Rediscovered Suter type land snail material from subantarctic islands south of New Zealand

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Details and images are provided for type material of six species of land snails described by Suter (1909) based on specimens collected on the subantarctic Auckland Islands, Campbell Island/Motu Ihupuku and Snares Islands/Tini Heke, south of New Zealand. Primary type material of these species is held by Auckland War Memorial Museum, Australian Museum (Sydney), Canterbury Museum (Christchurch) and Te Papa Tongarewa (Wellington). The whereabouts of the type lots from the Canterbury Museum collection, including the holotypes of *Endodonta minuta* Suter, 1909 and *Thermia expeditionis* Suter, 1909, and syntypes of *Athoracophorus* (*Pseudaneitea*) *huttoni* Suter, 1909, *Endodonta benhami* Suter, 1909, *Laoma cognata* Suter, 1909 and *Phenacohelix subantarctica* Suter, 1909, had been unknown for several decades. They have recently been rediscovered.

Keywords: Henry Suter, molluscs, subantarctic islands, taxonomy, types

Institutional abbreviations

AM	Auckland War Memorial Museum Tāmaki Paenga Hira, Auckland, New Zealand
AMS	Australian Museum, Sydney, Australia
CMNZ	Canterbury Museum, Christchurch, New Zealand
MONZ	Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand

Introduction

The aim of this study is to provide information on the status of type material of six land snails described by Suter (1909a) from subantarctic islands south of New Zealand. Some of this material, including the holotypes of *Endodonta minuta* Suter, 1909 and *Thermia expeditionis* Suter, 1909, had been misplaced for many decades, but were recently rediscovered, as outlined below.

Hans Heinrich (Henry) Suter was born in Switzerland in 1841 and trained as an analytical chemist. However, he also had a deep interest in natural history, particularly malacology. When he emigrated to New Zealand in 1886, he had hoped to find work there as a professional scientist but was never able to do so on a permanent basis (Hedley 1919; Hyde 2017). Despite this, between 1890 and 1917 he published descriptions of 123 new species and varieties of land snails from the New Zealand region (Brook and Ablett 2019: 13). A list of people referenced in text in this manuscript is provided (Table 1).

In one of his publications Suter (1909a) dealt with Mollusca collected from New Zealand's subantarctic islands and described six species of land snails. Most of these new species had been collected during a scientific expedition to the Auckland Islands and Campbell Island/Motu Ihupuku organised in November 1907 by the Philosophical Institute of Canterbury. The scientific party was split between the two island groups (Chilton 1909: xxxiv) and of the land snail species discussed here, two, *Endodonta benhami* Suter, 1909 and *Thermia expeditionis*, were collected on the Auckland Islands by William Blaxland Benham, and three, *Endodonta minuta*, *Laoma cognata* Suter, 1909 and *Phenacohelix subantarctica* Suter, 1909, were collected on Campbell Island/Motu Ihupuku by William Knox Chambers and Frederick Stuart Des Barres. A sixth species, *Athoracophorus huttoni* Suter, 1909 had presumably been collected 8 years earlier on the Snares Islands/Tini Heke by Captain Frederick Wollaston Hutton (Suter 1909a: 40; Suter 1909b: 324).

Benham, who at the time was Professor of Biology at University of Otago as well as the Curator of Otago Museum, attended as part of the scientific party doing the zoology survey. Des Barres and Chambers, who both hailed from Gisborne (*New Zealand Herald*, 15 May 1908: 8; *Gisborne Times*, 24 March 1914: 2), were part of the Campbell Island/Motu Ihupuku party, but as private individuals, although they assisted with the collection of biological specimens.

Table 1. List of the full names (where known), relevant institutional affiliation and residence of people referenced in text.

Full name	Initials	Primary affiliation	Place of residence
Hans Heinrich (Henry) Suter	HH Suter	Auckland War Memorial Museum	Auckland Christchurch
William Blaxland Benham	WB Benham	University of Otago, Otago Museum	Dunedin
William Knox Chambers	WK Chambers	Private individual	Gisborne
Frederick Stuart Des Barres	FS Des Barres	Private individual	Gisborne
Edgar Ravenswood Waite	ER Waite	Canterbury Museum	Christchurch
Arthur William Baden Powell	AWB Powell	Auckland War Memorial Museum	Auckland
Thomas Frederick Cheeseman	TF Cheeseman	Auckland War Memorial Museum	Auckland
John Arthur Bartrum	JA Bartrum	University of Auckland	Auckland
Harold John Finlay	HJ Finlay	University of Otago	Dunedin
James Grant	J Grant	Alexander Museum (Wanganui Public Museum)	Wanganui

Suter kept type material of most of the land snail taxa that he described in his private collection (Suter 1913), although he often sent co-types to various institutions. In his description of *A. huttoni*, he (Suter 1909a: 40) stated that the type was in his collection, and that there was a co-type in Canterbury Museum. For the remaining five land snail species he stated the types as being in Canterbury Museum. However, label details indicate that Suter retained co-types of three of the five species in his own collection (see entries below).

After his death in 1918 Suter's collection of New Zealand Recent Mollusca was purchased by the Wanganui Public Museum. In 1946 it was acquired by the New Zealand Geological Survey (now GNS), and the collections of land and fresh-water Mollusca were subsequently transferred to the Dominion Museum, Wellington (now Museum of New Zealand Te Papa Tongarewa) (Dell 1954; Fleming 1954; Marshall 1996). The last-mentioned museum has primary type material ex Suter Collection of *A.huttoni*, *E. benhami*, *L. cognata* and *P. subantarctica* (Marshall 1996).

