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MARINE ISOPODS FROM MARION, PRINCE EDWARD, AND CROZET ISLANDS (CRUSTACEA, ISOPODA)

By

BRIAN KENSLEY

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(With 12 figures and 2 tables)

[*MS. accepted 19 February 1980*]

ABSTRACT

23 species of marine isopods, representing 11 families and 20 genera are recorded from depths ranging from 30 to 930 m. Four new species are described, viz. *Bathygnathia porca*, *Colanthura pingouin*, *Paranthura possessia*, and *Ilyarachna crozetensis*. The geographic distribution of the isopod fauna of Prince Edward, Marion, and Crozet Islands is discussed and the affinities with the Antarctic, South America, Kerguelen Island, and the widespread Subantarctic Islands noted. It is concluded that the Prince Edward/Crozet isopod fauna should be regarded as part of the Kerguelen Transitional Province.

CONTENTS

INTRODUCTION

The present collection of isopods was submitted to the author by P. Arnaud of Marseille. The collection was made during March–April 1976, in an area embracing the Crozet Island group, and Marion and Prince Edward Islands, with a very few stations from Kerguelen Island (Fig. 1). All the collecting was done during Cruise MD.08 of the French research vessel *Marion-Dufresne*, using Charcot dredges, king crab traps, beam trawls, Reineck corers, and shrimp trawls.

The bulk of the material, and all holotypes, have been deposited in the Paris Museum, while paratypes and some duplicate material have been deposited in the South African Museum and the United States National Museum. The Serolidae are not included in the present paper.

Brief history of isopod collecting in the Prince Edward/Crozet/ Kerguelen Island area

Although Marion, Prince Edward, Kerguelen, and the Crozet Islands have been visited by biological collectors intermittently since the 1880s, few comprehensive reports on the crustacean fauna have appeared. The present report

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forms yet another partial contribution to the overall isopod faunule of this group of islands. The major reports on isopods from these islands are mentioned below more or less in chronological order. Kerguelen is included because of its proximity and similarity of isopod fauna.

The earliest collecting at Kerguelen was done by the Royal Antarctic Expedition in 1840. Although four species of crustaceans were collected, no report was issued. The *Challenger* stopped at Prince Edward, Marion, the Crozets, and Kerguelen during December 1874 and January 1875, on its way to the Antarctic Continent. Beddard (1884, 1886) reported on the isopods. The transit of Venus provoked the U.S.A., Great Britain, and Germany to send expeditions to Kerguelen in 1874–1875. The German corvette *Gazelle* carried out collecting in 1875, the isopods being reported by Studer (1879, 1882, 1884, 1889). At the same time that the *Gazelle* party was on Kerguelen, the United States ship *Swatara* arrived, carrying the United States Transit of Venus Expedition. J. H. Kidder did some intertidal and terrestrial collecting. The crustaceans, including three species of isopods, were reported on by Smith (1876). The British Transit of Venus Expedition biologist was A. E. Eaton. Miers (1875*a*, 1875*b*, 1879) reported on the isopods he collected.

The British research ship *Discovery* worked in the vicinity of the Crozets, and Hodgson (1910) also mentions material from the 'Kerguelen Province'. The German vessel *Gauss* of the Deutsches Südpolar-Expedition visited Kerguelen (Vanhöffen 1914), as did the British, Australian, and New Zealand Antarctic Expedition of 1929–1931 (Hale 1946, 1952). Although R. Jeannel of the Paris Museum collected marine organisms at Marion Island from the French vessel *Bougainville* in 1939, the collection report was never published. The Norwegian Antarctic Expedition isopods from Kerguelen and Crozet were dealt with by Stephensen (1947), while Sheppard (1957) reported on material collected from 1925 to 1936 by the British *Discovery II* in the general vicinity of all three island groups. Kussakin (1967, English translation 1968) dealt with the systematics and antarctic and subantarctic isopods collected by the Soviet Antarctic Expedition of 1955–1958, summarized much of the preceding work, and produced a very useful zoogeographic assessment of the knowledge to that date. Fuller (1967) presented a preliminary report on the intertidal fauna and flora of Marion Island. From this collection, Cleret (1971) described two asellote isopods. Fuller's report was extensively revised and expanded by De Villiers (1976), as part of the South African Biological/Geological Expedition to Marion Island. The isopods listed in his report were identified by the present writer, with a species of *Jaeropsis* being dealt with in a separate publication (Kensley 1975*b*). Carvacho (1977) added to the knowledge of the isopod fauna of Kerguelen, dealing with material collected by the French vessel *La Japonaise*.

