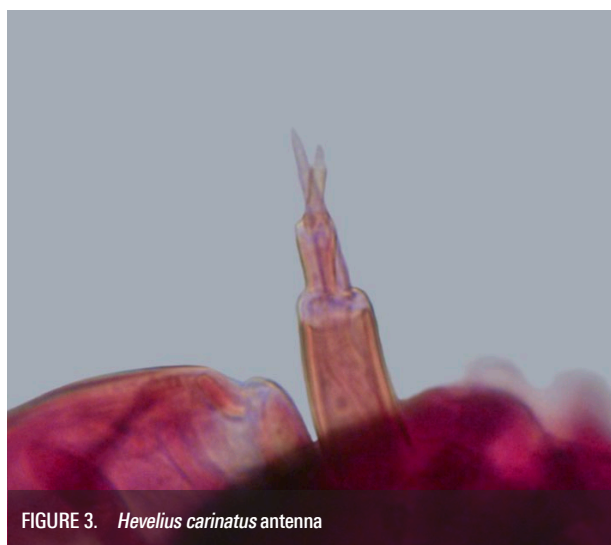
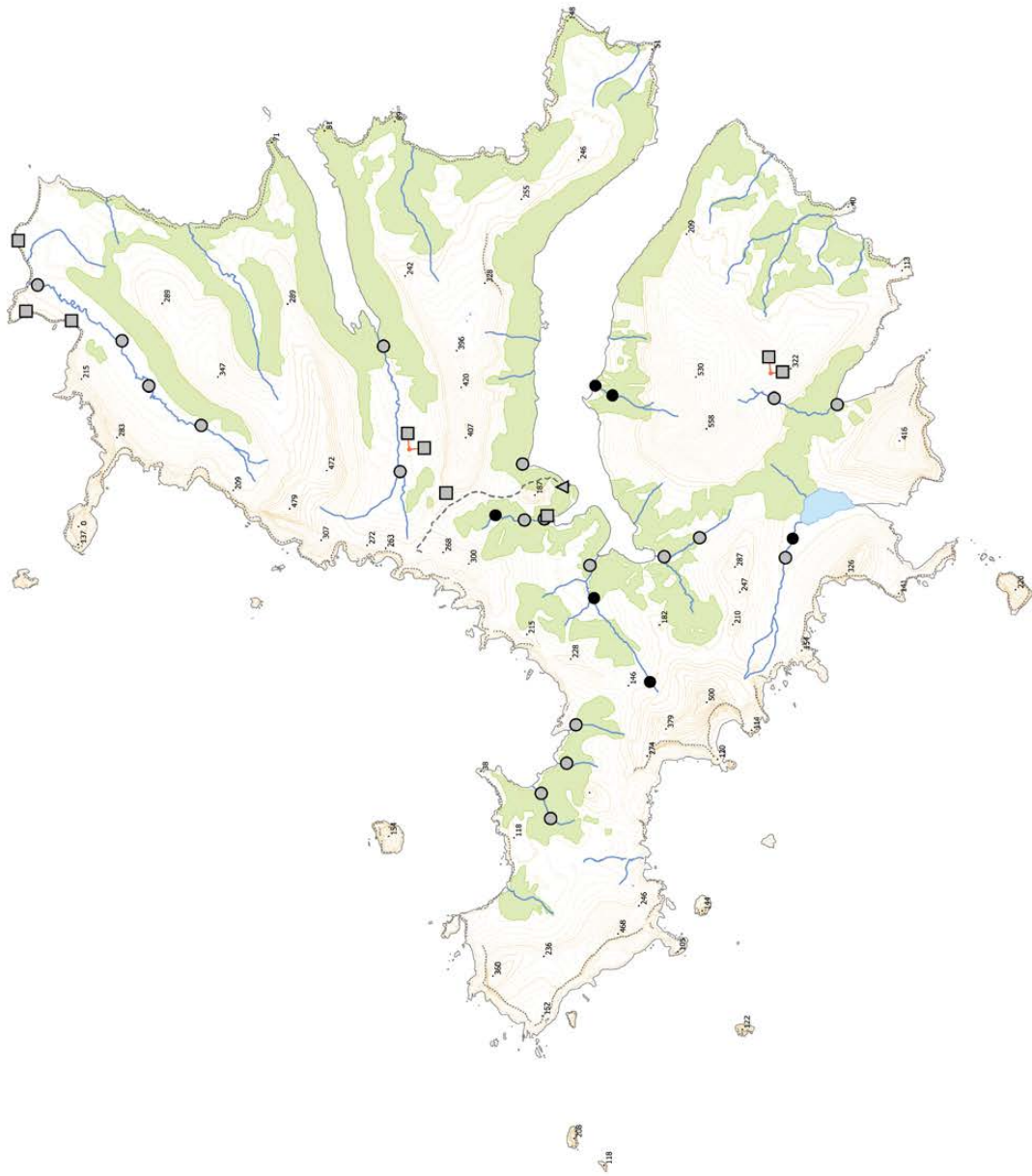


FIGURE 3. *Hevelius carinatus* antenna

Biogeographic Information

Presence/absence on streams, tarns, and a seepage sampled on Campbell Island.

Distribution map based on surveys undertaken by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (www.campbellisland.org.nz). Distribution data © EOS Ecology, 2013.



TARN SITES	Present
■	Absent
STREAM SITES	Present
●	Absent
SEEP SITE	Present
▲	Absent
⋯	Cliff edge
—	Tracks
▲	Height points
○	Lakes
—	Streams
■	Scrub

Scale = 1 km

New Zealand Transverse Mercator
New Zealand Geodetic 2000
Created on: 3 December 2013
Created by: Kristy Brennan

Hevelius carinatus Distribution
CAMPBELL ISLAND
December 2010–February 2011

Produced by: EOS Ecology
Project name: Campbell Island Bicentennial Expedition
Project no.: 06033-EOS01
Project lead: Shelley McMurtrie
www.eosecology.co.nz

