Dr. James O. Maloney
with the Compliments
& Thanks of
K. St.

Papers from Dr. Th. Mortensen's Pacific Expedition 1914-16.

XL.

K. Stephensen

Crustacea from the Auckland and Campbell Islands

1927

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By
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Introduction.

The Subantarctic Islands of New Zealand is the name of 6 groups of islands lying to the south and southeast of New Zealand, viz., the Bounty Island, Antipodes Island, Macquarie Island, Campbell Island, the Auckland Islands, and the Snares.

The principal work on the natural history of these islands is "The Subantarctic Islands of New Zealand. Reports on the Geophysics, Geology, Zoology, and Botany of the Islands lying to the South of New Zealand." Edited by Chas. Chilton. Wellington, N. Z., 1909, vols. 1—2, XXXV + 848 pp.

These 6 groups of islands are not equally well known as regards their faunas; for the weather is in these waters often very bad, and a landing on the open shores for this reason dangerous or even impossible. The Campbell Island and especially the Auckland Islands are by far the best investigated; very few species, at all events of Crustacea, are known from the other groups.

As far as I am aware, the first Malacostracan recorded from the subantarctic islands of New Zealand was

Idotea elongata White, List Crust. British Museum, 1847, p. 95 (no description), from the Auckland Islands.

The next species to be recorded were

Serolis latifrons White, ibid. 1847, p. 106 (no description), (Auckland Isl.), and

Actæcia aucklandiæ Thomson, Trans. Proc. New Zealand Inst., vol. 11, 1879, p. 249 (Auckland Isl.) (by Budde-Lund, 1906, removed to gen. *Deto*).

The first paper dealing with more than a single species of Crustaceans, especially from the Auckland and Campbell Islands was F. W. Hutton: Notes on a Collection of Crustacea from the Auckland Islands and Campbell Island; — Trans. New Zealand Inst. vol. 11, 1879, pp. 337—43. In this paper (pp. 340—41) 8 species of Crustacea are recorded, viz.

1. *Prionorhynchus edwardsii* Jacq. and Lucas.
2. *Nectocarcinus antarcticus* Jacq. and Lucas.
3. *Halicarcinus planatus* (Fabricius).
4. *Munidia subrugosa* (White) (= *Munida subrugosa* (White)).
5. *Squilla lævis* n. sp. (= *Lysiosquilla spinosa* Wood-Mason).
6. *Cirolana rossi* List.

7a. *Sphæroma gigas* Leach (= *Exosphæroma gigas* (Leach)).

7b. — *obtusa* Dana (= Nr. 7a).

8. *Actæcia aucklandiæ* G. M. Thomson (= *Deto aucklandiæ* (G. M. Thomson)).

Next paper was

Henry Filhol: Mission de l'île Campbell. Recueil de Mémoires, Rapports et Documents relatifs à l'Observation du Passage de Vénus sur le Soleil du 9. Décembre 1874, tome 3, Paris 1885 (Crustacea: pp. 349—510). Filhol mentions from the Campbell Isl. (— he had no material from the other islands —) in all 12 Malacostraca (10 Decapoda [1 of which, *Grimothea novæ-zealandiæ* Filhol, is to be cancelled, being synonymous with one of the others, *Munida subrugosa* White], and 2 Isopoda).

Paper no. 3 is

A. O. Walker: Amphipoda from the Auckland Islands; — Ann. Mag. Nat. Hist., ser. 8, vol. 2, 1908, pp. 33—39.

The most important work is no. 4, viz.

Chas. Chilton: The Crustacea of the Subantarctic Islands of New Zealand; Chas. Chilton, The Subantarctic Islands of New Zealand, vol. 2. 1909, pp. 601—71. — Chilton's paper (— in the present work cited as Chilton 1909 —) is not only a report on the collections made during an expedition in the government steamer "Hinemoa" (Captain Bollons) in Nov. 1907, but a summary of the knowledge of the Crustacean fauna of these islands, and comprises in all 69 Malacostraca (incl. *Nebalia*) and a few Entomostraca. 9 of the 69 species were not found at the Auckland and Campbell

Islands, and so the number of Malacostraca from these islands was in 1909 only 60.

From 1909 to 1927 only three new species have been recorded from the subantarctic islands in the following two papers, viz.

M. Rathbun: Brachyura. Australasian Antarct. Exped., Sci. Rep. ser. C, vol. 5, pt. 2, 1918 (*Marestia Mawsoni* n. sp., (fam.? ["Megalopidea"]), from the Macquarie Isl.).

W. M. Tattersall: Euphausiacea and Mysidacea. Australasian Antarct. Exped., Sci. Rep., ser. C, vol. 5, pt. 5, 1918 (p. 7: *Thysanoëssa gregaria* G. O. Sars?, from the Macquarie Isl., 26 m townet, 8 pm. — 8 am., 63 spec., 4—10 m; — p. 10: *Tenagomysis tenuipes* n. sp. [with fig.], from Carnley Harbour, Auckland Isl., 1 ♂ ad.). —

The present paper comprises the material of Malacostraca (and a couple of Copepoda) collected by Dr. Th. Mortensen during his trip to the Auckland and Campbell Islands in the New Zealand Government Ship "Amokura", in Nov.—Dec. 1914. Dr. Mortensen

	Hutton 1879	Filhol 1885	Chilton 1909	Rathbun 1918 Tattersall 1918	Dr. Th. Mortensen leg. 1914			Total no. of spp. 1927
					n. spp.	spp. new to the islands (excl. n. spp.)	Total no. of spp.	
Decapoda	4	9	12	1	1	1	11	15
Euphausiacea	—	—	—	1	—	—	—	1
Stomatopoda	1	—	1	—	—	1	1	2
Amphipoda	—	—	34	—	7 + 1 var.	13	39	54 + 1 var.
Isopoda	3	2	20	—	1	5	18	26
Tanaidacea	—	—	1	—	1	1	3	3
Cumacea			—	—	—	—	—	—
Mysidacea			—	1	—	—	—	1
Nebaliacea			1	—	—	—	1	1
No. of spp.	8	11	69	3	10 + 1 var	21	73	103 + 1 var.

collected in all 73 species of Malacostraca and enriched the fauna of the islands with no less than 8 families (Decapoda: *Crangonidæ* [1 sp.]; — Amphipoda: 6 fam.: *Amphilochidæ* [1 sp.], *Metopidæ* [2 sp.], *Stenothoidæ* [1 sp.], *Phliantidæ* [1 sp.], *Acanthonotozomatidæ* [1 sp.], *Photidæ* [2 sp.]; — Tanaidacea: *Apseudidæ* [1 sp.],) — 23 genera (De-

capoda: 2 gen.; Amphipoda: 14 gen. [1 of which, *Pseudambasia*, new to science]; Isopoda: 5 gen.; Tanaidacea: 2 gen. [1 of which, *Metapseudes*, new to science]), (2 genera new to science), and 31 species (10 of which new to science) + 1 var. (n. var.).

The number of species of Malacostraca known from the subantarctic islands of New Zealand is thus 69 (Chilton 1909) + 3 (Rathbun and Tattersall 1918) + 31 + 1 var. = 103 spp. + 1 var. (A list off all the species known from the islands, see p. 382–85).

I wish to express my most sincere thanks to Prof. Dr. T. Odhner, Naturhistorisk Riksmuseum, Stockholm, for having kindly determined the material of two of the crabs *(Prionorhynchus edwardsii, Leptomithrax australis)* and to Prof. Dr. A. Schellenberg, Zool. Museum, Berlin, for having been as good as to write the text and work out the drawings to species no. 75, *Doropygus trisetosus*.

Decapoda.

Fam. **Maiidæ.**

Genus *Leptomithrax* Miers.

1. *Leptomithrax australis* (Jacq. et Lucas).

Maia australis Jacquinot et Lucas, Voy. au Pôle sud, Zool., III, Crust., 1853, p. 11, pl. II, fig. 1.

Leptomithrax australis Filhol, Mission de l'île Campbell, p. 361, pl. XXXVIII, 1885.

– — Chilton, 1909, p. 607.

Auckland Isl.: Port Ross, 10—15 fath. 25.11.1914. 1 ♂ (kindly determined by Prof. Dr. T. Odhner, Stockholm).

Distribution: Auckland Isl., southern coasts of New Zealand (incl. Stewart Isl., 30 m [Filhol]); Dunedin (Chilton l. c.).

Fam. **Pericerídæ.**

Genus *Prionorhynchus* Jacq. et Luc.

2. *Prionorhynchus edwardsii* Jacq. et Luc.

Prionorhynchus edwardsii Filhol, Mission de l'île Campbell, 1885, p. 367, pl. XLII.

— — Chilton 1909, p. 608 (lit.).

Auckland Isl.: Without special locality, 1 spec., carapace 17 cm long (kindly determined by Prof. Dr. T. Odhner, Stockholm).

Distribution: Auckland Isl., Campbell Isl., abundant; Otago and Stewart Island (Chilton l. c.).

Fam. **Cancridæ.**

Genus *Cancer* Linné.

3. *Cancer novæ-zealandiæ* (Jacq. et Luc.).

Platycarcinus novæ-zealandiæ Jacquinot et Lucas, Voy. au Pôle Sud, III, Crust., p. 34, pl. III, fig. 6, 1853.

Cancer novæ-zealandiæ Chilton 1909, p. 608 (lit. and syn.).

Auckland Isl.: Port Ross, 27.11.1914, 1 spec., and Carnley Harbour, Figure-8-Island, under stones on the shore, low-tide, 2.12.1914. 6 spec.

Distribution: Auckland Isl.; New Zealand (Chilton l. c.); common at Stewart Isl. and in the Cook Strait (Filhol).

Fam. **Portunidæ.**

Genus *Nectocarcinus* A. M.-Edw.

4. *Nectocarcinus antarcticus* Jacq. et Luc.

Nectocarcinus antarcticus Jacquinot et Lucas, Voy. au Pôle sud, Zool., III, Crust., p. 51, pl. V, fig. 1, 1853.

— — Chilton, 1909, p. 608 (lit. and syn.).

Auckland Isl.: Port Ross 10 fath., sand, algæ, 25.11.1914, 1 spec.; ibid. 9 fath., sand, crab-net, 27.11.1914, abt. 10 spec.; Coleridge Bay, Carnley Harbour, sandy clay, dredge, 4.12.1914, 1 spec.

Campbell Isl.: Perseverance Harbour, 20 fath., 10.12.1914, 1 spec.

Distribution: Auckland Isl.; New Zealand (Chilton l. c.); Stewart Isl. (Filhol).

Fam. **Hymenosom(at)idæ.**

Genus *Halicarcinus* White.

5. *Halicarcinus planatus* (Fabr.).

Halicarcinus planatus Chilton 1909, p. 609 (lit.)

— — Stebbing, Trans. R. Soc. Edinburgh vol. 50, 1914, p. 271 (lit.).

— — Tesch, Siboga-Exped., vol. 39c, 1918, p. 9 (key), 10, pl. 1, fig. 2.

Auckland Isl.: Port Ross, 10 fath., sand and algæ, 25.11.1914, 2 spec., and on or under stones at low-tide 25(.27).11.1914, numerous spec. — Carnley Harbour, on the shore under stones, 29.11.1914, numerous spec., and Masked Isl., on the shore, 30.11.1914, 4 spec ; Figure-8-Isl. (Carnley Harbour), under stones at low-tide, 2.12.1914, 1 spec.

Campbell Isl.: Perseverance Harbour, under stones on the shore at low-tide, 8(.10).12.1914, numerous spec., and abt. 20 fath., sandy clay, 10.12.1914, 1 spec.

Distribution: Common at the Macquarie Island (Rathbun, Brachyura; Australasian Antarct. Exped. 1911—14, Sci. Rep., ser. C, vol. 5, pt. 2, 1918, p. 3). Circumpolar subantarctic, but not found in Australian waters where it is replaced by *H. ovatus* Stimpson (Miers teste Tesch l. c.).

Fam. **Paguridæ.**

Genus *Eupagurus* Brandt.

6. *Eupagurus (Campbelli* Filhol?).

Eupagurus campbelli Filhol, Mission de l'Ile Campbell, 1885, p. 421, Pl. 52, fig. 3.
— — Thomson, Trans. N. Z. Inst., vol. 31, 1898 (1899), p. 183 (translation of Filhol l. c.).
— — Chilton, 1909, pag. 612.

Auckland Isl.: Port Ross, 10 fath., sand, algæ. 25.11.1914, 2 spec.

Campbell Isl.: Perseverance Harbour, under stones on the shore at low-tide, 9.12.1914, 7 spec., and ibid., on the shore, 10.12.1914, abt. 20 spec.

The determination is not quite certain, for the left chela differs a little from the original description: the outer margin of the carpus is much more evenly curved.

Distribution: Seems to be endemic; is only found in Perseverance Harbour, Campbell Isl., 5—6 m. (Filhol l. c.).

Genus *Porcellanopagurus* Filhol.

For lit etc. see Borradaile, Crustacea, part II: Porcellanopagurus; an instance of carcinization. — British Antarctic ("Terra Nova")

Exped. 1910, Natural Hist. Report, Zool., vol. 3, No. 3, pp. 111—126, 1916.

7. *Porcellanopagurus (Edwardsii* Filhol?).

Porcellanopagurus edwardsii Filhol, "Mission de l'Ile Campbell", 1885, p. 410, Pl. 49, pp. 2—4.
— — Chilton 1909, p. 610 (with figs).
— — ? Borradaile l. c. 1916 (with figs. and lit.).

Auckland Isl.: Port Ross, abt. 10 fath., sand, algæ, dredge. 25.11.1914. 1 ♂.

The determination is not quite certain, for the eye-stalks are much thinner than drawn by Filhol and Borradaile, and the processes on the edge of the thorax are smaller. The right chela is extremely heavy, exactly as drawn by Chilton (1909, fig. 1a).

Distribution: Campbell Isl., 4—5 m, and on the coast of Stewart Isl., under similar conditions (Filhol). — The Snares, 60 fath. (Chilton 1909). — 7 miles E. of North Cape, New Zealand, 128 m. (St. 96; Borradaile l. c. 1916).

Fam. **Galateidæ.**

Genus *Munida* Leach.

8. *Munida subrugosa* (White) Miers.

Munida subrugosa Chilton, 1909, p. 612 (lit. and syn.).

Auckland Isl.: Port Ross, abt. 10 fath., sand, algæ; dredge, 25.11.1914; 6 spec. — Carnley Harbour, North arm, clay; dredge, 30.11.1914, 1 spec. — Carnley Harbour, Coleridge Bay, abt. 25 fath., sandy clay; dredge, 4.12.1914, 2 spec. — Carnley Harbour, sandy clay, 45 fath., 1 spec.

Campbell Isl.: Perseverance Harbour, 10—20 fath., sandy clay, dredge, 9.12.1914, 4 spec. — ibid. 20 fath., sandy clay, dredge, 10.12.1914, 4 spec.

Distribution: Very abundant at the Auckland and Campbell Islands (Chilton 1909). — New Zealand, Patagonia, Monte Video, Falkland Islands etc. (Thomson, Trans. Proc. N. Z. Inst., vol. 31, 1898, p. 194, and T. Lagerberg, Anomoura and Brachyura, Wiss. Ergebn. d. Schwed. Südpolar-Exped. 1901—03, Bd. 5, Lief. 7, Stockholm 1905, pp. 7—11, with figs.).

Fam. **Hippolytidæ.**

Genus *Nauticaris* Sp. Bate.

9. *Nauticaris marionis* Sp. Bate.

Nauticaris marionis Sp. Bate, Macrura "Challenger"-Exped. 1888, p. 603, Pl. 108.
— — Chilton, 1909, p. 614 (lit. and syn.).

Auckland Isl.: Port Ross, sand, algæ, 10 fath, 25.11.1914. 2 spec.

Campbell Isl.: Perseverance Harbour, 10—20 fath., sandy clay, 9.12.14, 1 spec.; — ibid., on the shore, 10.12.1914, 5 spec.

Distribution: Auckland Isl., Campbell Isl., Stewart Isl., Marion and Prince Edward Isl. (S. of Africa), and Falkland Islands (Chilton 1909).

*[1]) Genus *Tozeuma* Stimps. (= *Angasia* Sp. Bate).

Tozeuma Stimpson, Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 26.
— M. J. Rathbun, Bull. U. S. Fish Commission, vol. 20, pt. 2, 1900 (1901), p. 114.
— S. Kemp, Records of the Indian Mus., vol. 10, 1914, p. 83 (key), 105, 127 (list of Indo-pacific species).
— A. E. Verrill, Transact. Connecticut Acad. Arts and Sci., vol. 26, 1922, p. 126.
Angasia Sp. Bate, Proc. Zool. Soc. London, 1863, p. 498.
— Calman, Ann. Mag. Nat. Hist. ser. 7, vol. 17, 1906, p. 31 (key), 34.
— W. H. Baker, Trans. and Proc. R. Soc. South Australia, vol. 28, 1904, p. 146.

12 species have been described, but one of them, *T. serratum* A. Milne-Edwards (Ann. Sci. Nat., Zool., ser. 6, vol. 11, 1881, art. no. 4, p. 16; A. Milne-Edwards: Recueil de Figures de Crustacés nouveaux ou peu connus, 1883; Barbados, 56 fath.) is scarcely to be referred to the present genus, as pointed out by Sp. Bate (Decap. Macrura, "Challenger" Exped., 1888, p. 618).

The remaining species are

Tozeuma carolinensis Kingsley, Proc. Acad. Nat. Sci. Philadelphia, vol. 30, 1878, p. 90. — *T. carolinense* Verrill l. c. 1922, p. 127 (lit. and syn.), with figs. (Westindian region).

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[1]) * indicates that the genus etc. is new to the Islands.

[*Tozeuma cornutum* A Milne-Edwards, Ann. Sci. Nat, Zool., ser. 6, vol. 11, 1881, art. no. 4, p. 16. (Barbados 40 fath.); is possibly only a juvenile stage of the preceding species (H. Bales, Zool. Anzeiger, vol. 61, 1924, p. 177)].

Tozeuma elongatum (W. H. Baker), *T. erythræum* (Nobili), *T. kimberi* (W. H. Baker), *T. lanceolatum* Stimpson, *T. pavoninum* (Sp. Bate), *T. robustum* (W H. Baker), *T. tomentosum* (W. H. Baker); — for lit. and distrib. of these species see S. Kemp l c. 1914, p. 126.

Tozeuma armatum Paulson, and *T. novæ-zealandiæ* Borradaile, see below.

Key to the species.

T. serratum (with teeth on both edges of the rostrum), *T. cornutum*, and *T. lanceolatum* (no. of rostral teeth?) are not included in the key.

1. Rostrum has on the under side 3–7(9) teeth 2
   — — > abt. 16 teeth 6
2. 5th abdominal segment has no teeth on the posterior margin 3
   — — has 1—2 teeth 4
3. Telson ends in an obtuse point; abt. 4 rostral teeth ..... *T pavoninum*
   — — 4 spines; 5—7 rostral teeth ..... *T. robustum*
4. No supra-ocular spines; 5th abdominal segment has 2 teeth on the posterior margin 5
   Supra-ocular spines present; 5th abdominal segment has only one little tooth on the posterior margin *T. erythræum*
5. 5 rostral teeth ..... *T. tomentosum*
   7(+2) — ..... *T. novæ-zealandiæ*
6. A distinct dorsal process present on 3.—5. abdom. segm. (especially on 3. segm.) ..... *T. armatum*
   No dorsal process, at most a hump on 3. abdom. segm. 7
7. Supra-ocular spines present ..... *T. carolinense*
   — — not present 8
8. Abdomen very slender, very slightly geniculate at 3d segment, the epimeral parts of 1.—5. segm. not deeply produced ..... *T. elongatum*
   Abdomen not very slender, very geniculate at 3. segm.; epimeral parts of 1.—5. segm. deeply produced .. *T. kimberi*

[*Tozeuma armatum* Paulson.

Tozeuma armatum Paulson, Red Sea Crustacea (in Russian), Kiew, 1875, p. 99, Pl. 15, fig. 2.

Angasia stimpsoni Henderson, Trans. Linn. Soc., London, Zool, vol. 5, 1893, p. 437, Pl. 40, figs. 18—20.

Tozeuma armatum Kemp, l. c. 1914, p. 106 (lit. and syn.).

— — — ibid., vol. 12, 1916, p. 399, fig. (late larval stage).

The Copenhagen Zool. Museum possesses specimens of this species from the following localities. Singapore, shallow water, Consul Sv. Gad ded. 4.6.1903, 1 spec. — The Danish Expedition to the Kei-Islands 1922 has secured it at two stations, viz., Amboina Bay abt. 150 m., sand, stones, dredge, 21.2.1922, 1 spec., — and St. 104, Java Sea (5° 52' S., 106° 4' 5" E.), 38 m., stones, sponges, Sigsbee trawl, 4.8.1922, 1 spec.

The species is distributed from the Red Sea to Sagami Bay, Japan, but only very few specimens have been recorded in the literature].

* 10. *Tozeuma novæ=zealandiæ* Borradaile.

Tozeuma novæ-zealandiæ Borradaile, British Antarctic ("Terra Nova") Exped. 1910, Natural Hist. Rep., Zool., vol. 3, no. 2, 1916, p. 86, fig.

Auckland Isl.: Carnley Harbour, 45 fath. Sandy clay, 6.12.1914. 3 spec. (abt. 50, abt. 45, abt. 35 mm). The specimens agree very well with Borradaile's description, but rostrum has no small accessory teeth at the base. — ? North Branch of Carnley Harbour, clay, dredge, 30.11.1914. 1 defective spec.; the determination not certain.

Distribution: The species is new to these Islands; the single specimen recorded in the literature was from 7 miles E. of North Cape, New Zealand, 128 m. (Borradaile l. c.).

* Fam. **Crangonidæ.**

No Crangonidæ were known from these Islands, but Dr. Th. Mortensen has secured a few specimens of *Pontophilus pilosoides* n. sp.

* Genus *Pontophilus* Leach.

Pontophilus J. G. de Man, Siboga Exped., Monogr. 39a³, 1920, p. 257, with key to all the species.

* 11. *Pontophilus pilosoides* n. sp. (Fig. 1).

Auckland Isl.: Carnley Harbour, 45 fath., sandy clay, 6.12.1914. 1 ♀ ovig. 38 mm.

Campbell Isl.: Perseverance Harbour, 10—20 fath., sandy clay. 9.12.1914. 4 spec. 22—30 mm. —

♀ ovig. 38 mm. (carapace 10 mm). Very closely allied to *P. pilosus* St. Kemp (Records Indian Mus., vol. 12, 1916, key p.

357, p. 367, pl. 8 fig. 4, textfig. 4), but differs in the following characters.

No keel on the ventral side of the rostrum. The carapace has a fine pubescense, but no long silky hairs. Behind the antennal spine there are 4 (not 2) spines, the two foremost being rather small and very easily to be overlooked. The hepatic tooth is placed

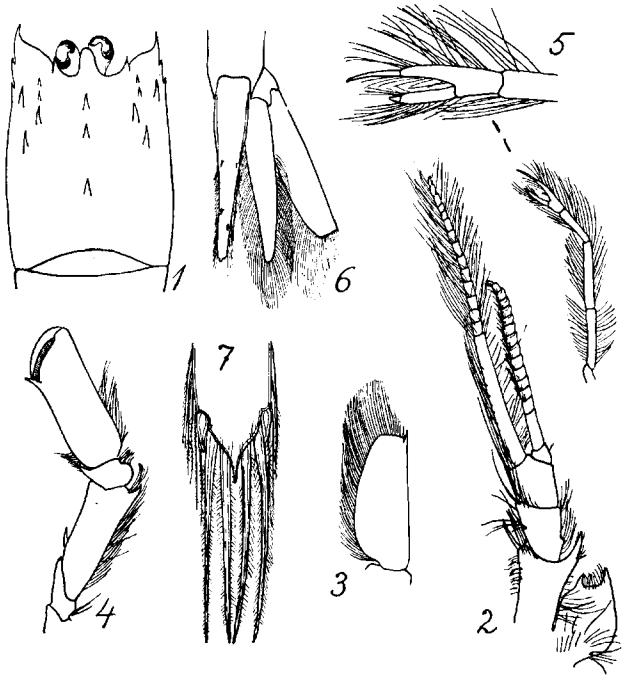

Fig. 1. *Pontophilus pilosoides* (1 carapace, 2 antennula, 3 antennal scale, 4 first pereiopod, 5 second pereiopod, 6 caudal fan, 7 apex of telson).

a little closer to the fore-end than in *P. pilosus*. Two small teeth (not one) behind the branchiostegal spine.

No median keel on any of the abdominal segments. The basal joint of the antennular peduncle totally as in *P. pilosus*, but the small internal spinule at the base of the inner spine is absent. The outer flagellum has 14 short joints, the inner flagellum $>$ 15 short joints (the apex is lost). The antennal scale is in length more than twice the breadth. The terminal spine is rather long, and there is no U-shaped gap at its base. Mxp. 3 reaches only by half the

length beyond the antennal scale. P. 1 is almost totally as in *P. pilosus* (the metacarpus is a little broader), but has a long spine on the inner side of the merus. P. 2 has the carpus abt. as long as the metacarpus incl. fingers; the fixed finger only a trifle shorter than the dactylus; the apical spine of the dactylus is broken. The telson is only a trifle longer than 6th abdominal segment; the apex is acute, with two short and 4 long ciliated setæ and 4 dorsal spines (the two hindmost are not paired).

The present species is easily recognisable from *P. pilosus* by the different form of the antennal scale and by the long spine on the merus of p. 1.

Stomatopoda.

Genus *Squilla* J. C. Fabr.

* 12. *Squilla armata* H. M.-Edw.

Squilla armata Kemp, Memoirs Indian Mus., Calcutta, vol. 4, 1913, p. 21 (key to species), 41 (lit.), pl. 2 figs. 28—29.

Auckland Isl.: Coleridge Bay, Carnley Harbour, abt. 25 fath., sandy clay, dredge, 4.12.1914. 1 spec. 49 mm.

Distribution. The species is new to the subantarctic islands of New Zealand, but has been recorded from New Zealand and from New South Wales; known also from S. Africa (Cape Point Lighthouse, 45 fath.), Patagonia (both Atlantic and Pacific coast) and Chili, 51—122 fath. (Kemp l. c.).

Amphipoda.

Fam. **Lysianassidæ.**

Genus *Parawaldeckia* Stebbing.

13.? *Parawaldeckia kidderi* (S. I. Smith). (Fig. 2).

Socarnoides kergueleni Stebbing, Amphip. "Challenger" 1888, p. 691, Pl. 25.

Lysianax stebbingi G. M. Thomson, Proc. R. Soc. Tasmania, Hobart, 1892, p. 19, Pl. III figs. 9—18, and Pl. V figs. 9—10, 1893. (I have not had access to this paper).

Nannonyx kidderi Chilton, 1909, p. 615 (lit. and syn).

Parawaldeckia Thomsoni Stebbing, Mem. Austral. Mus., Sydney, vol. 4, 1910, p. 571.

Parawaldeckia kidderi Tattersall, Journ. Linn. Soc London, Zool., vol. 35, 1922, p. 3, Pl. 1 figs. 1—6 (syn.).
Nannonyx — Chilton, "Endeavour" 1921, p. 41, figs. 3a, 3b.
— — Monod, 1926, p. 51, fig. 50.

Occurrence. Auckland Isl.: Port Ross, 10 fath., sand, algæ, 25.11.1914. 9 spec. 8—11 mm: 4 ♂ ad.. 1 ♂ jun., 4 ♀ (1 with embryos). — Carnley Harbour; Masked Isl.: rocky coast, 3.12.1914. 1 ♀ 5 mm. — ? ? Port Ross, on the shore, under stones at low-tide, 27.11.1914. 6 spec. abt. 4.5 mm.

Campbell Isl.: ? ? Perseverance Harbour, the shore, 10.12. 1914. Abt. 10 spec., up to abt. 5 mm.

Remarks. The determination of the specimens marked with ? is very uncertain. There is also some doubt as to the correctness of the determination of the other specimens (taken on Nov. 25th and Dec. 3d); for these specimens disagree somewhat from the existing descriptions and figures, especially in the epistome.

Stebbing l. c. 1888 being the most elaborate description etc. (— I have not had access to Thomson l. c. 1892 —), I have compared my specimens especially with this paper.

♀ with embryos agrees very well with *Socarnoides kergueleni* Stebbing 1888, p. 691, Pl. 25, but differs in the following characters (Stebbing's specimen is indubitably a ♀ jun.).

No scattered hairs on the back. Lateral corners of the head almost quadrate, not very projecting. Dorsal side of first urosome segment has a deep impression, much deeper than shown by Stebbing. Ant. 1: flagellum has abt. 10 (not 8) joints, accessory flagellum 7 (not 4) joints. Ant. 2: flagellum has abt. 10 (not 7) joints. Epistome (see fig. of ♂ ceph.) consists of a long process, but the large superior plate drawn by Stebbing is totally lacking. Maxillipedes: outer plates apically rounded, not "tapering almost to a point". The accessory branchiæ (mentioned by Stebbing l. c. 1910, p. 571) are present. P. 1: coxal plate apically dilated (Tattersall 1922, Pl. 1 fig. 3), much broader than drawn by Stebbing 1888. Metacarpus has along the under margin some long hairs and 7 short, strong spines. P. 2: coxal plate with distal corners almost quadrangular (as Tattersall 1922, Pl. 1 fig. 4), not rounded (as Stebbing 1888, Pl. 25), but metacarpus narrow (as drawn by Stebbing l. c.). On p. 3—p. 7 nothing to remark with exception

that p. 5--p. 7 have 5 pairs of spines on fore-edge of metacarpus (not 3 as drawn by Stebbing 1888). Urop. 1 has on inner ramus 4, on outer ramus 5 spines. Urop. 2 has quite the same shape as urop. 1, and the two rami are alike; inner ramus has not the deep notch mentioned by Stebbing. Urop. 3: inner ramus very little, almost $^1/_3$ as long as outer ramus; peduncle provided with a great "wing". Telson as long as broad, with excavate apex; spines totally lacking (as far as may be seen).