Material	Station no.	Locality	Co-ordinates	Depth (m)
Suborder VALVIFERA				
Family **Arcturidae**				
Antarcturus aculeatus Kussakin, 1967				
1 ♂ 1 ♀	9/CP. 64	Off Î. de la Possession	46°10′S 51°49′E	120–150
2 ♂ 2 ovig. ♀	9/CP. 65	Off Î. de la Possession	46°22′S 51°51′E	112
1 ovig. ♀	9/CP. 66	Off Î. de la Possession	46°23′S 51°52′E	90–110
3 ♂ 3 ovig. ♀ 4 ♀	9/CP. 74	Off Î. de la Possession	46°22′S 51°54′E	150–160
1 ♂ 1 ♀	9/CP. 75	Off Î. de la Possession	46°19′S 51°52′E	150–340
3 ♂ 1 ♀	68/CP. 275	SW of Î. aux Cochons	46°16′S 49°37′E	262–270
1 ♂ 1 ovig. ♀ 2 ♀	75/CP. 303	Off Î. de la Possession	46°19′S 51°52′E	155–257
1 ♂	77/DC. 314	Between Possession and Î. de l'Est	46°25′S 51°59′E	247–270
1 ovig. ♀	78/CP. 319	Between Possession and Î. de l'Est	46°23′S 51°58′E	142–170
Antarcturus furcatus furcatus (Studer, 1882)				
1 ♂	9/CL. 63	Off Î. de la Possession	46°21′S 51°51′E	126–141
4 ♂ 3 ovig. ♀	9/CP. 64	Off Î. de la Possession	46°10′S 51°49′E	120–150
11 ♂ 3 ovig. ♀	9/CP. 66	Off Î. de la Possession	46°23′S 51°52′E	90–110
2 ♂ 7 ovig. ♀ 1 ♀	9/CP. 74	Off Î. de la Possession	46°22′S 51°54′E	150–160
1 ♂ 3 ovig. ♀	9/CP. 75	Off Î. de la Possession	46°19′S 51°52′E	150–340
2 ovig. ♀	42/CP. 197	Between Possession and Î. aux Cochons	46°21′S 51°34′E	172–220
1 ♂ 1 ovig. ♀	48/CP. 209	Between Possession and Î. aux Cochons	46°05′S 50°37′E	140–200
5 ♂ 8 ovig. ♀ 4 ♀	62/CP. 257	W of Î. aux Cochons	46°05′S 50°01′E	210
1 ♂ 2 ovig. ♀ 1 ♀	68/CP. 275	SW of Î. aux Cochons	46°16′S 49°37′E	262–270
1 ♂ 4 ovig. ♀ 1 ♀	73/CP. 295	E of Îs. des Pingouins	46°24′S 50°37′E	263–412
6 ♂ 2 ovig. ♀ 2 ♀	75/CP. 303	Off Î. de la Possession	46°19′S 51°52′E	155–257
3 ♂ 6 ovig. ♀	78/CP. 319	Between Possession and Î. de l'Est	46°23′S 51°58′E	142–170
8 ♂ 7 ovig. ♀ 4 ♀	75/CP. 326	Off Î. de la Possession	46°21′S 51°52′E	135–145
Astacilla marionis Beddard, 1886				
1 ♂ 2 ovig. ♀ 2 ♀	9/CP. 64	Î. de la Possession	46°10′S 51°49′E	120–150
2 ovig. ♀ 2 ♀	9/CP. 65	Î. de la Possession	46°22′S 51°51′E	112
2 ♂ 1 ovig. ♀	9/CP. 66	Î. de la Possession	46°23′S 51°52′E	90–110
4 ovig. ♀ 1 ♀	9/CP. 74	Î. de la Possession	46°22′S 51°54′E	150–160
1 ♀	9/CP. 75	Î. de la Possession	46°19′S 51°52′E	150–340
4 ♂ 3 ovig. ♀ 1 ♀				
2 juv.	13/CP. 85	E of Marion Is.	46°56′S 37°55′E	120
1 ♀	16/CL. 95	NE of Marion Is.	46°50′S 37°59′E	138–142
1 juv.	18/DC. 107	NE of Marion Is.	46°49′S 37°56′E	140
4 ♂	32/DC. 162	S of Marion Is.	46°59′S 37°46′E	83–100
2 ♂ 1 ♀	33/DC. 164	Between Marion and Prince Edward Is.	46°52′S 37°51′E	45
2 ovig. ♀	35/DC. 170	Between Marion and Prince Edward Is.	46°39′S 38°00′E	53
1 ovig. ♀	48/CP. 209	Between Marion and Prince Edward Is.	46°05′S 50°37′E	140–200
1 ovig. ♀ 2 ♀	53/DC. 233	Between Possession and Î. aux Cochons	46°07′S 50°20′E	110
1 ovig. ♀	75/CP. 303	Î. de la Possession	46°19′S 51°52′E	155–257