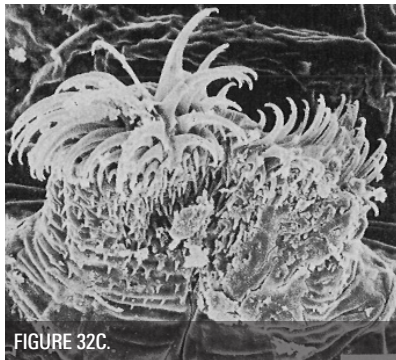
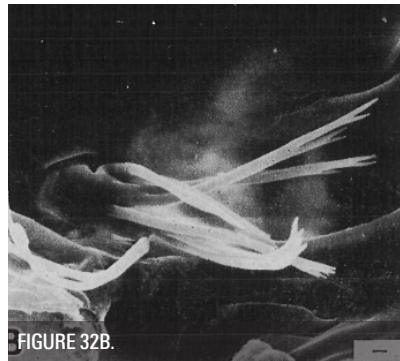
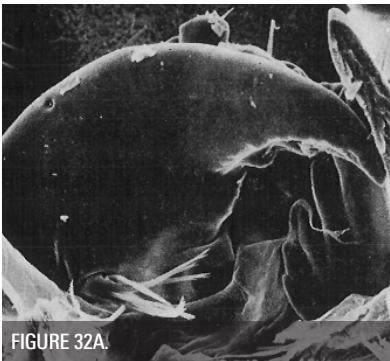
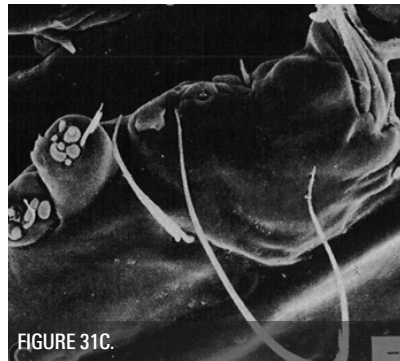
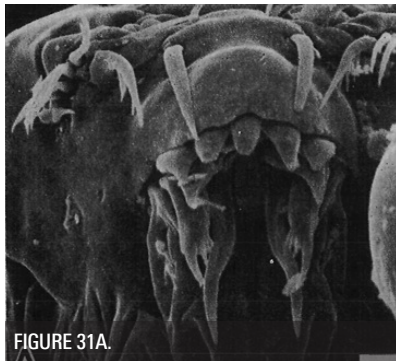
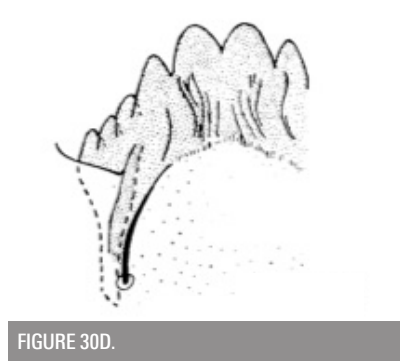
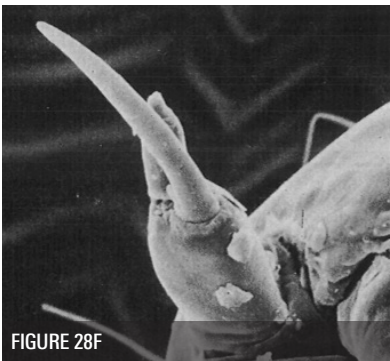
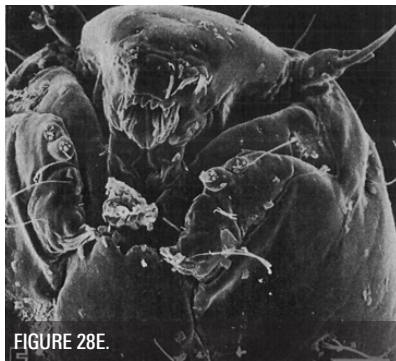


Original Description

The following is a direct excerpt for the larval stage from Sublette & Wirth (1980), including figures:

Larva (presumptively associated — collected from water in an old basin where adult males of this species were also collected). Head capsule dark brown, with a black occipital border; eye spots single; anterior aspect of head, Fig. 28E; ventral head length 0.158-0.163 mm (3). Labial plate, Fig. 30D. Antenna, Fig. 28F. Ventral labral structures, Fig. 31A,B; premandibles bifurcate at tip. Maxilla, Fig. 31C. Mandible, Fig. 31E and 32A,B.

Anterior prolegs reduced, with short dark, almost straight hooks (Fig. 32C). Body segments with reduced, sparse setae. Posterior prolegs short, completely retractile, each with 9 short, dark claws (Fig. 32D). Preanal papillae lacking. One pair of short anal gills.



References & Further Reading

Sublette, J. E. & Wirth, W. W. 1980. The Chironomidae and Ceratopogonidae (Diptera) of New Zealand's subantarctic islands. *New Zealand Journal of Zoology* 7: 299–378.

How to Cite this Information Sheet

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Maoridiamesa insularis Brundin, 1966 INFORMATION SHEET

Classification

Class:	Insecta
Order:	Diptera
Family:	Chironomidae
Subfamily:	Diamesinae
Genus:	<i>Maoridiamesa</i>
Specific name:	<i>insularis</i>
Common name:	midge

Distinguishing Features

- Body moderately robust with a greenish tinge (Fig. 1); head orange-brown with a broad black collar, posteriorly (Fig. 2); eye black, almost round and surrounded by a variably shaped pale patch; mouthparts darkly pigmented making details difficult to see; body length up to 11 mm.
- Mentum rounded anteriorly with a single median tooth, large first lateral teeth and much shorter second laterals (Fig. 10C in Sublette & Wirth, 1980).
- Densely setose hypopharynx extending anterior to mentum (Fig. 10C in Sublette & Wirth, 1980).
- Antennae 5-segmented, orange-brown, a little longer than the maximum width of the collar; Lauterborn organs on antennal segment 3; blade on segment 2 reaching to the base of segment 5; a shorter blade extends to the end of segment 3; ring organ near the base of segment 1 (Fig. 4).

Comments

Sublette & Wirth (1980) described the adult and larva (including a large number of scanning electron microscope images) but not the pupa. Pupae we have found are dark-coloured and have filamentous, slightly tapering respiratory siphons on the thorax. The posterior end of the pupa is rounded with very short projections. *M. insularis* is known only from Campbell Island.