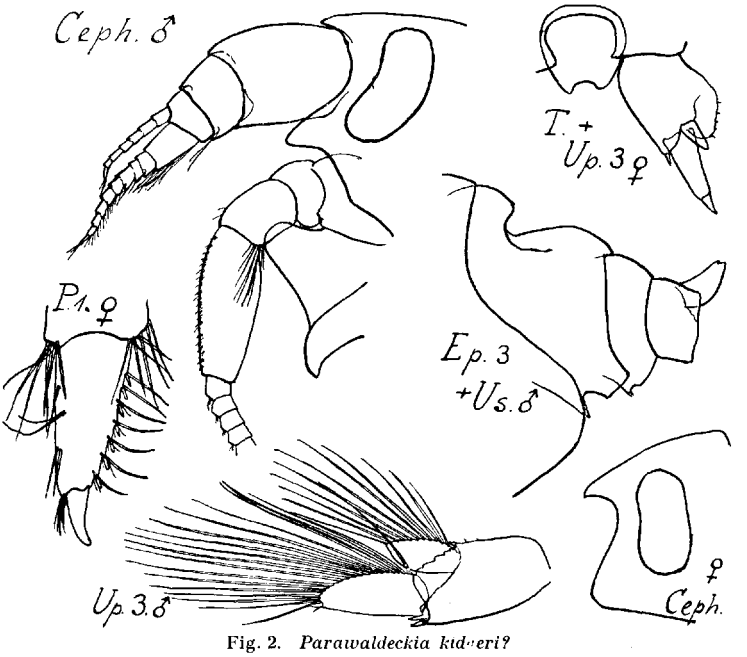

Fig. 2. *Parawaldeckia kidderi?*

One of the ♀ has in the marsupium 5 embryos, length 2 mm.

♂ ad. agrees upon the whole very well with ♀ ad., but differs in a few characters.

Lateral lobes of head acute, not almost quadrangular. Eyes reniform, larger than in ♀. Ant. 1: number of joints as in ♀, but ant. 2 at least as long as the whole body, flagellum has abt. 110 joints. Urop. 3 has a large "wing" on the peduncle, and both rami have long natatory setæ (not shown by Chilton 1921, fig. 3a). Telson totally as Tattersall 1922, fig. 1, but some of the spines and setæ are always lacking.

Distribution: Widely distributed on the southern hemisphere: Auckland Isl., Campbell Isl., Kermadec Isl. (Chilton 1909). — New Zealand, Torres Straits, Tasmania, Wallaby Group (W. of Australia), Kerguelen (teste Tattersall 1922). — Tasmania (Chilton l. c. 1921). — Magellan Strait (Monod 1926).

Genus *Parambasia* Walker & A. Scott.

Parambasia Walker & A. Scott, in H. O. Forbes, Nat. Hist. of Sokotra and Abd-el-Kuri 1903, p. 221.

* 14. *Parambasia (?) Rossii* n. sp. (Figs. 3—4).

Auckland Isl.: Port Ross, 10 fath., sand, algæ. 25.11.1914. 3 ♀ (1 with embryos) 7 mm.

Description of ♀ with embryos, 7 mm. The present specimen may probably be referred to the genus *Parambasia*, as defined by Walker & Scott l. c.; but ant. 1 have not the first joint overlapping the second.

The species from the Auckland Isl. is rather closely allied to the single species hithertho known, *P. forbesii* (from the island Abd-el-Kuri W. of Sokotra; Walker & A. Scott l. c. 1903, p. 221, Pl. XIV A, figs. 5—5m).

P. Rossii differs from *P. forbesii* in the following characters. Hind margin of 3. metasome segment not concave; inferior hind corner rounded, with 3 small teeth (1. segment abt. quadrate, 2. segment quadrate with a little rounded tooth on the corner). Head has lateral corners quadrate; eyes medium-size, black, ovate. Dorsal side of 1. urosome segment without any impression. 2. and 3. urosome segments seem to be coalesced.

Ant. 1.: 1. joint not swollen, not overlapping the next; 3. joint half as long as 2. joint, only a trifle longer than the flagellar joints. Accessory flagellum has 2 short joints, as long as the two first joints of flagellum. Flagellum 12-articulate, as long as peduncle; 1. joint shorter than the next. Ant. 2: 2. and 3. peduncular joints subequal, a little longer than 4. joint; flagellum 8—9-articulate. Epistome (not mentioned by Walker & Scott) almost vertical, very little protruding. Maxillipedes have 4th joint of palp pectinate at the inner side; inner plates truncate (not obliquely truncate) and have the curved spine mentioned by Walker & Scott. P. 1: 3.— 5.

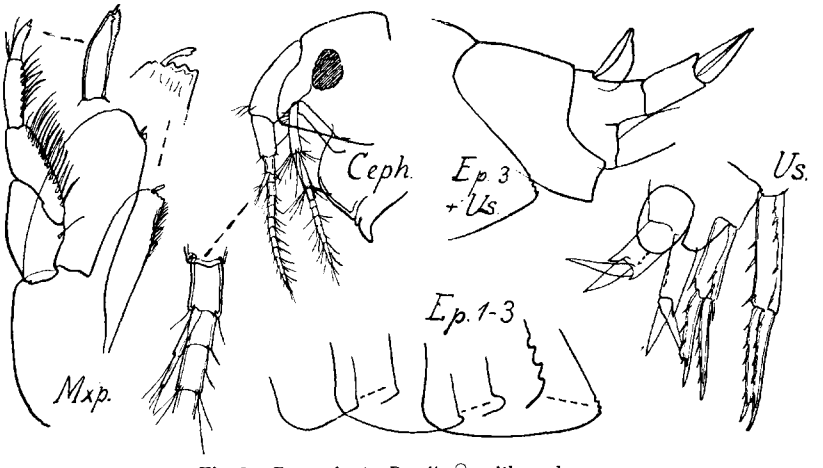

Fig. 3. *Parambasia Rossii*, ♀ with embryos.

joints have almost equal length. P. 5: 2. joint not much smaller than 1. joint (coxal plate). Dactylus in p. 5 half as long as 6. joint, in p. 6 abt. $^1/_3$ as long, in p. 7 = ? (5.—7. joints are lost). Urop. 1—2 almost as in *P. forbesii*, but have longer rami and are more spinose. Urop. 2 deeply indented in the distal part of inner ramus,

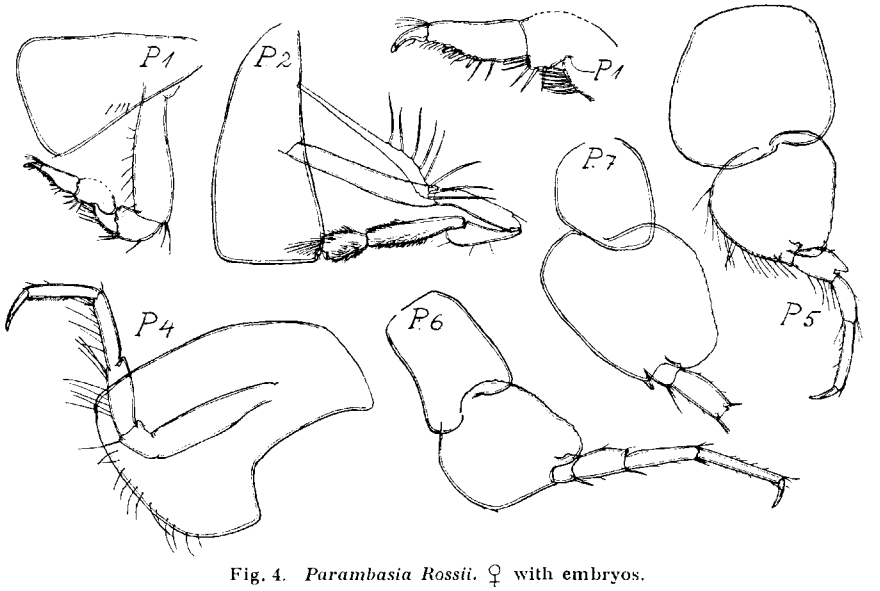

Fig. 4. *Parambasia Rossii*. ♀ with embryos.

terminal part spiniform. Urop. 3 have a little "wing" on the lateral side of peduncle. Telson ovate without spines or setæ.

The greater part of the body is totally covered with dark (brown-violet) pigment.

The specific name is an allusion to the type-locality, Port Ross.

* Genus *Pseudambasia* n. gen.

This genus has the greatest possible resemblance to gen. *Parambasia* (see above), but differs in p. 1 being subchelate, not simple.

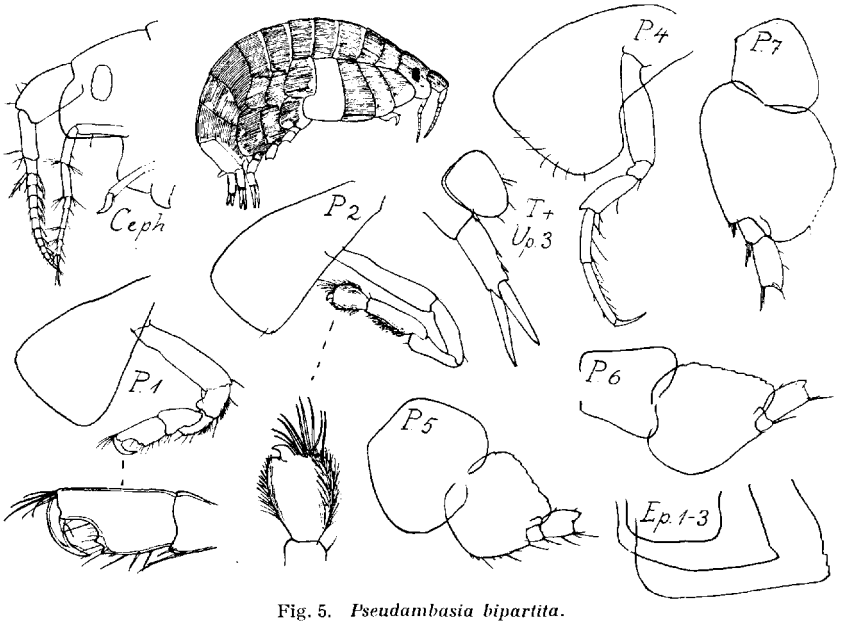

Fig. 5. *Pseudambasia bipartita.*

* 15. *Pseudambasia bipartita* n. sp. (Fig. 5).

Auckland Isl.: Carnley Harbour, Masked Isl. Rocky coast, 3.12.1914. 1 spec. (♂ ?), abt. 4 mm.

The present specimen which seems to be a ♂ (but there are no calceoli), agrees almost totally with *Parambasia Rossii* (see above), even in small details. Were it not for the quite different p. 1, the two species were practically speaking identic, and one should believe that this was the male of the species above.

Only the differences from *Parambasia Rossii* will be mentioned

below. Ant. 1: flagellum 11-articulate, ant. 2: flagellum 7(8)-articulate. Epistome somewhat more protuding than in the said species. Oral parts were not dissected out, except maxillipedes which have even the curved spine at the apex of inner plate, found in *Parambasia* (see above).

P. 1 subchelate; metacarpus as long as carpus, with almost parallel sides, distal end excavate with two teeth; dactylus long, curved. P. 2: metacarpus broader than in *Paramb. Rossii*. P. 3—p. 7 upon the whole the same shape (distal joints of p. 5—p. 7 are lost), and the same applies to the epimeral parts of metasome (except mts. 1, having the hind corner rounded, without any tooth) and the uropoda. All 3 urosome segments seem to be coalesced. Telson a little broader at the base, and has two setæ on each side and two setæ at the apex.

The generic name is due to the close resemblance to *Parambasia*, the specific name is due to the very strange coloration: the colour is (in spirits) violet-black, but coxal plate of p. 4 and urosome and different spots are colourless, hyaline; with the hyaline 4th coxal plate the whole body looks as having been cut into two pieces.

Fam. **Phoxocephalidæ.**

Chilton (1909) records *Phoxocephalus kergueleni* Stebbing and *Harpinia obtusifrons* Stebbing.

Genus *Harpinia* Boeck.

16. *Harpinia obtusifrons* Stebbing. (Fig. 6).

Harpinia obtusifrons Stebbing, "Challenger" Amphip. 1888, p. 820, Pl. 56.
— — Stebbing, 1906, p. 143.
— — Walker, Amphip., Nat. Antarctic Exped. vol. 3, 1907, p. 17.
— — Chilton 1909, p. 619.

Occurrence. Auckland Isl.: Coleridge Bay, Carnley Harbour. Sandy clay, abt. 50 m. 4.12.1914. 1 ♀ with marsupial plates, abt. 9 mm.

Chilton records the species from Campbell Isl.: Perseverance Harbour, 15 m, numerous spec.

Remarks. The specimen has black eyes (like Chilton's specimens quoted l. c. 1909) and thus should not be referred to the

genus *Harpinia*; but as it upon the whole agrees very well with Stebbing's figures of *H. obtusifrons* there is no doubt as regards the determination. Yet I have given figures of most of the append-

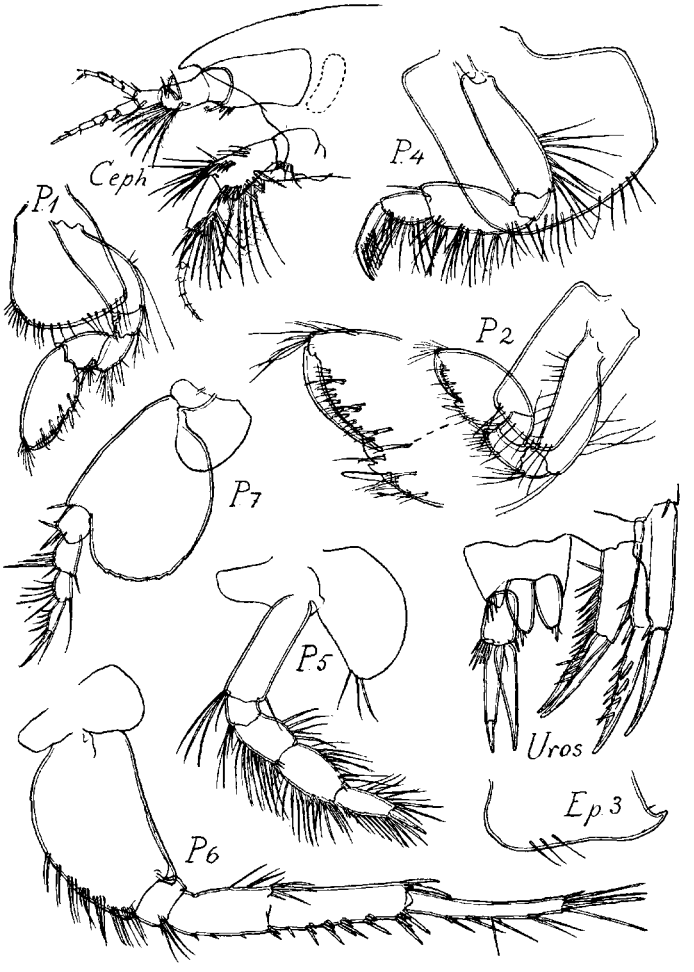

Fig. 6. *Harpinia obtusifrons*, ♀ with marsupial plates.

ages, in order to show the small differences between Stebbing's and my specimens.

Distribution: New Zealand (Otago Harbour, surface-net; Lyttelton Harbour, 8 m; Bay of Islands) (Chilton). — Mc. Murdo Strait (Walker l. c.). — Kerguelen Island, 55—220 m (Stebbing l. c. 1888).

* Fam. **Amphilochidæ.**

Chilton 1909 has no records of species belonging to this family.

* Genus *Amphilochus* Bate.

* 17. *Amphilochus squamosus* G. M. Thomson.

Amphilochus squamosus Thomson, Ann. Mag. Nat Hist., ser. 5, vol. 6, 1880, p. 4, Pl. 1 fig. 4.
— — Stebbing, 1906, p. 161.
— — Chilton, Trans. R. Soc. Edinburgh, vol. 48, 1912, p. 479.
— — Chilton, Rec. Austral. Mus. Sydney, vol. 14, 1923, p. 84.
— — Chilton, Trans. N. Zealand Inst., vol. 54, 1923, p. 240.
— *marionis* Stebbing, Amphip. "Challenger" 1888, p. 743, Pl. 38.
— — Stebbing, 1906, p. 151.
— — — Mem. Austral. Mus., Sydney, vol. 4, 1910, p. 577.
? *Gitanopis antarcticus* Chevreux, 1913, p. 104, figs.

Occurrence. Auckland Isl.: Carnley Harbour, Masked Isl., rocky coast 3.12.1914. 3 ♀ ovig. Carnley Harbour, on the shore under stones at low-tide, 19.11.1914. 7 spec., most of them small.

Remarks: The list of synonymy above was taken from Chilton, Trans. N. Z. Inst. vol. 54, 1923.

In the two papers of 1923 Chilton has given some remarks on the literature and on the difference of the specimens from the individual areas; I do not feel convinced of *G. antarctica* being identic with *A. squamosus*.

The specimens from the Auckland Islands seem to agree totally with the drawings given by Stebbing 1888 (except the mandibles, see below). It may be noted that ant. 1 has an extremely little accessory flagellum (also mentioned by Chilton, not by the previous authors). It has been quite impossible in two dissected specimens to find any trace of the molar of the mandibles; according to the literature it varies from "conical, scarcely at all dentate" (Stebbing 1888; not given in the drawing) to well developed, with the circular end of the usual form (all spec. seen by Chilton; see Chilton, Trans. N. Z. Inst. l. c. 1923, and Chevreux; Thomson and Stebbing 1910 say nothing about this character). The telson is short as in

Stebbing's fig. (l. c. 1888), not long (as in *G. antarctica*, Chevreux 1913).

Distribution: If the list of synonymy is correct, the species has a very wide distribution. Australia: off Manning River (N. S. Wales) (Stebbing 1910). — New Zealand: fairly common on the New Zealand coasts (Chilton, Trans. N. Z. Inst. l. c. 1923). — More southern waters: Marion Isl., 1 spec. (S. of Africa, 188 m, Stebbing 1888); Peterman Isl., 3 m, numerous spec. (*G. antarctica*, Chevreux 1913); South Orkneys, Scotia Bay, several spec. (Chilton 1912).

* Fam. **Metopidæ.**

Chilton (1909) has no records of species belonging to this family.

* Genus *Metopella* G. O. Sars.

* 18. *Metopella ovata* (Stebbing).

Metopa ovata Stebbing, Amphip. "Challenger" 1888, p. 764, Pl. 44.
Metopella — — 1906, p. 183.
— — Chilton, Trans. R. Soc. Edinburgh, vol. 48, 1912, p. 481.
— — — Trans. New Zealand Inst., vol. 54, 1923, p. 241.

Occurrence. Campbell Isl.: Perseverance Harbour, on the shore. 10.12.1914. 1 ♀ ovig., abt. 1.75 mm. The species is new to the Subantarctic Islands of New Zealand.

Remarks. The specimen agrees very well with the description and figure of the type, but I have not been able to trace the short accessory flagellum of ant. 1, and 2. joint of ramus of urop. 3 is not shorter than 1. joint. The total length is much smaller than the specimens mentioned in the literature: Stebbing abt. 3 mm, Chilton 3 mm and up to 3 mm.

Distribution: New Zealand: Brighton, Otago, depth?, 2 spec. (Chilton l. c. 1923). — South Orkneys: Scotia Bay, 4—15 m, 29°—30°, and 17—19 m, several spec. (Chilton l. c. 1912). — Strait of Magellan: Cape Virgin, 100 m, 1 spec. (Stebbing 1888).

* 19. *Metopella nasica* n. sp. (Fig. 7).

Occurrence. Auckland Isl.: Carnley Harbour, on the shore under stones at low-tide. 29.11.1914. Abt. 10 spec., including some ♀ with ova (all spec. seem to be ♀), abt. 1.5 mm. — Ibid., Masked Isl., rocky coast, 3.12.1914, 1 ♀ ovig.

Description of ♀ ovig., abt. 1.5 mm. No doubt the present species belongs to the genus *Metopella*, for it agrees totally with the diagnosis of this genus. Yet it has been impossible to find the palp of the mandible.

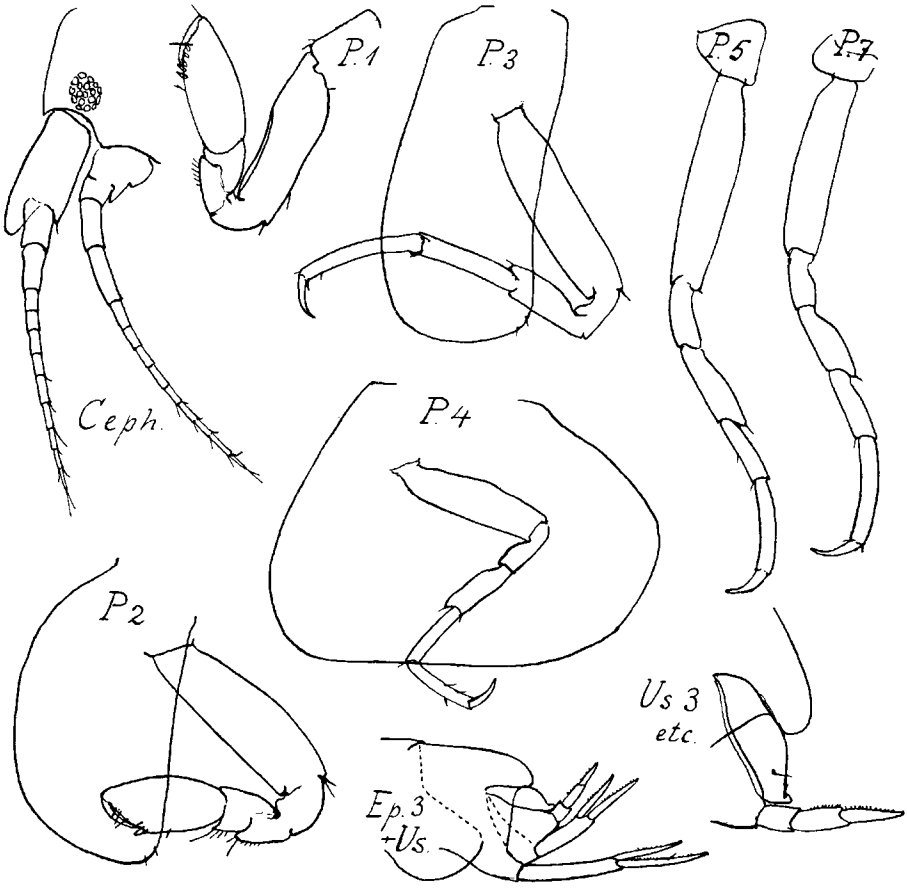

Fig. 7. *Metopella nasica*, ♀ ovig.

Body compact. Head has lateral corners very little produced. 4. mesosome segment much longer than the other segments. 1. urosome segment overlaps half of the two next segments and of telson in a similar manner as in *Gallea tecticauda* Walker (fam. *Amphilochidæ*; A. O. Walker, Report Ceylon Pearl Fisheries, vol. 2, 1904, p. 256, Pl. 3 fig. 16, Pl. 8 fig. 16). Eyes round, colour-

less, consist of abt. 20 ocelli. Inferior hind corner of 3. metasome segment seems to be rounded.

The two pairs of antennæ seem to have equal length. Ant. 1: 1. joint produced to a rounded process covering 2. joint; 2. joint as long as 3. joint; flagellum has 9 joints. Ant. 2: the two distal joints of peduncle subequal; flagellum has 9 joints. No serrations on the sideplates of the pereiopods. P. 1: 4 joint as long as 5. joint. Metacarpus oblong, much longer than carpus, subchelate; palm oblique, defined by two spines. P. 2 = p. 1, but palm defined by only one spine. P. 3—p. 4 very slender, side plate of p. 4 much larger than those of p. 2 and p. 3 combined. P. 5—p. 7 long, slender; 2. joint narrow, not at all expanded; 4. joint so to speak not expanded. Urop. 3 armed with extremely small spines, peduncle very short, the two joints of ramus have equal length. Telson long, apex obtuse (?), a little upturned, with one pair of dorsal spines, and partly concealed under the long dorsal process of 1. urosome segment.

The species is very easily recognisable by the "nose" on ant. 1 and by the remarkable shape of 1. urosome segment.

The specific name is a Roman name, but is used as an allusion to the "nose" of ant. 1 on account of its likeness to the names of the two other species with "nose", *M. nasuta* and *M. nasutigenes.*

* Fam. **Stenothoidæ.**

Chilton (1909) does not record any species belonging to this family.

* Genus *Stenothoë* Dana.

* 20. *Stenothoë aucklandicus* n. sp. (Fig. 8).

Occurrence. Auckland Isl.: Carnley Harbour, on the shore under stones at low-tide, 29.11.1914. Abt. 15 spec., all ♀ (?, one with embryos) and young, size up to 2.5 mm. — Ibid., Masked Isl., rocky coast, 3.12.1914. 3 ♀ (1 ovig.).

Description of ♀ with embryos, 2.5 mm. (♂ was not found). Eyes round, not small, almost colourless. Lateral angles of head broad, rounded, very little prominent. Infero-lateral corners of 3. metasome segment acute-angled, blunt at apex. Ant. 1 a trifle longer than ant. 2. Ant. 1: flagellum 16-articulate. Ant. 2: 5. joint of peduncle a little shorter than 4. joint; flagellum 16-articulate.

Oral parts agree fairly well with those of *S. marina* (Sars, Crust. of Norway, vol. 1, Pl. 90) (I have not been able to find upper and under lips and mx. 2).

P. 1: 4.—5. joints equal length, 5. joint (carpus) cup-shaped, metacarpus narrow, oval, palm oblique, defined by two spines. P. 2 almost the same shape as p. 1, but much larger; carpus has an

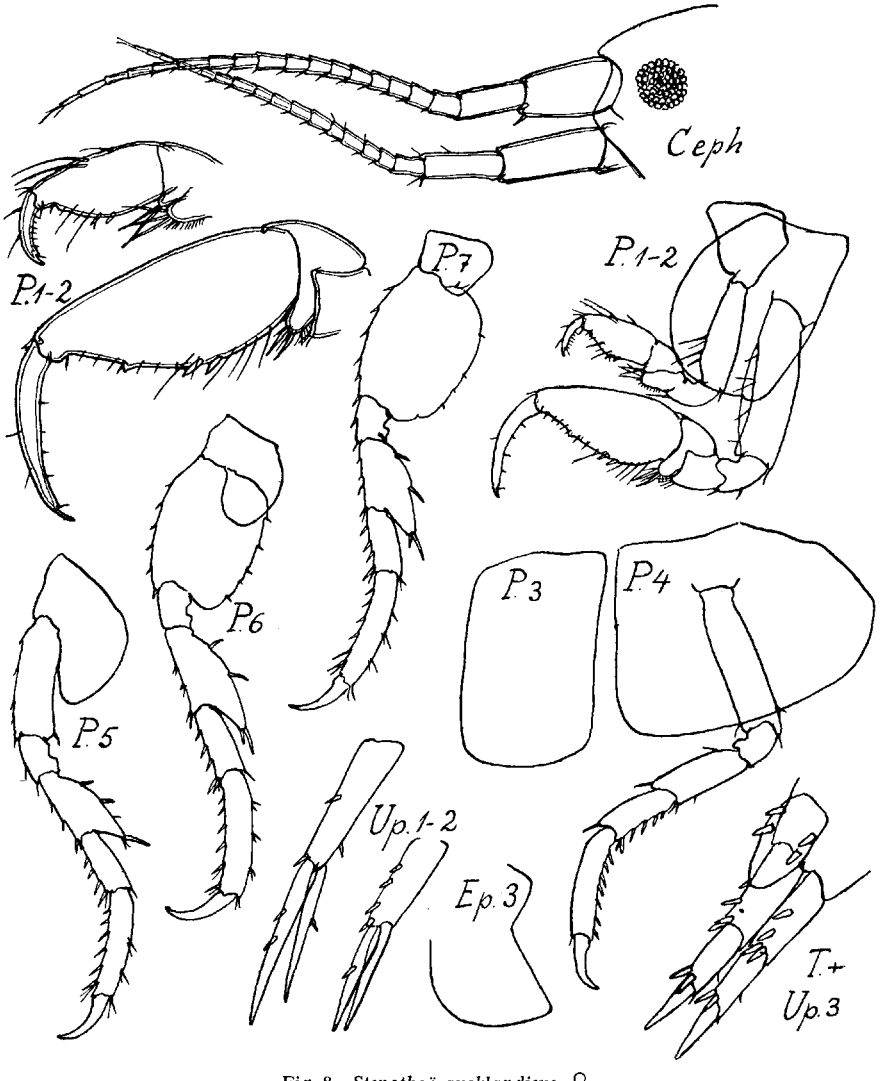

Fig. 8. *Stenothoë aucklandicus* ♀.

inferior process, and palm has a tooth at the centre. P3.—p. 4 narrow, sideplate of p. 4 as broad as sideplates of p. 2—p. 3 combined. P.5: 2 joint narrow, but 2. joints of p. 6—p. 7 expanded, and 4. joints of p. 5—p. 6 somewhat expanded. Urop. 1 narrow, urop. 2—3 more heavy. Urop. 3: 1. joint somewhat shorter than peduncle, 2. joint still shorter. Telson ovate, with 2 pairs of dorsal spines.

The species is recognisable in having the metacarpus of p. 1—p. 2 of exactly the same shape and being totally devoid of teeth or the like on the palm of p. 2 (except the single small tooth at the middle).

* Fam. **Phliantidæ.**

Chilton (1909) does not record any species belonging to this family.

* Genus *Iphinotus* Stebbing.

* 21. *Iphinotus typicus* G. M. Thomson.

Iphinotus chiltoni + *Iphigenia typica* Stebbing, Trans. Linn. Soc. London, ser. 2, Zool., vol. 7, 1899, p. 419, 420, Pl. 35B.
— *typicus* Stebbing, 1906, p. 204 (lit. and syn.).

Occurrence. Auckland Isl.: Masked Isl., Carnley Harbour, 3.12.1914, rocky coast with *Melobesia*. 1 spec.

Distribution: New Zealand: Lyttelton Harbour and Otago Harbour (Stebbing).

* Fam. **Acanthonotozomatidæ.**

Chilton (1909) does not record any species of this family.

* Genus *Panoploea* G. M. Thomson.

* 22. *Panoploea spinosa* G. M. Thomson (Fig. 9).

Panoploea spinosa G. M. Thomson, Ann. Mag. Nat. Hist., ser. 5, vol 6, 1880, p. 3, Pl. 1 fig. 2.
— — Stebbing, 1906, p. 212.

Occurrence. Auckland Isl.: Masked Isl., Carnley Harbour, rocky coast, 3.12.1914. 1 spec. (sex ?), abt. 7 mm.

Remarks. The specimen is somewhat defective (the distal end of ant. and of p. 3—p. 7 are lacking), but agrees well with Thomson's somewhat schematic figures and his description. The only differences are that there are two teeth also on 3. metasome

segment (but these are smaller than those on 7. mesosome segment and on 1.—2. metasome segments); 3. metasome segment has not the excavation found in other species of the genus, but abt. 7 teeth, and telson is narrower, with a distinct tooth on each hind corner.

I give some figures in order to supplement Thomson's few figures.