Material	Station no.	Locality	Co-ordinates	Depth (m)
Microarcturus hirticornis (Monod, 1926)				
1 ovig. ♀	9/CP. 64	Off Î. de la Possession	46°10′S 51°49′E	120–150
1 ♂ 2 juv.	26/64	Crozet Islands	46°24′S 51°59′E	180
2 ovig. ♀	9/CP. 74	Off Î. de la Possession	46°22′S 51°54′E	150–160
1 ovig. ♀	31/DC. 156	S of Marion Is.	46°59′S 37°46′E	185
1 ovig. ♀	42/CP. 197	Between Possession and Î. aux Cochons	46°21′S 51°34′E	172–220
1 ovig. ♀	48/CP. 209	Between Possession and Î. aux Cochons	46°05′S 50°37′E	140–200
1 ♂ 1 ovig. ♀	50/DC. 216	Between Possession and Î. aux Cochons	45°51′S 50°37′E	150
1 ♂	59/DC. 252	W of Î. aux Cochons	45°59′S 49°59′E	210–217
1 ♂	62/CP. 257	W of Î. aux Cochons	46°05′S 50°01′E	210
1 ovig. ♀	75/CP. 303	Off Î. de la Possession	46°19′S 51°52′E	155–257
Family **Pseudidotheidae**				
Arcturides cornutus Studer, 1882				
3 ♂ 2 ovig. ♀ 2 ♀	9/CP. 65	Off Î. de la Possession	46°22′S 51°51′E	112
11 ♂ 1 ♀	9/CP. 66	Off Î. de la Possession	46°23′S 51°52′E	90–110
33 ♂ 11 ovig. ♀ 16 ♀ 22 juv.	9/CP. 74	Off Î. de la Possession	46°22′S 51°54′E	150–160
1 ♂	9/CP. 75	Off Î. de la Possession	46°19′S 51°52′E	150–340
3 ♂	13/CP. 85	E of Marion Is.	46°56′S 37°55′E	120
2 ♂ 1 ovig. ♀ 2 ♀ 4 juv.	19/DC. 110	NE of Marion Is.	46°45′S 38°03′E	190
1 ovig. ♀	23/DC. 129	SE of Marion Is.	46°57′S 38°01′E	250–460
1 ♂	25/CP. 134	N of Marion Is.	46°45′S 37°56′E	185–232
4 ♂ 4 ovig. ♀ 1 ♀	26/CP. 135	NE of Marion Is.	46°50′S 38°00′E	135–145
1 ♀ 1 juv.	27/DC. 136	N of Marion Is.	46°45′S 37°54′E	185
1 ♀	31/DC. 156	S of Marion Is.	46°59′S 37°46′E	185
3 ♂ 5 ovig. ♀ 4 ♀	36/CP. 173	Off Prince Edward Is.	46°40′S 38°06′E	315–570
5 ♂ 1 ovig. ♀ 7 ♀ 3 juv.	36/CP. 175	Off Prince Edward Is.	46°40′S 38°07′E	375–570
6 ♂ 1 ovig. ♀ 1 ♀	48/CP. 209	Between Possession and Î. aux Cochons	46°05′S 50°37′E	140–200
1 ♂ 1 ovig. ♀	54/DC. 234	NE of Îs. des Apôtres	45°55′S 50°20′E	130–145
1 ♂ 3 ♀ 1 juv.	66/CP. 270	W of Î. aux Cochons	46°15′S 49°13′E	500–562
1 ♂	68/CP. 275	SW of Î. aux Cochons	46°16′S 49°37′E	262–270
3 ovig. ♀ 1 ♀	73/CP. 295	E of Îs. des Pingouins	46°24′S 50°37′E	263–412
1 ♂ 1 ovig. ♀	74/DC. 296	E of Îs. des Pingouins	46°17′S 50°47′E	290
1 ♂ 1 ovig. ♀	75/CP. 303	Off Î. de la Possession	46°19′S 51°52′E	155–257
59 ♂ 43 ovig. ♀ 17 ♀ 17 juv.	75/CP. 326	Off Î. de la Possession	46°21′S 51°52′E	135–145
1 ♂ 2 ♀	3/11	E of Kerguelen Is.	49°25′S 71°51′E	620–650
1 ♂	22/58	NE of Kerguelen Is.	48°58′S 70°51′E	90–105
5 ♂ 4 ♀	23/59	SE of Kerguelen Is.	49°59′S 70°01′E	158
1 juv.	24/61	SE of Kerguelen Is.	50°10′S 69°48′E	195
1 ♂ 1 ♀	26/63	Off Crozet Islands	46°21′S 51°55′E	230
1 ♂ 2 juv.	26/64	Off Crozet Islands	46°24′S 51°59′E	180
Suborder ANTHURIDEA				
Family **Paranthuridae**				
Colanthura pingouin sp. nov.				
1 ovig. ♀	72/DC. 289	E of Îs. des Pingouins	46°23′S 50°32′E	155–187