As noted above, Suter (1909a) stated that he deposited primary type material of six subantarctic land snail species in Canterbury Museum. Two specimens of *A. huttoni* are stored in the ethanol preserved collection at Canterbury Museum, listed as co-types. The other five type lots, consisting of *E. benhami*, *E. minuta*, *L. cognata*, *P. subantarctica* and *T. expeditionis*, were stored in glass tubes inside cardboard pillboxes, and were allocated non-sequential registration numbers with a ZS prefix in the range ZS680 to ZS791 (Table 2).

A comparison with handwriting in the Canterbury Museum accession register suggests that the handwriting on the pillbox labels of the five land snails is most likely that of Edgar Ravenswood Waite, who was Curator at Canterbury Museum from 16 April 1906 to 10 March 1914 (Burrage 2002). Suter and Waite were in regular correspondence, often about producing reports on material collected from trawling expeditions (Canterbury Museum Director's Correspondence: 2010.172. Series 3/1). The ZS numbering system, and an associated filing card catalogue, was used for New Zealand marine and terrestrial molluscs at Canterbury Museum from 1907 until the late 1930s (Burrage 2002: 97). The file cards for these type lots appear to be missing and it is not known when the ZS registration numbers were assigned to them. However, the handwriting on the labels, presumed to be Waite's, would mean they were labelled sometime between November 1909 and when Waite left Canterbury Museum in 1914.

In 1937 the ZS registration system was replaced by a new system of registration numbers with 'M' prefixes, which were recorded in a *Catalogue of the Mollusca in the Canterbury Museum* (Brook et al. 2020: 7). The type material of Suter's subantarctic land snail species is not listed in this catalogue, which suggests that it had been missing from the molluscan collection at Canterbury Museum since at least the late 1930s. A list of recent molluscan name-bearing types in Canterbury Museum by Freeman et al. (1997) did not list any of the land snail type material cited by Suter (1909a), or comment on its absence from the Museum's collection.

In early March 2023, five primary type lots of land snail species described by Suter (1909a) were discovered in the Auckland Museum collections during an inventory. They were returned to Canterbury Museum, but how they came to be in the possession of Auckland Museum remains unclear. However, it is most likely they were borrowed in the mid-1930s by Powell and never returned to Canterbury Museum.

The Auckland Museum collection contains 48 type lots of marine and terrestrial species (syntypes, paratypes and paralectotypes) attributed to Henry Suter. It is likely that these specimens have been obtained from different sources, and the type status of some of the lots is uncertain. Two lots (MA73078, MA73077) consist of misidentified foreign specimens, that have geographic collection information that is most likely incorrect. Another 18 lots with labels in Powell's handwriting have numbers revealing their origin from Powell's private

Table 2. Registration numbers of Suter type material held in the CMNZ, MONZ and AM collections. Codes in brackets denote number of specimens in each lot of material. Note M.125211 is just shell grains. Specimens with an asterisk have not been sighted or confirmed in the AMS collection.

Species	Scientific Authority	CMNZ	MONZ	AM	AMS
Athoracophorus huttoni	Suter, 1909	M5963 (2)	M.125209 (2 dried); M.125211 (shell grains)	-	C.30420* (1)
Endodonta benhami	Suter, 1909	ZS733 (14)	M.125543 (6)	MA73074 (2)	C.39525* (1)
Endodonta minuta	Suter, 1909	ZS725 (1) Holotype	-	-	-
Laoma cognata	Suter, 1909	ZS791 (6)	M.088211 (4)	-	-
Phenacohelix subantarctica	Suter, 1909	ZS699 (3)	M.125542 (12)	MA73068 (1)	-
Thermia expeditionis	Suter, 1909	ZS680 (1) Holotype	-	-	-

collection. Powell was appointed Auckland Museum's Conchologist and Palaeontologist in December 1928 (*New Zealand Herald*, 19 December 1928: 14) and he held the position until his retirement in 1968 (Dell 1987). However, he already had a long history as a collector and as a 15-year-old in 1916 had been made an honorary curator by Thomas Frederick Cheeseman (Cernohorsky 1988: 1). Label data indicates that one of these 18 type lots (*Tellina urinatoria*, MA72784) was given to Powell by Bartrum in 1927, but it is not known how he obtained the other 17.

A further two Suter lots (MA72785, MA72781) were part of an exchange in 1931 with Wanganui Museum for specimens from Powell's own collection (Auckland Museum Acquisition Register 31/31 (mistakenly as 562/31 on some labels)), and Powell subsequently donated these specimens to Auckland Museum. One further specimen (MA27663) came via the HJ Finlay Collection and was labelled by Finlay as coming from 'OUM' (Otago University Museum). The other 25 type lots have unnumbered labels in either Powell's handwriting or an unknown script designating the specimens as paratypes or co-types, but without explanation.