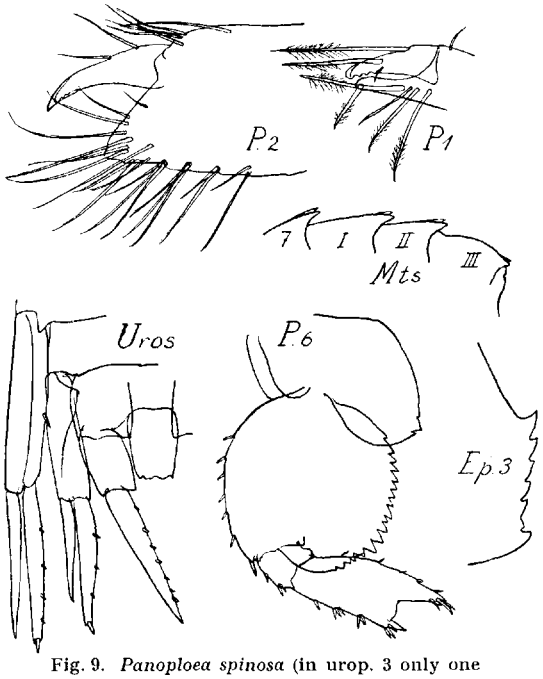

Fig. 9. *Panoploea spinosa* (in urop. 3 only one ramus is drawn).

Distribution: Dunedin Harbour, New Zealand, 7—9 m. (Thomson l. c.).

Fam. **Calliopiidæ.**

Chilton (1909) records only the species to be mentioned below.

Genus *Leptamphopus* G. O. Sars.

23. *Leptamphopus novæzealandiæ* (G. M. Thomson).

Leptamphopus novæzealandiæ Stebbing, 1906, p. 294 (lit. and syn.).
— — Chilton, 1909, p. 621.

Leptamphopus novæzealandiæ Chilton, Trans N. Z. Inst. vol. 52, 1920, p. 1, figs. 1—5 (lit. and syn).

Oradarea longimana Walker, Journ. Linn. Soc., vol. 29, 1903, p. 56, Pl. 10 figs. 77—89 (teste Chevreux 1913, p. 143, with lit. and syn.).

Occurrence. Auckland Isl.: Coleridge Bay, Carnley Harbour, sandy clay, abt. 50 m., dredge, 4.12.1914. 1 spec.

Chilton (1909) records only one spec., taken at same locality.

Distribution: "New Zealand (Dunedin Harbour, Lyttelton, Akaroa, etc.); Cape Adare; Coulman Isl.; Mc. Murdo Strait; Petermann Isl.; Flanders Bay; Port Charcot; S. Orkney Isl.; probably circumaustral". (Chilton l. c. 1920). — Kerguelen, Observatory Bay; Gauss-Station. (Schellenberg, 1926, p. 551).

Fam. **Pontogeneiidæ.**

Pontogeneiidæ Stebbing, 1906, p. 356.
— Chilton 1909, p. 622.
— Schellenberg, 1926, p. 354.

This family, established by Stebbing (1906, p. 356) is very closely allied to fam. *Calliopiidæ*; as pointed out by Schellenberg (1926, p. 354), the families are probably to be taken together, as there is no other difference than the shape of the telson (cleft in *Pontogeneiidæ*, entire in *Calliopiidæ*). Already in 1907 (Zool Jahrb., Abt. für Syst., vol. 25, p. 510) Vanhöffen suggested (but not giving special reasons) that *Atyloides serraticauda* (fam. *Pontogeneiidæ*) ought to be "zweifellos in die Gattung *Leptamphopus* (fam. *Calliopiidæ*) aufgenommen".

Both the specific and the generic characters within this family (families) seem to be more than commonly indistinct, and it is thus extremely difficult to identify with certainty species described by authors of earlier date; this applies especially to the genera *Pontogeneia*, *Atyloides* and *Paramoera* (see below). —

Chilton (1909) records from the Auckland and Campbell Islands in all 6 species viz, *Bovallia monoculoides* (Haswell), *Pontogeneia antarctica* Chevreux, *Paramoera austrina* (Sp. Bate), *Atyloides serraticauda* Stebb., *A. magellanica* (Stebb.) and *A. aucklandicus* Walker.

One (two?) of these species (*Atyloides aucklandicus* Walker and probably *A. magellanicus* [Stebb.]) were not secured by Dr. Th.

Mortensen; in return Dr. M. has in all 8 species, one (possibly four) of which being new to the islands.

Genus *Bovallia* Pfeffer.

24. ? *Bovallia monoculoides* (Haswell).

Eusiroides cæsaris, E. pompeii, E. crassi Stebbing, Challenger Amphip. 1888, p. 970, 974, 977, Pls. 88–90 (teste Chilton 1909).
— *monoculoides, E. crassi* Stebbing, 1906, p. 345, 346.
— *cæsaris* var. Walker, Ceylon Pearl Oyster Rep., vol. 2, 1904, p. 264, Pl. 4 fig. 22.
Bovallia gigantea Stebbing, 1906, p. 357.
— *monoculoides* Chilton, 1909, p. 622 (on lit. and syn.).
— *gigantea* Chevreux, 1913, p. 168 (lit.).
Eusiroides monoculoides Stebbing, Mem. Austral. Mus., Sydney, vol. 4, 1910, p. 595.
— — Barnard, Ann. S. Afr. Mus., vol. 15, 1916, p. 174.
Bovallia — Chilton, "Endeavour" 1921, p. 66.
— — — Trans N. Z. Inst., vol. 55, 1924, p. 270.
— — — Comunicaciones del Mus. Nac. Hist. Nat. "Bernardino Rivadavia", Buenos Aires, tome II, 1925, p. 177.

Occurrence. Auckland Isl.: Figure-8-Isl., Carnley Harbour. On the shore, possibly from *Macrocystis*. 2.12.1914. 1 ♂ ad. with large calceoli, abt. 20 mm. Chilton (1909) records it from Carnley Harbour.

Remarks: The specimen seems (without dissection) to be most closely allied to *Eusiroides crassi* Stebbing 1888; but it has no dorsal teeth as the specimens found at the Auckland Isl. seem to have (Chilton 1909).

Chilton considers the two genera and all their species synonymous; Chevreux (especially l. c. 1913) considers them two separate genera. As I have had only one specimen at my disposal, it is impossible to me to form any opinion on the justice of the synonymy.

Distribution. New Zealand: several loc., down to abt. 115—125 m. (*B. mon.*; for special loc. see Chilton l. c. 1924).

Australia. Clark Island, Port Jackson, "found about low-water mark enclosed in masses of algæ and polyzoa" (*Atylus monoculoides*, Haswell 1880). — Off Melbourne, 60 m, sand (*E. cæsaris*, Stebbing 1888). — 40 miles W. of Kingston, S. Austral., 55 m; Tasmania

(*B. mon.*, Chilton 1921). — Off Manning River (*E. mon.*, Stebbing 1910). — Tuamotu Archipelago (*E. mon.*, Chevreux, Mem. Soc. Zool. France, vol. 20, 1908, p. 478).

S. Asia. "Various localities round Ceylon" (*E. cæsaris* var., Walker 1904).

S. Africa. Several localities, on the beach after storm, and 45—185 m. (*E. mon.*, Barnard 1916).

S. America and S. of S. America. Montevideo, abt. 1135 m, green sand, temp. 37.2 (*E. crassi*, Stebbing 1888). — South Georgia (*B. gigant.*, Chevreux 1913) — ? (no loc.) (*B. gigant.*, Chevreux 1906). — Heard Isl. (52° 59½' S., 73° 33' E., 140 m., volcanic mud) (*E. pompeii*, Stebbing 1888). — South Orkneys, several spec , the largest about 35 mm long. (Chilton 1925).

Genera *Pontogeneia* Boeck, *Atyloides* Stebbing and *Paramoera* Miers.

Pontogeneia Stebbing, 1906, p. 359.
— Chilton, 1909, p. 624.
Atyloides Stebbing, 1906, p. 362.
— Chilton, 1909, p. 627.
— Tattersall, Mem. Asiatic Soc. of Bengal, vol. 6, pt. 8, 1922, p. 443.
— Chilton, The Australian Freshwater species of A.; Rec. Austral. Mus., vol. 14, no. 2, 1923, p. 90.
Paramoera Stebbing, 1906, p. 363.
Stebbingia Pfeffer, Jahrb. Hamburg. Wiss. Anstalt, vol. 5, 1888, p. 110 (= *Paramoera*, teste Chilton, Trans. R. Soc. Edinburgh, vol. 48, 1913, p. 499).
Paramoera Monod, Tanaid. etc.; Résultats . . . Belgica, Zool., 1926, p. 56.
Aucklandia Walker, Ann. Mag. Nat. Hist., ser. 8, vol. 2, 1908, p 38 (= *Paramoera*, for *A. enderbyi* Walker is identic with *Paramoera fasciculata*, see p. 332).

The genera are not well defined and highly need a revision. *Pontogeneia* has, as distinct from the two other genera (*Atyloides* and *Paramoera*), no accessory flagellum on first antenna (Stebbing 1906, key p. 356), and every second (third, fourth) flagellar joint of first antenna is produced. *Atyloides* and *Paramoera* have a little, 1-articulate accessory flagellum, and all the joints in first antenna have the same shape. In *Atyloides* the inner lobus of first maxilla

is provided with abt. 5 strong plumose setæ on the truncate apex (Schellenberg 1926, fig. 55b, p. 362), while in *Paramoera* there are > 10—15 plumose setæ and some fine hairs along the rather evenly curved inner margin (Stebbing 1888, pl. 75, mx 1). Also other characters have been used for generic determination, e. g. the relative lengths of the antennæ *(Pontogeneia*: ant. 1 < ant. 2; — *Paramoera*: ant. 1 = ant. 2; — *Atyloides*: ant. 1 > ant. 2 [Stebbing 1906]), but most of the "generic" characters seem to vary very much.

As my material does not permit a revision of genera and species, I give a list of the literature and a key to the species; but for the reasons given above possibly not all the species are referred to the right genus.

Genus *Pontogeneia* Boeck (Stebbing 1906, p. 359).

1. *P. antarctica* Chevreux, see p. 319.
2. *P. bidentata* n. sp., see p. 322.
   [*P. capensis* Dana = *Paramoera c.*].
3. *P. danai* (G. M. Thomson) Trans. N. Z. Inst., vol. 11, p. 238, 248, pl. 10 figs. C 1. — *P. danai* Stebbing, 1906, p. 360 (lit.). — *P. danai* Chilton, Edinburgh Trans. R. Soc., vol. 48, pt. 2, 1912, p. 495 (lit. and syn.). — — *Atylus lippus* Haswell, Proc. Linn. Soc N. S. Wales, vol. 4, p. 328, pl. 20 fig. 1. — *Eusiroides lippus* Stebbing 1906, p. 346 (teste Chilton l. c. 1912). — Distribution: Dunedin, New Zealand (Thomson); Australia (Haswell); Falkland Isl. (Chilton).

   ? *P. fissicauda* (Dana) Stebbing, 1906, p. 361. (N. of Valparaiso).
4. *P. inermis* (Krøyer). G. O. Sars, Crust. of Norway, vol. 1, 1891—95, p. 451, pl. 159. — *P. inermis* Stebbing 1906, p. 359 (lit. and syn.). — Distribution: Greenland, Sibiria, W. Norway.
   [*P. magellanica* Stebbing = *Atyloides m.*, see p. 325].
   [*P. magellanica* Chevreux = ? *Atyloides Chevreuxi* n. sp., see p. 339].
5. *P. minuta* Chevreux, Bull. Inst. Océanogr. Monaco, no. 122, 1908, p. 1, figs. (Cape Verde Islands, 20 m.).

   ? *P. tasmaniæ* (G. M. Thomson) Stebbing 1906, p. 361 (Tasmania).
6. *P. verrili* Kunkel, Trans. Connecticut Acad., New Haven, vol. 16, 1910, p 29, fig. (Bermuda, in dead corals).

Key to the species of Pontogeneia.

The doubtful species *P. fissicauda* (Dana), *P. tasmaniæ* (Thomson) and *P. verrili* Kunkel, are not included and it is not clear whether *P. magellanica* Chevreux 1913 is to be referred to this genus or to *Atyloides* + *Paramoera.*

1. Metasome segments 1—2 dorsally dentate ..... *P. bidentata* (p. 322)
   No segments dorsally dentate 2
2. Rostrum almost as long as first joint of ant. 1 ..... *P. minuta*
   Rostrum very short or almost lacking 3
3 P. 2, carpus longer than metacarpus ..... *P. inermis*
   P. 2, carpus shorter than metacarpus 4
4 Every (second(?)or) third flagellar joint of ant. 1
   especially dilated ..... *P. antarctica* (p. 319)
   Every fourth or fifth flagellar joint of ant. 1 especially dilated *P. danai*

25. ? *Pontogeneia antarctica* Chevreux. (Figs. 10—11).

Pontogeneia antarctica Chevreux, 1906, p. 69, figs. 40, 41 (♀).
— — Chilton, 1909, p. 624.
— — — Trans. R. Soc. Edinburgh, vol. 48, 1912, p. 796.
— — Chevreux, 1913, p. 177, fig. 59 (♂).
— *antarcticus* Stebbing, Proc. Zool. Soc. London, 1914, p. 364.
? *Paramoera austrina* var. Walker, Ann. Mag. Nat. Hist., ser. 8, vol. 2, 1908, p. 34 (no fig).

Occurrence. Auckland Isl.: Port Ross, on the shore under stones at low-tide, 26.11.1914, 1 ♀ ovig. — Masked Isl., Carnley Harbour, 3.12.1914, rocky coast. 6 spec. (2 ♀ ovig. 9—11 mm, 4 small spec.).

Campbell Isl.: Perseverance Harbour, 8.12.1914, 3 spec. — Ibid. 9.12.1914, on the shore under stones at low-tide, numerous spec. — Ibid. 10.12.1914, abt. 10 ♀ (most of them ♀ ovig.) up to abt. 10 mm, and numerous ♂ up to 7 mm.

Chilton (1909) records the species as taken in numerous specimens from partly the same localities (Campbell Isl. and Carnley Harbour, Auckland Isl.).

On the material. The present specimens in most respects agree well with *P. antarctica*, e. i. in the very broad, unarmed telson, but every second (not very third) flagellar joint of ant. 1 is dilated and bearing a tuft of sensory setæ.

It has been impossible to find in the material any typical specimen of *P. antarctica* with the joints of ant. 1 separated from 3 to 5, though Chilton (1909, p. 624) has numerous specimens, all typical, from probably the same localities (Campbell Isl. and Carnley Harbour, Auckland Isl.) as those from which the present material originates. But possibly my specimens belong to the same

species, for Stebbing (l. c. 1914) records from the Falkland Islands specimens which "agree admirably in most respects with the French anthor's figures and description", and yet the joints of ant. 1 are separated from 2 to 2, not from 3 to 3. Possibly the disagreement is due to the fact that my specimens are much smaller (at most abt. 11 mm) than the type specimens (15 mm).

Description of ♀ ovig., 10 mm. General appearance abt. as in the typical *P. antarctica*. Metasome segments 1—3 have posterior hind corners rounded rectangular, without teeth. Eyes

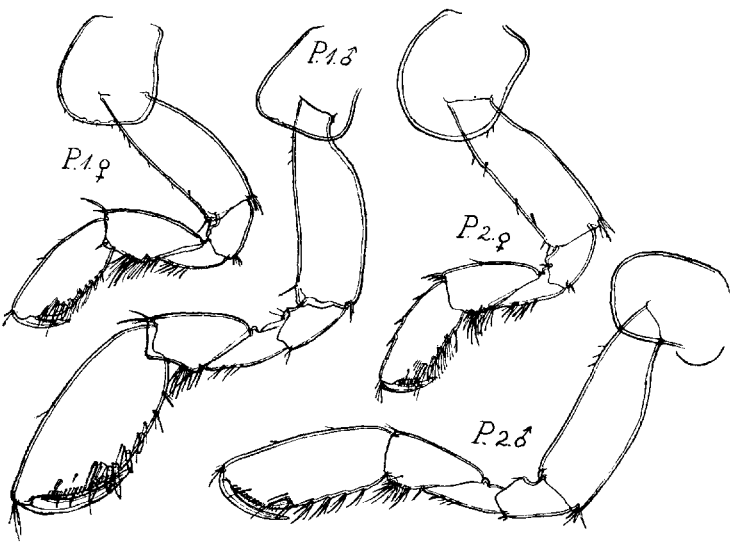

Fig. 10. *Pontogeneia antarctica?*

most often small, but sometimes much larger than shown in the fig., black (in spirits). Ant. 1 has first joint of flagellum not much longer than the next joint which is as long as third joint. No trace of accessory flagellum. Flagellum has abt. 20—28 joints, covers the proximal half of flagellum of ant. 2, and has sensory hairs on every second joint. Ant. 2: the two distal joints of peduncle have equal size; flagellum has abt. 40—42 very short joints, and the whole ant. 2 is as long as cephalon + 6 mesosome segments. Max. 1 has the innerlobus very narrow, with 3 hooked spines at apex and numerous fine hairs on inner margin. P. 1 —p. 2: 2. joint very strong, without setæ (at all events without long setæ) on hind

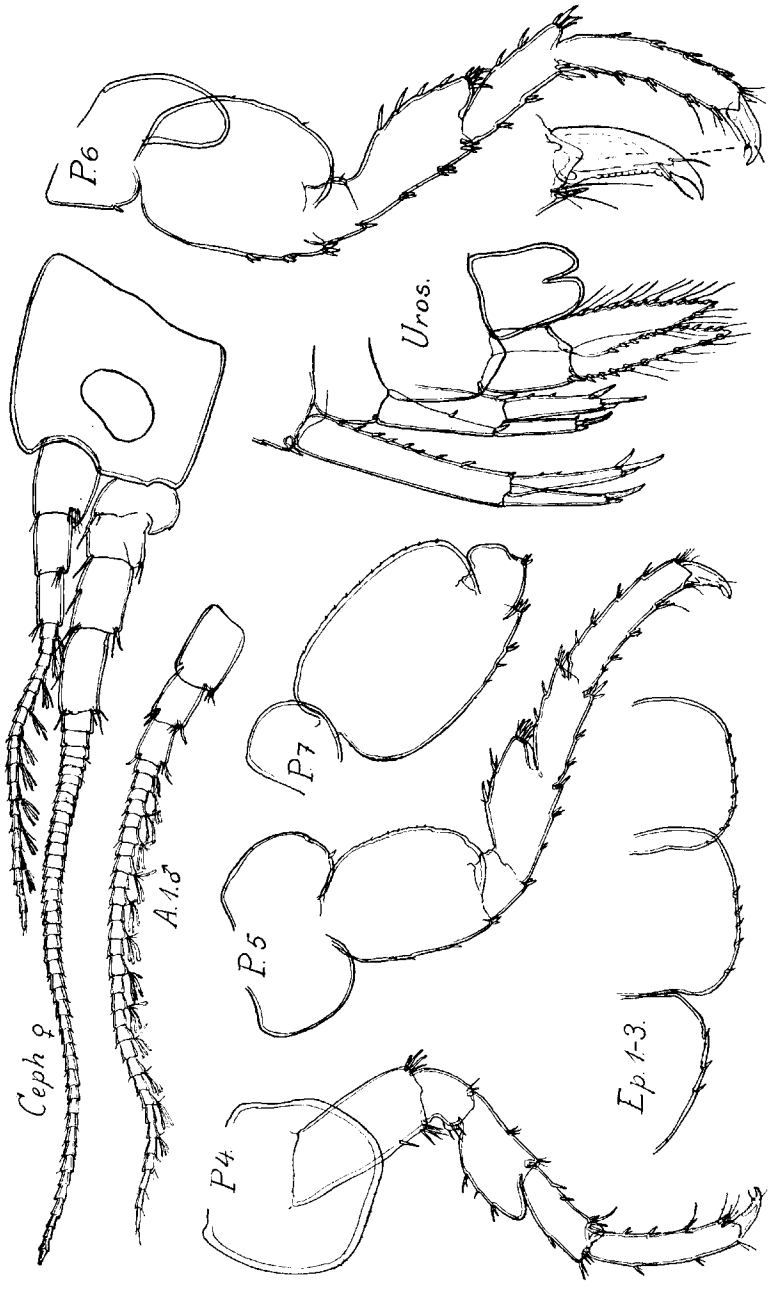

Fig. 11. *Pontogeneia antarctica*?, ♀ (except Ant. 1 ♂).

edge; metacarpus as long as carpus; dactyli without teeth on inner edge. Sideplate of p. 4 almost totally as in *P. bidentata* (see above). 4. joint of p. 3—p. 5 (p. 7) rather broad. Sideplate of p. 6 has a long hind process. Dactyli of p. 3--p. 7 dentate on inner edge. Urop. 1—3 agreeing with those of the preceding species. Telson broad, somewhat longer than peduncle of urop. 3, with almost parallel sides, but cleft in the distal $^2/_5$, and with rounded hind lobes; there are no spines.

A ♀ has abt. 15 ova; their size is 0.45×0.55 mm.

Description of ♂, 7 mm. Agrees with ♀ except in ant. 1 and p. 1—p. 2. Ant. 1: flagellum covers the proximal $^2/_3$ of flagellum of ant. 2 and has abt. 29 joints. P. 1—p. 2 much heavier than in ♀; metacarpus abt. twice as long as carpus and much broader, in p. 1 almost ovate.

Remarks. This species is probably identic with *Paramoera australina* (Bate) var. Walker l. c. 1908 (♀ ovig., 7.5 mm, from Terror Cove, Port Ross). Walker's text runs: "Differs from the forms described in the "Challenger" Report under the names of *Atyloides australis* (Miers) and *A. assimilis*, Stebbing, in the third pleon segment, which has the hind epimeral margin forming a semi circle with the lower margin without teeth, and the telson which is not much longer than wide at the base and cleft for one-third of its length with the ends of the divisions rounded".

Distribution. Antipodes Island (Chilton 1909). — Falkland Islands, Stanley Harbour, among seaweed at low-water of springtide, 1 spec. (Stebbing 1914). — Graham Land: Baie de Flandres, between algæ, and Ile Booth Wandel, on the shore, numerous spec. (Chevreux 1906), and Ile Peterman, 6 m., numerous spec. (Chevreux 1913). — South Shetland: King George Isl., Admirality Bay, on the shore, 2 spec. (Chevreux 1913).

* 26. *Pontogeneia bidentata* n. sp. (Fig. 12).

Occurrence. Campbell Isl.: Perseverance Harbour, on the shore. 10.12.1914. Abt. 25 spec., size up to 7 mm; several ♀ with ova and a few ♂.

Description of ♀ ovig., 7 mm. This species is easily recognisable from the other species in having the median part of 1.—2. metasome segments elongate dorsally and gaping from the

following segment, so that it appears in side view as were the metasome dorsally dentate (the specific name is an allusion hereto).

Upon the whole the species is very closely allied to the antarctic (subantarctic) species *P. antarctica* Chevreux, but is characterised by the following characters. Metasome segments 1—2 have on the postero-lateral corners a little tooth, third segment almost evenly

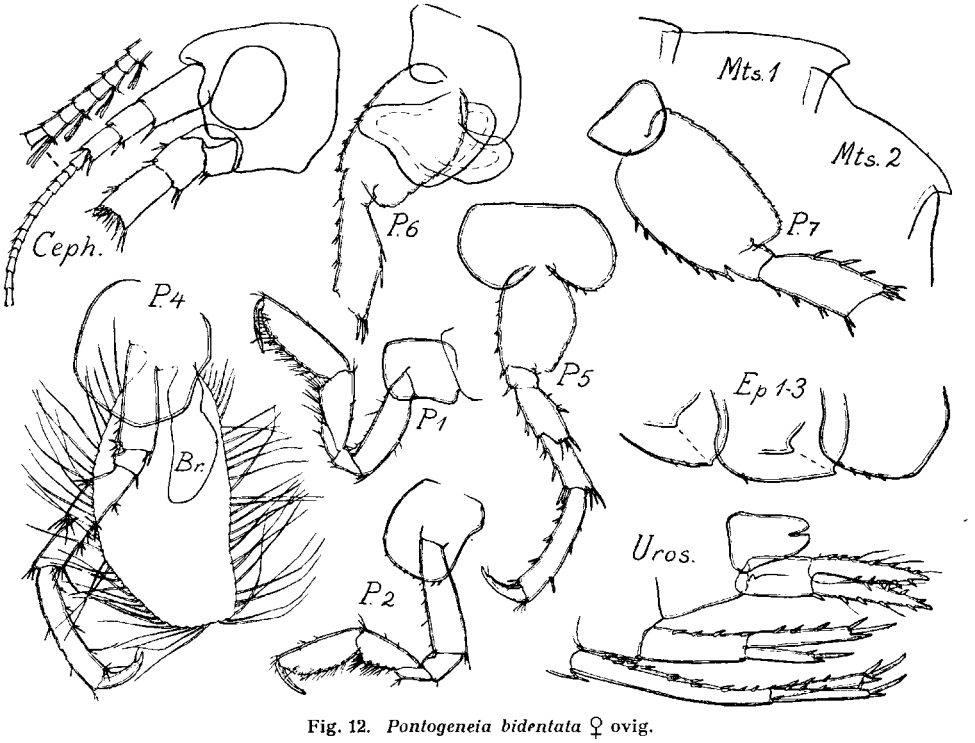

Fig. 12. *Pontogeneia bidentata* ♀ ovig.

rounded. As to the dorsal "teeth" on 1.—2. segments, see above. Eyes large, broad reniform, black (in spirits); the size varies highly, but it is as a rule as large as in the figure, and the pigment does not always cover the whole of the eye. Ant. 1: 1. joint abt. as long as 2. and 3. joints combined; no trace of accessory flagellum; flagellum has abt. 30 joints, and there are sensory hairs on every second (— not every third —) joint which is produced to a setose tubercle. The whole ant. 1 as long as cephalon + 5 or 6 mesosome segments. Length of ant. 2. cannot be given, for flagellum is broken

in all the specimens. Max. 1 has innerlobus very narrow, with abt. 5 spines at apex and with fine setæ on inner margin. P. 1—p. 2 have metacarpus rather narrow (not ovate) and there are no long setæ on hind edge of 2. joint. Side plate of p. 4 almost circular, the emargination in hind edge extremely little. P. 5—p. 7 rather feeble, 4. joint rather narrow. Dactyli of all the pereiopoda (— distal joints of p. 6—p. 7 are lost in all the specimens —) have inner edge smooth, totally devoid of teeth. Urop. almost totally as in *P. antarctica*. Telson oblong triangular, as long as peduncle of urop. 3 or a little longer, cleft in the distal third, with rounded hind corners and totally without spines.

The number of ova is 10—15, their size 0.25×0.35 mm. — ♂ agrees totally with ♀ except in p. 1—p. 2 which have the same shape as in *P. antarctica* ? (fig. 10), and the size is somewhat smaller.

Genera *Atyloides* Stebbing and *Paramoera* Miers.

For lit. see p. 317; on generic characters see p. 317.

These genera comprise the following species:

A. *Atyloides*.

1. *A. Chevreuxi* n. sp., see p. 339 (= ? *A. magellanica* Chevreux, but not *A. mag.* (Stebbing), see below, p. 325).
2. *A. fontana* Sayce, Proc. R. Soc. Victoria, vol. 15, pt. 2, 1902, p. 49, pl. 5. — Differs from *Atyloides*, as instituted by Stebbing, "notably in the inner lobe of the first maxillæ bearing a lateral fringe of many plumose setæ (not only tipped by three), also by the mandibular palp not being so widely expanded" (Sayce). Ant. 1 > ant. 2; accessory flagellum present. — Distribution: Victoria, from a rivulet near Wood's point, abt. 3000 feet (Sayce). Jenolan Caves (New South Wales) (Chilton, Rec. Austral. Mus. vol. 14, 1923, p. 90).
3. *A. gabrieli* Sayce, Proc. R. Soc. Victoria, vol. 13, pt. 2, 1901, p. 230, pls. 37—38. — Inner lobe of 1st max. "furnished with 3 long stout plumose setæ" (Sayce). Ant. 1 > ant. 2; accessory flagellum present. — Distribution: Victoria, running mountain streamlets, 1500 feet, 3 loc. (Sayce).
4. *A. japonica* Tattersall, Mem. Asiatic Soc. of Bengal, vol. 6,

pt. 8, 1922, p. 443, pl. 19 figs. 13—19. — "Certainly congeneric with *Atyloides gabrieli* Sayce, and *A. fontana* Sayce" (Tattersall). "Inner lobe of first maxilla furnished with 10 plumose setæ" (Tattersall). Ant. 1 > ant. 2; accessory flagellum present. — Distribution: small torrent in hills behind Komatsu on Lake Biwa, Japan, 2 spec. (Tattersall).

5. *A. magellanicus* (Stebbing) (non Chevreux). *Atylopsis magellanicus* Stebbing 1888, p. 925, pl. 79. — *Pontogeneia magelnica* Stebbing 1906, p. 360. — ? *Pontog. mag.* Walker, Nat. Antarct. Exped., vol. 3, 1907, Amphip. p. 33, pl. 12, fig. 20 (identity not certain). — ? *Atyloides mag.* Shoemaker, Brooklyn Institute Museum, Sci. Bull., vol. 2, no. 4, 1914, p. 75 (identity not certain). — ? *Atyl. mag.* Stebbing, Proc. Zool. Soc. London, 1914, p. 365 (identity not certain). — *Atyl. mag.* Schellenberg 1926, p. 360, fig., lit. etc.; comparison between *Atyl. mag.* Stebbing 1888 and *Pont. mag.* Chevreux 1906. — Distribution: Strait of Magellan, Cape Virgin (type-loc.), 100 m (Stebbing 1888 and 1906). — ? Whale Bay, Falkland Isl., (Stebbing 1914). — ? Abt. 77° S., 175° E. (winter quarter of the exped.), 1 spec., and Tent Island (abt.? 78° S., 170° E.), 3 spec. (Walker 1903). — ? Bay of Isles, South Georgia, 10 m (Shoemaker 1914). — "Gauss"-Station, Kaiser Wilhelm II Land, 1 spec. (Schellenberg 1926).

B. *Paramoera.*

1a. *P. aucklandica* (Walker). *Atyloides aucklandicus* Walker, Ann. Mag. Nat. Hist., ser. 8, vol. 2, 1908, p. 33, pl. 5, figs. 1—2. Distribution: Laurie Harbour, Auckland Isl., $2^1/_2$ spec.

1b. *P. aucklandica* (Chilton). *Atyloides aucklandicus* Chilton 1909, p. 621, fig. Distribution: Fresh water pool on Enderby Island, Auckland Isl., several spec.