Material	Station no.	Locality	Co-ordinates	Depth (m)
Paranthura possessia sp. nov.				
1 ♀	9/CP. 74	Off Î. de la Possession	46°22′S 51°54′E	150–160
1 ♂ 4 ovig. ♀ 7 ♀	46/CP. 204	Between Possession and Î. aux Cochons	46°10′S 50°14′E	375–490
1 ♀	68/CP. 273	S of Î. aux Cochons	46°17′S 49°37′E	275
1 ♀	75/CP. 303	Off Î. de la Possession	46°19′S 51°52′E	155–257
2 ♀ 2 juv.	78/CP. 319	Between Possession and Î. de l'Est	46°23′S 51°58′E	142–170
Suborder FLABELLIFERA				
Family **Aegidae**				
Aega falklandica Kussakin, 1967				
1 ovig. ♀ 4 juv.	25/CP. 134	N of Marion Is.	46°45′S 37°56′E	185–252
1 ♀	68/CP. 275	SW of Î. aux Cochons	46°16′S 49°37′E	262–270
Aega semicarinata Miers 1875*a*				
1 ♀	9/CP. 63	Off Î. de la Possession	46°21′S 51°51′E	126–141
1 juv.	9/CP. 64	Off Î. de la Possession	46°10′S 51°49′E	120–150
1 juv.	9/CP. 74	Off Î. de la Possession	46°22′S 51°54′E	120–160
1 ♀	10/CL. 76	NE of Marion Is.	46°52′S 37°52′E	45
2 ♂ 1 ovig. ♀ 2 juv.	42/CP. 197	Between Possession and Î. aux Cochons	46°21′S 51°34′E	172–220
1 juv.	72/DC. 289	E of Îs. des Pingouins	46°23′S 50°32′E	155–187
1 ovig. ♀	75/CP. 326	Off Î. de la Possession	46°21′S 51°52′E	135–187
Family **Cirolanidae**				
Cirolana nitida Hale, 1952				
1 ♂ 4 ♀	9/CL. 61	Off Î. de la Possession	46°22′S 51°50′E	75–104
± 100 adults and juv.	9/CL. 63	Off Î. de la Possession	46°21′S 51°51′E	126–141
1 ♀ 1 juv.	9/CL. 66	Off Î. de la Possession	46°23′S 51°52′E	90–110
1 ♂ 1 ♀	40/DC. 186	Off Crozet Islands	46°21′S 51°33′E	190
1 ♀	42/CP. 197	Between Possession and Î. aux Cochons	46°21′S 51°34′E	172–220
1 ♀ 1 juv.	50/DC. 216	Between Possession and Î. aux Cochons	45°51′S 50°38′E	150
1 ♀ 1 juv.	57/DC. 241	NW of Î. aux Cochons	45°46′S 50°05′E	195–200
1 ♀	60/DC. 248	W of Î. aux Cochons	46°02′S 49°48′E	245–250
1 ♀ 12 juv.	71/DC. 283	Off Î. aux Cochons	46°37′S 50°39′E	268–270
1 ♂	74/DC. 296	E of Îs. des Pingouins	46°17′S 50°47′E	290
1 ovig. ♀	75/CL. 305	Off Î. de la Possession	46°21′S 51°50′E	120
± 100 adults and juv.	75/CL. 306	Off Î. de la Possession	46°20′S 51°53′E	145
± 500 adults and juv.	75/CL. 307	Off Î. de la Possession	46°21′S 51°52′E	125
± 100 adults and juv.	75/CL. 308	Off Î. de la Possession	46°20′S 51°52′E	150
Family **Sphaeromatidae**				
Dynamenella eatoni (Miers, 1875*b*)				
1 ?	18/RK. 109	NE of Marion Is.	46°49′S 37°56′E	138
1 ♂	21/DC. 118	NE of Marion Is.	46°53′S 37°52′E	50
2 ♂ 4 ♀	22/DC. 124	NE of Marion Is.	46°52′S 37°51′E	30
1 ♀ 1 juv.	24/CC. 128	NE of Marion Is.	46°52′S 37°52′E	52
1 ♂	75/CL. 307	Off Crozet Islands	46°21′S 51°52′E	125
Euvallentinia darwini (Cunningham, 1871)				
1 ♂	52/DC. 224	Between Possession and Î. aux Cochons	46°06′S 50°19′E	50–53

Material	Station no.	Locality	Co-ordinates	Depth (m)
Suborder GNATHIIDEA				
Family Gnathiidae				
Bathygnathia porca sp. nov.				
1 ♂ 1 ovig. ♀	60/DC. 248	W of Î. aux Cochons	46°02′S 49°48′E	245–250
Euneognathia gigas (Beddard, 1886)				
2 ♀	59/DC. 252	W of Î. aux Cochons	45°59′S 49°59′E	210–217
1 ♂	68/CP. 275	SW of Î. aux Cochons	46°16′S 49°37′E	262–270
Gnathia antarctica (Studer, 1884)				
1 ♀	28/DC. 143	S of Prince Edward Is.	46°43′S 37°57′E	246–285
1 ♂	55/CP. 237	NE of Îs. des Apôtres	45°57′S 50°21′E	150
1 ♂ 1 ovig. ♀ 1 ♀	68/CP. 275	SW of Î. aux Cochons	46°16′S 49°37′E	262–270
1 ♀	77/DC. 314	Between Possession and Î. de l'Est	46°25′S 51°59′E	247–270
Suborder ASELLOTA				
Family Dendrotionidae				
Acanthomunna spinipes (Vanhöffen, 1914)				
3 ♀	9/CP. 75	Off Î. de la Possession	46°19′S 51°52′E	150–340
1 ♀	42/CP. 197	Between Possession and Î. aux Cochons	46°21′S 51°34′E	172–220
1 ♂ 2 ovig. ♀	68/CP. 275	SW Î. aux Cochons	46°16′S 49°37′E	262–270
1 ♂	75/CP. 303	Off Î. de la Possession	46°19′S 51°52′E	155–257
1 ♂	78/CP. 319	Between Possession and Î. de l'Est	46°23′S 51°58′E	142–170
Family Ilyarachnidae				
Echinozone cf. *spicata* (Hodgson, 1910)				
1 ♀	48/CP. 209	Between Possession and Î. aux Cochons	46°05′S 50°37′E	140–200
1 ♀	54/DC. 234	NE of Îs. des Apôtres	45°55′S 50°20′E	130–145
3 ♀	59/DC. 252	W of Î. aux Cochons	45°59′S 49°59′E	210–217
1 ♂	60/DC. 248	W of Î. aux Cochons	46°02′S 49°48′E	245–250
1 ♂	68/CP. 275	SW of Î. aux Cochons	46°16′S 49°37′E	262–270
1 ♀	74/DC. 296	E of Îs. des Pingouins	46°17′S 50°47′E	290
Ilyarachna crozetensis sp. nov.				
1 ♀	46/CP. 204	Between Possession and Î. aux Cochons	46°10′S 50°14′E	375–490
1 ♀	57/DC. 241	NW of Î. aux Cochons	45°46′S 50°05′E	195–200
1 ♂	60/DC. 248	W of Î. aux Cochons	46°02′S 49°48′E	245–250
2 ♀	64/DC. 268	W of Î. aux Cochons	46°02′S 49°08′E	900–930
Family Jaeropsidae				
Jaeropsis marionis Beddard, 1886				
1 ♀ 2 juv.	26/64	Off Crozet Islands	46°24′S 51°59′E	180
Family Janiridae				
Notasellus sarsi Pfeffer, 1887				
1 ♂	9/CP. 75	Off Î. de la Possession	46°19′S 51°52′E	150–340
1 ♀	42/CP. 197	Between Possession and Î. aux Cochons	46°21′S 51°34′E	172–220