FIGURE 1. *Maoridiamesa insularis* whole animal

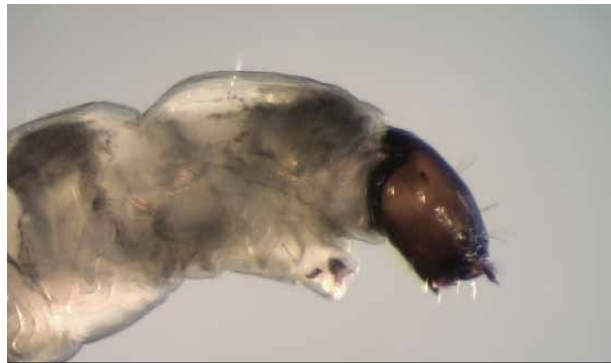


FIGURE 2. *Maoridiamesa insularis* anterior



FIGURE 3. *Maoridiamesa insularis* posterior

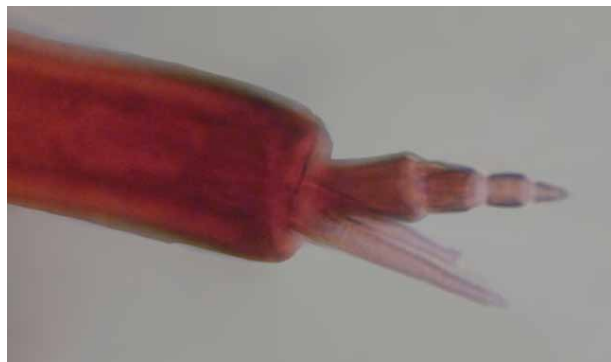
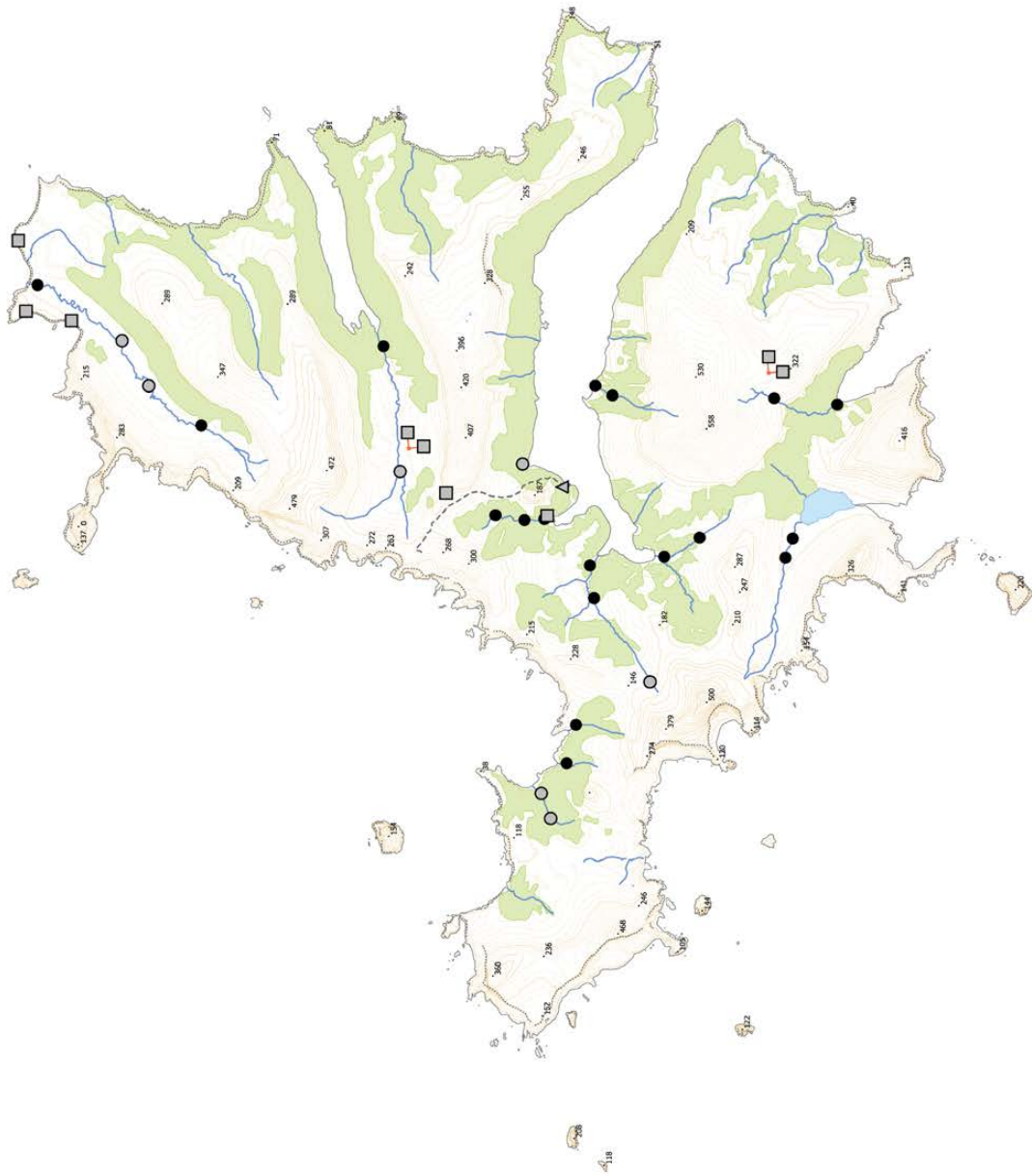


FIGURE 4. *Maoridiamesa insularis* antenna

Biogeographic Information

Presence/absence on streams, tarns, and a seepage sampled on Campbell Island.

Distribution map based on surveys undertaken by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (www.campbellisland.org.nz). Distribution data © EOS Ecology, 2013.



TARN SITES	Present
■	Absent
STREAM SITES	Present
●	Absent
SEEP SITE	Present
▲	Absent
⋯	Cliff edge
—	Tracks
▲	Height points
○	Lakes
—	Streams
—	Scrub

Scale = 1 km

New Zealand Transverse Mercator
New Zealand Geodetic 2000
Created on: 3 December 2013
Created by: Kristy Brennan

Maoriidamesa insularis Distribution
CAMPBELL ISLAND
December 2010–February 2011

Produced by: EOS Ecology
Project name: Campbell Island Bicentennial Expedition
Project no.: 06033-EOS01
Project lead: Shelley McMurtrie
www.eosecology.co.nz



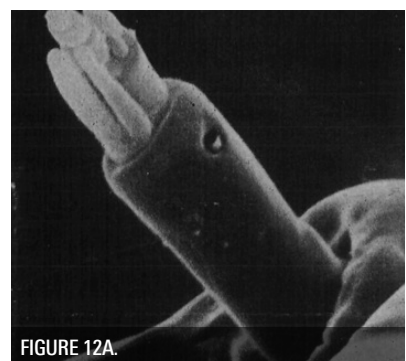
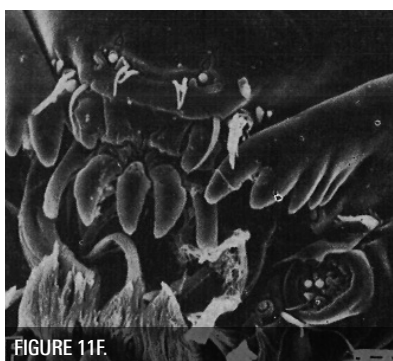
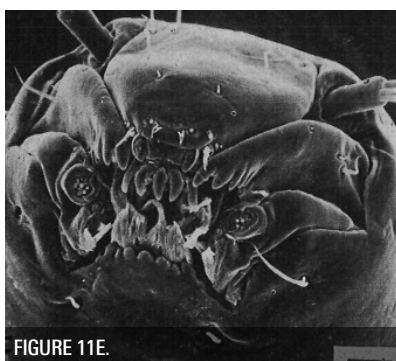
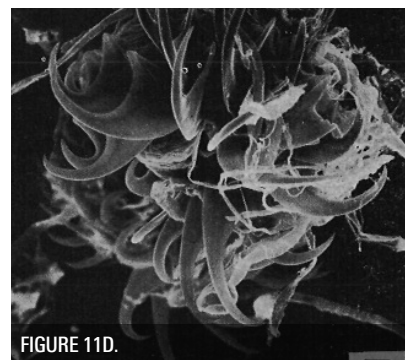
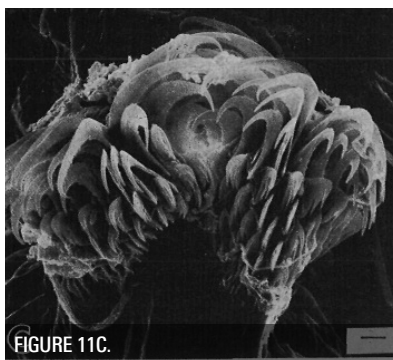
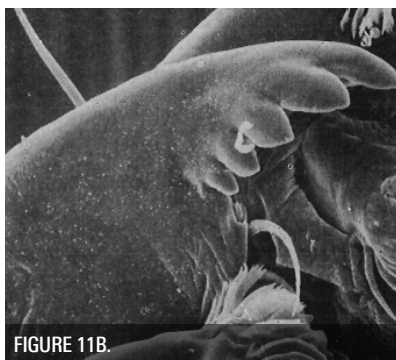
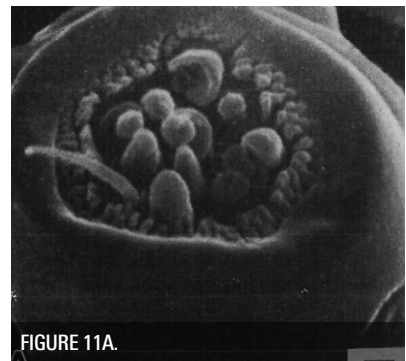
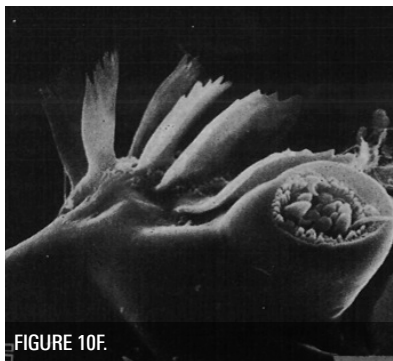
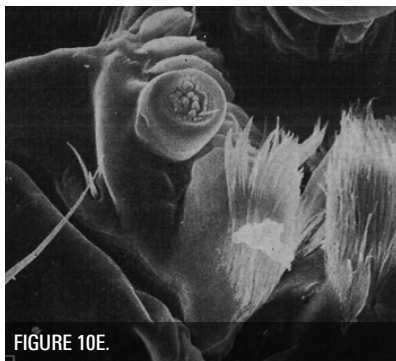
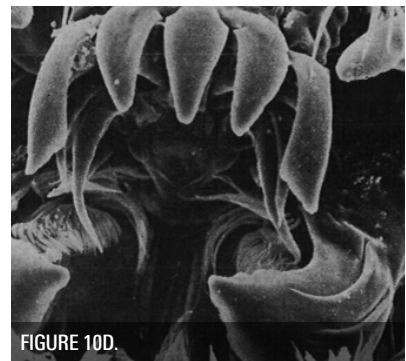
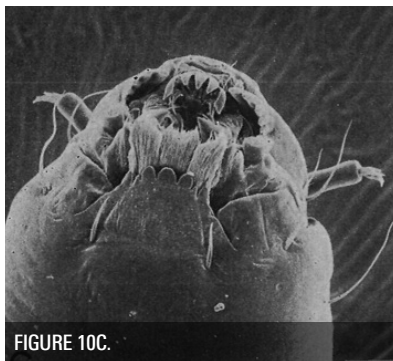
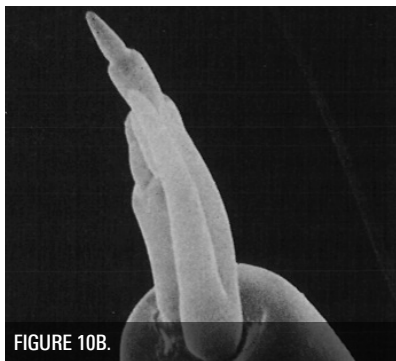
Original Description