No doubt the species belongs to the genus *Paramoera*, for the "first maxilla has the inner plate fringed with numerous setæ, about 18 or 20 — not seven, as described by Walker" (Chilton), but possibly the species described by Walker and by Chilton are not identic (Chilton).

2. *P. austrina* (Sp. Bate), see p. 329.

3. *P.*[— var.] *megalophthalma* (Haswell), see p. 329.

4. *P. brevicornis* (Chevreux). *Atyloides brevicornis* Chevreux, Bull. Soc. Zool. France, vol. 31, 1906, p. 84, fig. 3 (preliminary description). — *Atyl. brev.* Chevreux 1906 (1907), p. 79, figs. 45—47.

   No doubt this species belongs to the genus *Paramoera* and is possibly only a local form of *P. austrina* (Monod 1926, p. 57). Max. 1 has numerous setæ on the inner lobe; ant. 2 scarcely longer than ant. 1; no accessory flagellum found. — Distribution: Ile Booth Wandel (Graham Land, abt. 65° S., 66° W.), from the stomach of *Pygoscelis antarctica*, abt. 100 spec.
5. *P. capensis* (Dana), see p. 328.
6. *P. fasciculata* (Thomson), see p. 332.
7. *P. longicornis* (Chevreux). *Atyloides longicornis* Chevreux, 1906 (1907), p. 84, figs. — *Atyl. long.* Chevreux 1913, p. 179.

   This species is possibly only a local form of *P. austrina* (Monod 1926, p. 57). Max. 1 has numerous setæ on the inner lobe; ant. 1 a trifle longer than ant. 2 (Chevreux fig. 48; but the text says the reverse); no accessory flagellum found. — Distribution: Graham Land abt. 65° S., 65° W., 3 loc., 25—40 m, numerous spec. (Chevreux 1906 (1907)); Terre de Danco, abt. 64¾° S., 65¾° W, 129 m, 5 spec., and Ile de Petermann, Chenal de Lemaire, abt. 65¼° S, 66¼° W., 40—60 m, 2 spec. (Chevreux 1913).
8. *P. schizurus* Stebbing, Ann. Durban Mus., vol. 2, 1918, p. 66, pl. 9. — Max. 1 not described; ant. 1 > ant. 2; no accessory flagellum. A doubtful species. Distribution: Vetch's pier, Durban, from the sponge *Cerao chalinus* (Stebbing).
9. *P. serraticauda* (Stebbing), see p. 339.
10. *P. Walkeri* (Stebbing). *Atylus antarcticus* Walker, Journ. Linn. Soc., Zool., vol. 29, 1903, p. 58, pl. 11 figs. 91—97. — *Atylus Walkeri* Stebbing 1906, p. 728. — *A. Walkeri* Walker, Nat. Antarct. Exped., Nat. Hist., vol. 3, 1907, p. 34. — *Bovallia Walkeri* Chevreux 1913, p. 169, figs. 53—55. — *Paramoera Walkeri* Monod 1926, p. 56.

    This species, very easily recognisable in having the back dentate, is by Monod 1926 referred to the genus *Paramoera*; but Dr. Monod himself has not seen the species, and as no author has given an exact description of max. 1, the position

of the species within the genera cannot be certain. Ant. 1 > ant. 2; accessory flagellum present.

Distribution: Cape Adare (Victoria Land, abt. 71° S., 170° E.), beach, many spec. (Walker 1903). Ile Déception, Pendulum Cove (South Shetland, abt. 63° S., 63° W.), 3 spec. (Chevreux 1913). Abt. 77° S., 175° E., several spec. (Walker 1907).

Key to the species of Atyloides + Paramoera.

A. Fresh water species.

1. Carpus of p. 2 (and partly of p. 1) expanded distally to a rounded lobe at the proximal third of the under edge of metacarpus 2
   This character not present 3
2. Telson has at the outer margin of each lobe 6—7 lateral spines and a few fascicles of dorsal setæ ..... *A. gabrieli*
   Telson has at each side of the apex of the lobes 2 setæ. *A. fontana*
3. "Telson has each lobe furnished with four long setæ in a row at the apex and a single long seta anterior and lateral to the terminal setæ". Metacarpus of p. 1—p 2 abt. $1^1/_2$ time as long as broad, somewhat ovate, with palm oblique ..... *A. japonica*
   Telson has on the outer margin about five or six small setæ, one or two being situated at the rounded end. Metacarpus of p. 1—p. 2 almost as broad as long, with palm almost transverse ..... *A. aucklandicus* Chilton (non Walker?)

B. Marine species.

1. Back (at least 5 segments) dentate ..... *P. Walkeri*
   Back not dentate 2
2. Rostrum half as long as first joint of ant. 1. *P.* [*austrina* var.] *megalophthalma*
   Rostrum much shorter 3
3. Telson apically dentate 4
   Telson apically not dentate 8
4. Ant. 1—2 as long as 4 first mesosome segments ..... *P. brevicornis*
   Ant. 1—2 much longer than 4 first mesosome segments 5
5. Epistome has an acute process. Third metasome segment has on the lower hind corner a tooth under a distinct sinus. Peduncle of urop. 3 ends in a process almost as long as the rest of the peduncle; inner ramus much longer than outer ramus ..... *A. magellanicus* (Stebbing)
   These characters not combined 6
6. The lobes of the telson abt. 3—4 times as long as broad. *P. longicornis*
   The lobes of the telson at most $1^1/_2$—2 times as long as broad 7

7. Lower hind corner of third metasome segment has on the hind edge abt. 5 small teeth. Metacarpus of p. 2 has almost parallel sides and is up to 4—5 times as long as broad ..... *P. serraticauda*
   Lower hind corner of third metasome segment "rounded quadrate with small acute point, above which the posterior margin bulges rather strongly" (Barnard 1916, p 185). Metacarpus of p. 2 broader and more ovate *P. capensis* (forma *capensis*)
8. P. 1 has metacarpus abt. $1^1/_2$ time as long as the greatest breadth, and a rounded process at the distal end of hind edge .... *P. fasciculata*
   These characters not present..... 9
9. Metacarpus of p. 1 ovate, metacarpus of p. 2 broadest proximally..... *A. Chevreuxi*
   This character not present 10
10. Telson has two pairs of dorsal spines. *P. aucklandica* Walker (non Chilton)
    Telson has one pair of dorsal spines .... *P. (capensis* forma, *austrina*

27. *Paramoera* (*capensis* (Dana) f.) *austrina* (Sp. Bate)? (Figs. 13—14).

A. *Paramoera capensis* (Dana).

Iphimedia capensis Dana, U. S. Explor. Exped., vol. 13, pt. 2, 1853—55, p. 931, pl. 63 fig. 5.
Atylus — Sp. Bate, Catal. Amphip. Brit. Mus. 1862, p. 141, pl. 27 fig. 4.
Atyloides assimilis Stebbing, 1888, p. 918, pl. 77.
Paramoera capensis Stebbing, 1906, p. 361.
— *austrina* (partim) Stebbing, 1906, p. 363.
— *capensis* (partim) Barnard, Ann. South Afr. Mus., vol. 15, 1916, p. 183—86.
— — (partim) Schellenberg, Amphip; Michaelsen, Beiträge zur Kenntnis der Meeresfauna Westafrikas, vol. 3, Lief. 4, 1925, p. 149.
— *austrina* f. *capensis* Schellenberg, 1926, p. 363.
? — — (jun) Monod 1926, p. 55, fig.

On the literature. Barnard has (l. c. 1916) given the synonymy of *P. capensis* and proves his conclusions. But *Atylopsis magellanica* Stebbing, 1888, (see the present paper p. 325) is a valid species, identic neither with *Pontogeneia* (*Atyloides*) *magellanica* Chevreux 1906 and 1913 (proved by Schellenberg 1926) nor with *Atyloides magellanica* Chilton 1909 and 1912 (see *Atyloides Chevreuxi*, the present paper p. 339), and the identity of

Atyloides magellanica Shoemaker 1914 and Stebbing 1914 cannot be stated.

Schellenberg (. c. 1925) has found intermediate forms between this species and *P. austrina* (in South Africa) and changes for this reason the name into *P. austrina* f. *capensis*; but if the two species are identic, the name should be *P. capensis*, as this species was etablished 1853, *P. austrina* not till 1862.

P. brevicornis (Chevreux) and *P. longicornis* (Chevreux) are possibly only local forms of this species or of *P. austrina* (see p. 326).

B. *Paramoera austrina* (Sp. Bate) (excl. *P. capensis* [Dana]).

Atylus austrinus Sp. Bate, Catal. Amphip. Brit. Mus. 1862, p. 137, pl. 26, fig. 4.
Paramoera australis Miers, Ann. Mag. Nat. Hist, ser. 4, vol. 16, 1875, p. 75.
Atylus — Miers, ibid p. 117.
— — — Philosoph. Trans., vol. 168, 1879. p. 208, pl. 2 fig. 5.
— (?) — (?) S. I. Smith, Bull. U. S. Nat. Mus. no. 3, 1876, p. 61.
Atyloides — Stebbing, 1888, p. 914, pl. 75, 76.
Paramoera austrina (partim) Stebbing 1906, p 363.
— — (partim?) Chilton 1909, p. 625.
(?) — — Chilton, Hamburg, Jahrb. Wiss. Anstalt, vol. 30, 2. Beiheft, 1913, p. 58.
(?) — — Shoemaker, Science Bulletin, Brooklyn Museum, vol. 2, no. 4, 1914, p. 75.
— *capensis* (partim) Schellenberg, Amphip.; Michaelsen, Beiträge zur Kenntnis der Meeresfauna Westafrikas, vol. 3, Lief. 4, 1925, p. 149.
— — f. *austrina* Schellenberg, 1926, p 363.
Stebbingia gregaria Pfeffer, Hamburg, Jahrb. Wiss. Anstalt, vol. 5, 1888, p. 110, pl. 2 fig. 7.
— — Stebbing, 1906, p. 358.

On the literature. From the above list it may be seen that from Chilton's list of synonymy (Chilton 1909. p. 625) I have stuck out *Paramoera* (*Megamoera*) *fasciculata* (Thomson), *Aucklandia enderbyi* Walker (= *P. fasciculata*), and *Paramoera austrina* var. Walker (= *Pontogeneia antarctica* Chevreux?), as I consider these species synonymous with other species, or valid species; see p. 332 and 322.

Chilton (1913, p. 58) has examined Pfeffer's specimens of

Stebbingia gracilis and finds that "they are quite the same as those described by Miers under the name *Paramoera austrina*".

Smith 1876 was the first to find the "minute secundary flagella upon the antennulæ". Stebbing's figure (1888, pl. 75) shows each lobe of the telson bidentate (approach to *P. capensis* f. *capensis*), but later authors describe the species as having the telson not dentate. The identity of the species mentioned by Chilton 1913 and by Shoemaker 1914 is not certain; Shoemaker writes

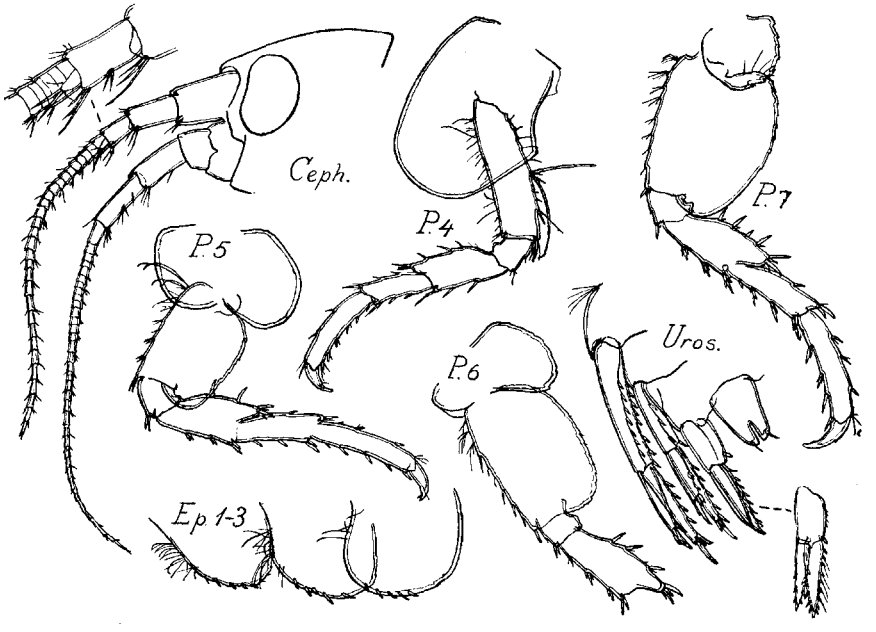

Fig. 13. *Paramoera [capensis f.] austrina?*, ♀.

that "these specimens differ in some particulars from *Atyloides australis* (Miers) as described and figured by Stebbing in the "Challenger" Report and *Stebbingia gregaria* Pfeffer".

Occurrence. Campbell Isl.: Perseverance Harbour 10.12. 1914, abt. 10 ♀ ovig., abt. 7 mm, numerous ♂ up to 5 mm.

Auckland Isl.: Port Ross, the shore under stones at low-tide. 27.11.1914. 3 spec. (1 ♂, 1 ♀ ovig., 1 ♀ jun.?). — Carnley Harbour, Masked Isl., rocky coast, 3.12.1914, 1 ♀ ovig.

P. austrina is recorded by Chilton, 1909, from the Auckland

and Campbell Isl., from various localities and taken in numerous specimens.

Remarks. Not without doubt I have referred the present specimens to this widely distributed and very variable species; and as the determination is not certain, I give some figures and a short description.

♀ ovig. The specimens are characterised by the following

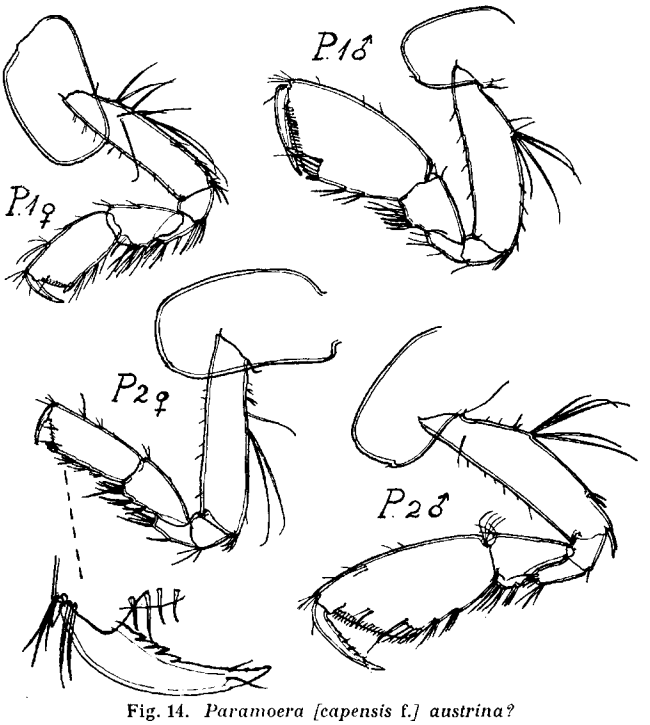

Fig. 14. *Paramoera [capensis f.] austrina?*

essentials. No dorsal teeth. Metasome segments 1—3 have lower hind corners rounded, and setæ on the fore edges. Eyes rather large, reniform, (in spirits) black. Ant. 1: first joint of peduncle as long as the two next joints combined; flagellum has abt. 30 joints, covers the proximal $^2/_3$ of flagellum of ant. 2 and has sensory hairs on every second joint. A little accessory flagellum present. Ant. 2 as long as cephalon + 4 mesosome segments; the two distal joints of peduncle equal sized, flagellum has abt. 35 joints. Max. 1 has innerlobe broad, with 7 plumose setæ on the oblique distal end

and (probably) some fine hairs on inner edge. P. 1—p. 2 have metacarpus longer than carpus and dactylus often dentate; second joint not broad. P. 3—p. 7 have fourth joint not broad, sideplate of p. 4 apically narrowed, deeper than broad, on the hind edge with slight, but distinct emargination. Sideplate of p. 6 has hind corner not especially elongate. Urop. 1—3 like those in the other species. Telson oblong triangular, apically narrowed, not dentate, and with one pair of apical spines, but no dorsal spines.

A single ♀ has abt. 30 mm; their size is abt. 0.30×0.25 mm.

Description of ♂, 5 mm. Differs from ♀ only in the shape of p. 1—p. 2 (ant. 1—2 totally as in ♀). Metacarpus of p. 1—p. 2 very heavy, still heavier than in *Pontogeneia antarctica?* (fig. 10), more than twice as long as carpus.

Distribution. A. *P. capensis* f. *capensis*. St. Helena (Schellenberg 1926). — Cape of Good Hope (type locality, Dana 1853). — South Africa (Barnard 1916, Schellenberg 1925 and 1926).

B. *P. capensis* f. *austrina*. Sydney (type-locality, Sp. Bate 1862). — South Africa (Schellenberg 1925). — Magellan Strait (Monod 1926). — Kerguelen (Miers 1875, ?Smith 1876, Stebbing 1888). — South Georgia (*Stebbingia gracilis*, Pfeffer 1888). — ? S. Georgia (Chilton 1913, Shoemaker 1914). — Antarctic abt. 77° S., 175° E. (*Stebbingia gracilis*, Walker 1903).

The species is also noted from Tasmania, New Zealand and Macquarie Island (Chilton 1909) and from Chatham Isl. (Chilton, Rec. Canterbury Mus., vol. 2, 1925, p. 318), but on account of confusion with *P. fasciculata* (see below) these localities are not certain.

* 28. *Paramoera fasciculata* (G. M. Thomson) (Figs. 15—16).

Megamœra fasciculata G. M. Thomson, Ann. Mag. Nat. Hist, ser. 5, vol. 6, 1880, p. 5, Pl. 1 fig. 5.

Mœra — G. M. Thomson, Proc. R. Soc. Tasmania, 1892, p. 28[1])

— — Stebbing, 1906, p. 741.

Aucklandia enderbyi Walker, Ann. Mag. Nat. Hist, ser. 8 vol. 2, 1908, p. 35, pl. 5, figs. 3, 4.

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[1]) I have not had access to this paper.

Occurrence. Auckland Isl.: Figure-8-Isl., Carnley Harbour. Under stones on the shore at low-tide, 2.12.1914. 3 ♀ (2 ovig.) up to 15 mm, 1 ♂ ad. 8.5 mm., 2 small spec. — ? Masked Isl., Carnley Harbour, rocky coast, 3.12.1914. 1 ♀ ovig. (defective, determination not certain).

Campbell Isl.: Perseverance Harbour, 10.12.1914. 2 ♀ ovig. 11—14(?) mm (spec. drawn), abt. 10 ♂ ad. up to abt. 7 mm. — ? ibid., under stones on the shore at low-tide, 9.12.1914, several spec.

The single specimen (♀ ovig., 10 mm) of *Aucklandia enderbyi* was taken at the Enderby Isl., Auckland Isl.

No doubt the present sp. is identic with *Megamœra fasciculata* Thomson, for the very characteristic p. 1—p. 2 have the same shape as in Thomson's species; for the same reason it is also identic with *Aucklandia enderbyi*. On account of the ant. 1 being longer than ant. 2 the species should perhaps be referred to genus *Atyloides*. Below is given a description of the species, as Thomson has only a rather short description provided with 4 small figures (p. 1, p. 2, telson, and urosome in lateral view).

Description of ♀ ovig. Dorsal surface quite smooth. Head has no rostrum; ocular lobe has under-corner rounded rectangular, postantennal corner acute, rather prominent. First epimeral plate of metasome has hind corner rounded, 2. and 3. plates have hind corner almost rectangular, with a very little tooth.

Eyes black, reniform, medium-sized. Ant. 1 abt. as long as cephalon + 6 first mesosome segments or a little longer than ant. 2. Ant. 1 has 1. joint of peduncle as long as the two next joints combined and somewhat heavier; flagellum has abt. 65 joints. Accessory flagellum consists of a single, very little joint, with two apical spines. Ant. 2 has the two distal joints of peduncle of equal length; flagellum somewhat shorter than in ant. 1 and consists of abt. 45 joints. The flagellar joints of ant. 1—2 have all the same shape (every second not produced to a setose tubercle).

Oral parts (not mentioned by Thomson) are as in "*Atyloides australis*" Stebbing, Amphip. „Challenger" 1888, pl. 76, and as there are 8—10 spines on the distal $^2/_3$ of inner plate of max. 1, the species belongs to the genus *Paramoera*.

Side plates of p. 1—p. 3 apically rounded, but not distally widened. P. 1 rather heavy, with long setæ on 2. joint; carpus

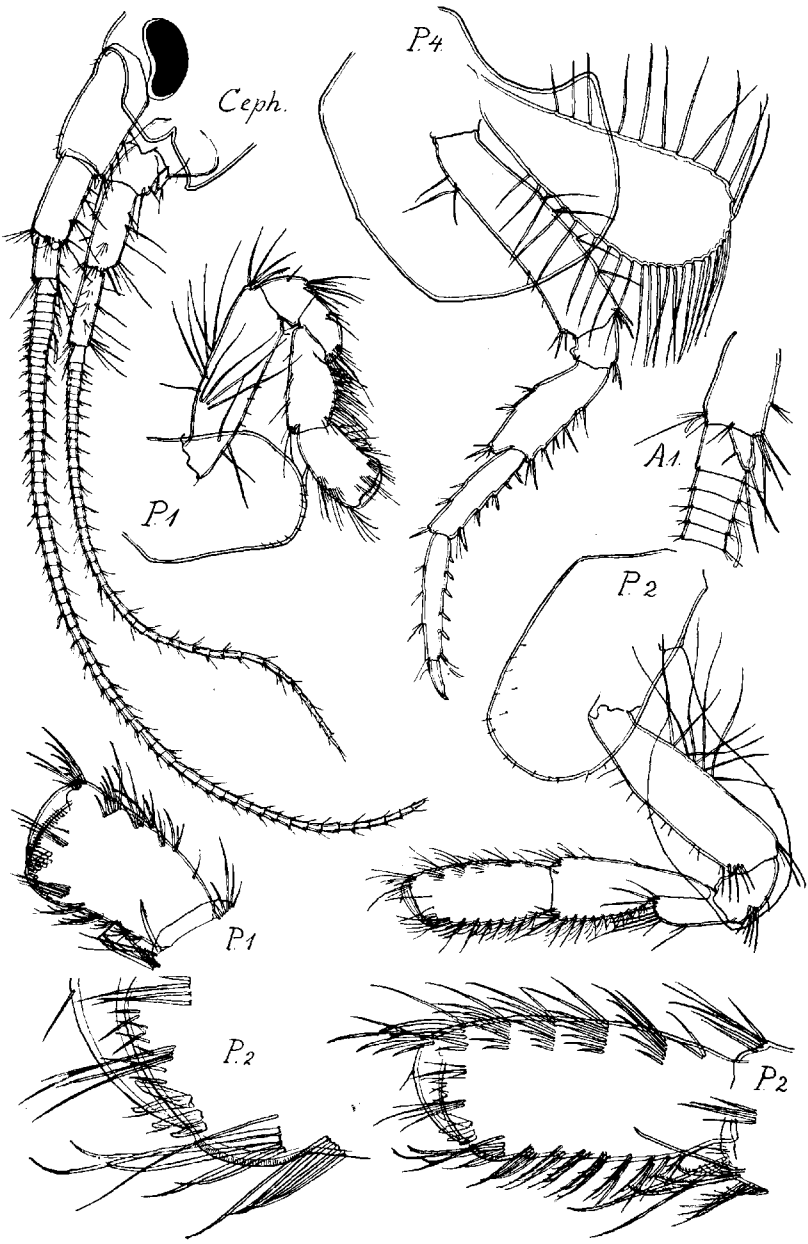


Fig. 15. *Paramoera fasciculata* from Campbell Isl., ♀ ovig. 11 mm (but the two detail figures of p. 2 are from a ♀, 15 mm, from Figure-8-Island, Auckland Isl.).

and metacarpus have equal length. Metacarpus broader distally than proximally, abt. $1^1/_2$ time as long as the greatest breadth, with fascicles of barbed hairs, and with an extremely characteristic, rounded projection at the distal end of the hind edge; distal end quite transverse and somewhat longer than the slightly curved dactylus. P. 2 much longer than p. 1, with long setæ on 2. joint; carpus and metacarpus have almost equal length and numerous

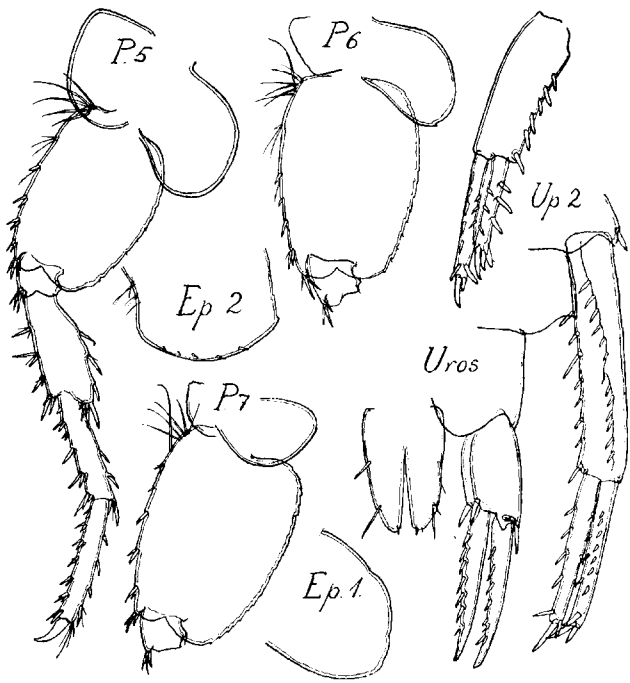


Fig. 16. *Paramoera fasciculata* from Campbell Isl., ♀ ovig. 11 mm.

fascicles of long, barbed hairs. Metacarpus has almost parallel sides, but is a little narrower towards the ends than at the middle; the distal end has a rounded projection like that in p. 1, but not so large. Thomson has probably not seen this projection, but this is very easily understood, as it is totally overlooked when the limb is kept in its natural position, so that it is seen not quite from the flatside. Dactyli of all the pereiopoda, also those of p. 1—p. 2, seem to be totally devoid of teeth. Sideplate of p. 4 rather deep and broad, with a deep incision in hind edge, and hindcorner rect-

angular acute; under edge almost straight. P. 3—p. 7 have 4. joint narrow, p. 6—p. 7 somewhat longer than p. 5.

Uropoda rather heavy, spinose; urop. 1 reaches almost to apex of urop. 3, urop. 2 somewhat shorter. The two rami have equal length in urop. 1 and urop. 3; in urop. 2 outer ramus is somewhat shorter than inner ramus. Telson cleft to abt. $^2/_3$ of the length, narrow, with rounded apex of the lobes; 1 or 2 pairs of apical spines, 2 pairs of dorsal spines.

Length of ♀ ovig 11—15 mm.

The size of the ova of a ♀, 12 mm, is 0.45×0.55 mm.

Description of ♂ ad. Agrees almost totally with ♀, but differs in a few characters. Ant. 1 abt. as long as head + 6 or 7 mesosome segments; flagellum sometimes shorter, sometimes a little longer than ant. 2. Flagellum consists of abt. 50 joints, and there are calceoli on all the joints (except the distal ones). As the calceoli are placed in a zig-zag row, it appears as if there were calceoli only on every second joint. Ant. 2 has abt. 40—45 joints in flagellum. The eyes somewhat larger than in ♀. End of metacarpus in p. 1 more obliquely cut off than in ♀ (almost as in p. 2 ♀). Urop. 1—2 as in ♀, but urop. 3 has a few setæ (as in *Pontog. bidentata*, fig. 12, p. 323). Length up to abt. 8.5 mm.

Remarks. On account of the very characteristic p. 1 (and partly also p. 2) the species can scarcely be confused with any other species.

Distribution. New Zealand: Dunedin Harbour, 8—10 m; in rock pools on the coast near Dunedin and Christchurch (Thomson l. c. 1880, type-locality) — Waiwera and Auckland Harbour (N. Z.), "gathered in abundance, mostly on the underside of wet stones between tide-marks" (Thomson, Trans. N. Z. Inst., vol. 21, 1888, p. 261). — Chatham Isl.: Te Whakura, numerous spec. (Chilton, Trans. N. Z. Inst., vol. 38, 1906, p. 271). — Possibly also found at Tasmania and Macquarie Island; see *P. capensis* f. *austrina* p. 332.

* 29. *Paramoera* (*australis* (Sp. Bate) var.) *megalophthalma* Haswell (Fig. 17).

Atylus megalophthalmus Haswell, Proc. Linn. Soc. N. S. Wales, vol. 5, 1880, p. 102, pl. 6, fig. 4.[1])

[1]) I have not had access to this paper.

Atylus megalophthalmus Haswell, Catalogue Austral. Stalk- and Sessile-eyed Crust., Sydney 1882, p. 244.
— — Chilton, Proc. Linn. Soc. N. S. Wales, vol. 9, 1885, p. 1037.
Paramoera austrina var. *megalophthalma* Chilton, "Endeavour" 1921, p. 68, fig.

Occurrence. Campbell Isl.: Perseverance Harbour 10.12. 1914, 5 spec. (1 ♂?, 1 ♀?, all defective) 4—6 mm. It is new to the subantarctic islands of New Zealand.

Remarks. According to Chilton (1909, p. 625, and l. c. 1921) this variety "may be distinguished by the very large eyes, the presence of a distinct rostrum, the shorter and more triangular carpal joints of the gnathopoda, the broader rami of the third uropods, and the absence of setæ from the telson".

Below I give some figures and a short description in supplement of the existing literature.

Description of a spec. (♂?), 6 mm. Rather slender. Head as long as $2^1/_2$ mesosome segments and has as against all the other species a rather long curved rostrum, somewhat shorter than the first peduncular joint of ant. 1; ocular lobe and postantennal lobe somewhat rectangular. Eye medium-sized, reniform, (in spirits) dark brown. Ant. 1: only the two proximal joints are preserved; 1. joint heavy, abt. $1^1/_2$ time as long as 2. joint. Ant. 2: only the proximal part of peduncle is preserved, seems to be as in *P. fasciculata* (see p. 333). Oral parts not essentially disagreeing from those of *P. austrina* (Stebbing, 1888, pl. 75).