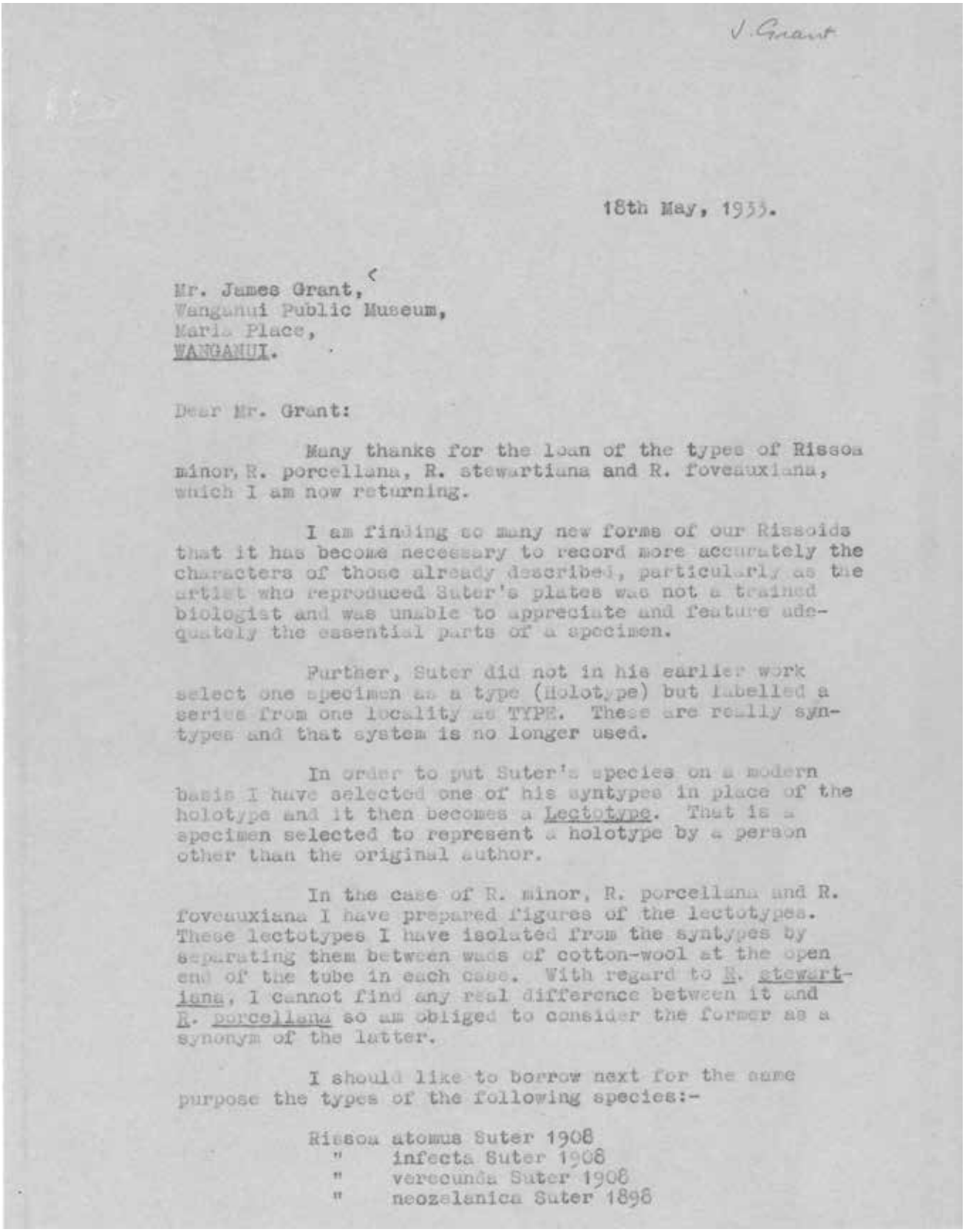
There is surviving, though incomplete, correspondence in the Powell Archives (MS1562, Letter File G), dated from Jan 1931 to Feb 1934, between Powell and Grant. Grant, who was an agricultural instructor for the Wanganui Education Board and later the Wanganui Technical College, was at the time of his correspondence with Powell a trustee of the Wanganui Regional Museum (known also as the Alexander Museum) and its amateur conchologist (*Wanganui Chronicle*, 30 July 1932: 6). The letters show that he was keen to improve the collections and displays of the Wanganui Museum and that Powell was helping him with this. However, they also show that on at least eight occasions Powell borrowed types and other specimens from the Suter Collection. All of these appear to have been marine species and all were noted as having been returned either in Powell's or Grant's correspondence.

A letter dated 18 May 1933 (Fig. 1), shows that Powell was aware that Suter was in the habit of selecting a series of specimens from the type locality which he then designated as Type. Powell's letter referred to marine species and stated that he had prepared figures of the lectotypes: "These lectotypes I have isolated from the syntypes by separating them between wads of cotton-wool at the open end of the tube in each case." Some of the lectotypifications were published by Powell himself (Powell 1933: 198), while others were not published until later when the Suter Collection was at the New Zealand Geological Survey (Boreham 1959). Powell's last letter on record to Grant is dated 16 February 1934, 7 days after Grant's last letter to him.

Powell was also in regular correspondence with Robert Alexander Falla and Robert Speight of Canterbury Museum (Canterbury Museum Director's Correspondence: 2010.172. Series 3/1). He regularly borrowed mollusc material from the Canterbury Museum collection from the 1920s onwards through his tenure at Auckland Muesum. As with Powell's correspondence with Grant, he often indicated via letter to either Falla or Speight when he was returning loaned specimens.

Some of the land snail tubes which were returned to Canterbury Museum similarly had a single specimen labelled "type" separated by a wad of cotton wool. In the light of his treatment of Suter's marine type specimens, it is probable that Powell was responsible for this. He most likely selected potential lectotypes with the intention of publishing these later, something which never eventuated.

On this basis it also seems likely that Powell borrowed the specimens directly from Canterbury Museum but never returned them.



J. Grant

18th May, 1933.

Mr. James Grant,
Wanganui Public Museum,
Maria Place,
WANGANUI.

Dear Mr. Grant:

Many thanks for the loan of the types of Rissoa minor, R. porcellana, R. stewartiana and R. foveauxiana, which I am now returning.

I am finding so many new forms of our Rissoids that it has become necessary to record more accurately the characters of those already described, particularly as the artist who reproduced Suter's plates was not a trained biologist and was unable to appreciate and feature adequately the essential parts of a specimen.

Further, Suter did not in his earlier work select one specimen as a type (Holotype) but labelled a series from one locality as TYPE. These are really syntypes and that system is no longer used.