Brundin (1966): Larvae not described.

The following is a direct excerpt of the larval description from Sublette & Wirth (1980), including figures:

Larva. Fourth instar. Head capsule dark brown, with labial plate, mandible tip, and occipital ring blackish. Eye spots contiguous. Ventral head length 0.31 mm. Ventral view of head, Fig. 10C; oral field (enlarged), Fig. 10D. Labial plate, Fig. 10C and 13A. Antenna, Fig. 10B. Maxilla, Fig. 10E,F. Maxillary palpus, Fig. 11A. Mandible, Fig. 11B. Anterior prolegs, Fig. 11C. Each posterior proleg with about 18 blackish claws (Fig. 11D). Preanal papillae dark, about twice as wide as high, each with 1 short seta on anterior face and 6 long, terminal black setae.

Third instar. Ventral head length 0.22 mm. Anterolateral view of head, Fig. 11E; mouthpart details, Fig. 11F. Labial plate, Fig. 13B. Antenna, Fig. 12A. Maxilla, Fig. 12B. Prolegs and preanal papilla similar to those of 4th instar.



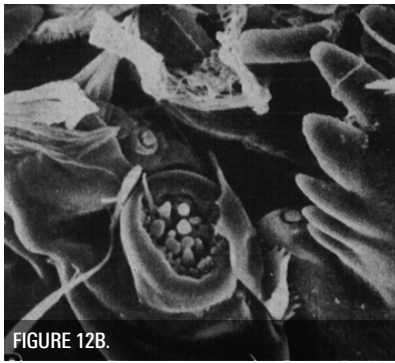


FIGURE 12B.



FIGURE 13A.



FIGURE 13B.

References & Further Reading

Brundin, L. 1966. Transantarctic relationships and their significance as evidenced by chironomid midges. *Kungl. Svenska Vetenskapsakademiens Handlingar* 11 (1): 1–472.

Sublette, J. E. & Wirth, W. W. 1980. The Chironomidae and Ceratopogonidae (Diptera) of New Zealand's subantarctic islands. *New Zealand Journal of Zoology* 7: 299–378.

How to Cite this Information Sheet

McMurtrie, S.A., Sinton, A.M.R., & Winterbourn, M.J. 2014. Lucid Identification Key to Campbell Island Freshwater Chironomidae Larvae: *Maoridiamesa insularis* information sheet. EOS Ecology, Christchurch, New Zealand.

ACKNOWLEDGEMENTS – The creation of the Lucid Key and information sheets were supported by the TFBIS (Terrestrial and Freshwater Biodiversity Information System) Fund administered by the Department of Conservation (TFBIS Contract No. 278), and by EOS Ecology. Invertebrate specimens were collected by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (CIBE), made possible by the 50° South Trust.



Parochlus INFORMATION SHEET

Classification

Class:	Insecta
Order:	Diptera
Family:	Chironomidae
Subfamily:	Podonominae
Genus:	<i>Parochlus</i>
Common name:	midge

Three *Parochlus* species have been described from Campbell Island: *P. renelli*, *P. brevis* and *P. reductus*. *P. reductus* is known only from Campbell Island. *P. brevis* also occurs on the Auckland Islands. *P. renelli* has been reported from the Campbell, Auckland and Antipodes islands.

Only the larvae of *P. brevis* has been officially described, however larvae collected along with an adult male *P. renelli* as part of the 2010–11 Campbell Island Bicentenary Expedition have also been informally described below.

Parochlus renelli Sublette & Wirth, 1980

Distinguishing features

Parochlus renelli can be distinguished from other members of Chironomidae with the following features. Note that as the larvae of *P. reductus* is not described, and without a more detailed description of *P. renelli*, it is not known if the following features would be useful for differentiating between the three species of *Parochlus* recorded from Campbell Island (see Comments section).

- Body slender, grey-white with gut visible through the body wall (Fig. 1); head pale, yellowish (Fig. 2); eye black and roughly circular, but seen to be made up of a complex of three “eyespot” when viewed at high magnification; body length 4.5–5.0 mm.
- Prothoracic and posterior prolegs pale, the latter about as long as the head and with black claws (Fig. 2 and Fig. 3).
- Procerci brown, about half as long as the head and with a tuft of 6–7 dark setae about twice the length of the procercus (Fig. 3).
- Mentum (and mandibles) dark distally, steep-sided and slightly rounded laterally; mentum with single trifold median tooth and 6 lateral teeth.
- Antennae short, 5-segmented: blade on segment 1 reaching to segment 4; Lauterborn organ on segment 2.