Material	Station no.	Locality	Co-ordinates	Depth (m)
1 ♂ 3 ♀	48/CP. 209	Between Possession and Î. aux Cochons	46°05′S 50°37′E	140–200
2 ♀	54/DC. 234	NE of Îs. des Apôtres	45°55′S 50°20′E	130–145
10 ♀ 9 juv.	61/DC. 255	W of Î. aux Cochons	46°05′S 50°08′E	67
2 ♂ 2 ♀	62/CP. 257	W of Î. aux Cochons	46°05′S 50°01′E	201
2 ovig. ♀ 2 ♀	68/CP. 275	SW of Î. aux Cochons	46°16′S 49°37′E	262–270
1 ♀	78/CP. 319	Between Possession and Î. de l'Est	46°23′S 51°58′E	142–170
1 ovig. ♀	26/64	Off Crozet Islands	46°24′S 51°59′E	180
Family **Munnidae**				
Munna neglecta Monod, 1931				
2 ♂	9/CP. 75	Off Î. de la Possession	46°19′S 51°52′E	150–340
1 ♂	39/DC. 178	Off Crozet Islands	46°20′S 51°32′E	330–600
1 ♂ 1 ♀	78/CP. 319	Between Possession and Î. de l'Est	46°23′S 51°58′E	142–170
9 ♂ 4 ovig. ♀ 3 ♀	26/64	Off Crozet Islands	46°24′S 51°59′E	180
Paramunna foresti Carvacho, 1977				
1 ovig. ♀	8/CP. 64	Off Î. de la Possession	46°10′S 51°49′E	120–150
Paramunna kerguelensis Vanhöffen, 1914				
2 ♀	68/CP. 275	SW of Î. aux Cochons	46°16′S 49°37′E	270–262
1 ovig. ♀	78/CP. 319	Between Possession and Î. de l'Est	46°23′S 51°58′E	142–170

SYSTEMATIC DISCUSSION

Suborder VALVIFERA

Family **Arcturidae**

Antarcturus aculeatus Kussakin

Antarcturus aculeatus Kussakin, 1967: 281, figs 36–38.

Previous records

North coast of Patagonia, 400–500 m.

Remarks

Kussakin (1967) noted the extreme variability of this species with regard to the spination of the cephalon, pereon, and pleon. This variability is again noted in the present material and is apparently unrelated to sexual or geographic differences. The specimens are consistent in the structure of appendages and agree with the description and figures given by Kussakin. The enormous distance between Patagonia and the Crozet Islands gives pause, yet no differences could be detected on which to separate the two populations.