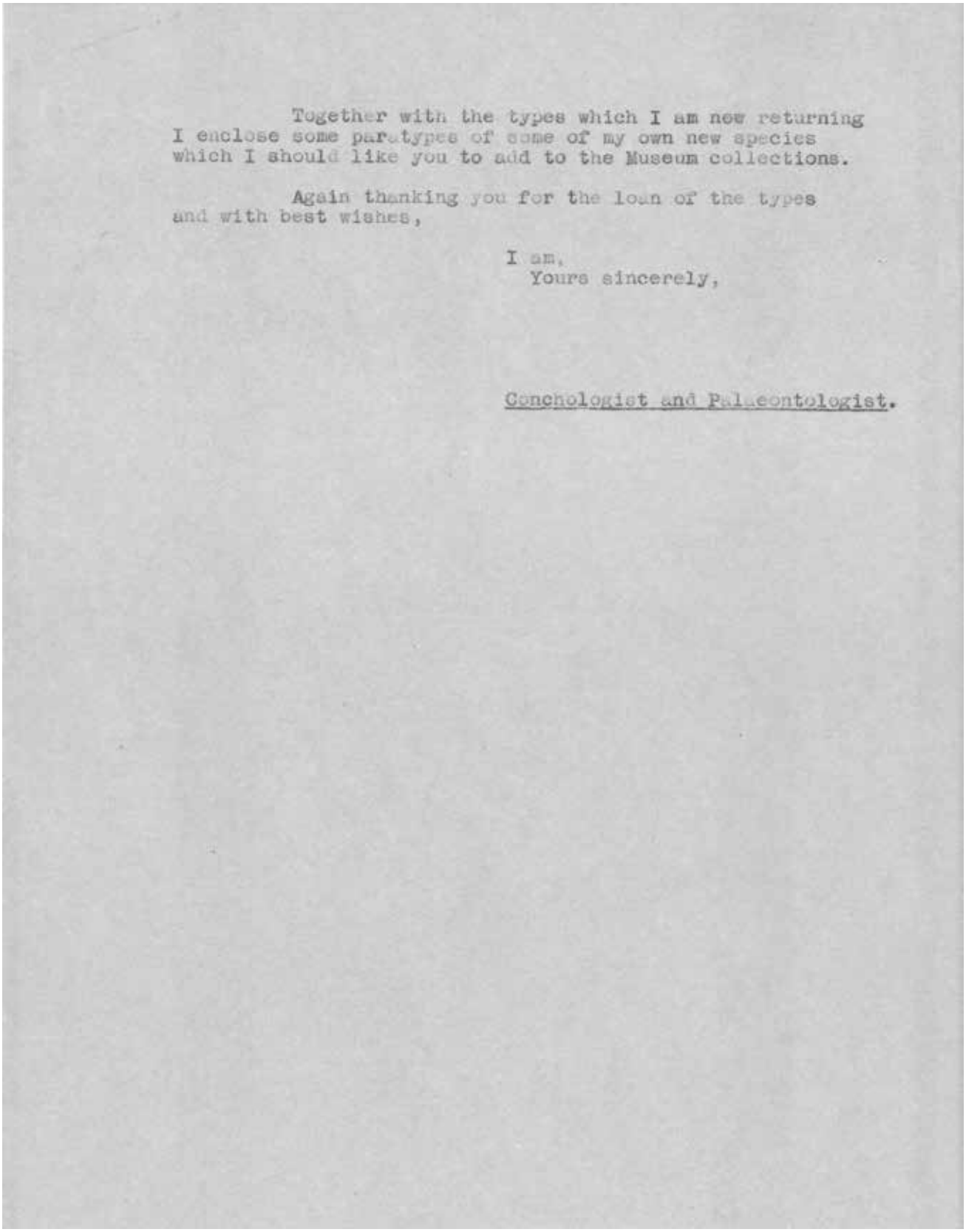
In order to put Suter's species on a modern basis I have selected one of his syntypes in place of the holotype and it then becomes a Lectotype. That is a specimen selected to represent a holotype by a person other than the original author.

In the case of R. minor, R. porcellana and R. foveauxiana I have prepared figures of the lectotypes. These lectotypes I have isolated from the syntypes by separating them between wads of cotton-wool at the open end of the tube in each case. With regard to R. stewartiana, I cannot find any real difference between it and R. porcellana so am obliged to consider the former as a synonym of the latter.

I should like to borrow next for the same purpose the types of the following species:-

Rissoa atomus Suter 1908
" infecta Suter 1908
" verecunda Suter 1908
" neozelanica Suter 1898

Figure 1A. Letter (page 1) dated 18 May 1933 from Powell to Grant, confirming that Powell selected potential lectotypes from Suter syntype series. Potential lectotype specimens were separated from other specimens with a wad of cottonwool in the middle of the tube.



Together with the types which I am now returning I enclose some paratypes of some of my own new species which I should like you to add to the Museum collections.

Again thanking you for the loan of the types and with best wishes,

I am,
Yours sincerely,

Conchologist and Palaeontologist.

Figure 1B. Letter (page 2) dated 18 May 1933 from Powell to Grant, confirming that Powell selected potential lectotypes from Suter syntype series. Potential lectotype specimens were separated from other specimens with a wad of cottonwool in the middle of the tube.

Catalogue of species

Original species names are listed below in alphabetical order within families Athoracophoridae, Charopidae and Punctidae. Phylogenetic analyses by Salvador et al. (2020) and Salvador (2022) indicate that Charopidae, as traditionally interpreted, is paraphyletic, but these authors suggested that it be retained as a family-level group for now, pending further study of the systematic relationships of its constituent taxa.

Suter's original descriptions indicate that the species *E. minuta* and *T. expeditionis* were represented by single specimens only, and they are listed here as holotypes by monotypy. Original descriptions of the other four species listed below, all of which are represented by more than one specimen. Suter did not distinguish between primary and secondary types.

Infraclass: Pulmonata
Order: Stylommatophora
Family: Athoracophoridae P Fischer, 1883
***Athoracophorus (Pseudaneitea) huttoni* Suter, 1909**
(Figure 2)

Suter (1909a). The Subantarctic Islands of New Zealand, vol. 1: 39.