Comments

Sublette & Wirth (1980) described a *Parochlus* larva from Campbell Island and attributed it to *P. brevis* based on its being found close to where adults were collected. The larva described here is not the one



FIGURE 1. *Parochlus renelli* whole animal



FIGURE 2. *Parochlus renelli* anterior

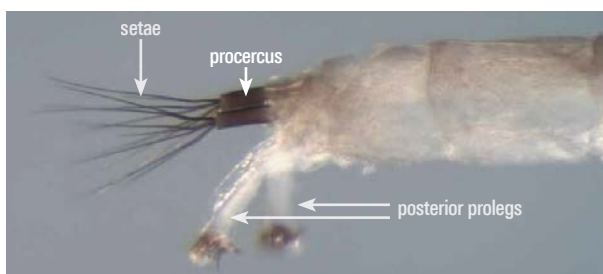


FIGURE 3. *Parochlus renelli* posterior

they described. However, an adult male collected with larvae in 2010 had well developed external genitalia consistent with those described for *P. renelli*.

Sublette & Wirth (1980) examined no *Parochlus* pupae but commented that *P. renelli* could be a species described from a pupa (but not an adult) by Brundin (1966.) However, although Brundin acknowledged examining Campbell Island material collected by J. L. Gressitt and K. *P. Renell* in 1961–62, he does not acknowledge Campbell Island as a source of any newly described species.

Pupae we have examined were not the same as any described from any source by Brundin (1966). They have a body length of about 3 mm; thoracic respiratory siphons that are club-shaped and slightly curved on their long axes. The posterior segment of the body has two long wavy setae on each side and long pointed spurs at the posterior angles. Medially, the abdomen terminates in a bifid point.

Original Description

Sublette & Wirth (1980): Figs 3E,F, 4C-H, 5, 10A. Larvae not described.

Parochlus brevis Sublette & Wirth, 1980

Distinguishing features

Parochlus brevis can be distinguished from other members of Chironomidae with the features described in the Original Description section below. Note that as the larvae of *P. reductus* is not described, and without a more detailed description of *P. rennelli*, it is not known if this description would be useful for differentiating between the three species of *Parochlus* recorded from Campbell Island (Sublette & Wirth, 1980).

Comments

Adults have been collected from beaches on Campbell Island and Auckland Island (from rocks and nearby rata trees).

Original Description

The following is a direct excerpt from Sublette & Wirth (1980), including figures:

Larva (presumptively by locality). Ventral head length: 2nd instar, 0.087, 0.092 mm (2); 3rd instar, 0.112 mm (1); 4th instar 0.184-0.199 mm (5). Length of preanal papilla: 2nd instar, 0.025 mm (2); 3rd instar, 0.051 mm (1), 4th instar, 0.092-0.107 mm (5).

Fourth instar. Head capsule dark brown, with the single eye spots, labial plate, and occipital margin blackish. Labial plate, Fig. 8E.

Antenna (Fig. 8F) with a scarcely discernable third segment. Ventral labral structures (Fig. 8G,H) similar to those of other members of the subfamily (cf. Brundin 1966, fig. 27-33); spinulae apparently lacking.

Mandible, Fig. 8I,J. Hypopharynx, Fig. 8K. Maxilla, Fig. 8L. Preanal papillae darkened, apparently heavily chitinised, each bearing about 7 long, dark setae and 1 smaller, barely subterminal, weaker seta.

Anal gills 4, small, almost spherical in preserved larvae. Posterior prolegs each with a weak medial seat near base. Claws of posterior prolegs darkened, retracted on all specimens available, so that a precise number cannot be determined.

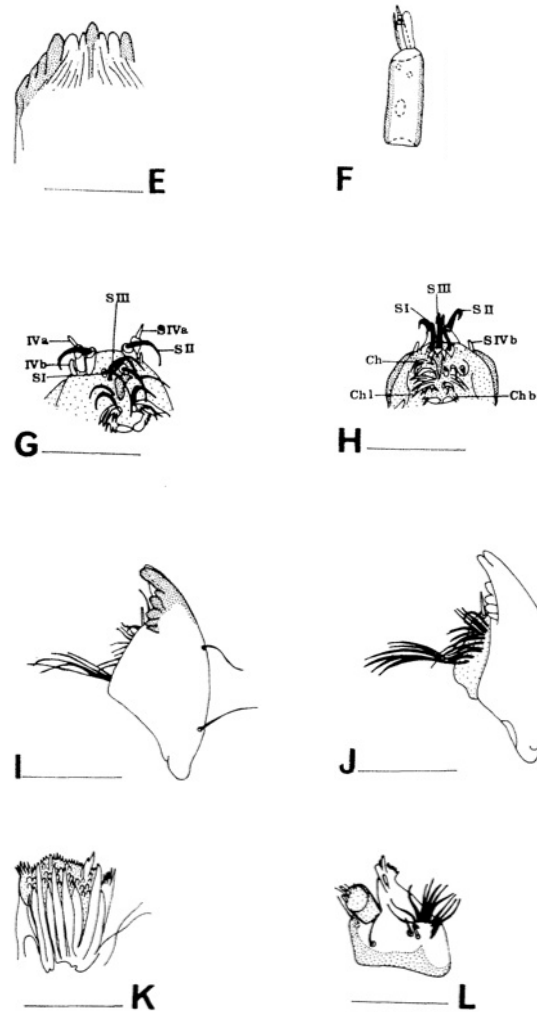


FIGURE 8.

Parochlus reductus Sublette & Wirth, 1980

Distinguishing features

See comments below.

Comments

The larva has not been described for this species, and no larvae that could be attributed to this species were found during the 2010–11 Campbell Island Bicentennial Expedition.