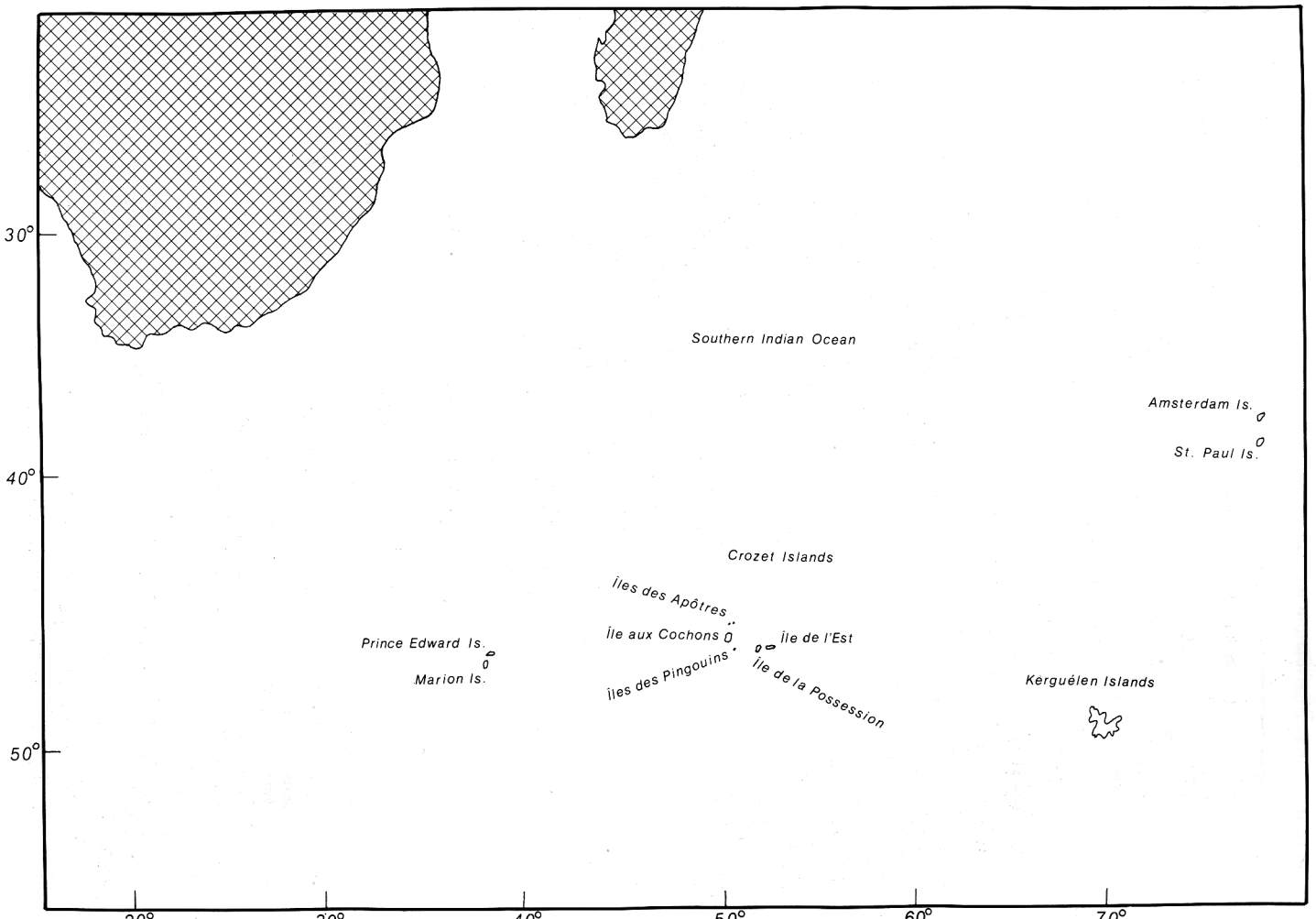

Fig. 1. Map showing island localities.

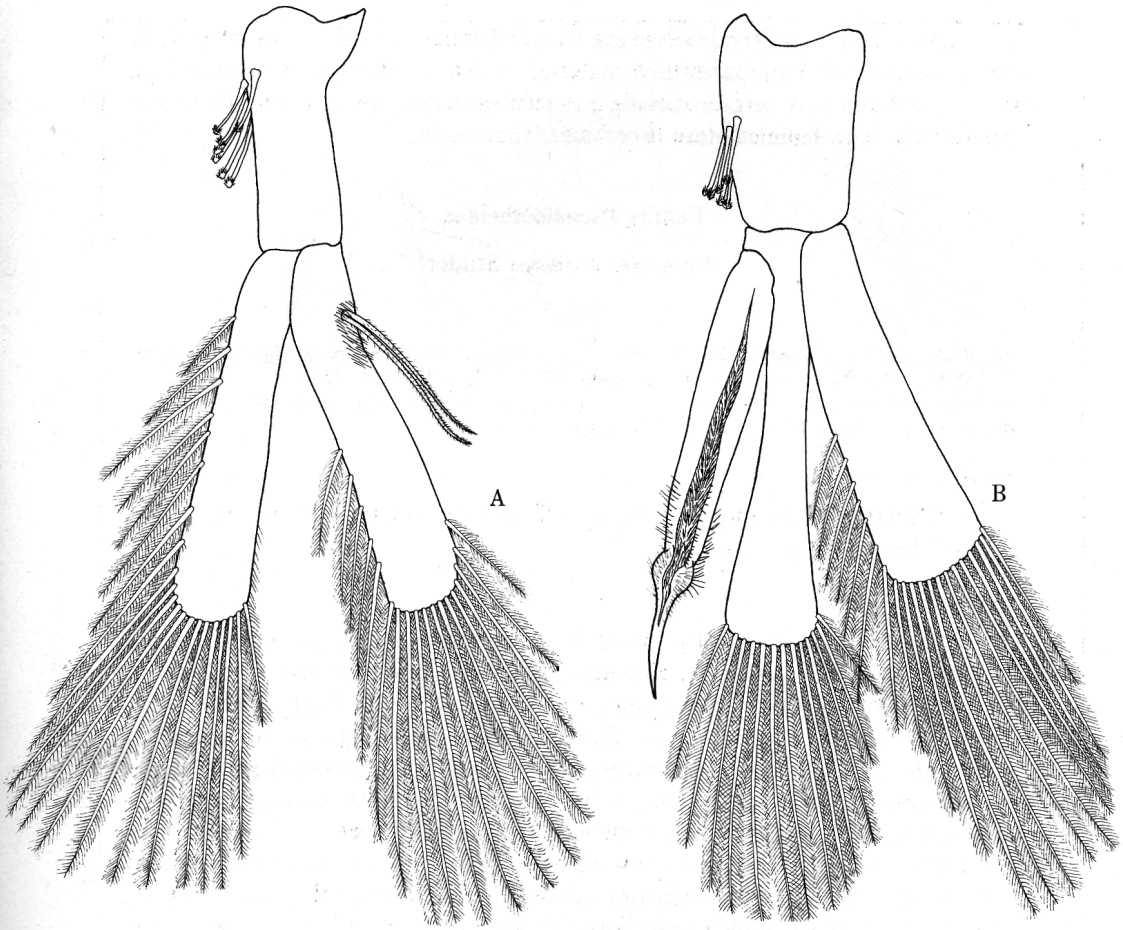

Fig. 2. *Astacilla marionis*. A. Pleopod 1 male. B. Pleopod male.