Type material: Syntypes; MONZ M.125209 (2 dried) and shell grains from type material; MONZ M.125211, ex Suter Collection (Marshall 1996: 34); CMNZ M5963 (2 ethanol preserved). Suter (1909a) stated that the type was in his collection, and that there was a co-type in Canterbury Museum, where there are in fact two specimens. Barker (2018: 226) listed AMS C.30420 as a possible syntype (see https://biocache.ala.org.au/occurrences/63b2d295-952e-4756-a68c-4be9398461ad accessed: 22 May 2024).

Label details: M.125209 – "Athoracophorus Pseudaneitea huttoni, Suter, Type, Hu., Sn", in Suter's handwriting. M5963 – "Athoracophorus huttoni Suter 1909, Snares Island, Subantarctic Islands of N.Z I: 39-40", in unknown handwriting; "Two Athoracophus huttoni Suter 1909, Snares Is, Co-Type = PARATYPES, Subant. Is. N.Z. I. 1909, 39-40, Hutton coll.", in unknown handwriting; "Athoracophorus (Psedudaneitea) huttoni, n.sp", in Suter's handwriting; "Athoracophorus huttoni Suter, Snares.", in unknown handwriting.

Type locality: "Snares Islands" (Suter 1909a: 40).

Previous illustrations of type material. Suter (1909b: pl. 1, figs. 17-19, 1913: pl. 31, fig. 7).

Remarks: This species was originally described by Suter (1909b) from specimen lots that had been collected on Snares Islands/Tini Heke. *Athoracophorus huttoni* of Suter (1909a: 324) is a nomen nudum, as noted by Barker (2018: 226). Suter (1909a: 40; 1909b: 324; 1913: 800) recorded *A. huttoni* from Campbell Island/Motu Ihupuku, based on a single specimen that had been collected there in November 1907 by Chambers and Des Barres, but Powell (1955) noted that the Campbell Island/Motu Ihupuku taxon was a different species, which he named *Pseudaneita sorenseni*. Mistakenly listed from Macquarie Island by Suter (1909a: 54) and Greenslade (1990:46).

Current taxonomy: Listed as *Pseudaneitea huttoni* (Suter, 1909) by Powell (1955: 128), Burton (1963: 69) and subsequent authors.

Distribution: New Zealand; Snares Islands/Tini Heke (Powell 1955: 128; Barker 2018: 226).

Family: Charopidae Hutton, 1884
***Endodonta (Charopa) benhami* Suter, 1909**
(Figure 3)

Suter (1909a). The Subantarctic Islands of New Zealand, vol. 1: 37.

Type material: Syntypes: CMNZ ZS733 (14); MONZ M.125543 (6), ex Suter Collection (Marshall 1996: 36); AM MA73074 (2), ex Powell Collection (Blom, in press.); C.39525 (see https://biocache.ala.org.au/occurrences/5922abb2-4f05-4410-b489-e1ea52923927 accessed: 22 May 2024).

Label details: ZS733 – "Endodonta benhami Suter, loc. Auckland Islands", in Waite's handwriting; "Type" label in unknown handwriting. M.125543 – "E. Charopa Benhami, Suter, co-type, Be, under logs, Auckland Is.", in Suter's handwriting. MA73074 – "Charopa benhami, Auck Is., co-types", in unknown handwriting.

Type locality: "Auckland Islands" Suter (Suter 1909a: 38).

Previous illustrations of type material. Suter (1909a: pl. 1, figs. 12–14; 1915: pl. 27, figs. 17, 17a, 17b).

Remarks: The type material of this species had been collected from under logs on Auckland Islands in November 1907 by Benham (Suter 1909a: 38; Suter 1913: 703). Climo (1969a) relegated *Endodonta monoplax* Suter, 1913, *Ptychodon suteri* Murdoch & Finlay, 1923, *P. monoplax hiarara* Dell, 1954 and *P. m. takahea* Dell, 1955 to synonymy with *Endodonta benhami* Suter 1909, and recorded the last-named species from northern and southern Te Waipounamu/South Island, Codfish Island/Whenua Hou, and the Auckland Islands. Climo (1978) subsequently reinstated all the above-mentioned taxa as separate species, noting that *E. benhami* is restricted to Auckland Islands, and later (Climo 1990) introduced a monotypic genus, *Loisthodon Climo*, 1990, for the latter species. Marshall (1996: 36) noted that the putative holotype of *benhami* illustrated by Climo (1990: fig. 28) was not from the type series.

Current taxonomy: Listed as *Loisthodon benhami* (Suter, 1909) by (Climo 1990: 630), Schileyko (2001: 936) and subsequent authors.

Figure 2. Plate showing dorsal, lateral and ventral view of one of the *Athoracophorus (Pseudaneitea) huttoni* syntypes in CMNZ. Scale bar is 2 mm. Label information with specimen is shown (labels and vial not to scale).

Distribution: New Zealand; Auckland Islands archipelago, including Adams Island, Auckland Island, Disappointment Island, Enderby Island, Ewing Island, Rose Island (Suter 1909a; Powell 1955: 124; Mayhill and Goulstone 1986: 89, 99; 2000: 20; Climo 1990: fig. 28; AM and MONZ collection records).

Figure 3. Plate showing dorsal, apertural and ventral view of *Endodonta (Charopa) benhami*. Scale bar is 1 mm. Label information with specimen is shown, with reverse side of specimen sketch label shown in white inset box (labels and gelatine capsules not to scale).

***Endodonta (Ptychodon) minuta* Suter, 1909**
(Figure 4)

Suter (1909a). The Subantarctic Islands of New Zealand, vol. 1: 38.
Type material: Holotype, by monotypy, CMNZ ZS725.

Label details: ZS725 – "Type, Endodonta minuta Suter, loc. Campbell Island", in Waite's handwriting.

Type locality: "Campbell Island" Suter (1909a: 38).