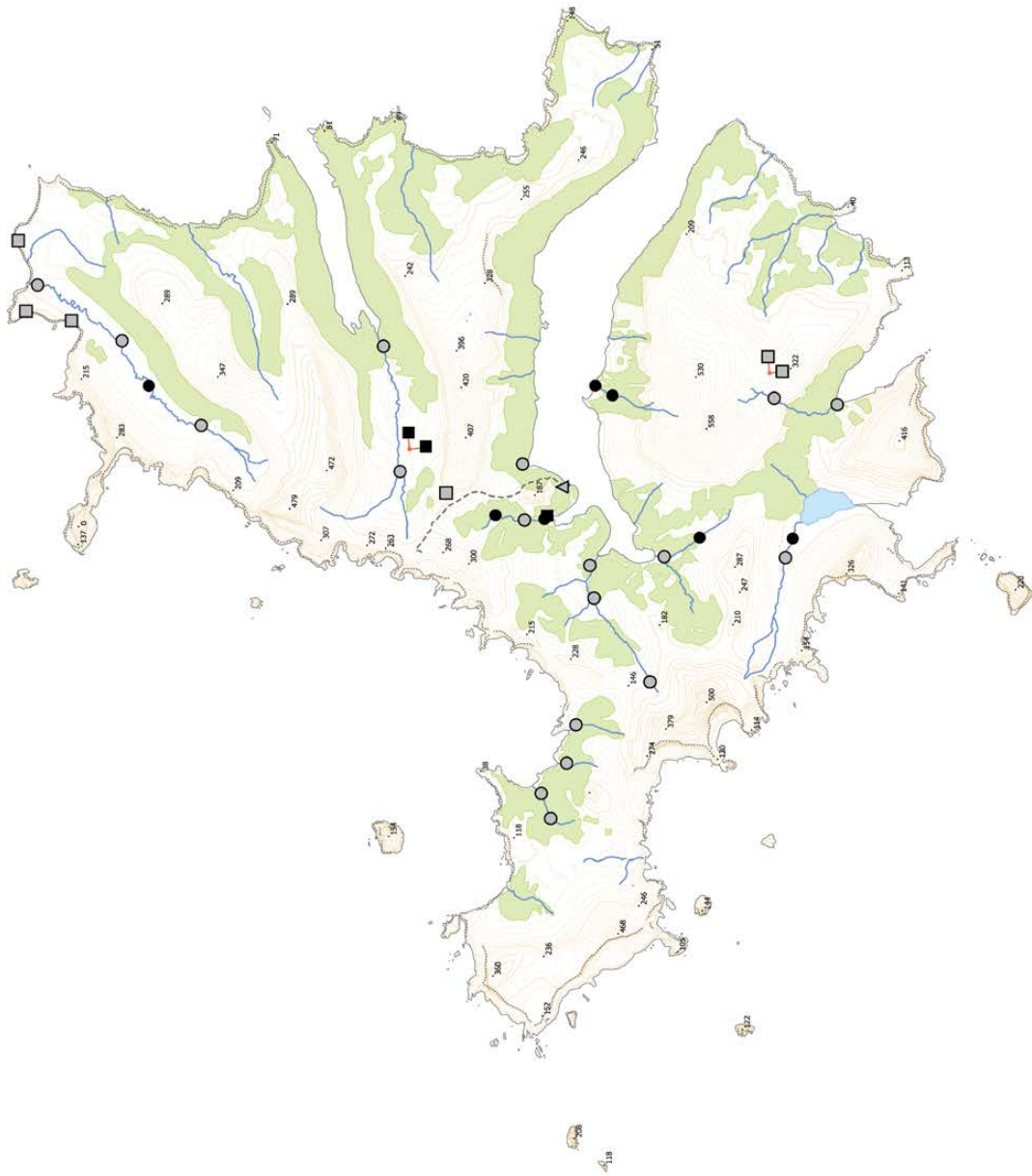
Original Description

Sublette & Wirth (1980): Larvae not described

Biogeographic Information

Presence/absence on streams, tarns, and a seepage sampled on Campbell Island.

Distribution map based on surveys undertaken by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (www.campbellisland.org.nz). Distribution data © EOS Ecology, 2013.



TARN SITES	Present
■	Absent
STREAM SITES	Present
●	Absent
SEEP SITE	Present
▲	Absent
⋯	Cliff edge
—	Tracks
▲	Height points
○	Lakes
—	Streams
■	Scrub

Scale = 1 km

New Zealand Transverse Mercator
New Zealand Geodetic 2000
Created on: 3 December 2013
Created by: Kristy Brennan

Parochlus rennelli Distribution
CAMPBELL ISLAND
December 2010–February 2011

Produced by: EOS Ecology
Project name: Campbell Island Bicentennial Expedition
Project no.: 06033-EOS01
Project lead: Shelley McMurtrie
www.eosecology.co.nz



References & Further Reading

- Brundin, L. 1966. Transantarctic relationships and their significance as evidenced by chironomid midges. *Kungl. Svenska Vetenskapsakademiens Handlingar* 11 (1): 1–472.
- Sublette, J. E. & Wirth, W. W. 1980. The Chironomidae and Ceratopogonidae (Diptera) of New Zealand's subantarctic islands. *New Zealand Journal of Zoology* 7: 299–378.

How to Cite this Information Sheet

- McMurtrie, S.A., Sinton, A.M.R., & Winterbourn, M.J. 2014. Lucid Identification Key to Campbell Island Freshwater Chironomidae Larvae: *Parochlus* information sheet. EOS Ecology, Christchurch, New Zealand.

ACKNOWLEDGEMENTS – The creation of the Lucid Key and information sheets were supported by the TFBIS (Terrestrial and Freshwater Biodiversity Information System) Fund administered by the Department of Conservation (TFBIS Contract No. 278), and by EOS Ecology. Invertebrate specimens were collected by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (CIBE), made possible by the 50th South Trust.



Pterosis wisei Sublette & Wirth, 1980 INFORMATION SHEET

Classification

Class: Insecta
Order: Diptera
Family: Chironomidae
Subfamily: Orthocladiinae
Genus: *Pterosis*
Specific name: *wisei*
Common name: midge

Distinguishing Features

- Body pale, yellowish-white; thoracic segments bordered by dark pigment; head yellow, eye black, mentum black (Fig. 1–2); body length up to 4 mm.
- Mentum with two moderately broad, rounded median teeth and four lateral teeth on each side (Fig. 3).
- Antenna 5-segmented with a blade reaching just beyond the antennal tip; length of antenna about equal to the height of the mentum (Fig. 4).
- Final abdominal segment (segment 9) at 45–90° to segment 8 (Fig. 5); when viewed ventrally, the posterior margin of segment 8 forms a circle (Fig. 6).
- Posterior parapods (prolegs) very short with dark hooks (Fig. 5–7).
- Prothoracic parapods weakly developed, fused basally; hooks plentiful and paler than those on posterior parapods (Fig. 2).
- Anal tubules, small, almost spherical (Fig. 5–8).

Comments

Only the adult male and female of this species have been described. Larvae were associated with pupae found in a seep during the 2010-11 Campbell Island Bicentennial Expedition where no other Orthocladiinae were present. Mature male pupae had fully developed external genitalia identical with those described for *P. wisei*.

P. wisei also occurs on the Auckland Islands. Sublette & Wirth (1980) commented that the adults showed characters of *Allometriocnemus* and *Gymnometriocnemis*. Likewise, the Campbell Island larvae resemble those of *Gymnometriocnemis* as depicted by Cranston (1982) in having the posterior parapods and anal segment at right angles to the axis of the body, rather similar mentum and antennae, and fused anterior parapods, although with pale hooks rather than fine setae.

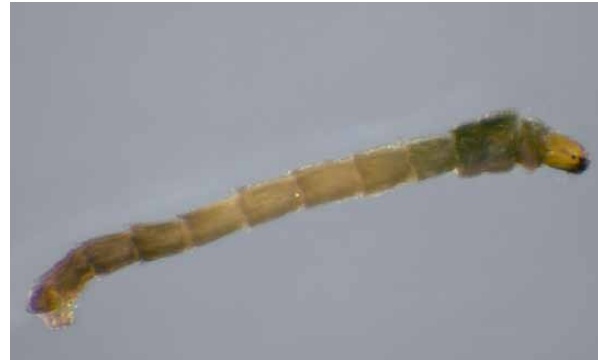


FIGURE 1. *Pterosis wisei* whole animal (animal A)



FIGURE 2. *Pterosis wisei* anterior (animal B)

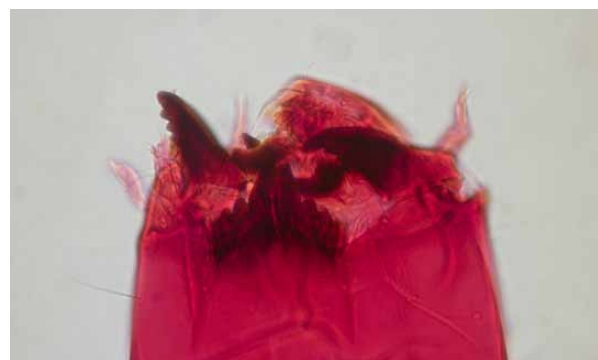


FIGURE 3. *Pterosis wisei* mentum (stained)



FIGURE 4. *Pterosis wisei* antenna (stained)

Original Description

Sublette & Wirth (1980): Larvae not described.