P. 1: side plate a little widened distally, with lower fore corner a little protruding; 2. joint rather feeble, with setæ on hind margin. Carpus short, metacarpus abt. as in *P. antarctica*?, ♂ (fig. 10), but 3 times as long as carpus; dactylus dentate. P. 2: side plate not widened distally, the rest of the limb very nearly agreeing with p. 1. Of p. 3—p. 7 at all events 5.—7. joints are lost. Side plate of p. 4 has a deep incision in hind edge; inferior hind corner evenly rounded, fore corner rounded rectangular. P. 5—p. 7 as in *P. bidentata* (fig. 12), but hind margin of 2. joint totally even, not dentate. Epimeral parts of 1.—3. metasome segments as in *P. bidentata* (fig. 12). Urop. 1—3 rather slender and narrow; in urop. 1—2 outer ramus much shorter than inner ramus, in urop. 3 the

two rami have very nearly equal length. Telson has the same shape as in *P. bidentata* (fig. 12), but is narrower at the base. —

A single specimen (6 mm) is possibly a ♀, for p. 1—p. 2 are feeble, shaped as in *P. bidentata* (fig. 12), but marsupial plates could not be found without dissection. Upon the whole there is a

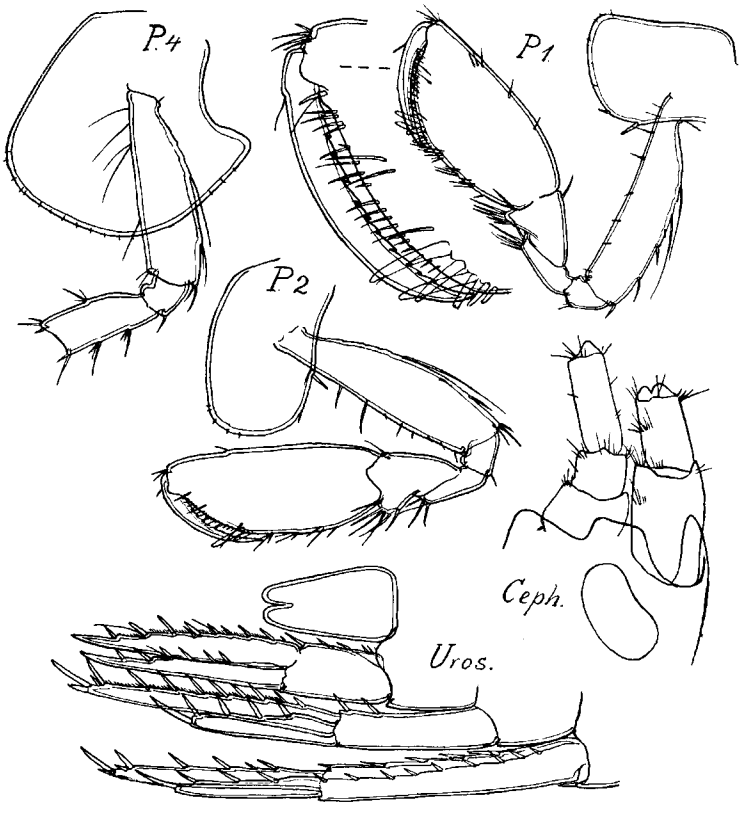


Fig. 17. *Paramoera* (*australina* var.) *megalophthalma*.

very good agreement with the described ♂(?), except that telson is a little broader.

Like the other specimens it has lost both antennæ (except peduncles) and distal parts of p. 3—p. 7, but one of the two p. 4 has kept all the joints, and these seem to agree totally with *Pontogeneia bidentata* (fig. 12).

Distribution. Port Jackson (Haswell 1882). — Sydney

Harbour, numerous spec. (Chilton 1885). — Tasmania, 3 loc., numerous spec. (Chilton 1921).

30. *Paramoera serraticauda* (Stebbing).

Atyloides serraticauda Stebbing, 1888, p. 920, pl. 78.
— — — 1906, p. 362.
— — Chilton, 1909, p. 627.
— — — Trans. R. Soc. Edinburgh, vol. 48, 1912, p. 497.
— — Chevreux, 1913, p. 179 (lit.).
— — Chilton, Trans. N. Z Inst., vol. 53, 1921, p 224.
Paramoera — Monod, 1926, p. 57.
Atyloides calc-olata Chilton, l. c. 1912, p. 497, pl. 2 figs. 21—23 (teste Chilton 1921).

Occurrence. Auckland Isl.: Carnley Harbour, on the shore under stones at low-tide, 29 11.1914, 8 spec., and ibid., Masked Isl., rocky coast, 3.12.1914, abt. 10 spec., including a few ♀ with eggs.

Chilton (l. c. 1909) records the species from the same locality.

Remarks. The outline of the "face" is as drawn by Stebbing l. c. 1888; thus there is no projecting postantennal corner.

Monod (l. c. 1926) has (without further remarks) removed the species from the genus *Atyloides* to the genus *Paramoera*, and no doubt he is right (see fig. of max. 1: Stebbing 1888, pl. 78).

Distribution: Off Melbourne (Stebbing 1888). — Cape Adare, Cape Wadsworth (Walker). — Flandres Bay (Chevreux). — South Orkneys (*A. calc.*; Chilton). — Chenal de Roosen, 129 m (Chevreux 1913).

* 31. *Atyloides Chevreuxi* n. sp. (Fig. 18).

This species is possibly identic with:

Pontogeneia magellanica Chevreux, 1906, p. 64, figs.
Atyloides — Chilton 1909, p 627
— — — Trans. R. Soc. Edinburgh, vol. 48, 1912, p. 496, pl. 1 fig. 18.
? — *magellanicus* Chevreux, 1913, p. 178
non *Atylopsis* — Stebbing, 1888, p 925, pl. 79.
non *Atyloides magellanica* Schellenberg, 1926, p. 360, fig.

Occurrence. Auckland Isl.: Port Ross, on the shore under stones at low-tide, 26.11.1914, 1 ♂ (ad.?) abt. 7 mm, and

ibid. 27.11.1914, 4 spec. abt. 6 mm. — Carnley Harbour, on the shore under stones at low-tide, 29.11.1914, 1 ♀ with embryos, abt. 10 mm (type); ibid., Figure-8-Island, under stones at low-tide, 2.12.1914, 1 ♀ ovig. abt. 10 mm, and ibid., Masked Isl., rocky coast, 3 12.1914, 1 spec. (sex?), abt. 7 mm.

Campbell Isl.: Perseverance Harbour, under stones on the shore at low-tide, 9.12.1914, 1 spec. (♂?). —

Pontogeneia magellanica Chevreux is recorded by Chilton 1909 from Carnley Harbour (see under Remarks).

Remarks. Schellenberg (l. c. 1926) has clearly shown that *Atylopsis magellanicus* Stebbing 1888 (literature, see the present paper p. 325) and *Pontogeneia magellanica* Chevreux 1906 are not identic, and has given the synonymy of Stebbing's species.

Some further remarks are to be made on the literature of the present species and on the identity of specimens described by the individual authors. The specimens recorded by Chilton 1909 belong probably to Chevreux's species, for the "telson and third uropod in particular appear identical with the form described by Chevreux". Chilton's specimens (l. c. 1912) "agree well with the description of the species given by Chevreux". The identity of *A. magell.* Chevreux 1913 is not certain; at all events some of the specimens have three denticles on each of the lobes of the telson and are thus possibly not identic with the present species, but with *A. magellanicus* Stebbing.

On the present material. Though the species collected by Dr. Th. Mortensen is rather nearly allied to *Pontogeneia magellanica* Chevreux 1906, there are some (probably not unimportant) disagreements; thus the two species are possibly not identic. Below is given a description of the species, for which I propose the specific name *Chevreuxi*, after having compared it with the description given by Chevreux 1906.

♀. Upper lip seems to be quite symmetrical, without any incision. Inner lobus of max. 1 has 7 setæ as in Chevreux 1906, fig. 38 F. Maxillipedes have 2. joint of palp much heavier; 3. joint apically widened and without any distinct prolongation. Outline of the "face" almost totally as in *P. fasciculata*; Chevreux says only that the "lobes lateraux sont assez saillants, arrondis à l'extrémité". Ant. 1 as long as cephalon + abt. $4^1/_2$ mesosome

segments; flagellum abt. $2^1/_2$ time as long as peduncle, and consisting of abt. 50 (not abt. 40) joints; a little accessory flagellum of the same shape as in *P. fasciculata* is present. Ant. 2 has in flagellum abt. 40 (not 35) joints. P. 1—p. 2 have metacarpus heavier and

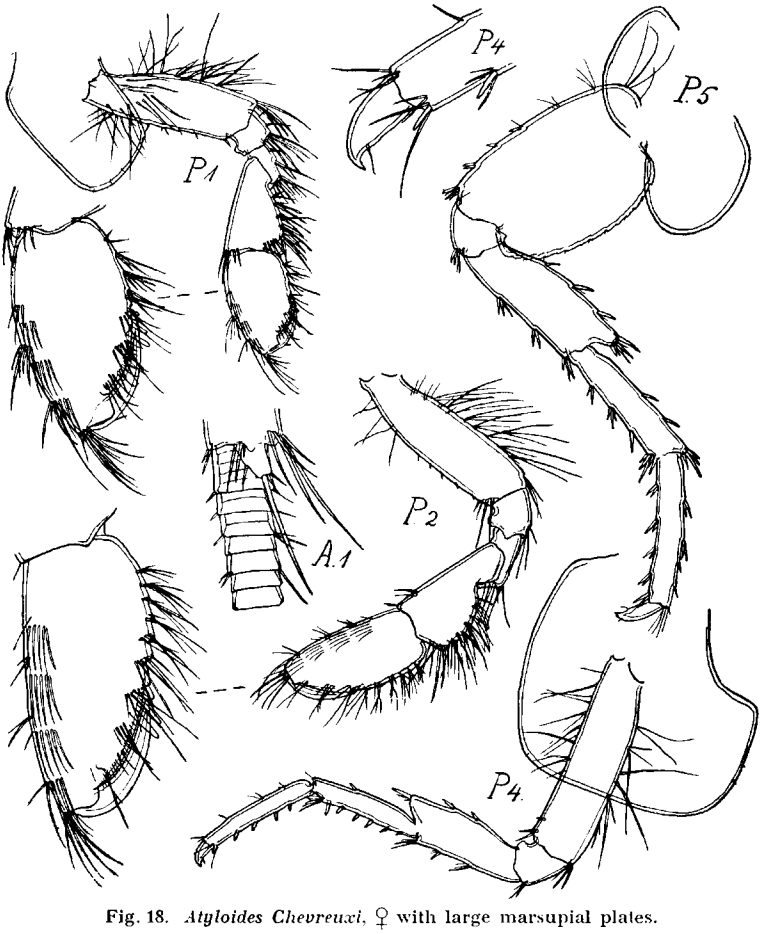


Fig. 18. *Atyloides Chevreuxi*, ♀ with large marsupial plates.

more evenly ovate (especially in p. 2 where it is broader proximally). Long setæ on hind edge of 2. joint of p. 1·—p. 4. P. 4: side plate (not described by Chevreux) rather broad, with deep emargination on hind edge; under edge almost straight, with rounded corners. Telson has 2 (not only one) pairs of dorsal spines, placed about at the first and the second third of the lobes.

It may be noted that p. 5—p. 7, metasome segments 1—3, uropoda and telson are as in *P. fasciculata*.

The ova are 0.40×0.50 mm. —

♂ ad(?), 7 mm, is totally as ♀, except that ant. 1—2 are shorter; ant. 1 has abt. 35 joints, ant. 2 abt. 30 joints. —

The species is recognisable from the other species in having metacarpus of p. 2 broader proximally, and (like *Par. fasciculata*) having 2 pairs of dorsal spines on the telson.

Distribution. ? South Shetland, King George-Island, Admirality-Bay, numerous spec. (Chevreux 1913). — ? Bay of Flandre, at low-tide, numerous spec. (Graham Land) (Chevreux 1906). — South Orkneys, Scotia Bay, shore pool, numerous spec. (Chilton 1912).

Fam. **Gammaridæ.**

Chilton (l. c. 1909) mentions only *Parapherusa crassipes* (Haswell) and *Melita inœquistylis* (Dana).

* Genus *Elasmopus* A. Costa.

On New Zealand species see Chilton l. c. (below) 1915 (1916), pp. 320—30.

* 32. *Elasmopus viridis* (Haswell).

Elasmopus viridis Stebbing, 1906, p 445 (lit).
Maera — Chilton, Trans. New Zealand Inst. vol. 48, 1915, (1916), p. 362, figs. 3—4.
— — "Endeavour", 1921, p. 73.

Occurrence. Auckland Isl.: Carnley Harbour, on the shore under stones at low-tide. 29.11.1914. 4 small spec. — Ibid., Masked Isl., rocky coast, 3.12.1914, 3 spec., up to abt. 8 mm.

The species is new to these islands.

Distribution: "It is widely distributed in Australian and New Zealand seas" (Chilton l. c. 1921).

* 33. *Elasmopus Carnleyi* n. sp. (Figs. 19—20).

Occurrence. Auckland Isl.: Masked Isl., Carnley Harbour. Rocky coast, 3.12.1914. Abt. 20 spec., including both ♀ ovig. and ♂, up to abt. 6 mm. — Carnley Harbour, coast, under stones at low-tide, 29.11.1914. Abt. 50 spec., most of them small.

Description of ♂, 6 mm. Outline of the face like that of *E. rapax*. There are often hairs on dorsal side of the hindmost

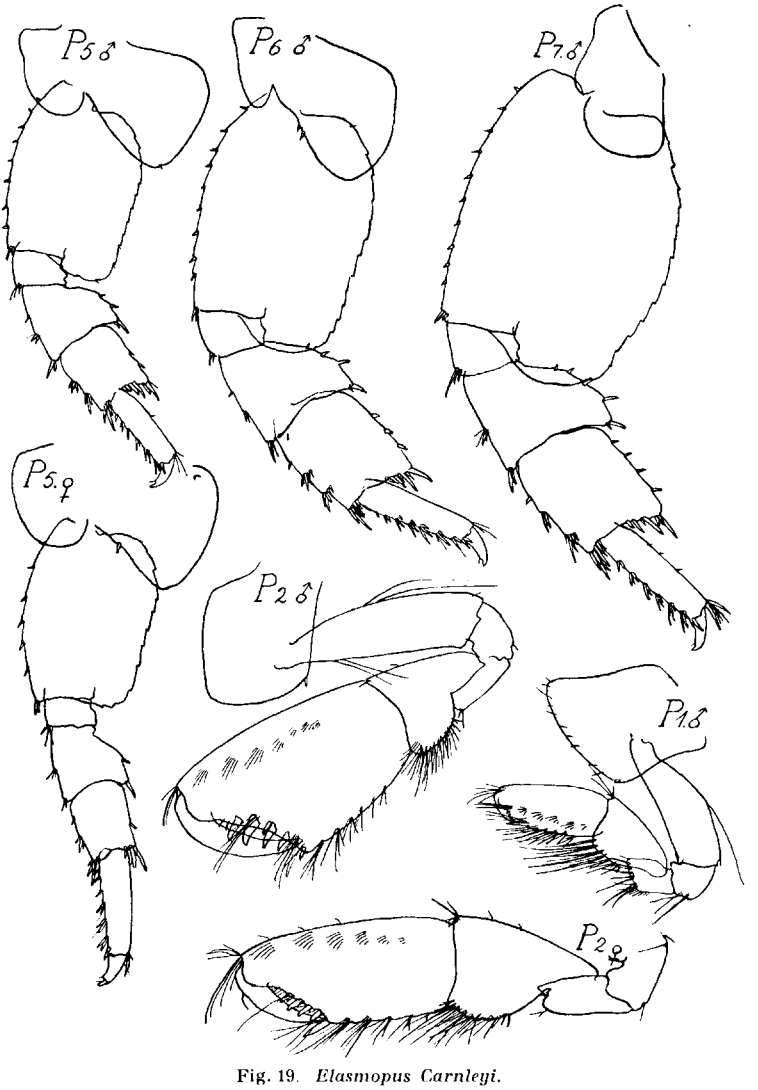


Fig. 19. *Elasmopus Carnleyi.*

mesosome segments and of metasome. Eyes round, rather large, brown (in spirits). Ant. 1 has the two first joints subequal in length, 3. joint half as long as 2. joint; flagellum as long as peduncle, 17-

articulate; assessory flagellum 4-articulate. Ant. 2 much shorter, 5. joint of peduncle a little shorter than 4. joint; flagellum as long as 4. peduncular joint, 7-articulate. Oral parts as in *E. rapax*, but palp of mx. 1 ends in 4 heavy spines, and mandibular palp is much more feeble and totally devoid of setæ, except two at apex.

Sideplate of p. 1 produced in front. P. 1: metacarpus a triffle longer than carpus, distally a little narrower, with palm oblique and well-defined. P. 2: carpus cup-shaped; metacarpus more than twice as long, distally widened, with palm oblique, well-defined, and carrying 6—7 spines, 4 of which are much heavier than the others. Sideplate of p. 4 not excavate behind, deeper than side plate of p. 5. None of the joints of p. 3—p. 4 especially broad. P. 5 as long as p. 4, p. 6 longer, p. 7 still longer; 4.—5. joints of p. 5—p. 7 extremely broad, much broader than 6. joint. Inferior hind corner of 3. metasome segment almost rectangular, with a little tooth. Urop. 1 has acute rami; rami of urop. 2—3 truncate, and outer ramus of urop. 3 longer than inner ramus. Telson somewhat longer than broad, cleft to the base, lobi oblong, with one pair of apical spines and two pairs of lateral spines.

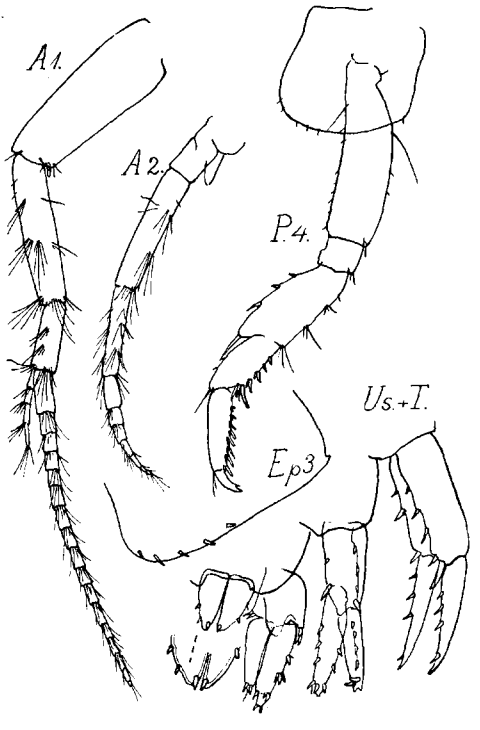


Fig. 20. *Elasmopus Carnleyi* ♂.

Description of ♀ with embryos, 5 mm. Differs only in very few characters from ♂. Ant. 1: flagellum has 12 joints (but ant. 2 only 7 joints as in ♂). P. 2: metacarpus as in p. 1 ♂ (but distally not narrower), but not larger than in p. 1. P. 3—p. 4: 4. joint a little narrower; p. 5—p. 7: 4.—5. joint much narrower Urop. 1—2 as in ♂, but urop. 3 a little narrower.

♀ may have up to 10 ova; their size is 0.50 × 0.40 mm.

Remarks. The species is quite easily recognisable in having 4.—5. joints of p. 5—p. 7 extremely broad, especially in ♂.

Genus *Melita* Leach.

34. *Melita inæquistylis* (Dana).

Melita zeylanica Stebbing, Spolia zeylanica, vol. 2, 1904, p. 22, Pl. 5.
— *inæquistylis* — 1906, p. 429.
— — Chilton, 1909, p. 630 (lit. and syn.).
— — Barnard, Ann. South African Mus., vol. 15, 1916, p. 191 (lit. and syn.).

Occurrence. Auckland Isl.: Carnley Harbour, on the shore under stones, 29.11.1914. 3 ♂ up to abt. 13 mm.

Chilton (l. c. 1909) mentions the species from the same locality.

Distribution. "Widely distributed in New Zealand"; Ceylon; a litoral species (Chilton 1909). — Chatham and Kermadec Islands (Chilton 1909, 1925). — Falkland Islands (Stebbing). — Off Barkul, fresh water (Chilka lake, India; Chilton, Mem. Indian Mus., vol. 5, 1921, p. 535). — South Africa, several localities (Barnard l. c. 1916).

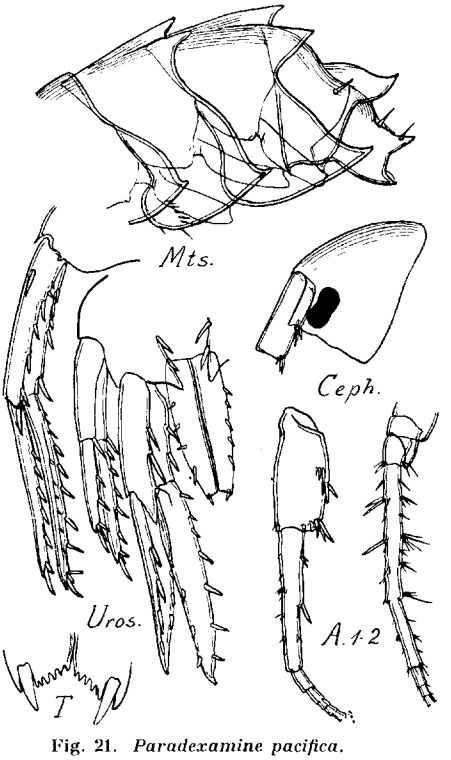


Fig. 21. *Paradexamine pacifica.*

Fam. **Dexaminidæ.**

Chilton (1909) records only the species mentioned below.

Genus *Paradexamine* Stebbing.

35. *Paradexamine pacifica* (G. M. Thomson) (Figs. 21—22).

Dexamine pacifica G. M. Thomson, Trans. New Zealand Inst., vol. 11, 1879, p. 238, Pl. 10 B fig. 4.

Paradexamine pacifica Stebbing, 1906, p. 518.
— — Chilton, 1909, p. 632.
— — — Trans. Edinburgh Royal Soc., vol. 48, 1912, p. 501.
— — Chilton, Comunicaciones del Mus. Nac Hist. Nat. "Bernardino Rivadavia", Buenos Aires, tome 2, 1925, p. 179.

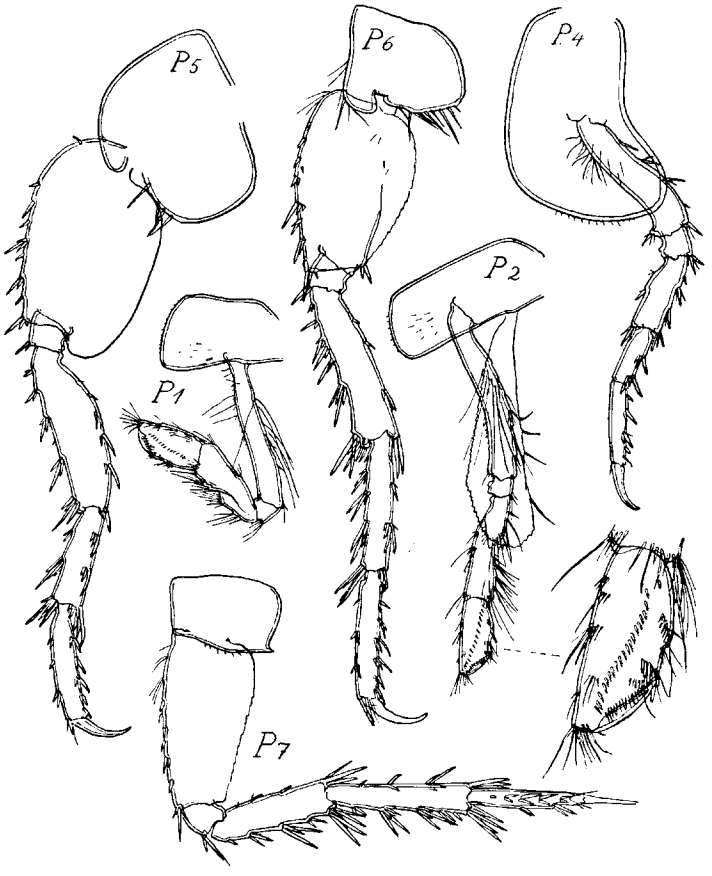


Fig. 22. *Paradexamine pacifica.*

Occurrence. Auckland Isl.: Port Ross, 19 m, sand, algæ. 25.11.1914. 7 spec., size up to abt. 10 mm.

Campbell Isl.: Perseverance Harbour, 19—38 m, sandy clay. 9.12.1914. 2 spec.

Chilton (1909) mentions some spec. from Carnley Harbour.

Remarks: As Thomson's figures of the species are reproduced in an almost microscopical scale, I give some drawings of the limbs, more highly magnified.

Distribution: New Zealand, quite common. East coast of Australia (Chilton 1909).

The species is possibly (Chilton l. c. 1912) identic with *P. fissicauda* Chevreux (1906, p. 88, figs. and 1913) from some localities in the Antarctic S. of S. America (Chevreux) and from the South Orkneys, two localities, 4—19 m (Chilton l. c. 1912, 1925).

Fam. **Talitridæ (= Orchestidæ).**

Chilton (1909) records 8 species from the Auckland and Campbell Islands. 3 of these (*Parorchestia tenuis* [Dana], *Hyale campbellica* [Filhol] and *Allorchestes novæ-zealandia* [Dana]), are not present in the material; in return Dr. Th. Mortensen has secured 1 species *(Allorchestes compressus)* and one variety *(Parorchestia insularis* var.) new to the islands.

Genus *Orchestia* Leach.

Chilton (1909) records from the Auckland and Campbell Isl. the three species mentioned below.

36. *Orchestia serrulata* Dana.

Orchestia serrulata Dana, U. S. Explor. Exped. 1853 and 1855, vol. 13, pt. 2, p. 870, Pl. 68 figs. 7a—b (♂), m—o (♀?).
— — (partim) Stebbing, 1906, p. 535.
— — Chilton 1909, p. 632, figs.

Occurrence. Auckland Isl.: Port Ross, under stones at low tide, 26.11.1914. Numerous large ♂, up to abt. 36 mm; they agree totally with Chilton l. c. 1909. —

Chilton (1909) records "numerous specimens . . . from several localities in the Auckland Isl. and in Campbell Isl.".

Distribution. "Various parts of New Zealand, particularly in the south" (Chilton l. c.).

37. *Orchestia aucklandiæ* Sp. Bate.

Orchestia aucklandiæ Sp. Bate, Catalogue Amphip. British Museum, 1862, p. 17, Pl. 1 a, fig. 3.

Orchestia aucklandiæ G. M. Thomson, Trans. New Zealand Inst., vol. 31, 1898, p. 201.
— — A. O. Walker, Ann. Mag. Nat. Hist., ser. 8, vol. 2, 1908, p. 36.
— — Chilton, 1909, p. 634.
— *serrulata* (partim) Stebbing 1906, p. 535.

Occurrence. Auckland Isl.: Port Ross, on the shore under stones, 25.11.1914, 4 ♂ ad., up to abt. 24 mm.

The specimens agree totally with Chilton's text and Sp. Bate's fig.

The species is recorded from Enderby Island (Auckland Isl.) (Walker 1908, Chilton 1909).

Distribution: Stewart Isl.; New Zealand (Auckland, Kenepuru, Sumner, Timaru, Dunedin); "probably common" (Thomson 1898).

38. *Orchestia bollonsi* Chilton.

Orchestia bollonsi Chilton, 1909, p. 635, figs.

Occurrence: Auckland Isl., under wood and stones, 25.11.1914. 1 ♂, abt. 15 mm.

The species is known from the Auckland Islands (Ewing Isl.) (Chilton 1909); I have nothing to add to Chilton's description.

Distribution: Bounty Isl., under guano; Snares (Chilton 1909).

Orchestia sp.

Auckland Isl., under wood or stones, 25.11.1914, 4 ♀; Port Ross, on the shore under stones at low-tide, 26.11.1914, 2 ♀, 4 ♂ (non ad.?), and ibid., at high-tide 24.11.1914, abt. 10 ♂ (non ad.?).

Genus *Chiltonia* Stebbing.

Chilton records only *C. mihiwaka*.

39. *Chiltonia mihiwaka* (Chilton).

Hyalella mihiwaka Chilton, Ann. Mag. Nat. Hist. ser. 7, vol. 1, 1898 p. 423, Pl. 18.
Chiltonia — Stebbing, Trans. Linn. Soc. London, Zool., vol. 7, 1899, p. 408.
— — Stebbing, 1906, p. 555.
— — Chilton, 1909, p. 644, fig.
— — — Trans. New Zealand Inst. vol. 55, 1924, p. 271, figs.
— *subtenuis* Sayce, Proc. Roy. Soc. Victoria, vol. 15, 1902, p. 48, Pl. 4 (teste Chilton 1909).

Occurrence: Auckland Isl., under stones and wood. 25.11.1914. Numerous spec., up to 12 mm.

Chilton records the species from the exit of a fresh-water pool on Auckland Isl., from a fresh-water stream on Campbell Isl., and from a fresh-water pool not far from the sea on Enderby Island (Auckland Isl).

Remarks. Ant. 1 is longer than ant. 2 (as in the specimens from the Auckland Isl. mentioned by Chilton 1924, p. 272), but the dactylus of p. 2 ♂ has no rounded lobe on the concave margin as in the specimens from Riverton, Southland, New Zealand (Chilton 1924, p. 271, fig.).

Distribution: New Zealand, fresh-water streams (Mount Mihiwaka near Port Chalmers, up to abt. 300 m; Mount Maungatua and other hills in the neighbourhood of Dunedin; Riverton, Southland) (Chilton 1924). — Australia: Lake Hindmarsh in North-Western Victoria (Sayce l. c.); also New South Wales and Western Australia (Chilton 1924).

Genus *Parorchestia* Stebbing.

Chilton (1909) records from the Auckland and Campbell Isl. the following species: *P. maynei* Chilton, *P. insularis* Chilton, *P. parva* Chilton, *P. tenuis* (Dana) and possibly *P. improvisa* Chilton.

40. *Parorchestia maynei* Chilton.

Parorchestia maynei Chilton, 1909, p. 637, figs.

Occurrence: Auckland Isl., under wood and stones, 25.11.1914. 2 ♂ 13—16 mm.

Chilton records the species from the Auckland Isl. without special locality, from Norman Isl. and Adam's Isl., 600 m, several spec., and from Disappointment Isl., 3 spec.

I have nothing to add to Chilton's description.

Distribution. Not known outside the Auckland Isl.

41. *Parorchestia insularis* Chilton.

Parorchestia insularis Chilton, 1909, p. 639, figs.

Occurrence. Auckland Isl.: Adam's Isl., under wood, 29.11.1914, 4 ♂ 10—13 mm.

Chilton records the species from Campbell Isl., where it is

probably "extremely abundant . . . right up to the top of the highest hills".