Previous illustrations of type material. Suter (1909a: pl. 1, fig. 15); (Suter 1915: pl. 27, fig. 9).

Remarks: The original description of this species was based on a single subadult shell that had been collected on Campbell Island/Motu Ihupuku in November 1907 by Chambers (Suter 1909a: 38; 1913: 694). Additional specimens were collected on this island in 1941–1945 during the Cape Expedition (Powell 1955). *Endodonta minuta* Suter, 1909 was relegated to synonymy with *Helix wairarapa* Suter, 1890, by Climo (1969a: 204). The latter taxon is the type species of genus *Mitodon* Climo, 1990.

Current taxonomy: Listed as *Mitodon wairarapa* (Suter, 1890) by Climo (1990: 627), Schileyko (2001: 937) and subsequent authors.

Distribution: New Zealand; central and southern Te Ika-a-Māui/North Island, Te Waipounamu/South Island, Stewart Island/Rakiura, Rēkohu/Chatham Islands, Campbell Island/Motu Ihupuku (Climo 1969a: 206; 1990: fig. 24; AM and MONZ collection records).

Family: Punctidae Morse, 1864
***Laoma (Phrixgnathus) cognata* Suter, 1909**
(Figure 5)

Suter (1909a). The Subantarctic Islands of New Zealand, vol. 1: 38.

Type material: Syntypes: CMNZ ZS791 (6); MONZ M.088211 (4), ex Suter Collection (Marshall 1996: 41).

Label details: ZS791 – "Type, Laoma cognata Suter, loc.

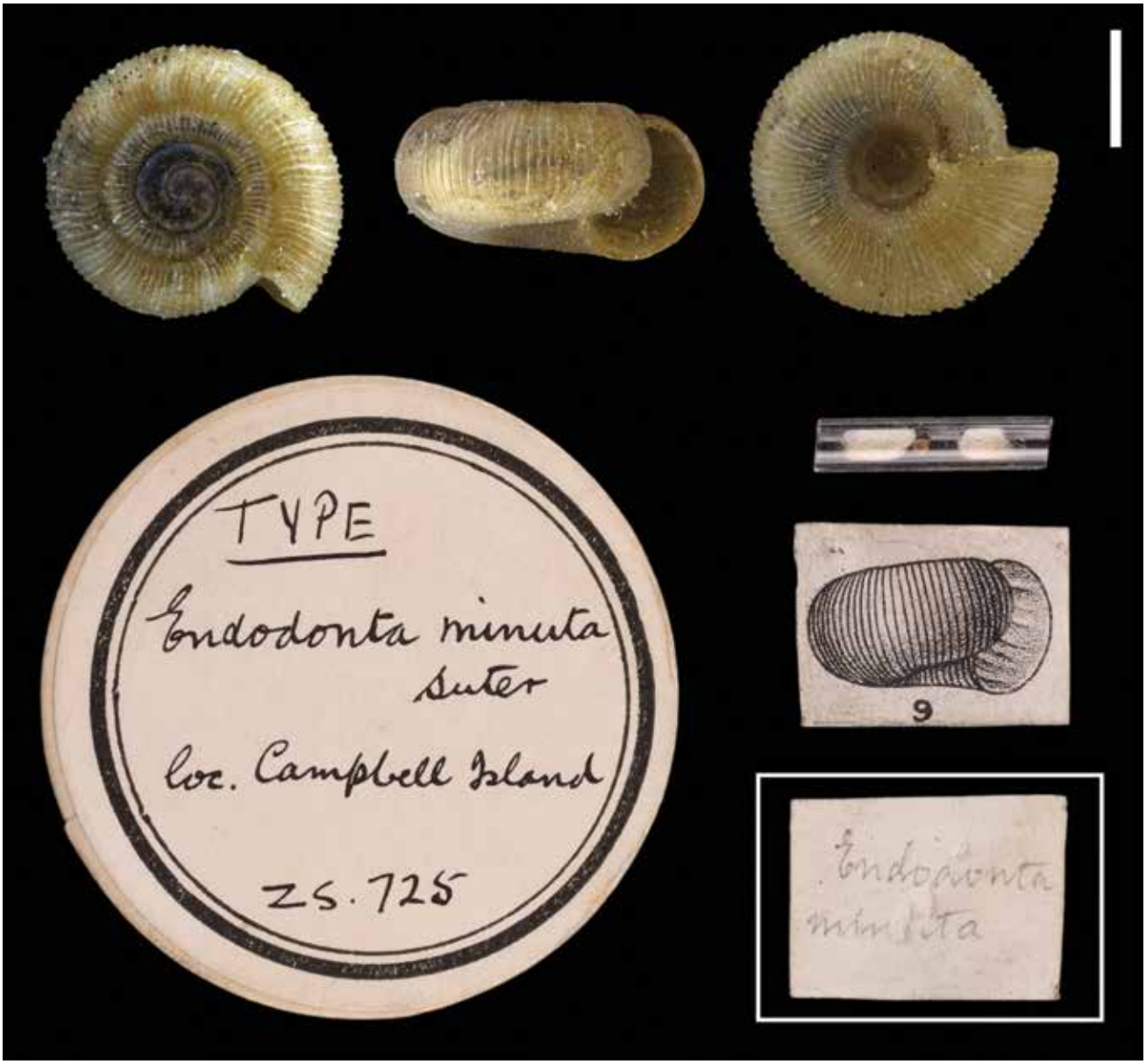


Figure 4. Plate showing dorsal, apertural and ventral view of *Endodonta (Ptychodon) minuta*. Scale bar is 1 mm. Label information with specimen is shown, with reverse side of specimen sketch label shown in white inset box (labels and tube not to scale).

Campbell Island", in Waite's handwriting. M.088211 – "Laoma Phrixgnathus cognata, Suter, co-type, D & C, on Dracophyllum, Campbell Id.", in Suter's handwriting.