References & Further Reading

Cranston, P.S. 1982. *A key to the larvae of the British Orthoclaadiinae (Chironomidae)*. Freshwater Biological Association Scientific Publication No. 45. 152pp.

Sublette, J. E. & Wirth, W. W. 1980. The Chironomidae and Ceratopogonidae (Diptera) of New Zealand's subantarctic islands. *New Zealand Journal of Zoology* 7: 299–378.

How to Cite this Information Sheet

McMurtrie, S.A., Sinton, A.M.R., & Winterbourn, M.J. 2014. Lucid Identification Key to Campbell Island Freshwater Chironomidae Larvae: *Pterosis wisei* information sheet. EOS Ecology, Christchurch, New Zealand.

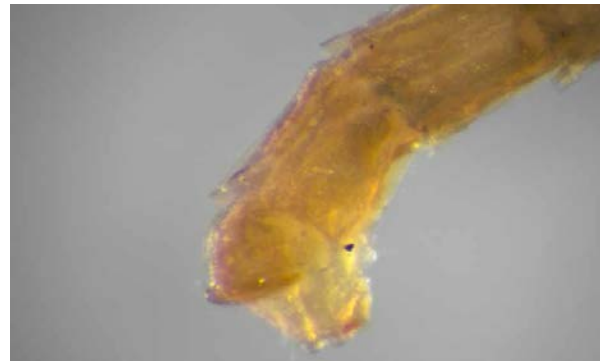


FIGURE 5. *Pterosis wisei* posterior, lateral view (animal A)

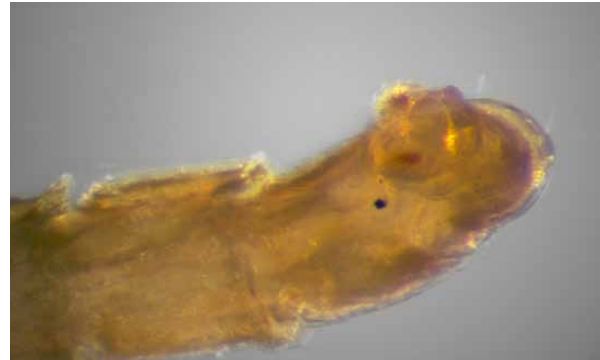


FIGURE 6. *Pterosis wisei* posterior, ventral view (animal A)



FIGURE 7. *Pterosis wisei* posterior, slide mounted and stained (animal B)

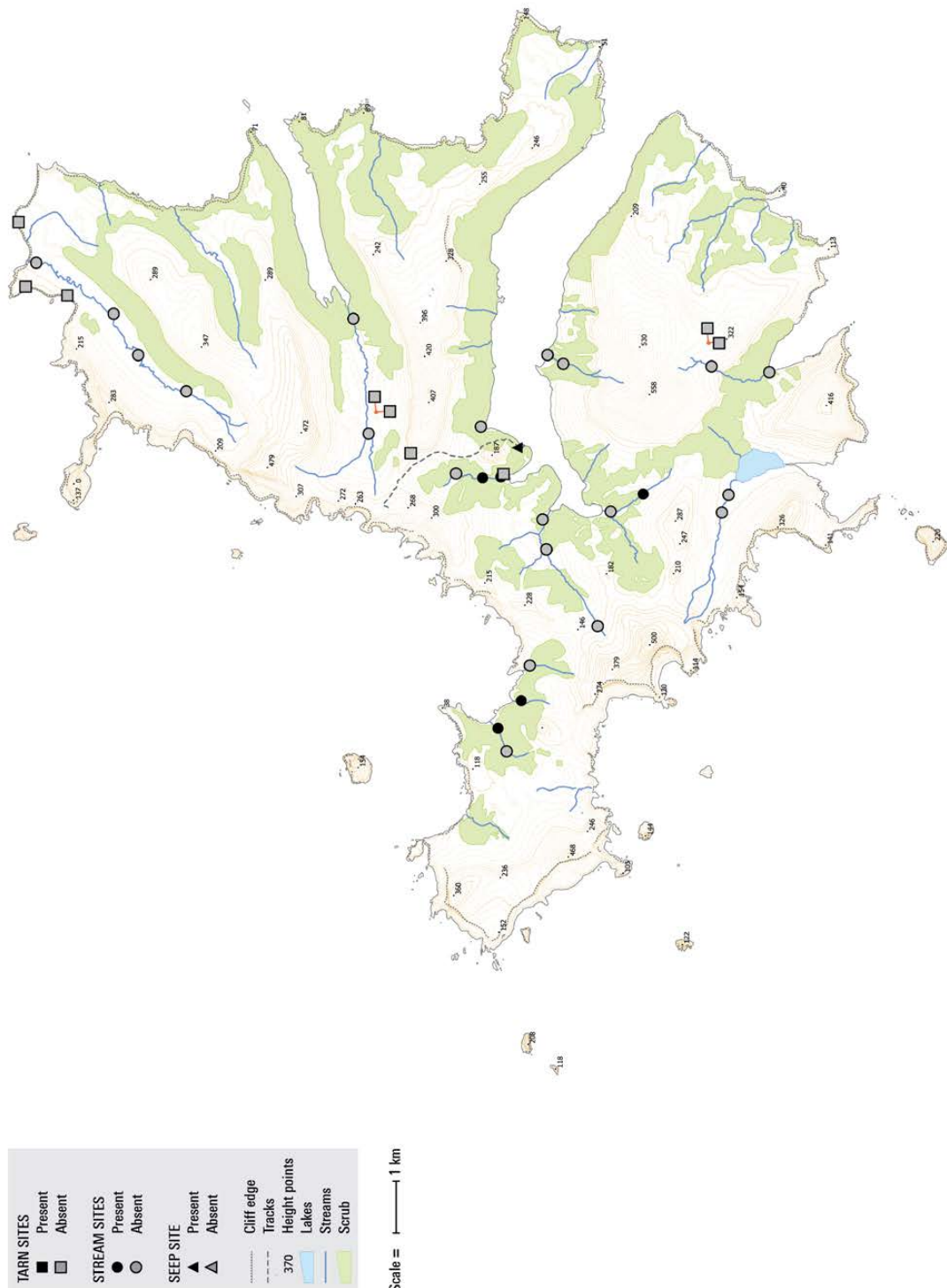
ACKNOWLEDGEMENTS – The creation of the Lucid Key and information sheets were supported by the TFBIS (Terrestrial and Freshwater Biodiversity Information System) Fund administered by the Department of Conservation (TFBIS Contract No. 278), and by EOS Ecology. Invertebrate specimens were collected by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (CIBE), made possible by the 50° South Trust.



Biogeographic Information

Presence/absence on streams, tarns, and a seepage sampled on Campbell Island.

Distribution map based on surveys undertaken by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (www.campbellisland.org.nz). Distribution data © EOS Ecology, 2013.