Not found elsewhere.

* 41 a. *Parorchestia insularis* Chilton var. (Fig. 23).

Occurrence. Auckland Isl.: Adam's Isl., under wood, 29 11.1914, 1 ♂ 11 mm. — Auckland Isl., under wood or stones, 25.11.1914, 3 ♂ 11—12 mm.

Remarks: The present specimens seem to agree totally with *P. insularis* except as regards the palm, the process of which is much heavier; the process on the defining-angle is very large, cleft, with the two rami lying side by side, not one behind the other; the inner ramus is smaller han the other, and the dactylus fits the notch.

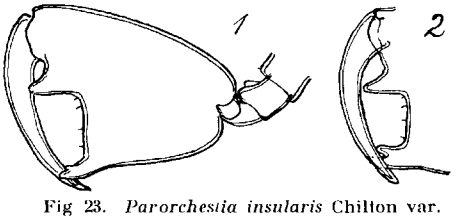


Fig 23. *Parorchestia insularis* Chilton var. Chela of p. 2. 1: outer side, 2: inner side.

42. *Parorchestia parva* Chilton.

Parorchestia parva Chilton, 1909, p. 640, figs.

Occurrence: Auckland Isl., under wood and stones, 25.11.1914, 1 ♂ 9 mm; — ibid., Adam's Isl., under logs, 29.11. 1914. 2 ♂, abt. 9—10 mm.

Chilton records the species from Norman's Inlet and from Auckland Isl., under logs.

? Parorchestia sp.

Occurrence: Auckland Isl., under logs and stones, 25.11. 1914, abt. 15 ♀ and 1 ♂ jun.; — ibid., Port Ross, on the shore, on or under stones, 25.11.1914, 1 ♀; ibid., Adam's Isl., under logs, 29.11.1914, abt. 15 spec. (♀ and ♂?).

Genus *Hyale* Rathke.

Chilton records *H. hirtipalma* Dana and *H. campbellica* (Filhol).

43. *Hyale hirtipalma* Dana.

Hyale hirtipalma Stebbing, 1906. p. 564 (lit and syn.).
— — Chilton, 1909, p. 643.
— — Barnard, Ann. South African Mus., vol. 15, 1916, p. 234.
— *georgiana* Stebbing, 1906, p 572.
— *villosa* Smith, Bull. U. S. Nat. Mus., no. 3, 1876, p. 58.
— *trigonocheir* Walker, Ann. Mag. Nat. Hist, ser, 8, vol. 2, 1908, p. 37.

Occurrence. Auckland Isl.: Port Ross, on the shore under stones at low-tide, 26.11.1914, numerous spec.; 1 mile E. of Auckland Isl., among floating *Lessonia* (?), 28.11.1914, 1 spec.

Campbell Isl.: Perseverance Harbour, under stones on the shore at low-tide, 9.12.1914, 1 spec.

Chilton records the species from Enderby Isl. (Auckland Isl.), and from Perseverance Harbou· (Campbell Isl.).

Distribution: If the synonymy is right, the species has an extremely wide distribution. Throughout New Zealand and the adjacent islands: Antipodes Isl., Macquarie Isl. (Chilton 1909). Also found at the coast of Kerguelen, South Africa, South Georgia, Peru and Chile (see Barnard 1916).

* Genus *Allorchestes* Dana.

Chilton records no species from the Auckland and Campbell Isl.

* 44. *Allorchestes compressus* Dana.

Allorchestes compressus Stebbing, 1906, p. 581 (lit. and. syn.).

Occurrence. Auckland Isl.: Port Ross, on the shore on or under stones, at low-tide and at high-tide, Nov. 24th to 27th 1914, numerous spec.

The species is new to the subantarctic islands of New Zealand.

Distribution. South and west coasts of Australia; Tasmania (Stebbing 1906).

Fam. **Aoridæ.**

Chilton (1909) records from the Auckland and Campbell Isl. only *Aora typica*.

Genus *Aora* Kröyer.

45. *Aora typica* Kröyer.

Aora gracilis G. O. Sars, Crust. of Norway vol. 1, 1895, p. 545, Pl. 193.
— *typica* Stebbing, 1906, p. 587 (lit. and syn.).
— — Chilton, 1909, p. 645.
— — Chevreux & Fage, Amphip.; Faune de France, no. 9 1925, p. 293, figs.

Occurrence. Auckland Isl.: Port Ross, 19, m sand, algæ, 25.11.1914. 4 spec. including 1 ♂ ad.; p. 1 has the same shape as drawn by G. O. Sars l. c.

Chilton (l. c.) records the species from Musgrave Harbour, Auckland Isl.

Distribution: A cosmopolitan species; for special localities see Chevreux & Fage l. c.

Genus *Microdeutopus* A. Costa.

* 46. *Microdeutopus* sp.

Occurrence. Auckland Isl.: Carnley Harbour, on the shore under stones at low-tide, 29.11.1914. 1 spec., rather defective, 4 mm; the species is at all events not identic with the single Australian species, *M. Haswelli* Stebbing (see Stebbing 1906, p. 591).

* Fam. **Photidæ.**

Chilton 1909 has no records of species belonging to this family.

* Genus *Haplocheira* Haswell.

* 47. *Haplocheira barbimana* (G. M. Thomson).

Haplocheira plumosa + *H. barbimana* Stebbing, Amphip. "Challenger", 1888, p. 1172, 1177, Pl. 126.
— *barbimana* Stebbing, 1906, p. 609 (lit. and syn.).

Occurrence. Auckland Isl.: Port Ross, 19 m, sand, algæ, 25.11.1914. Abt. 10 spec., abt. 7—8 mm; several of them are ♀ with ova or at all events with large marsupial plates.

The species is new to these islands.

Remarks. The specimens (— not dissected —) were compared with the figures given by Stebbing l. c. 1888 (Pl. 126, *H. plumosa)* and the description given by Stebbing l. c. 1906. The agreement

is very good, but the head has lateral lobes rounded quadrate, not pointed, and the eyes are small.

There are some differences between the specimens from Kerguelen and those from Australian waters (see Stebbing 1888, p. 1178); the specimens from the Auckland Isl. take an intermediate position.

Distribution: New Zealand: Lyttelton Harbour; East Australia: Port Jackson, under stones at low-water mark; Kerguelen Island, 222 m (Stebbing 1906; Schellenberg, 1926, p. 375).

* Genus *Eurystheus* Bate.

The genus is new to the islands.

48. *Eurystheus* sp.

Occurrence. Auckland Isl.: Masked Isl., Carnley Harbour. Rocky coast, 3.12.1914. 3 ♀ (2 ovig.) up to abt. 8 mm. — Ibid., on the shore under stones at low-tide, 29.11.1914. 1 spec. (sex?).

Remarks: The species seems to be rather closely allied to *E. thomsoni* Stebbing (non *E. thompsoni* Walker) (*Gammaropsis t.* Stebbing, Amphip. "Challenger" 1888, p. 1103, Pl. 115; *E. t.* Stebbing, 1906, p. 613), especially on account of the shape of the dorsal part of 1. urosome segment (having a medio-dorsal emargination with a little tooth in the centre), but there does not seem to be any emargination in 2. segment, and there are also other disagreements (in p. 1—p. 2, etc.). All the specimens are rather defective (antennæ etc. broken).

E. thomsoni is known from E. of New Zealand (abt. 2000 m?).

Fam. **Jassidæ.**

Chilton (1909) records only *Jassa pulchella* Leach.

* Genus *Wyvillea* Haswell.

* 49. *Wyvillea longimana* Haswell.

Wyvillea longimanus Haswell, Proc. Linn. Soc. N. S. Wales, vol. 4, 1879, p. 337, Pl. 22 fig. 7.

— *longimana* Stebbing, 1906, p. 648 (lit. and syn.).

Occurrence. Auckland Isl.: Carnley Harbour, on the shore under stones at low-tide. 29.11.1914. 1 ♂ (defective), abt. 4 mm. New to these Islands.

Distribution: East Australia: Port Jackson; New Zealand: Worser Bay and Lyttelton Harbour (Stebbing 1906).

Genus *Jassa* Leach.

50. *Jassa pulchella* Leach.

Podocerus falcatus	G. O. Sars, Crust. of Norway, vol. 1, 1895, p. 594, Pl. 212.
Jassa pulchella	Stebbing, 1906, p. 654, 739 (lit.).
— *falcata*	— — p. 656.
— *pulchella*	Chilton, 1909, p. 647.
— *falcata*	— Trans. New Zealand Inst. vol. 53, 1921, p. 225 (lit.).
— —	Chevreux & Fage, Amphip.; Faune de France no. 9, 1925, p. 344, figs.

Occurrence. Auckland Isl.: Carnley Harbour, Masked Isl., rocky coast, 3.12.1914. Abt. 10 spec., ♂ and ♀ ovig.; size up to abt. 9 mm.

P. 2 of the ♂ has the same shape as in Sars l. c., fig. p. 2 ♂ ÷. Chilton (1909) records the species from the Auckland Isl., on the carapace of *Halicarcinus planatus*.

Distribution: A cosmopolitan species; for special localities see Chevreux & Fage l. c.

Jassa sp.

Occurrence. Auckland Isl.: Carnley Harbour, on the shore under stones at low-tide, 29.11.1914. Abt. 10 ♀ (?, defective).

Campbell Isl.: Perseverance Harbour, under stones on the shore at low-tide, 8.12.1914, 1 ♂, 1 jun., and ibid. 10.12.1914, 1 ♀ ovig.

Remarks. The specimens are defective, and I dare not give any determination as to species; but apparently the ♂ is at all events not identic with any described species. It is quite different from the New Zealand species *J. frequens*.

Fam. **Caprellidæ.**

Chilton (1909) records only one species, *Caprellinopsis longicollis* (Nicolet).

Genus *Caprella* Lamarck.

* 51. *Caprella æquilibra* Say.

Caprella æquilibra G. O. Sars, Crust. of Norway, vol. 1, 1895, p. 663, Pl. 238 fig. 3.

— — P. Mayer, Die Caprell. d. Golf. v. Neapel; Fauna u. Flora d. Golf. Neapel, Monogr. 6, 1882, p. 45, Pl. 1 fig. 7, Pl. 2 figs. 1—11, Pl. 4 figs. 20—25, Pl. 5 figs. 16—18.

— — P. Mayer, Nachtrag . . .; ibid. Monogr. 17, 1890, p. 48, Pl. 2 figs. 42—43, Pl. 4 figs. 35—37, Pl. 6 figs. 18, 37.

— — P. Mayer, Caprell. d. Siboga-Exped.; Siboga-Exped. vol. 34, 1903, p. 89, Pl. 3 figs. 29—34, Pl. 4 figs. 66—69.

— — Chevreux & Fage, Amphip.; Faune de France, no. 9, 1925, p. 455, figs

Occurrence. Auckland Isl.: Masked Isl., Carnley Harbour; rocky coast, 30.11.1914, 1 ♂, 1 jun., and ibid. 3.12.1914, abt. 10 spec. (♂, ♀ ovig., jun.). The sizes of the specimens are up to 10 mm (♂, ♀).

The species is new to the subantarctic islands of New Zealand.

Distribution: An almost cosmopolitan species (see P. Mayer ll. cc., and Chevreux & Fage l. c.), found both in Australian waters (Sydney [Port Jackson], Griffith's Road [Victoria]) and New Zealand waters (Akaroa Harbour 44° S., 173° W.), teste P. Mayer l. c. 1903.

Isopoda.

Suborder **Asellota.**

Genus *Ianira* Leach.

52. *Ianira neglecta* Chilton.

Ianira neglecta Chilton, 1909, p. 648, fig.

Occurrence. Auckland Isl.: Masked Isl., Carnley Harbour. Rocky coast, 30.11.1914. 1 spec. jun.? — Ibid., rocky coast with *Melobesia*, 3.12.1914, numerous spec. — Ibid., at low-tide under stones, 29.11.1914, numerous spec.

Distribution. Auckland Isl.: Carnley Harbour, 2 fath. Port Chalmers and Lyall Bay, Wellington, N. Z. (Chilton 1909). Not found outside these localities.

Genus *Iais* Bovallius.

53. *Iais pubescens* (Dana).

Iais pubescens Stebbing, Proc. Zool. Soc. London 1900, p. 549 (lit. and syn.), pl. 38.
— — Chilton 1909, p. 649.
— — Monod, 1926, p 13.

Occurrence. Auckland Isl.: Port Ross, on the shore at low-tide, under stones. 26.11.1914. Numerous spec.

Distribution: Auckland Isl. and Campbell Isl., New Zealand, various localities; Tasmania; Falkland Isl.; Lake Negombo, Ceylon. Very often found on *Exosphæroma gigas* (Stebbing l. c. 1900; Chilton 1909) or on other *Sphæromidæ* (see Monod l. c.).

* Genus *Antias* Richardson.

Antias Harriet Richardson, 1906 (1907), p 16.

As far as I can see, Vanhöffen (1914, p. 533) is right in removing this genus from the *Munnidæ* and referring it to the *Asellidæ*.

The genus comprises the following four species.

A. charcoti Richardson, 1906 (1907), p. 17, pl. I fig. 6, textfig. 21—23. (Wandel Isl. on *Laminaria* on the shore; Wiencke Isl, 20 m [West side of Graham Land]). — Hodgson, National Antarct. Exped. 1901—1904, Natural History, vol 5, Zool. and Bot. 1910, Isop. p. 63, pl. 9 fig. 1 (Winter quarter, Mac Murdo Sound [Victoria Land], 0—25 fath). — Richardson, 1913, p. 19 (Petermann Isl. [Graham Land]).

A. hispidus Vanhöffen, see below.

A. marmoratus Vanhöffen, 1914, p. 534, fig. (Observatory Bay [Kerguelen]; St. Paul).

A. uncinatus Vanhöffen, ibid. p. 535, fig. (Simonstown [Cape of Good Hope]).

* 54. *Antias hispidus* Vanhöffen. (Fig. 24).

Antias hispidus Vanhöffen, 1914, p. 523, fig.

Occurrence. Auckland Isl.: Carnley Harbour. On the shore under stones at low-tide 29.11.1914. 3 ♀ ovig. abt. 1.75 mm, 1 jun. 1.25 mm. New to these Islands. —

Vanhöffen had only 2 spec. (♀?), 1 mm (from St. Paul), and his description is extremely short. But my specimens agree so well with his figure that there cannot be any doubt that my determination is right. Flagellum of ant. 2 has 1 long and 8 short joints

(Vanhöffen's fig.: 13—14 short, no long joints). The ocular lobes have a hook on the fore end like that found in the other species, but not mentioned by Vanhöffen in *A. hispidus*. Eyes could not be found. Uropoda are lost in the adult specimens; in the young specimen they are not so highly spinose as drawn by V. The ♀ ovig. have abt. 17 eggs.

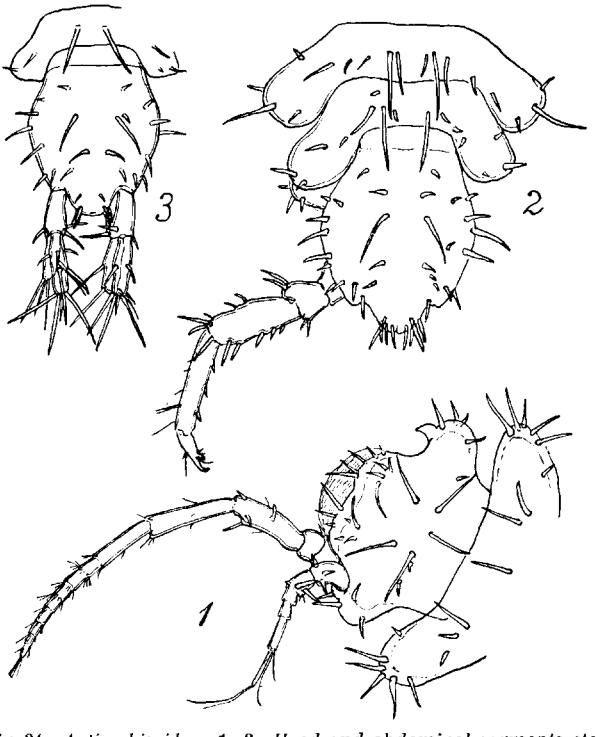


Fig. 24. *Antias hispidus*. 1—2: Head and abdominal segments etc. (without uropoda) of ♀ ovig, 1.75 mm. — 3: Abdominal segment etc. of a young specimen, 1.25 mm.

Distribution: St. Paul, "in der Ebbezone des Kraters" (Vanhöffen).

Genus *Haliacris*.

55. *Haliacris neozelanica* (Chilton).

Munna neozelanica Chilton, Ann. Mag. Nat. Hist. ser. 6, vol. 9, 1892, p. 1, pls. 1—2.

Haliacris — Chilton, 1909, p. 650, figs.

Occurrence. Auckland Isl.: Without special loc., under wood and stones, 25.11.1914, 1 ♂ ad. — Masked Isl., Carnley Harbour, rocks, 30.11.14, 1 ♂ ad., 1 ♂ jun. — Carnley Harbour, on the shore under stones at low-tide, 29.11.1914, abt. 10 spec. (♂, ♀ ovig.). — Port Ross, on the shore under stones at low-tide, 27.11.1914. 1 ♂, 1 ♀.

Distribution. Auckland and Campbell Isl. (Chilton 1909). — Port Chalmers (Otago Harbour) and Brighton, New Zealand, between tide marks (Chilton 1892).

* Genus *Paramunna* G. O. Sars (incl. *Austrimunna* Richardson).

Paramunna G. O. Sars, Crust. of Norway, vol. 2, 1899, p. 111.
— Vanhöffen, 1914, p. 571 (notes on literature, etc.).
— Barnard, Ann. South Afr. Mus., vol. 17, 1920, p. 408.

The genus comprises 14 species. The species are the following:

1. *P. bilobata* G. O. Sars, Crust. of Norway, vol. 2, 1899, p. 112, pl. 47 fig. 1 (Norway S. of the Lofoten Islands 40—80 (200) m). (Firth of Forth, Firth of Clyde, W. Ireland 230 m; Tattersall, Fisheries, Ireland, Sci. Invest. 1904, II, (1905), Isop p. 70).
2. *P. (Austrimunna) antarctica* Richardson, 1906 (1907), p. 20 fig. (Wiencke Isl. [west side of Graham Land], 20 m). — Richardson, ibid., Isop., 2e mémoire, 1908, p. 5 (Wiencke Isl.). — Richardson, 1913, p. 20 (N. E. of Peterman Isl. [Graham Land], 50—60 m).
3. *P. concavifrons* Barnard, Ann. South Afr. Mus., vol. 17, 1920, p. 409, pl. 17, figs. (S. Africa).
4. *P. (Austrimunna) Gaini* Richardson, 1913, p. 21, figs. 3—4 (Peterman Isl., 1—6 m).
5. *P. Gaussi* Vanhöffen, 1914, p. 574, fig. (Gauss-station).
6. *P. incisa* Richardson, 1908, p. 7, fig. (Wiencke Isl.).
7. *P. kerguelensis* Vanhöffen, 1914, p. 574, fig. (Kerguelen).
8. *P. lævifrons* Stebbing, Ann. South African Mus., vol. 6, 1910, p. 435, pl. 46 A (South Africa).
9. *P. (Austrimunna) serrata* Richardson, see below.
10. *P. (Metamunna) typica* Tattersall, Fisheries, Ireland, Sci. Invest., 1904, II (1905), Isop., p. 18, pl. 9 figs. 1—3 (W. of Ireland, 53° 20' N., 13° W., 300 m.).
11. *P. dilatata* Vanhöffen, 1914, p. 573, fig. (Kerguelen).
12. *P. (Austromunna) rostrata* Hodgson, Crust. IX., Isop., National Antarct. Exped. 1901—1904, Natural Hist., vol. 5, Zool. and Bot., 1910, p. 61, pl. 10 fig. 3 ("inside the 25 fathomline . . . during the whole of our stay"). — Richardson, 1913, p. 21 (Peter-

man Isl. [Graham Land], 6 m). — Vanhöffen 1914, p. 572, fig. (Kerguelen). — Monod, 1926, p. 16, fig. (70° 15' S., 84° 06' W., 569 m).

13. *P. (Austrimunna) subtriangulata* Richardson, 1908, p. 7, fig. (Wiencke Isl.). — Monod, 1926, p. 16, figs. (Magellan Strait).
14. *P. capensis* Vanhöffen, 1914, p. 575, fig. (Simonstown, S. Afr.).

Species no. 1 has the front margin bilobate, nos. 2—10 have front margin rounded or somewhat concave, nos. 11—13 front margin acute, no. 14 tridentate.

* 56. *Paramunna (serrata* (Richardson) ?). (Fig. 25).

Austrimunna serrata Richardson, 1908, p. 5, figs.

Occurrence. Auckland Isl.: Carnley Harbour. On the shore under stones at low-tide. 29.11.1914. 1 ♂ 2 mm. —

The present specimen is at all events more closely allied to *P. serrata* than to any of the other species; but it differs in several characters from the original description of the said species.

The length of the body is twice the breadth.

Head medium sized, with the rounded fore part rather protruding and with a distinct neck. Epimeral parts of 1. mesosome segment broader than those of the other segments; the 1. joint of p. 1 may be seen protruding like a little bud at the fore corner. Epimeral parts of 4. segment rather narrow, not broader than those of segments 5.—7. 1. joint of p. 6—p. 7 rather large, protruding behind the corner of the segments, which thus get a bilobate appearance (also in segment 5 the 1. joint of the leg is somewhat protruding).

Metasome divided into two segments as in several of the other species. The last segment is broader than long, rhomboid, without a distinct tongue-shaped part and with small teeth on the edge behind the lateral corners.

Ant. 1 very short, only twice as long as the "eye-stalks", flagellum 3-articulate; the penultimate joint is by far the largest, the apical one very minute. Ant. 2 abt. 3 times as long as ant. 1; flagellum has 7 short joints.

Most of the pereiopoda are lost. P. 1 is prehensile, very strongly built. 1. joint very little, can be seen in dorsal view in the incision in the fore corner of 1. segment. Carpus rather broad, with 2 strong spines and some knife-shaped processes. Metacarpus with

two spines, dactylus curvate, bifid. P. 3 is ambulatory; 2. joint has a hook on the fore edge, dactylus bifid.

The operculum (2. pair of pleopods) has the same shape as in *P. bilobata* (Sars, Crust. of Norway, vol. 2, pl. 47, fig. 1) and is thus in the proximal part somewhat broader than shown in Miss Richardson's fig. I have not been able to trace the peduncle of the uropods. —

The species is upon the whole a little broader than the type

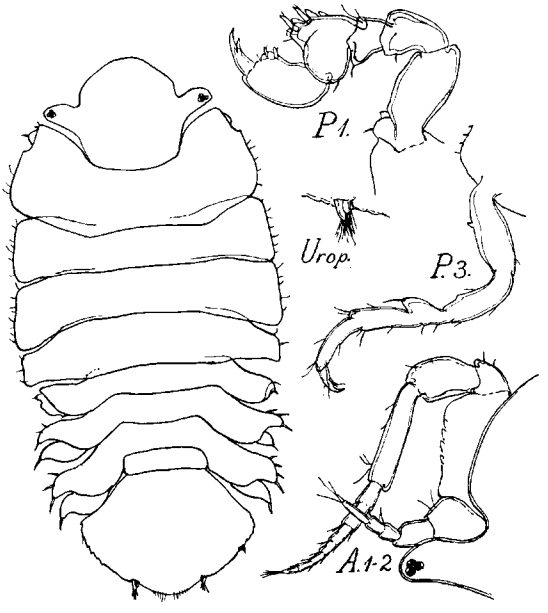


Fig. 25. *Paramunna (serrata?).*

specimens (from Wiencke Isl.); there are several small disagreements between Miss Richardson's and the present specimen (the Auckland spec. has distinct "neck" on the head, the epimeral parties of some of the mesosome segments appearently bifid, and the metasome is much shorter and more distinctly rhomboid; also the length is smaller [2 and not 4 mm], and yet I dare not establish a new species. —

Distribution: Wiencke Isl. (S. of South America, abt. $64^3/_4{}^0$ S., $65^1/_2{}^0$ W.) (Richardson l. c.).

Suborder **Flabellifera.**

Genus *Cirolana* Leach.

57. *Cirolana Rossii* Miers.

Cirolana rossii Miers, Ann. Mag. Nat. Hist. ser. 4, vol. 17, 1876, p. 228.
— — — Catal. New Zealand Crust 1876, p 109, pl. 3 fig. 3.
— — Hutton, Trans. New Zealand Inst., vol. 11, 1879, p. 340.
— — Chilton, 1909, p. 651.
— — Nierstrasz, Zool. Mededeel. Leiden, vol. 3, 1917, p. 91, figs. 11—17.

Occurrence. Auckland Isl.: Port Ross 9 fath., sand, crab-net, 27.11.1914, numerous spec. — Coleridge Bay, Carnley Harbour, 4.12.1914, sandy clay, abt. 25 fath., 1 spec. —

The material was determined from the description and figs. of Nierstrasz l. c. 1917, and from comparison with some specimens belonging from of old to our Museum: from Akaroa (New Zealand), 6 fath., H. Suter leg. and det., and from "Auckland Isl.", Hutton coll., Mus. Berlin ded. 1890.

I have not had access to Miers' Catalogue 1876; but his description is almost a mere reprint of his paper in Ann. Mag. Nat. Hist., and the figure is without any value (teste Nierstrasz l. c.).

Distribution: Auckland Isl., Campbell Isl.; common on the New Zealand coasts (Chilton 1909). — Great Barrier Isl. (Chilton, Trans. & Proc. New Zealand Inst. vol. 38, 1905, p. 269). — Ile de Milieu (Filhol 1885, teste Nierstrasz).

Fam. **Sphæromidæ.**

* Genus *Limnoria* Leach.

* 58. *Limnoria (Pfefferi* Stebbing?).

Limnoria pfefferi Stebbing, in J. Stanley Gardiner: The Fauna and Geography of the Maldive and Laccadive Archipelagoes, II, London 1906, p. 714, pl. 52 A.

Occurrence: 1 mile E. of Auckland Isl., in floating *"Lessonia"*. 28.11.1914. Abt. 50 spec., most of them 3—4 mm, a few (1 ♀ with ova) 6 mm. New to these waters. —

From the key of the species of genus *Limnoria* given by Chilton 1914 (Ann. Mag. Nat. Hist. ser. 8, vol. 13, p. 287) the specimens in question belong to the present species. They agree in several respects very well with Stebbing's description and

figures, first and foremost in the grooving in the first mesosome segment, but they differ in other characters, the most important of which seem to be the much narrower (not ovoid) epipod of the maxillipeds, and the much shorter (not almost circular) last segment. —

Distribution: Rotten wood in lagoon, Minikoi (Laccadive Archipelago; Stebbing l. c.).

Genus *Exosphæroma* Stebbing.

59. *Exosphæroma gigas* (Leach).

Exosphæroma gigas Stebbing, Proc. Zool. Soc. London 1900, p. 553 (lit.), pl. 39.
— — Chilton, 1909, p. 652.
— — Barnard, Ann. South African Mus. vol. 10, 1914, p. 374 (lit.).

Occurrence. Auckland Isl.: Port Ross, 25(.27).11.1914; Carnley Harbour 27.11.1914; Masked Islands, Carnley Harbour 30.11 and 3.12.1914; Figure-8-Island, Carnley Harbour 2.12.1914.

Campbell Isl.: Perseverance Harbour 9.12.1914.

Almost all the specimens were collected on the shore; sizes up to abt. 25 mm. The species seems to be extremely abundant; at Port Ross was collected more than $0.^{25}$ litre of specimens on Nov. 26th, 1914.

All the specimens belong to the species *E. gigas* (not *E. lanceolatum* White).

Distribution. Together with the very closely related species *E. lanceolatum* White it is circumpolar subantarctic.

* Genus *Isocladus* Miers.

Isocladus Miers, Ann. Mag. Nat. Hist. ser. 4, vol. 17, 1876, p. 228.
— H. J. Hansen, Quart. Journ. Microsc. Soc. vol. 49, 1905, pp. 103, 118.
— Barnard, Ann. South African Mus. vol. 10, 1914, p 384 (lit.).

This genus was hitherto not known from the Auckland and Campbell Islands; it comprises totally the following 8 (4) species.

1. *Sphæroma armata* Milne-Edwards, Hist. Nat. Crust. vol. 3, 1840, p. 210 (New Zealand).
— — Dana, Crust. (Wilke's Exped.) pt. 2, 1852, p. 780, pl. 52 fig. 7 (Bay of Islands, New Zealand).
Isocladus armatus Miers, Catal. N. Z. Crust. 1876, p 112.

This species is by Tattersall 1921 (British Antarctic ["Terra Nova"] Exped. 1910, Natural Hist. Rep., Zool. vol. 3, no 8, p. 217 (lit. and syn.), pl. 5 figs. 9—17) considered synonymous with species no. 2.

2. *Spheroma spinigera* Dana, Crust. (Wilke's Exped.) pt. 2, 1852, p. 780, pl. 52 fig. 8 (Parua Harbour, Bay of Islands, New Zealand).

Isocladus spiniger Miers, Catal. N. Z. Crust. 1876, p. 113.

? — — Chilton, Trans. N. Z. Inst. vol. 38, 1906 (1906), p. 272. (Lyttelton, N. Z.; Chatham Isl.).

? ? 3. *Sphæroma integra* Heller, Reise d. österreich. Fregatte "Novara", Zool., vol. 2, 3. Abt. 1868, p. 138, pl. 12, fig. 8 (teste H. J. Hansen l. c. 1905) (Chile).

? ? 4. *Sphæroma laevis* Haswell, Proc. Linn. Soc. N. S. Wales, vol. 5, 1880, p. 473, pl. 16 (teste W. H. Baker, Trans. R. Soc. S. Austral., vol. 50, 1926, p. 256, *(Isocladus (?) laevis)*, pl. 50, fig. 9—12. (New South Wales).

5. *Isocladus magellanensis* Richardson, see below.

? 6. *Zuzara (Isocladus) excavata* Baker, Trans. & Proc. R. Soc. S. Austral. vol. 34, 1910, p. 84, pl. 34, figs. 4—6 (Gulf St. Vincent, S. Austral.).

Isocladus excavatus Glauert, Journ. R. Soc. West Austral., Perth, vol. 10, 1924, p. 60.

7. *Isocladus tristensis* Leach, see Barnard l. c. 1914, p. 384 (lit.) (Tristan d'Acunha; Gough Island: 40° 20' S., 9° 56' W.).

8. — *howensis* W. H. Baker, Trans. R. Soc. South Austral., vol. 50, 1926, p. 255, pl. 50 figs. 7—8 (Lord Howe Island).