Type locality: "Campbell Island" (Suter 1909a: 39).

Previous illustrations of type material. Suter (1909a: pl. 1, fig. 16); Suter (1915: pl. 29, fig. 18).

Remarks: The type material of this species had been collected on Campbell Island/Motu Ihupuku, mostly from *Dracophyllum* plants, by Chambers in November 1907 (Suter 1909a: 39; 1913: 750). Some shells in the type series have a well-developed peripheral cord, whereas in others it is lacking or very weakly developed.

Current taxonomy: Listed as Phrixgnathus cognatus (Suter, 1909) by Powell (1955: 125), (Marshall 1996: 41), Spencer and Willan (1995: 41) and subsequent authors.

Distribution: New Zealand; Campbell Island/Motu Ihupuku (Suter 1909a: 39; Powell 1955: 125; MONZ collection records).

***Thermia (?) expeditionis* Suter, 1909**
(Figure 6)

Suter (1909a). The Subantarctic Islands of New Zealand, vol. 1: 34.

Type material: Holotype, by monotypy, CMNZ ZS680.

Label details: ZS680 – "Type, Thermia expiditionis (sic) Suter, loc. Auckland Islands", in Waite's handwriting.

Type locality: "Auckland Islands" (Suter 1909a: 34).

Previous illustrations of type material. Suter (1909a: pl. 1, figs 6–8); Suter (1915: pl. 25, figs 19, 19a, 19b).

Remarks: The original description of *T. expeditionis* (Suter, 1909) was based on a single shell that had been

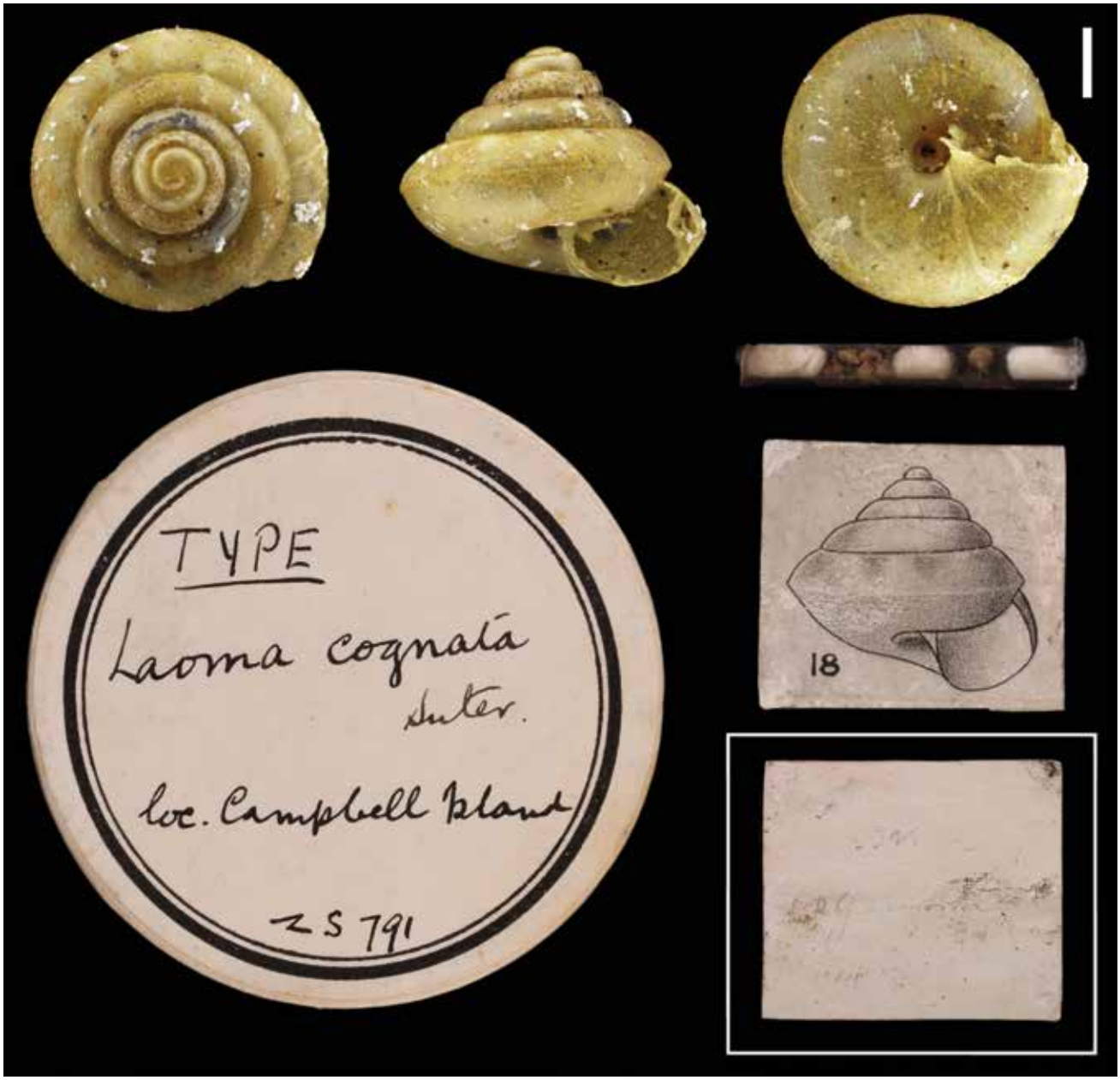


Figure 5. Plate showing dorsal, apertural and ventral view of *Laoma (Phrixgnathus) cognata*. Scale bar is 1 mm. Label information with specimen is shown, with reverse side of specimen sketch label shown in white inset box (labels and tube not to scale).

collected under a log on Auckland Island by Benham in November 1907 (Suter 1909a: 34; 1913: 694). Additional material of this taxon was collected on Auckland Island and Campbell Island/Motu Ihupuku during the Cape Expedition of 1941–1945 (Powell 1955: 126). The latter author designated *Thermia expeditionis* (Suter, 1909) as the type species of subgenus T*aguahelix Powell*, 1955 in genus *Phrixgnathus Hutton*, 1882, and relegated it to synonymy with *Helix campbellica* Filhol, 1880 (Powell 1955: 125–126). Mayhill and Goulstone (1986); Climo (1992); Climo and Goulstone (1993); Schileyko (2002: 1044) and subsequent authors have treated *Taguahelix* Powell, 1955 as a genus-level taxon in Punctidae.