Astacilla marionis Beddard

Fig. 2

Astacilla marionis Beddard, 1886: 107, pl. 25 (fig. 5). Studer, 1889: 159. Tattersall, 1921: 243. Nordenstam, 1933: 121.
Astacilla kerguelensis Vanhöffen, 1914: 523, fig. 54. Tattersall, 1921: 243. Nordenstam, 1933: 121. Hale, 1946: 172, figs 5–6. Kussakin, 1967: 299.
Astacilla kerguelenensis [*sic*]: Carvacho, 1977: 179.

Previous records

Kerguelen Island, 4–183 m; Marion Island, 200 m.

Remarks

Tattersall (1921) suggested that Beddard's and Vanhöffen's species were perhaps identical. With material from Marion and Prince Edward Islands,

Kerguelen Island, and the intervening Crozet Islands available, this suggestion can be supported. Comparison of material reveals no differences between the three populations. A certain variation is seen in the degree of tuberculation of pereonite 4, with females more tuberculate than males.

Family **Pseudidotheidae**

Arcturides cornutus Studer

Fig. 3

Arcturides cornutus Studer, 1882: 57; 1884: 15, pl. 1 (fig. 4); 1889: 159, pl. 25 (fig. 2). Beddard, 1886: 108. Ohlin, 1901: 275. Nordenstam, 1933: 113. Hale, 1946: 169.
Arcturides tribulus Hale, 1946: 168, figs 3–4. Kussakin, 1967: 269. Carvacho, 1977: 178.
Arcturides acuminatus Sheppard, 1957: 180, figs 17–18.

Previous records

Off Kerguelen Island, 47–274 m; off Marion Island, 620 m; off Prince Edward Island, 59 m.

Remarks

Hale (1946), in his description of *A. tribulus*, suggests that this species may be regarded as a variety of *A. cornutus*, and that the dorsal pereonal spination disappears with age. This dorsal spination is certainly a variable feature, but not obviously related to age of the specimens, as in some samples juveniles as well as mature adults are dorsally completely smooth, while in other samples the dorsal spines may be short and barely indicated by tiny knobs in small specimens, and well developed in mature specimens. Neither can the degree of spination be correlated with populations from Crozet, Marion, and Kerguelen Island groups. This mixture of smooth and spinose specimens from the same samples, together with the completely uniform appendages, removes any doubt that *A. tribulus* is a synonym of *A. cornutus*.

Sheppard (1957) described *Arcturides acuminatus* from Prince Edward Island, based on a single male and female, and separated her species from the *cornutus-tribulus* complex of Kerguelen on four features; the more apically acute pleotelson, the less developed body spination, the raised coxal insertions, and a different maxillipedal endite. Examination of Sheppard's types shows that the pleotelsonic apex is well within the range of variation seen in large samples of *A. cornutus*. Variation in body spination has been discussed above. The raised coxal insertion would seem to be a feature varying with age, becoming more marked in larger specimens. No difference could be seen in the maxillipedal structure between the types of *A. acuminatus*, and material from Kerguelen, Crozet, Marion, and Prince Edward Islands. Sheppard supported the formation of a new species by invoking the distance between Kerguelen and Prince Edward Islands. As material from these localities as well as the interlying Crozet Islands has been examined, and as the four distinguishing features of *A. acuminatus* are