* 60. *Isocladus (magellanensis* Richardson?). (Fig. 26 a).

Isocladus magellanensis Richardson, Proc. U. S. Nat. Mus. vol. 31, 1907, p 14, fig.

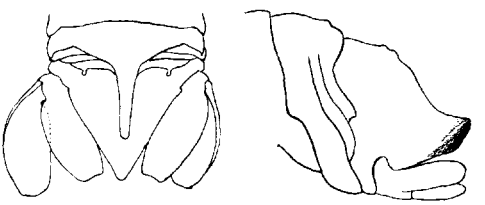
Occurrence. Auckland Isl: Figure-8-Island, Carnley Harbour. Under stones on the shore at low-tide, 2.12.1914. 1 ♂ ad. (with penis) 13 mm long, 7 mm broad; 3 ♀ abt. 9—12 mm. —

♂ agrees very well with *I. magellanensis*, as described by Miss Richardson, but it differs in a few points. Flagellum of ant. 1 has 14 (not 11) joints, that of ant. 2 has 14 (not 13) joints. First mesosome segment at most a trifle longer than any of the following segments. The dorsal process of 7. segment reaches only a little beyond the middle of the last abdominal segment, not almost to the tip. The apex of the last abdominal segment a little more

pointed than in Miss R.'s figure. Inner ramus of urop. abt. 3 times as long as broad; the apex truncate, a little excavate; outer ramus abt. twice as long as broad, with apex rounded, not truncate, but with an indication of a tooth on the distal outer corner. The outer edge is very thick and bent upward (this character not mentioned by Miss R.).

The type specimen (only one spec. was known) was a ♂ (not ♀, as noted in the text), only 7 mm long; probably the differences between the two specimens are only due to difference in age (or they are perhaps geographical differences). —

Barnard refers (Ann. South Afric. Mus. vol. 10, 1914, p. 384) with a ? this species to *I. tristensis* (see above species no. 7); but I do not believe he is right, for in *I. tristensis* the outer rami of urop. are much shorter than the inner rami.



a. b.

Fig. 26. Pleon of *Isocladus magellanensis* (?) ♂ (a) and of *Pseudosphæroma campbellensis* ♂ (b).

With the broad outer rami of the urop. *I. magellanensis* is very easily recognisable from the two New Zealand species *I. armatus* and *I. spiniger*; from the S. Australian species *Zuzara (I.) excavata* it differs among other things in having the distal end of the outer ramus of urop. not evenly rounded.

The 3 ♀ differ essentially from ♂ in totally lacking the long dorsal process; last abdominal segment is shorter, broader and much more abruptly pointed, and urop. much smaller, but having the same shape. —

The type was from Mayne Harbour, Owen Island, Straits of Magellan.

Genus *Cilicæa* Leach.

As it is characterized by H. J. Hansen 1905 (Quart. Journ. Microsc. Soc., vol. 49, pp. 104, 122) this genus comprises 6 (7) species; but one out of this number must be cancelled, being synonymous with another (*C. crassicauda* Haswell 1881 = *C. latreillei* Leach 1818). Later on only one single species has been established viz *C. tridens* Baker 1910.

Stebbing has 1905 (Ceylon pearl oyster report, pt. 4, pp.

34—36) given a key to the species; he divides the genus in species with a medio-dorsal process of pleon in ♂, or without such a process; but only a part of the first group (with dorsal process, and central lobe in apical sinus of ♂ present) belongs to the genus as it is characterized by H. J. Hansen.

List of species.

1. *Nesea caniculata* Thomson, Trans. N. Z. Inst. vol. 11, 1878 (1879), p. 234, pl. 10 fig. A.7.
   Cilicœa canaliculata H. J. Hansen l. c. 1905, p. 123.
2. — *crassa* Haswell, Proc. Linn. Soc. New South Wales vol. 6, 1881, p. 5.
   — — Haswell, Australian Malacostraca, Sydney 1882, p. 298.
   — — Baker, Trans. R. Soc. S. Austral., vol. 50, 1926, p. 259, pl. 43 figs. 1, 2.
3. — *curtispina* Haswell, Proc. Linn. Soc. New South Wales vol. 6, 1881, p. 5, pl. 3 fig. 4.
   — — Haswell, Austral. Malacostraca, Sydney 1882, p. 298.
   — — Baker, Trans. & Proc. R. Soc. South Austral. vol. 32, 1908, p. 142, pl. 4 figs. 12—17, pl. 5 figs. 1—8.
4. — *hystrix* Haswell, l. c. 1881, p. 3, pl. 3 fig. 1.
   — — — l. c. 1882, p. 296.
5. — *Latreillei* Leach, Stebbing, in Ceylon pearl oyster report pt. 4, 1905, p. 36, pl. III B, VIII (lit., syn.).
   — — Barnard, Ann. South Afric. Mus. vol. 10, 1914, p. 396, figs.
6. — *tenuicaudata* Haswell, l. c. 1881, p. 475, pl. 17 fig. 2.
   — — — l. c. 1882, p. 295.
7. — *tridens* Baker, l. c. 1908, p. 81, pl. 23 figs. 1—12.

Species, mentioned by Stebbing l. c. 1905, pp. 34 seq., but not by H. J. Hansen 1905.

C. latreillei var. *longispina* Miers, Zool. Collections of H. M. S. Alert, 1884, p. 310 is a variety of *C. latreillei* (Stebbing 1905, p. 36).

C. antennalis Miers, ibid. 1884, p. 310 — ?

C. granulata Whitelegge, 1902, belongs to gen. *Cilicœopsis* (H. J. Hansen, 1905, p. 123).

C. Whiteleggei Stebbing l. c. 1905, p. 39, Pl. IX A, B is a *Cilicœopsis*.

C. spinulosa Haswell, l. c. 1881, p. 4, pl. 3 fig. 3.
— — — l. c. 1882, p. 297.
— — Baker, Trans. R. Soc. South Austral., vol. 50, 1926, p. 259 (lit.), pl. 42, fig. 4. (This species belongs perhaps to the genus *Cilicœopsis* (H. J. Hansen 1905, p. 123)).

For the species not correctly referred to the present genus, see H. J. Hansen 1905, p. 123; also Miss Richardson 1905 (Bull. U. S. Nat. Mus. no. 54, p. 307 seq.) has a number of such species.

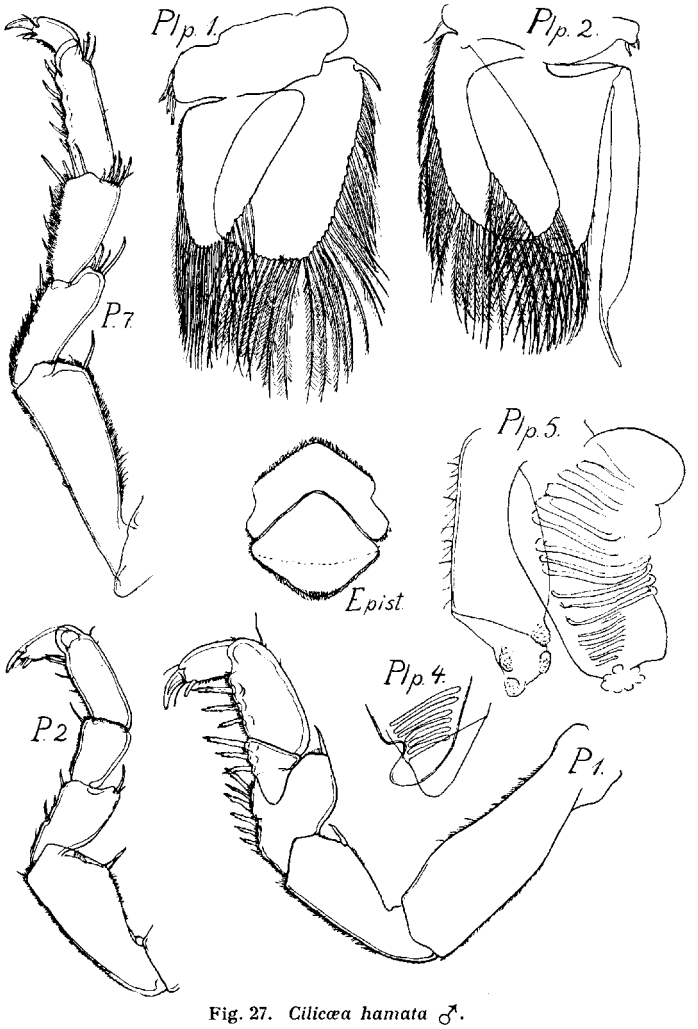


Fig. 27. *Cilicæa hamata* ♂.

* 61. ***Cilicæa hamata*** n. sp. (Figs. 27—28).

Occurrence. Auckland Isl.: Carnley Harbour, 45 fath., sandy clay, 6.12.1914; abt. 70 spec. (♂, ♀, jun.).

Campbell Isl.: Perseverance Harbour, 10—20 fath., sandy clay, 9.12.1914. 1 ♂ jun. 10.5 mm. —

The name is an allusion to the most important character, the hook on pleon of ♂. —

Description of ♂, 11 mm (compared with the type species of the genus, *C. latreillei*, as described by Stebbing [Ceylon pearl oyster report, pt. 4, 1905, pls. III (B), VIII]).

Integument covered with short stiff hairs; on the edges of the segments there are some longer and more heavy setæ. Hind edge of all pereional segments thickened. Side plates of 2.—7. segments acute, equal length, no. 3 not shorter than nos. 2 and 4. Anterior division of pleon has a thick medio-dorsal process (— in a number of specimens cleft in the apex —) which does not reach the middle of the posterior portion. The posterior portion has in the middle of the dorsal line a strong hook with apex directed forward. The tongue in the hind notch triangular. The male characters of pleon are not to be found in specimens smaller than abt. 9 mm.

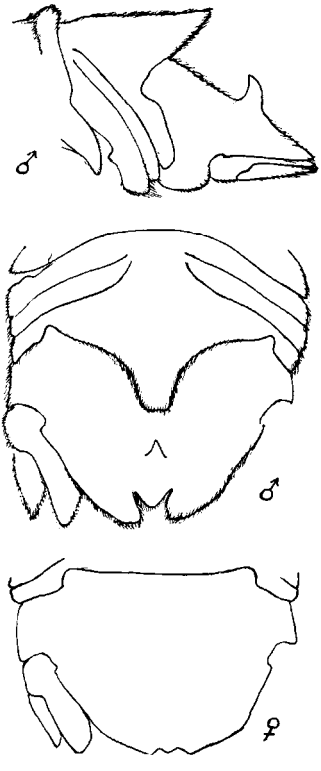


Fig. 28. *Ciliœa hamata*, pleon of ♂ and ♀.

Ant. 1 equal length to ant. 2, flagellum has only 10—11 joints. Ant. 2: flagellum has 11—12 joints, as long as peduncle. Upper lip somewhat different from Stebbing's figure. Oral parts upon the whole as in *C. Latreillei*, but the lobes on the joints of the palp of the maxillipeds longer and narrower.

P. 1 (Stebbing: gn. 1) differing from *C. Latreillei* in the following points: no dorsal process on 3. joint, and 5.—6. joints have only 3 spines on the under edge. The short nail on the dactylus not serrate. P. 2 somewhat more slender than p. 1, upon the whole like *C. Latr.* P. 7 has fewer spines, but is hardly setose on the under margin of 4.—5. joints and on the upper margin of 3. joint.

Plp. 1 upon the whole as in *C. Latr.*, but median margin of inner ramus is straight, without any concave apical sweep. Plp. 2: the male stilet almost straight, only a little more than $1^1/_2$ time as long as inner ramus; outer ramus has outer margin evenly curvate, so that the whole ramus is almost lanceolate, not triangular as in *C. Latr.* Plp. 4 has a notch on the median margin close to apex. Plp. 5 has a large lobe on median side of proximal end of inner ramus. Urop. have the acute outer ramus almost as long as the obliquely truncate inner ramus. —

♀ (10 mm) differs in some few points from ♂. Hind edge of anterior portion of pleon evenly rounded, without dorsal process; posterior portion without hook, only evenly vaulted, and both tongue and notch in the hind edge very small. Ant. 1 a little shorter than ant. 2, flagellum 10-articulate; flagellum of ant. 2 has 10—11 joints.

Genus *Pseudosphæroma* Chilton.

62. *Pseudosphæroma campbellensis* Chilton. (Fig. 26 b [p. 364]).

Pseudosphæroma campbellensis Chilton, 1909, p. 654, figs. 15–16.

Occurrence. Auckland Isl.: Port Ross, the coast under stones at low-tide, 27.11.1914. Numerous spec. (> 100) up to 7 mm.

The species is very easily recognisable on account of the apex of pleon of ♂ being very much turned upward (see fig.); Chilton does not give a figure of this character, but mentions it in the text.

Distribution. Campbell Island: Perseverance Harbour, on the shore, at the mouth of a small freshwater stream; Auckland Isl. (Chilton l. c.).

Genus *Dynamenella* H. J. Hansen.

Dynamenella H. J. Hansen, Quart. Journ. Microscop. Soc. vol. 49, 1905, pp. 107, 126.

— Barnard, Ann. South Afric. Mus. vol. 10, 1914, p. 410

63. *Dynamenella Huttoni* Thomson.

Sphæroma savignii Krauss, Südafrik. Crust. 1843, p. 65 (non M.-Edw.) (teste Barnard l. c. 1914).

— — Stebbing, Ann. South Afric Mus. vol 6, 1910, p. 432 (teste Barnard l. c. 1914).

Dynamene huttoni Thomson, Trans. New Zealand Inst. vol. 11, 1879, p. 234, pl. X A, fig. 6.
Dynamenella — Chilton 1909, p. 657.
— *kraussi* Barnard l. c. 1914, p. 415, pl. XXXV B (teste Barnard in a written emendation).

Occurrence. Auckland Isl.: Carnley Harbour, Adam's Isl., on the shore, 29.11.1913, 1 spec. 14 mm; Figure-8-Isl., Carnley Harbour, under stones at low-tide, 2.12.1914, 1 spec. abt. 12 mm. New to these islands.

Distribution. Very common on the New Zealand coast; Antipodes Island (Chilton 1909). — Cape Town; Natal (Barnard l. c. 1914). — Natal (Krauss l. c.).

Suborder **Valvifera.**

Fam. **Idoteidæ.**

Genus *Idotea* J. C. Fabricius.

64. *Idotea elongata* White (Miers).

Idotea elongata Miers, Ann. Mag. Nat. Hist. ser. 4, vol. 17, 1876, p. 225.
— — Chilton, Transact. New Zealand Inst. vol. 22, 1889 (1890), p. 198 (lit.).
— — Chilton 1909, p. 658.

Occurrence. Auckland Isl.: Port Ross, 10 fath., sand and algæ, 25.11.1914, 1 spec. 41 mm; Figure-8-Island, Carnley Harbour, on the shore, 2.12.1914, 5 spec. abt. 30 mm. The type-specimens were from the Auckland Isl.

Distribution. Auckland Isl.: Musgrave Harbour; common at New Zealand; Falkland Isl. (Chilton 1909).

Suborder **Oniscoida.**

Fam. **Trichoniscidæ.**

Genus *Trichoniscus* Brandt.

As Budde-Lund has pointed out (Deutsche Südpolar-Exped. 1901—03, Bd. 9 (Zool. Bd. 1), 1906 (1908), p. 83), almost all the species from the southern hemisphere are distinguished in having the eyes composed by three ocelli, separated from each other.

This section comprises the following species:

T. commensalis Chilton, Transact. New Zealand Inst. vol. 42, 1910, p. 191 (from ants' nests, New Zealand).

T. kermadecensis Chilton, ibid. vol. 43, 1911, p. 569, fig. (Kermadec Isl.).
T. magellanicus Dana. See Stebbing, Proc. Zool. Soc. 1900, p. 566, Chilton 1909, p. 661 and Monod, 1926, p. 41, figs. (Tierra del Fuego, Falkland Isl., Campbell and Aukland Isl.).
T. otakensis Chilton, see below.
T. phormianus Chilton, Trans. Linn. Soc., Zool., vol. 8, 1901, p. 115, pl. 12 fig. 1 (New Zealand).
T. Thomsoni Chilton, see below.
T. verrucosus Budde-Lund, Deutsche Südpolar-Exped. 1901—03, Bd. 9 (Zool. Bd. 1), 1906 (1908), p. 79. (Crozet Isl.).

* 65. *Trichoniscus otakensis* Chilton. (Fig. 29).

Philougria rosea Chilton, Trans. New Zealand Inst. vol. 15, 1883, p. 149 and p. 73 (in part) (teste Chilton 1901).
Trichoniscus otakensis n. sp. Chilton, Trans. Linn. Soc., London, Zool, vol. 8, 1901, p. 117, pl. 12 fig. 2 (syn.).
? — — Wahrberg, Arkiv för Zool. vol. 15, 1922, p. 76, fig. 32.

Occurrence. Auckland Isl.: Under wood or stones 25.11. 1914, abt. 10 spec. including several ♀ with ova. Amokura Harbour, in the forest under wood, 1.12. 1914, 1 spec. New to these Islands.

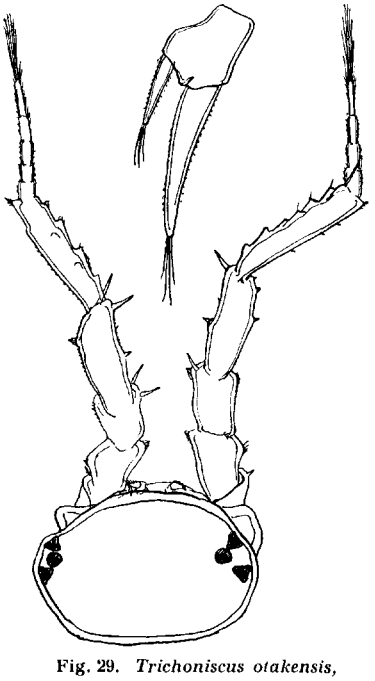


Fig. 29. *Trichoniscus otakensis*, head and uropod.

Remarks. The species is easily recognisable by the tuberculate surface and by the prominences on the median side of 5. joint of the antennæ (see fig. 29). In the uropoda the inner ramus is shorter than in the other New Zealand and Auckland Islands species, scarcely half as long as outer ramus.

Upon the whole the specimens agree very well with Chilton's description and figs. (l. c. 1901), but the antennæ have 5 (not 4) joints in flagellum (the specimen figured has 4 joints in the right antenna, 5 in the left).

Distribution. "Widely distributed throughout the South Island, N. Z., in damp situations" (Chilton

l. c. 1901). ? Bridgetown, Yallingup (W. Australia; R. Wahrberg l. c. 1922). — Chatham Island: Whangamarino, in bush 700 feet; Maunganui (Chilton, Records Canterbury Mus., vol. 2, 1925).

66. ? *Trichoniscus Thomsoni* (Chilton.)

Philygria Thomsoni Chilton, Trans. New Zealand Inst. vol. 18, 1886, p. 159, pl. 5 figs. 1—6.
Trichoniscus — Chilton, Trans. Linn. Soc. London, Zool. vol. 8, 1901, p. 115 (key), 118, pl. 13 fig. 1.
— — Budde-Lund, Deutsche Süd-Polar Exp., vol. 9 (Zool. vol. 1), 1904 (1909), pp. 83, 84, pl. 4 figs. 22—24.
— *thomsoni* Chilton, 1909, p. 661.
— *Thomsoni* Wahrberg, Arkiv för Zoologi vol. 15, part 1, 1922, p. 79.

Occurrence. Auckland Isl.: Under wood and stones 25.11.1914, abt. 10 spec. (several ♀ with ova). —

Not without dubitation have I referred a number of specimens to the present species. Especially the large 1. epimeral plate of the mesosome is very characteristic; but the specimens disagree from Chilton l. c. 1901 in the surface not being quite smooth, but provided with a few scattered fine hairs; on the head a few small warts or buds. Inner ramus of urop. almost $^4/_5$ the length of outer ramus.

Distribution: Auckland Isl.; New Zealand (Chilton). — Yarrahdale (W. Australia; Wahrberg l. c. 1922).

Fam. **Scyphacidæ.**

Genus *Deto* Guérin.

67. *Deto aucklandiæ* (G. M. Thomson).

Deto aucklandiæ Chilton, 1909, p. 667, fig. 19 (lit. and syn.).
— — — Journal Linn. Soc., Zool., vol. 32, 1915, p. 445 (lit. and syn.), pl. 39 figs. 24—30, pl. 40 figs. 31—44.

Occurrence. Auckland Isl.: Amokura Harbour, under stones on the shore, 30.11.1914; numerous spec.

The species is probably not found outside the Auckland Islands; see Chilton l. c. 1909 and 1915.

Fam. **Oniscidæ.**

Genus *Phalloniscus* Budde-Lund.

68. *Phalloniscus punctatus* (G. M. Thomson).

Oniscus punctatus Chilton, Trans. Linn. Soc. London, Zool, vol. 8, 1901, p. 133, pl. 16 fig. 2 (lit.).

— — Chilton, 1909, p. 668.

Phalloniscus — Budde-Lund, Isopoda; Voeltzkow, Reise in Ostafrika in den Jahren 1903—05, Bd. 2, Stuttgart 1908, p. 296.

Occurrence. Auckland Isl.: Under wood and stones 25.11.1914, abt. 25 spec. — Adam's Island, under wood, 29.11. 1914, abt. 25 spec. — Amokura Harbour, under wood in the forest 1.12.1914, 1 spec.

The majority of the specimens are ♀ with ova or young.

The specimens agree very well with the description given by Chilton 1901; but inner ramus of the uropoda is $^2/_3$ as long as outer ramus.

Distribution: Auckland Isl., numerous spec.; New Zealand, Tasmania?, Australia? (Chilton 1909).

Fam. **Armadilliidæ.**

Genus *Cubaris* Brandt.

69. *Cubaris rugulosus* (Miers).

Armadillo rugulosus Chilton, Trans. Linn. Soc. London, Zool., vol. 8, 1901, pp. 144, 147, pl. 16 fig. 7 (lit.).

Cubaris — Chilton, 1909, p. 668.

Occurrence. Auckland Isl.: Under wood and stones 25.11.1914, abt. 15 spec. — Adam's Island, under wood 29.11. 1914, 3 spec.

Distribution: Auckland Isl., Campbell Isl., New Zealand (Chilton 1909).

Tanaidacea.

Fam. **Tanaidæ.**

Genus *Tanais* Audouin & Milne-Edwards.

Tanais Vanhöffen, 1914, p. 465 (list of species).

70. *Tanais novæ=zealandiæ* Thomson?

Tanais novæ-zealandiæ Thomson, Ann. Mag. Nat. Hist. ser. 5, vol. 4. 1879, p. 417, pl. 19 figs. 5—6.

— — Thomson, Trans. N. Z. Inst. vol. 13, 1880 (1881), p. 207, pl. 7 fig. 3 (reprint of l. c. 1879).

— — Chilton, 1909, p. 669.

— — Tattersall, Tanaid. and Isop. — Brit. Antarct. ("Terra Nova") Exped. 1910, Nat. Hist. Rep., Zool. vol. 3, no. 8, 1921, p. 198, pl. 1 figs. 1—5 (lit. and syn.).

Occurrence. Auckland Isl.: Masked Isl., Carnley Harbour, rocky coast, 30.11.1914, 1 ♀ ovig., and 3.12.1914, numerous spec. (> 100), most of them ♀ ovig. —

The specimens agree upon the whole very well with Thomson's and Tattersall's descriptions and figures; the uropoda have (5) 6—7 joints, but I have not been able to find the minute terminal joint. The size is abt. 4 mm (Thomson: 4.5 mm, Tattersall: 5.5 mm).

Distribution: Campbell Isl.: Perseverance Harbour; the Snares. New Zealand, common (Chilton 1909). — 7 miles E. of North Cape, N. Z., 70 fath. (Tattersall l. c. 1921).

* Genus *Nototanais* Richardson.

Nototanais Richardson, 1906 (1907), p. 1.

The genus comprises the following four species.

1. *N. dimorphus* (Beddard) (= *N. australis* Richardson); for lit. see Tattersall (Brit. Antarct. ["Terra Nova"] Exped., Tanaid. and Isop., 1921, p. 197). — Distribution: Kerguelen Christmas Harbour, Cumberland Bay) 127 fath. (Beddard 1886). — Kerguelen: Observatory Bay (Vanhöffen 1914). — East-side of Victoria Land: Granite Harbour, entrance to Mac Murdo Sound, 50 fath. (Tattersall 1921), and Port Charcot, 27 fath (Richardson 1908).
2. *N. antarcticus* (Hodgson).

Paratanais antarctica Hodgson, Southern Cross Collections 1902, p. 240, pl. 21. (East side of Victoria Land: Cape Adare, 20—24 fath., from the roots of seaweed).

Nototanais antarcticus Richardson, 1906 (1907), p. 3, figs. (Booth-Wandel Isl., Wiencke Isl., 20—40 m).

— *antarcticus* Hodgson, National Antarctic Exped. 1901—04, Natural Hist., vol. 5, Zool. & Bot., 1910, p. 6 (Winter

Quarter [Mac Murdo Sound], a very large number, down to 45 m).

3. *N. werthei* Vanhöffen, 1914, p. 471, figs. (Kerguelen).
4. *N. magellanicus* Monod, Bull. Mus. Paris 1925, p. 296.
   - — Monod, 1926, p. 10, fig. (Magellan Strait).

* 71. *Nototanais* sp.

Occurrence. Auckland Isl.: North Branch of Carnley Harbour, 55 fath., clay, dredge, 30.11.1914. 3 ♀ (1 ovig.).

There is no ♂, and I am not able to determine the species. The genus is new to the area.

Fam. **Apseudidæ.**

A list of all genera (and species) up to 1913 is given by H. F. Nierstrasz: Die Isopoden der Siboga-Exped. I, Isopoda Cheliferа (Siboga-Exped., vol. XXXIIa, 1913), pp. 3—20.

Later on only the following genus is etablished:

Trichapseudes (tridens) Barnard, Ann. South African Mus, vol. 17, 1920, p. 325, Pl. 15 figs. 3—8.

* Genus *Metapseudes* n. gen.

The body sausage-shaped (almost cylindrical), without spines or other processes, almost as thick as broad. Cephalosome not broader than mesosome, but posteriorly much deeper. Metasome very short, not much narrower than mesosome. Ocular lobes well defined. Antennæ short and heavy, ant. 1 with extremely short flagella. Oral parts not very different from those in *Apseudes* (Sars, Account of the Crust. of Norway, vol. 2, Isop. 1899, p. 6, Pl. 1). P. 1—2 without exopods, (all other genera of the fam. have exopods, except *Typhlapseudes*, and in *Pagurapseudes* they are only to be found in ♂ (not ♀), and only in p. 2). P. 1 extremely heavy, p. 2—p. 7 much shorter. Plp. short, with uni-articulate rami. Urop. short, the rami with a few joints.

The genus is well characterised by the sausage-shaped body, the very short flagella of ant. 1, the deep cephalosome, the lack of exopods of p. 1—p. 2, the short metasome and the short uropoda.

* 72. *Metapseudes Aucklandiæ* n. sp. (Figs. 30—31).

Occurrence. Auckland Isl.: Masked Isl., Carnley Harbour, rocky coast. 3.12.1914. Abt. 30 ♀, 4 ♂. — Ibid., on the shore under stones at low-tide, abt. 35 ♀, 6 ♂.

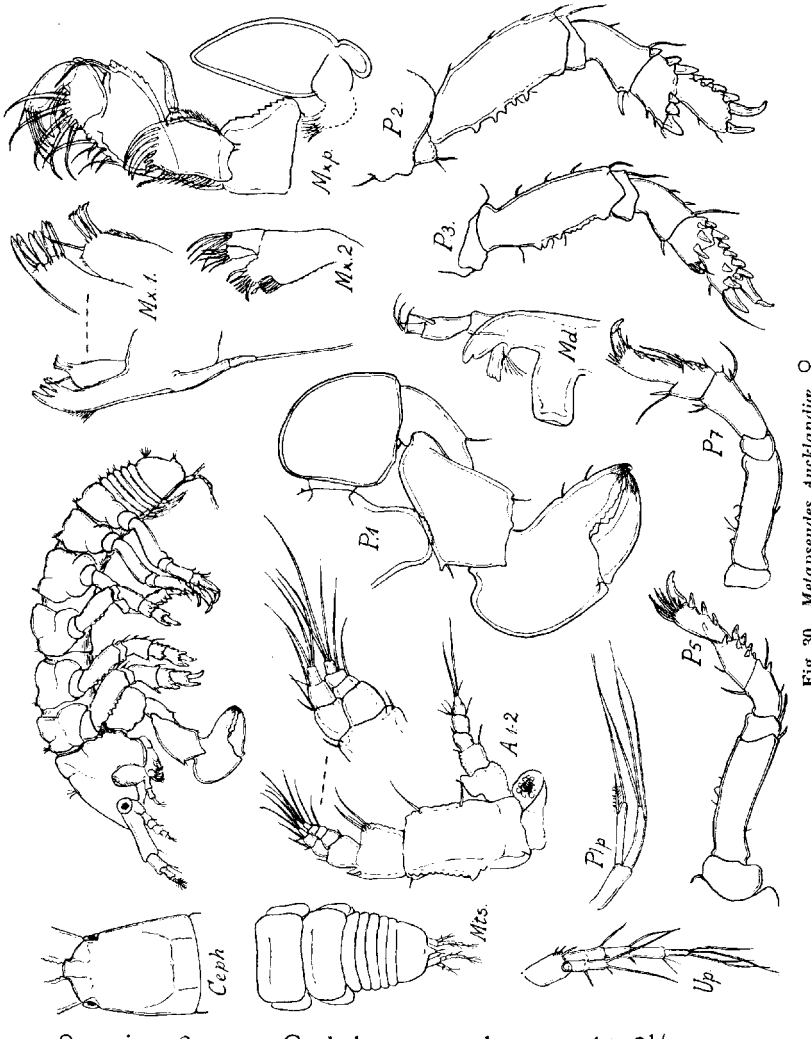


Fig. 30. *Metapseudes Aucklandiæ* ♀.

♀ ovig., 3 mm. Cephalosome as long as abt. $2^1/_2$ mesosome segments, very indistinctly areolated above; rostral plate truncate. Ocular lobes ovate, with distinct black eyes. Mesosome segments defined by not very deep constrictions, very slightly areolated; the

last two segments shorter than the others. The 5 free metasome segments combined only a trifle longer than the last mesosome segment; terminal segment as long as the free segments combined, posteriorly rounded and with a little apical bud a little above the under edge.