New Zealand Transverse Mercator
 New Zealand Geodetic 2000
 Created on: 3 December 2013
 Created by: Kirsty Brennan

Pterosis wisei Distribution
CAMPBELL ISLAND
 December 2010–February 2011

Produced by:
 EOS Ecology
 Project name:
 Campbell Island Bicentennial Expedition
 Project no.:
 06033-EOS01
 Project lead:
 Shelley McMurtrie
www.eosecology.co.nz



Identification Key to Campbell Island Freshwater Chironomidae Larvae

McMurtrie, Sinton & Winterbourn (2014)



Unidentified Orthocladiinae larva ("*Pseudosmittia*")

INFORMATION SHEET

Classification

Class:	Insecta
Order:	Diptera
Family:	Chironomidae
Subfamily:	Orthocladiinae
Genus:	unknown
Specific name:	unidentified larva " <i>Pseudosmittia</i> "
Common name:	midge

Distinguishing Features

- Body greenish-grey with gut clearly visible through the body wall (Fig. 1); head mid brown (Fig. 2); eyes dark and roughly circular; body length up to 4 mm.
- Prolegs absent, although hooks are present on the ventral prothorax and posterior abdominal segment; posterior hooks larger and more abundant.
- Mentum with paired median teeth and four lateral teeth on each side; distal half of mentum (and mandibles) darker (Fig. 3).
- Premandibles not bifid.
- Antennae very short, 4-segmented, the first segment largest and almost as long as wide (Fig. 4); blade very long and prominent, 3–4 times as long as antennal segments 2–4 combined; a second shorter blade as long as antennal segment 2 also present.

Comments

The identity and affinities of this larva are unknown. A comparable short antenna with a prominent long blade was figured by Cranston (1982) for an unidentified *Pseudosmittia* species from Britain. He also noted that parapods (prolegs) are absent in *P. simplex*.



FIGURE 1. Whole animal



FIGURE 2. Anterior

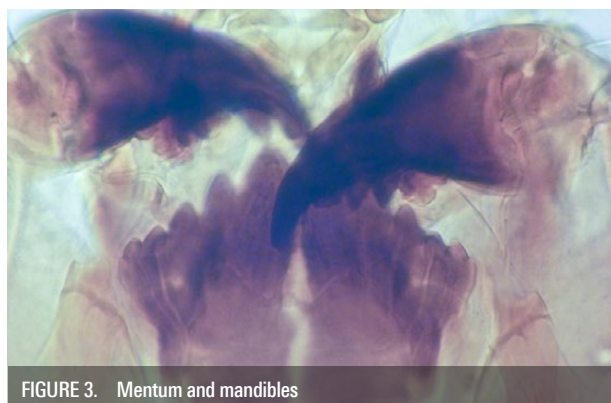


FIGURE 3. Mentum and mandibles

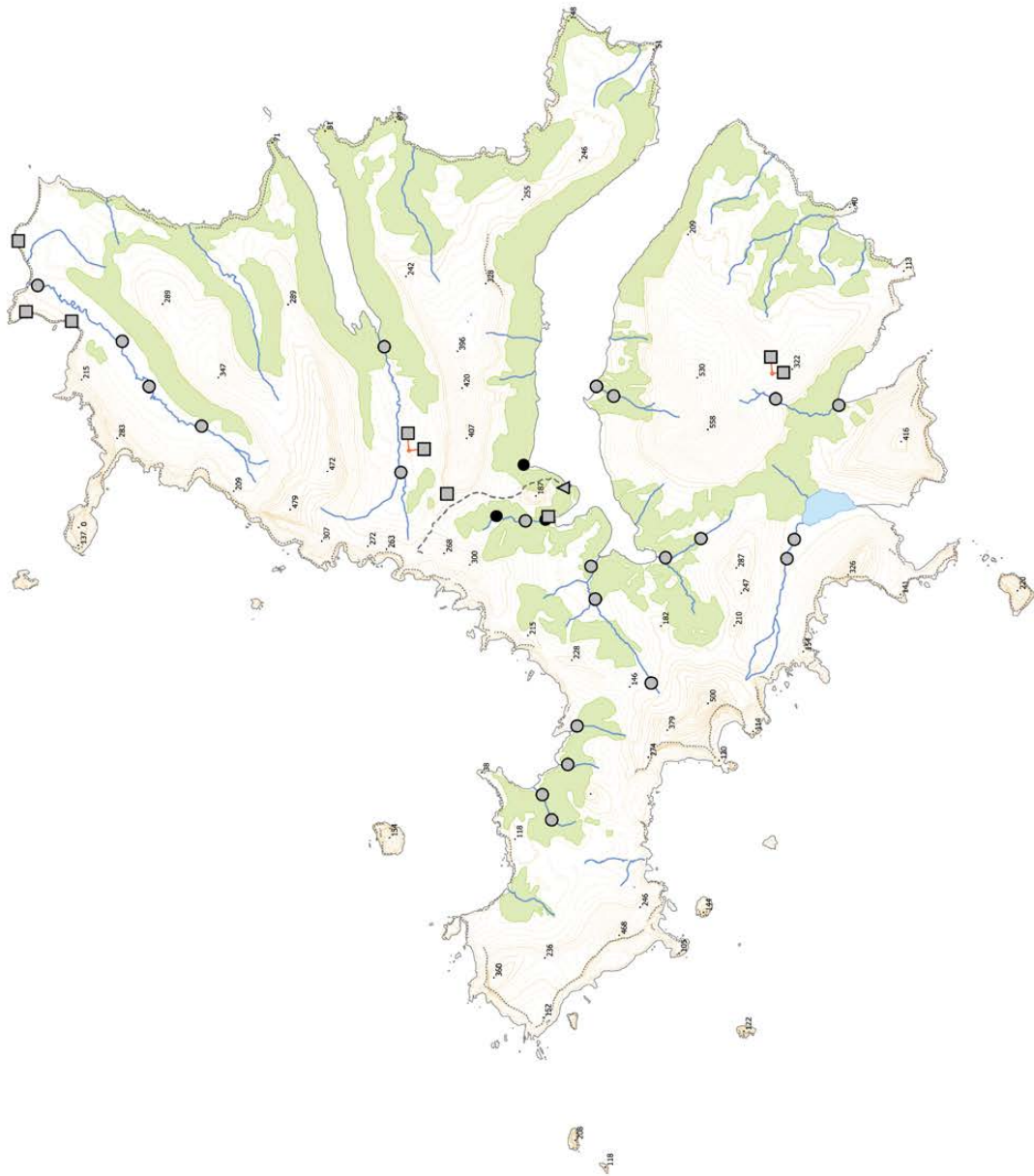


FIGURE 3. Antenna

Biogeographic Information

Presence/absence on streams, tarns, and a seepage sampled on Campbell Island.

Distribution map based on surveys undertaken by EOS Ecology during the 2010–11 Campbell Island Bicentennial Expedition (www.campbellisland.org.nz). Distribution data © EOS Ecology, 2013.



Scale = 1 km

New Zealand Transverse Mercator
New Zealand Geodetic 2000
Created on: 3 December 2013
Created by: Kirsty Brennan

Unidentified Orthoclaadiinae Larvae "*Pseudosmittia*" Distribution
CAMPBELL ISLAND
December 2010–February 2011

Produced by: EOS Ecology
Project name: Campbell Island Bicentennial Expedition
Project no.: 06033-EOS01
Project lead: Shelley McMurtrie
www.eosecology.co.nz



Original Description

N/A

References & Further Reading

Cranston, P.S. 1982. *A key to the larvae of the British Orthoclaadiinae (Chironomidae)*. Freshwater Biological Association Scientific Publication No. 45. 152pp.

How to Cite this Information Sheet

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