Current taxonomy: Listed as *Taguahelix campbellica* (Filhol, 1880) by Mayhill and Goulstone (1986: 90), Climo (1992: 35), Climo and Goulstone (1993: 28), Schileyko (2002: 1044) and subsequent authors.

Distribution: New Zealand; southwestern Te Waipounamu/South Island and Fiordland islands; Stewart Island/Rakiura and some nearby islands; Auckland Islands archipelago, including Adams Island, Auckland Island, Enderby Island, Ewing Island, Rose Island; Campbell Island/Motu Ihupuku (Filhol 1880; Suter 1909a; 1913; Powell 1955: 126; Mayhill and Goulstone 1986: 90, 99; 2000: 20; Climo 1992: fig. 35; AM and MONZ collection records).

***Phenacohelix (?) subantarctica* Suter, 1909**
(Figure 7)

Suter (1909a). The Subantarctic Islands of New Zealand, vol. 1: 36.

Type material: Syntypes: CMNZ ZS699 (3); MONZ M.125542 (12), ex Suter Collection (Marshall 1996: 42); AM MA73068 (1), ex Powell Collection (Blom, in press).

Figure 6. Plate showing dorsal, apertural and ventral view of *Thermia (?) expeditionis*. Scale bar is 1 mm. Label information with specimen is shown, with reverse side of specimen sketch label shown in white inset box (labels and tube not to scale).

Label details: ZS699 – "Type, Phenacohelix subantarctica Suter, loc. Campbell Island", in Waite's handwriting. MONZ M.125542 – "Flammulina ? Phenacohelix subantarctica, Suter, co-type, D & C, on Dracophyllum, Campbell Id.", in Suter's handwriting. MA73068 – "Phenacohelix subantarctica Suter, Campbell Island, Paratype", in Powell's handwriting.

Type locality: "Campbell Island" Suter (1909a: 36).

Previous illustrations of type material. Suter (1909a: pl. 1, figs. 9–11; 1915: pl. 26, figs. 10, 10a, 10b).

Remarks: The type material of this species had been collected on Campbell Island/Motu Ihupuku, mostly from *Dracophyllum* plants, by Chambers in November 1907 (Suter 1909a: 36; Suter 1913: 670). In the original description, Suter (1909a: 36) attributed this species to genus *Phenacohelix Suter*, 1892, noting that, "the generic position … remains somewhat uncertain, but the characters of the shell are those of *Phenacohelix*, and, in a much lesser degree, of *Allodiscus*". In the same publication, Suter (1909a: 36) also listed an unnamed congener, *Phenacohelix sp.,* from Auckland Islands, based on a single fragile shell that had been inadvertently destroyed "when handling it for drawing up the diagnosis". Powell (1955: 123), in an account of the molluscan fauna of New Zealand's subantarctic islands, listed P. subantarctica from Campbell Island/Motu Ihupuku. He did not mention in Suter (1909a) the record of *Phenacohelix* sp. from Auckland Islands. Cumber (1961), in a revision of genus *Phenacohelix*, listed *P. subantarctica* and *Phenacohelix* sp. of Suter (1909a), inferred that these two taxa differed at the subgeneric level, and interpreted them as being endemic to Campbell Island/Motu Ihupuku and Auckland Islands respectively. Climo (1969b), from examination of anatomy and shell characters, considered that *Phenacohelix* sp. from Auckland Islands is conspecific with *P. subantarctica*, and noted that this species had a

Figure 7. Plate showing dorsal, apertural and ventral view of *Phenacohelix (?) subantarctica*. Scale bar is 1 mm. Label information with specimen is shown, with reverse side of specimen sketch label shown in white inset box (labels and tube not to scale).

wide distribution in southern New Zealand, being present on Campbell Island/Motu Ihupuku, Auckland Islands, Stewart Island/Rakiura, and southern Te Waipounamu/ South Island. Climo (1969b) noted that whereas the shell of *P. subantarctica* resembled a miniature phenacohelicid, the radula was typical of punctid snails in that the central tooth is tricuspid but all other teeth are bicuspid, and he attributed this species to subgenus *Taguahelix* in genus *Laoma* Gray, 1850. Mayhill and Goulstone (1986); Marshall (1996); Schileyko (2002: 1044) and subsequent authors have treated *Taguahelix* as a genus-level taxon in Punctidae.

Current taxonomy: Listed as *Taguahelix subantarctica* (Suter, 1909) by Mayhill and Goulstone (1986: 90), Spencer and Willan (1995: 42), Marshall (1996: 42), Schileyko (2002: fig. 1365) and subsequent authors, but preliminary results of a molecular phylogenetic study (M. Kennedy unpub. data) indicate that the attribution to *Taguahelix* Powell, 1955, and the family-level placement of this species, require re-evaluation.

Distribution: New Zealand: southern Te Waipounamu/ South Island; Stewart Island/Rakiura and some nearby islands; Auckland Islands archipelago, including Adams Island, Auckland Island, Ewing Island; Campbell Island/ Motu Ihupuku (Suter 1909a; Powell 1955: 123; Climo 1969b: 261; Mayhill and Goulstone 1986: 90, 99; 2000: 20; AM and MONZ collection records).

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