Ant. 1 very short and heavy, incl. the flagella shorter than cephalosome along the dorsal line. 1. joint of peduncle longer than the rest of the ant., broad, with granulate margins. Flagella not longer than 3. peduncular joint; inner flagellum with 3, outer flagellum with 4 joints. Ant. 2 very short, as long as 1. peduncular joint of ant. 1. Oral parts almost as those in *Apseudes*, and the anterior lip has an acute spine. P. 1 very robust, basal joint almost globulate; hand oblong ovate, with small teeth. P. 2 a little longer and heavier than the next pereiopoda. 2. joint of p. 2 broad, with denticles on the fore margin; 5.—6. joints broad, with the anterior corner protruded and with heavy denticles on the under and hind margin. P. 3—4 as p. 2, but narrower. P. 5—6 more slender than p. 3—4 and with shorter denticles; p. 5 (but not p. 6) has a tuft of serrate spines on the distal end of 6. joint. P. 7 rather slender, with very few denticles and a tuft of short spines on the distal end of 6. joint. Plp. have uni-articulate rami: inner ramus with 1 short and 1 long seta, outer ramus with 3 long setæ. Urop. have the two rami very short; outer ramus has 2, inner ramus 4—5 joints. —

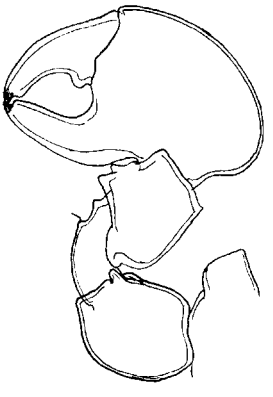


Fig. 31. *Metapseudes Aucklandiæ*, ♂, *chela.*

♂ ad., 2.5 mm (Fig. 31) differs from ♀ only in the following characters. Body somewhat more slender. Ant. 1 more slender; 1. peduncular joint 3 times as long as broad. P. 1 much more robust than in ♀, especially the hand; the non-articulate finger curvate and has no teeth; only the movable dactylus has 1 strong tooth close to the base.

Nebaliacea.

Fam. **Nebaliidæ.**

Genus *Nebalia* Leach.

73. *Nebalia longicornis* G. M. Thomson.

Nebalia longicornis G. M. Thomson, Ann. Mag. Nat. Hist, ser. 5, vol. 4, 1879, p. 418, Pl. 19 figs. 7–9.
— — Sayce, Victorian Naturalist, vol. 18, 1902, p. 151.
— — Thiele, Report "Valdivia", vol. 8, 1904, Crust., p. 9, pl. 4 figs. 66–69.
— — Thiele, Deutsche Südpolar Exped. 1901–03, vol. 9 (Zool. 1), Leptostraca, 1905, p. 66, Pl. 2 figs. 14–17.
— — Thiele, Nat. Antarct. ("Discovery") Exped. 1901–04. Nat. Hist. 3, 1907, Leptostraca, p. 1, textfigs.
— — Chilton, 1909, p. 669.
— — Calman, British Antarct. ("Terra Nova") Exped. 1910, Zool. vol. 3, no. 5, 1917, p. 156.

Occurrence. Auckland Isl.: Port Ross, 19 m., sand, algæ, 25.11.1914. 1 spec.

Chilton records the species from Musgrave Harbour (Auckland Isl.).

Distribution. The species is widely distributed in southern seas. The typical *N. longicornis* is known from New Zealand (probably rather common), Port Philip (Victoria), Friendly Islands and New Britain (Chilton 1909); a variety, *N. longicornis* var. *magellanica*, is known from Mc. Murdo Strait, Gaussberg and Magellan Strait (Chilton 1909).

The species is not found in South African waters where it is replaced by another species, *N. capensis* (K. H. Barnard, Ann. South African Mus., vol. 10, 1914, p. 444, figs.).

Entomostraca.

Copepoda.

Fam. **Cancerillidæ.**

Genus *Cancerilla* Dalyell.

* 74. *Cancerilla neozelanica* n. sp. (Fig. 32).

Occurrence. Auckland Isl.: Carnley Harbour, abt. 85 m, sandy clay. 6.12.1914. 1 spec. (♀ ovig., length 0.70 mm; type) on *Amphipholis squamata*.

Description. The genus *Cancerilla* comprised hitherto only one species, *P. tubulata* Dalyell (on *Amphipholis squamata* D. Ch.), distributed from W. Norway (the Trondhjemfjord) to the Mediterranean. At the Auckland Isl. (and at New Zealand) Dr. Th. Mortensen has secured a second species, infesting the said cosmopolitan species of brittle-star.

At the first glance the new species can be distinguished from *C. tubulata* (G. O. Sars, Crust. of Norway, vol. 6, 1918, p. 139, Pl. 80) in that the cephalic segment has the greatest breadth at

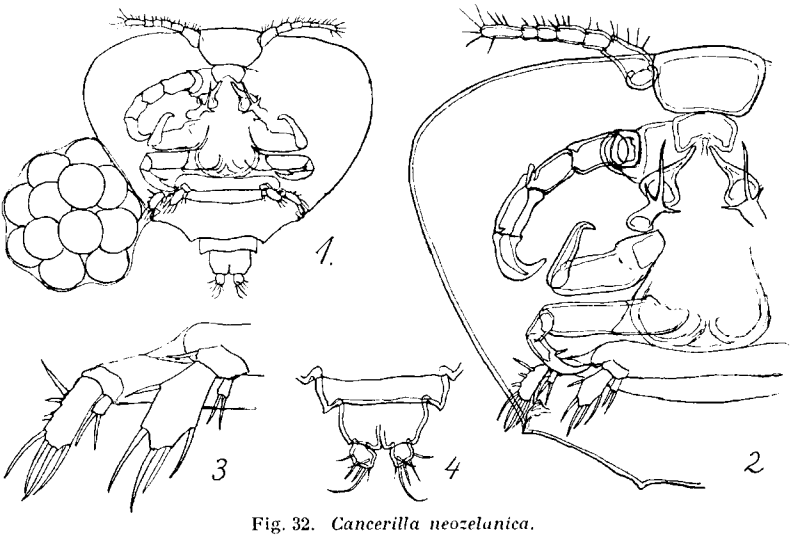


Fig. 32. *Cancerilla neozelanica.*

the fore end, not at abt. the middle; and in that the genital segment is extremely broad, almost half as broad as the cephalic segment and abt. 4 times as broad as it is long, somewhat oblong 6-angulate (in *C. tubulata* only abt. $^1/_3$ as broad as the cephalic segment and with the lateral edges almost parallel).

The width of the cephalic segment greatly exceeds the length; the front very slightly produced. The next segment totally as in *C. tubulata*; the remaining trunk segments very imperfectly developed, and it is quite impossible to trace the limits between the segments. Tail (fig. 32, 4) very short.

Eyes could not be found.

Ant. 1, ant. 2, md., max. and mxp. 1—2 very nearly as in

C. tubulata, but ant. 1 and mxp. 2 have no spines (except one on mxp. 2), and I have not been able to trace the articulation between the two distal joints of mxp. 2. Also p. 1—p. 2 (fig. 32, 3) do not differ much from *C. tubulata*, but p. 3—p. 5 could not be found. The two ovisacs globular, each of them containing abt. 20 ova. —

The find of this species is very interesting; for it is specifically different from the European species, and yet it infests the same (cosmopolitan) host.

Distribution. Plimmerton, New Zealand, on the shore. 15.1. 1915, Dr. Th. Mortensen leg. 1 ♀ ovig., 0.80 mm.

Fam. **Notodelphyidæ.**

* 75. *Doropygus trisetosus* Schellenberg 1922. (Fig. 33).

Doropygus trisetosus Schellenberg, Mitt. Berliner Zool. Museum 1922, p. 249.

The determination, the description and the accompanying figures of this species were kindly worked out by Prof. Dr. A. Schellenberg of the Zool. Museum, Berlin; I beg Prof. Schellenberg to accept my most sincere thanks for this very valuable help.

Occurrence. Auckland Isl.: 3 specimens: a) 2 ♀ 3.5 mm, with the incubatory pouch filled with eggs, 29.11.1914; b) 1 ♀ 2 mm, without eggs in the incubatory pouch; no date. — All the specimens were found in *Styela* sp.

Description: On account of the large mass of eggs in the oviduct and in the incubatory pouch the free thoracal segments in spec. a (fig. 33, 1) only indistinctly recognisable. Thorax together with incubatory pouch ovate. The incubatory pouch is rounded behind and has ventrally a little bend on account of the prominent margin. In spec. b the borders of the segments of the free thorax are distinct; in this specimen the incubatory pouch is more acute in the hind part. The lengths of the abdominal segments decrease steadily from the second to the fourth segment. The fifth segment is cleft into two bulbous half parts. Each of the two half parts has a somewhat curvate furcal ramus, the proportion of the length of this latter to the length of the fifth segment is as 3 : 2. The apex of the furca ends in a feeble spine, at the base of which there are some very small teeth.

The 9-articulate first antenna is somewhat compressed. The apical joints are almost rectangularly curvate toward the first joint. None of the setæ of the antenna much longer than the others; only the two largest setæ of the first joint are feebly feathered. The compressed, 3-articulate second antenna is unarmed, except a few setæ near the base of the heavy apical claw (fig. 33, 2).

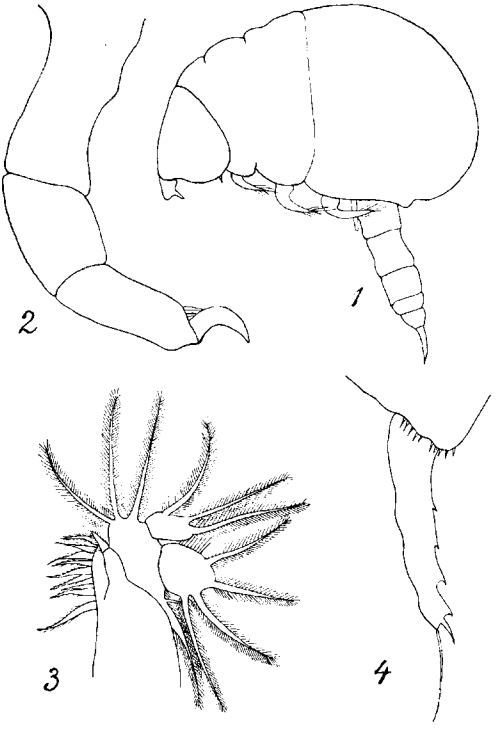


Fig. 33. *Doropygus trisetosus*. 1: ♀; 2: second antenna; 3: first maxilla; 4: fifth leg.

On the mandible the second and third teeth are almost equal-sized, the third and fourth teeth coalesced with the masticatory part and free only at their apex. The distal seta of the first joint of the exopodite is much stronger and longer than the others. The second joint has 9 setæ. The four setæ on the somewhat slender exopodite are only very little different as to strength and length.

On the first maxilla (fig. 33, 3) there are three setæ on the inner margin of the second joint; these setæ have the same length as those of the exopodite. Only the first seta is somewhat shorter. The oval endopodite tapers to a seta. On the inner side of its base and about at the centre of the inner margin of the endopodite is a seta; all the three setæ are almost equal in length. The exopodite is somewhat longer and almost twice as broad as the endopodite.

The second maxilla and the maxillipede are shaped as those of *D. pulex*.

First to fourth legs have the inner seta of the basal joint well developed: the rami strongly dentate on the joints; the endopodite

is bi-articulate. Of the spines with sharp edges of the exopodite of the first leg the first marginal spine is the largest and strongest; then come the apical spine, the fifth, the second or the fourth, and the third spine. The outer setæ of the exopodite of the second to the fourth legs are medium sized. The third outer seta is the shortest, and in all the three pairs it is distinctly shorter than the apical joint. Otherwise the natatory legs are of the same shape as in *D. pulex.*

The fifth spatula-shaped leg (fig. 33, 4) is slender, and becomes narrower toward the apex. Its base is abt. $^1/_4$ as broad as its length. Apically is a seta abt. half as long as the ramus, and a somewhat curvate spine, as long as the breadth of the apex of the ramus. The inner margin has near the apex two incavations formed like steps. Near the base there are two small incavations, essentially formed by two small marginal teeth. —

The species is very nearly allied to *D. pulex*, from which it disagrees mainly as regards the apical spines of the furca, the slender fifth leg, and especially in the number of setæ (three) of the endopodite of the first maxilla.

Distribution. Stewart Isl., New Zealand (Schellenberg 1922).

Zoogeographical remarks on the Malacostracan fauna of the subantarctic islands of New Zealand.

21 terrestrial species (including the sand-hoppers on the shores), 3 fresh water species, and 79 marine species from the littoral zone, totally 103 species, are known from the islands, and for no less than 27 species the islands are the type locality (see the tables pp. 382—85).

Fresh-water species. Only three are known from the islands, viz. *Atyloides aucklandicus* Walker (non Chilton), *Chiltonia mihiwaka* and *Idotea lacustris.* Of these the first species is endemic (only found on the Auckland Isl.), but somewhat doubtful; *Chiltonia mihiwaka* is known also from New Zealand and Australia, *Idotea lacustris* from New Zealand and possibly from Terra del Fuego.

Terrestrial species (including the sand-hoppers of the shores). Totally 21 species, viz. 13 Amphipoda (fam. *Talitridæ*) and 8 Isopoda (all being *Oniscoida*). 8 of these seem to be endemic, 5 (6?)

Fresh-water and terrestrial species of Malacostraca (including the sand-hoppers found on the shores)	Subantarctic Islands of New Zealand						Stewart Isl.	New Zealand	Australia	Tasmania	Magellan Region	South Africa	Circumpolar subantarctic	Antarctic	Kerguelen	Other localities
	Bounty Isl.	Antipodes Isl.	Macquarie Isl.	Campbell Isl.	Auckland Isl.	Snares										
AMPHIPODA																
[2] [*Atyloides aucklandicus* Walker					[1] t. l.											
Orchestia serrulata Dana				+	+			+								
— *aucklandiæ* Sp. Bate					+		+	+								
— *bollonsi* Chilton	t. l. ?				+	+			+							
Chiltonia mihiwaka (Chilton)				+	+			+	+							
Parorchestia maynei Chilton					t. l.											
— *insularis* Chilton				t. l.	+											
— *parva* Chilton					t. l.											
[— *improvisa* Chilton						t. l.	+	+								
[— *tenuis* (Dana)				+				+								
Hyale hirtipalma Dana		+	+	+	+			+			+	+			+	Peru, Chili.
[— *novæ-zealandiæ* (Thomson)			+			+		+				+[*]		+[*]		Valparaiso.[*]
[— *campbellica* Filhol				t. l.												
[*Allorchestes novæ-zealandiæ* Dana					+			+			?					
[3] * — *compressus* Dana					+				+	+						
ISOPODA																
[*Idotea lacustris* Thomson				+				+			?					
* *Trichoniscus otakensis* Chilton					+			+	+							
— *thomsoni* Chilton					?			+	+							
[— *magellanicus* Dana				?	?						+					
[*Haplophthalmus australis* Chilton				t. l.												
[*Scyphoniscus magnus* Chilton				t. l.	+											
Deto aucklandiæ (Thomson)					t. l.											
Phalloniscus punctatus (Thomson)					+			+	?	?						
Cubaris rugulosus (Miers)				+	+			+								

[1]) t. l. = type locality. [2]) [= species not taken by Dr. Th. Mortensen. [3]) * = species new to the islands.

*) *H. grandicornis* (= *H. novæ-zealandiæ*), teste Barnard, Ann. South Africa Museum, vol. 15, 1916, p. 230.

Marine species of Malacostraca (excluding the sand-hoppers on the shores)	Subantarctic Islands of New Zealand															Other localities
	Bounty Isl.	Antipodes Isl.	Macquarie Isl.	Campbell Isl.	Auckland Isl.	Snares	Stewart Isl.	New Zealand	Australia	Tasmania	Magellan Region	South Africa	Circumpolar subantarctic	Antarctic	Kerguelen	
DECAPODA																
Leptomithrax australis (Jacq. et Luc.)					+		+	+								
Prionorhynchus edwardsii (Jacq. et Luc.)				+	+		+	+								
Cancer novæ-zelandiæ (Jacq et Luc.)					+		+	+								
Nectocarcinus antarcticus Jacq. et Luc.				+	+		+	+								
[*Hemiplax hirtipes* Heller				+				+								
Halicarcinus planatus (Fabr.)			+	+	+		+	+			+		+			
[*Hymenosoma depressum* (Jacq et Luc.)					+			+								
[*Marestia Mawsoni* Rathbun			t. l.													
Eupagurus Campbelli Filhol				t. l.	?											
Porcellanopagurus Edwardsii Filhol				t. l.	?	+	+	+								
Munida subrugosa (White)				+	+		+	+			+					Monte Video.
Nauticaris marionis Sp. Bate				+	+		+				+	+				
* *Tozeuma novæ-zealandiæ* Borradaile					+			+								
[*Palæmon affinis* (H. M. Edw.)				+				+	+	+	+	+	+			
* *Pontophilus pilosoides* n. sp				+	t. l											
EUPHAUSIACEA																
[*Thysanoëssa gregaria* G. O. Sars			?						+		+	+				Very widely distributed.
STOMATOPODA																
[*Lysiosquilla spinosa* (Wood-Mason)					+			+								Andamans
* *Squilla armata* H. M.-Edwards					+			+	+		+	+				Chili.
AMPHIPODA																
Parawaldeckia (Nannonyx) kidderi (S. J. Smith)				+	+			+	+	+	+				+	
* *Parambasia Rossi* n. sp.					t. l.											
* *Pseudambasia bipartita* n. sp.					t. l.											
[*Tryphosa kergueleni* (Miers)						+		+						+	+	
[*Tmetonyx stebbingi* (Walker)					+									+		

Marine species of Malacostraca (excluding the sand-hoppers on the shores)	Subantarctic Islands of New Zealand						Stewart Isl.	New Zealand	Australia	Tasmania	Magellan Region	South Africa	Circumpolar subantarctic	Antarctic	Kerguelen	Other localities
	Bounty Isl.	Antipodes Isl.	Macquarie Isl.	Campbell Isl.	Auckland Isl.	Snares										
[*Phoxocephalus kergueleni* Stebbing						+						?			+	
Harpinia obtusifrons Stebbing				+	+									+	+	
* *Amphilochus squamosus* Thomson					+			+	+			+		+		
* *Metopella ovata* Stebbing						+		+						+		
* — *nasica* n. sp.					t. l.											
* *Stenothoë aucklandicus* n. sp.					t. l.											
* *Iphinotus typicus* Thomson					+			+								
* *Panoploea spinosus* Thomson					+			+								
[*Lilljeborgia dubia* (Haswell)						+		+	+	+				+		
[*Carolobatea novæ-zealandiæ* (Dana)					+			+							+	
Leptamphopus novæzealandiæ (Thomson)					+			+						+	+	
Bovallia monoculoides Haswell					+			+	+			+		+		Ceylon, Tuamotu Archip., MonteVideo.
Pontogeneia antarctica Chevreux		+		+	+						+			+		
* — *bidentata* n. sp.				t. l.												
Paramoera [*capensis* f.] *australa* (Sp. Bate)			?	+	+				+	?	+	+		+	+	
* — *fasciculata* (Thomson)			?	+	+			+		?						
* — [*australa* (Sp.Bate)var.] *megalophthalma* (Haswell)				+					+	+						
— *serraticauda* Stebbing					+				+					+		
[— *magellanica* (Walker)					t. l.									?		
* *Atyloides Chevreuxi* n. sp.				+	t. l.									?		
[*Parapherusa crassipes* (Haswell)		+						+	+							
* *Elasmopus viridis* (Haswell)					+			+	+							
* — *Carnleyi* n. sp.					t. l.											
Melita inæquistylis (Dana)					+			+			+	+				Ceylon, India.
Paradexamine pacifica (Thomson)				+	+			+	+					?		
Aora typica Krøyer					+			+							+	Almost cosmopolit.
* *Microdeutopus* sp.					+						? *)					
[*Lembos kergueleni* (Stebbing)			+	+				+							+	Indian Ocean.
* *Haplocheira barbimana* (Thomson)					+			+	+						+	
* *Eurysteus* sp.					+											

*) if identic with *L. fulgiensis* (Stebbing, Proc. Zool. Soc. 1914, p. 369).

*	*Wyvillea longimana* Haswell					+			+	+							
	Jassa pulchella Leach					+				+		+					Almost cosmopolit.
*	*Caprella æquilibra* Say					+			+	+							Almost cosmopolit.
[	*Caprellinopsis longicollis* (Nicolet)						+		+				+				Chili.
	ISOPODA																
	Janira neglecta Chilton					+			+								
	Jais pubescens (Dana)				+	+			+		+	+		+			Ceylon.
*	*Antias hispidus* Vanhöffen					+											St. Paul.
	Haliacris neozelanica (Chilton)				+	+			+								
*	*Paramunna serrata* (Richardson)					?							?		+		
	Cirolana Rossi Miers				+	+			+						+		
[	*Livoneca novæ-zealandiæ* Miers		+					+	+	+		+	? [1]				
[	*Serolis latifrons* (White) Miers					t. l.									+	+	The Crozets.
[*	*Limnoria pfefferi* Stebbing?					?											Laccadive Archipelago.
	Exosphæroma gigas Leach				+	+			+			+	+	? [2]			
	Pseudosphæroma campbellensis Chilton				t. l	+											
*	*Isocladus magellanensis* Richardson					?						+					
[	*Cymodocella tubicauda* Pfeffer					+							?		+		
[*	*Ciliciæa hamata* n. sp.				+	t. l.											
	Dynamenella huttoni Thomson		+			+			+				+				
	Idotea elongata White (Miers)					t. l.			+			+					
[	*Paridotea ungulata* (Pallas)					+			+	+			+	+			Indian Ocean, Chili, Rio de Janeiro.
	TANAIDACEA																
	Tanais novæ-zealandiæ Thomson				+	+	+		+								
*	*Nototanais* sp.					+											
*	*Metapseudes Aucklandiæ* n. sp.					t. l											
	MYSIDACEA																
[	*Tenagomysis tenuipes* Tatt.					t. l.											
	NEBALIACEA																
	Nebalia longicornis Thomson					+			+	+		— [3]			+ [3]		

[1]) if identic with *L. Reynaudi* M.-Edw. (Whitelegge, teste Chilton 1909, p. 652).

[2]) *E. gigas* + *E. lanceolatum.*

[3]) *N longicornis* var. *magellanica.*

are known also from New Zealand (and Stewart Island), 3 (4?) from New Zealand and Australia (+ Tasmania), 1 from Australia, and only 2 (4?) have been found also in other regions (2, viz. *Hyale hirtipalma* and *H. novæ-zealandiæ* very widely distributed in the southern hemisphere, but none of the other species have with certainty ever been found in the Magellan region).

Marine species. Totally 79 species are known from the littoral zone of the islands.

13 (15?) species are endemic, at all events not yet found at New Zealand or anywhere else, viz. 3 Decapoda (*Marestia Mawsoni*, *Eupagurus Campbelli*, and *Pontophilus pilosoides* n. sp.), 6 (8?) Amphipoda (*Parambasia Rossi* n. sp., *Pseudambasia bipartita* n. sp., *Metopella nasica* n. sp., *Stenothoë aucklandicus* n. sp., *Pontogeneia bidentata* n. sp., ? *Atyloides Chevreuxi* n. sp., ? *Paramoera magellanica* (Walker), and *Elasmopus Carnleyi* n. sp.), 2 Isopoda (*Pseudosphæroma campbellensis*, *Cilicæa hamata* n. sp.), 1 Tanaid (*Metapseudes Aucklandiæ* n. sp.), and 1 Mysid (*Tenagomysis tenuipes*).

13 (14?) species are known from the islands and New Zealand, viz. 8 Decapoda (*Leptomithrax australis*, *Prionorhynchus edwardsii*, *Cancer novæ-zelandiæ*, *Nectocarcinus antarcticus*, *Hemiplax hirtipes*, *Hymenosoma depressum*, *Porcellanopagurus Edwardsii*, *Tozeuma novæ-zealandiæ*), 2 (3?) Amphipoda (*Iphinotus typicus*, *Panoploea spinosa*, ? *Paramoera fasciculata*), 2 Isopoda (*Ianira neglecta*, *Haliacris neozelanica*), and 1 Tanaid (*Tanais novæ-zealandiæ*).

5 (7?) species (only Amphipoda) are known from the islands, (New Zealand) and Australia (+ Tasmania) (*Lilljeborgia dubia*, ? *Paramoera fasciculata*, *P.* (*austrina* var.) *megalophthalma*, *Parapherusa crassipes*, *Elasmopus viridis*, ? *Paradexamine pacifica*, *Wyvillea longimana*).

Only 2 (4??) species have been found at the islands (+ New Zealand or Australia) and in the Magellan region, viz. 1 Decapod (*Munida subrugosa*) and 1 (3?) Isopod (*Idotea elongata*, ? *Livoneca novæ-zealandiæ*, and ? *Isocladus magellanicus*). At least 1 species, *Nebalia longicornis*, is in the Magellan region represented by a special variety, var. *magellanica*.

1 (3?) species is known from South Africa, but not from S. America, viz. ? *Phoxocephalus kergueleni* (also Kerguelen), ? *Melita inæquistylis* (also Ceylon, India), and *Dynamenella huttoni*.

4 (8?) species are possibly circumpolar subantarctic (?), but not found in the antarctic seas proper (incl. Kerguelen) viz., 2 (3?) Decapoda (*Halicarcinus planatus*, *Palæmon affinis*, *? Nauticaris marionis*), 1 Stomatopod *?* (*? Squilla armata*), 1 Amphipod (*Caprellinopsis longicollis*), and 1 (3?) Isopod (*Iais pubescens*, *? Livoneca novæzealandiæ*, *? Exosphæroma gigas*).

5 are so widely distributed that they are almost cosmopolitan outside the arctic and antarctic seas, viz. 1 Euphausid (*Thysanoëssa gregaria*, 3 Amphipoda (*Aora typica*, *Jassa pulchella*, *Caprella æquilibra*) and 1 Isopod (*Paridotea ungulata*).

To thi group possibly belong 3 (4?) species, widely distributed in the southern hemisphere outside the antarctic area, viz. 1 Stomatopod (*Lysiosquilla spinosa* [Auckland Isl., New Zealand, Andamans]), 2 Amphipoda (*Bovallia monoculoides* (widely distributed, also antarctic, see the table p. 384) and *Melita inæquistylis* [Auckland Isl., New Zealand, Magellan region, South Africa, Ceylon, India]) and 1 Isopod (*Limnoria pfefferi* [Auckland Isl.?, Laccadive Archipelago]).

4 (6?) species are known from Kerguelen (but not found elsewhere in the antarctic seas) and are not cosmopolitic, viz 4 (5?) Amphipoda (*Parawaldeckia kidderi*, *Phoxocephalus kergueleni*, *Carolobatea novæ-zealandiæ*, *Haplocheira barbimana*, and *? Lembos kergueleni*), and 1 ?Isopod: *? Antias hispidus* from St. Paul, not from Kerguelen.

12 (13?) species from the islands are also known from the antarctic area (some of them also from Kerguelen), and have in most cases a much wider distribution, viz. 9 Amphipoda (*Parawaldeckia kidderi*, *Tryphosa kergueleni*, *Tmetonyx stebbingi*, *Harpinia obtusifrons*, *Amphilochus squamosus*, *Metopella ovata*, *Pontogeneia antarctica*, *Paramoera capensis* (incl. *P. australina*) and *P. serraticauda*) and 3 (4?) Isopoda (*? Paramunna serrata*, *Cirolana rossi*, *Serolis latifrons*, and *Cymodocella tubicauda*).

Chilton (1909, p. 602—03) is of opinion that the "terrestrial species, like the fresh-water ones, . . . show connection with those of South America, Falkland Islands, and other subantarctic localities", and that "the marine forms very considerably strengthen the evidence as to the large antarctic element in the crustacean fauna of these islands and to the close similarity of their Crustacea to those of other subantarctic regions". —

The material collected by Dr. Th. Mortensen has not augmented the evidence of these theories, al all events not of the first of them.

As it appears from the accompanying lists 22 (24?) species are endemic (9 from fresh-water and terrestrial, 13 (15?) marine), 18 (20?) species are found also at New Zealand, and this figure will be increased with 10 (13?), if we take also Australia (+ Tasmania); thus no less than 50 (57?) species or the half part of the whole Malacostracan fauna are not known outside these islands + New Zealand + Australia.

Only two species *(Munida subrugosa* and *Idotea elongata*, both marine) are with certainty known both from the islands and from the Magellan region; they are not found in S. Africa or in the Antarctic (incl. Kerguelen) and are not cosmopolitan. It is clear that these two species do not prove a connection between the faunas of the two areas.

Dr. Th. Mortensen has given a zoogeographical summary of the Echinoderm fauna of (New Zealand and) the Auckland—Campbell Islands (Vid. Medd., vol. 79, 1925, pp. 393—412), and it may possibly be elucidating to give a comparison of the figures relating to the Echinoderm fauna (of the Auckland—Campbell Isl.) and the Malacostracan fauna (of all the subantarctic islands of New Zealand).

		Total no. of spp.	Endemic species	New Zealand (and the islands)	(New Zealand +) Australia (and the islands)	Magellan region (not S. Africa)	S. Africa (not Magellan region)	Circumpolar subantarctic(?) (not antarctic)	Cosmopolitan in the southern hemisphere	Kerguelen (not antarctic, not cosmopolitan)	Antarctic and other seas (also Kerguelen)
	Echinoderma	19	8	9	—	1	—	—	1	—	—
Malacostraca	Fresh-water and terrestrial species	24	9	5(6?)	5(6?)	1?(4?)	—	—	2	—	—
	Marine species....	79	13(15?)	13(14?)	5(7?)	2 (4?)	1(3?)	4(8?)	8(9?)	4(6?)	12(13?)
	Total no. of species	103	21(23?)	18(20?)	10(13?)	2 (8?)	1(3?)	4(8?)	10(11?)	4(6?)	12(13?)

From this table it may be seen that there is a fairly good accordance between the Echinoderms and the fresh-water and

terrestrial Malacostraca, if we take New Zealand and Australia together.

The most important difference between the two faunas is that while none of the Echinoderms are known from the Antarctic + Kerguelen, no less than 16 (19?) Crustacea (13 (14?) Amphipoda, 3 (5?) Isopoda) have been recorded from these areas; 4 (8?) species are possibly circumpolar subantarctic, and 1 (3?) species is known from S. Africa (but not in S. America). I am not able to give any satisfactory explanation of this fact; but it must be remembered that almost all the species are small and that they may possibly be transported by floating sea-weed.

At all events the Malacostracan fauna (like the Echinoderm fauna) does not prove any former connection between the subantarctic islands of New Zealand and the Magellanic region.

Abbreviations of literature.

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