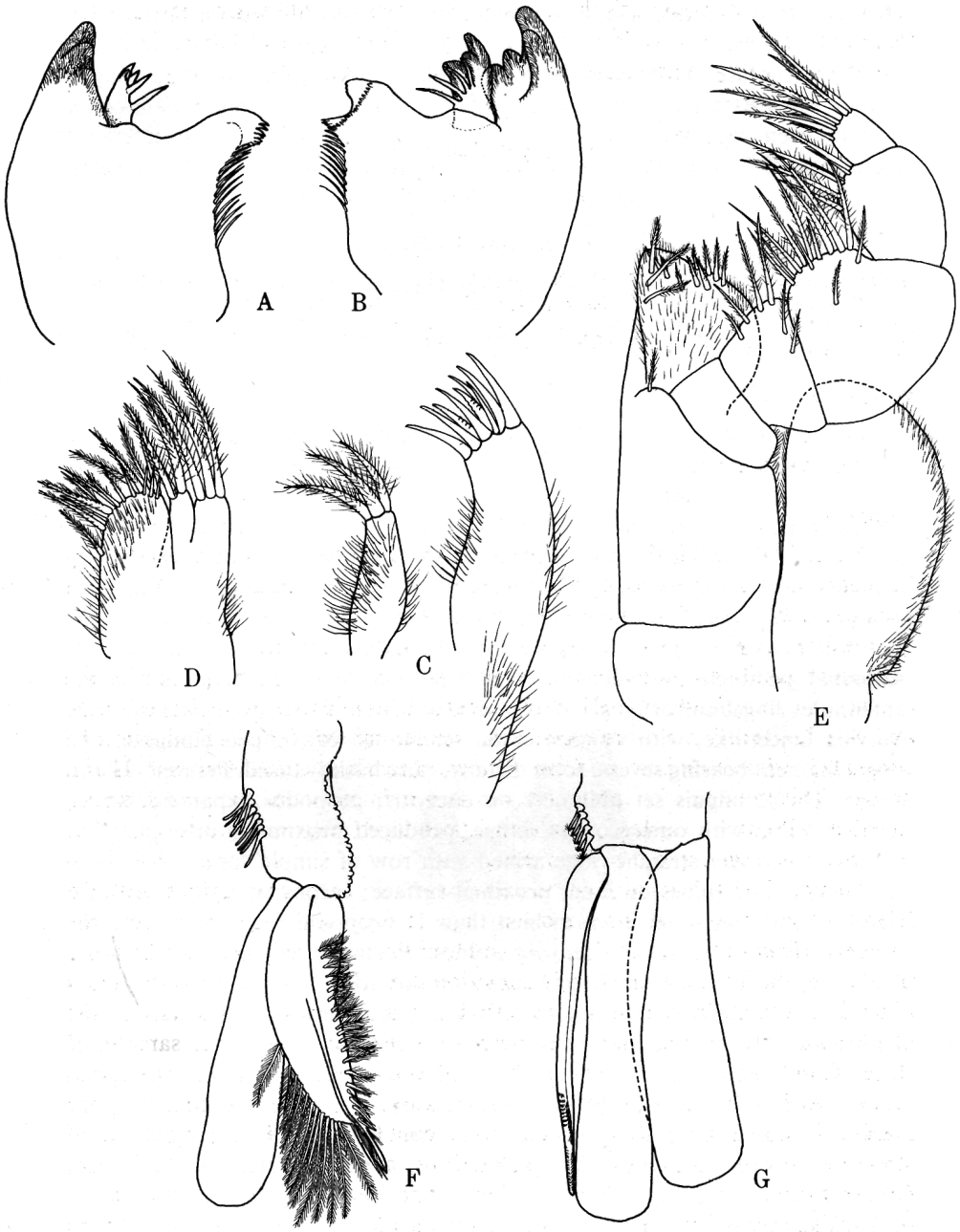

Fig. 3. *Arcturides cornutus*. A. Right mandible. B. Left mandible. C. Maxilla 1. D. Maxilla 2. E. Maxilliped. F. Pleopod 1 male. G. Pleopod 2 male (setae omitted).

shown to be largely due to individual variation, there can be little doubt that there is a single species, viz. *A. cornutus*, spread over all three groups of sub-antarctic islands.

The structure of the male pleopods 1 and 2 as well as the mouthparts again raises the question of the reality of the Family Pseudidotheidae. *Holidotea* has already been removed to the Arcturidae (Kensley 1975*a*), and a careful evaluation of *Pseudidothea* and *Arcturides* is required to resolve this question.

Suborder ANTHURIDEA

Family **Paranthuridae**

Colanthura pingouin sp. nov.

Fig. 4

Description

Integument not indurate; cephalon, pereonites, and pleon with middorsal blotch of red-brown pigment. Body proportions: $C < 1 > 2 = 3 < 4 > 5 > 6$. Cephalon with dorsolateral eyes. Pereonite 7 a tiny apodous crescent anterior to pleonite 1, only dorsally visible. Pleonites free, 1–4 subequal, 5 twice length of 4, 6 wider than 5, with posterodorsal margin consisting of two broadly rounded lobes. Telson ovate, distally broadly rounded.

Antennular peduncle 4-segmented; flagellum of single setose article. Antennal peduncle 5-segmented, second segment grooved to accommodate antennule; flagellum of single setose article. Mandible reduced, lacking palp. Maxilla lancet-like, with thirteen distal serrations. Maxilliped elongate, of a single segment bearing several setae distally, rami basally fused. Pereopod 1 with fusion line of unguis set obliquely on dactylus; propodus expanded, almost circular, palm with outer convex flange, produced proximally into triangular process, and inner straight ridge armed with row of simple spines; row of 20 close-set fringed spines on inner proximal surface; carpus triangular, with few setae distally. Pereopod 2 less robust than 1; propodus less expanded; palm convex, armed with seven sensory spines. Posterior pereopods with three sensory spines and several fringed scales on posterior margin, and two fringed spines on distal margin; carpus about half length of propodus, anterior margin only slightly shorter than posterior margin, latter armed with two sensory spines and several fringed scales. Pleopod 1 exopod operculiform, endopod about one-quarter width, and slightly shorter than exopod, with five distal plumose setae. Uropodal exopod oval, bearing simple and plumose marginal setae; endopod shorter than basis, reaching just beyond telsonic apex.

Material

Holotype PM Is. 1016, 1 ovigerous female TL 5,6 mm, 72/DC.289 off Îles des Pingouins, Crozet, 155–187 m.

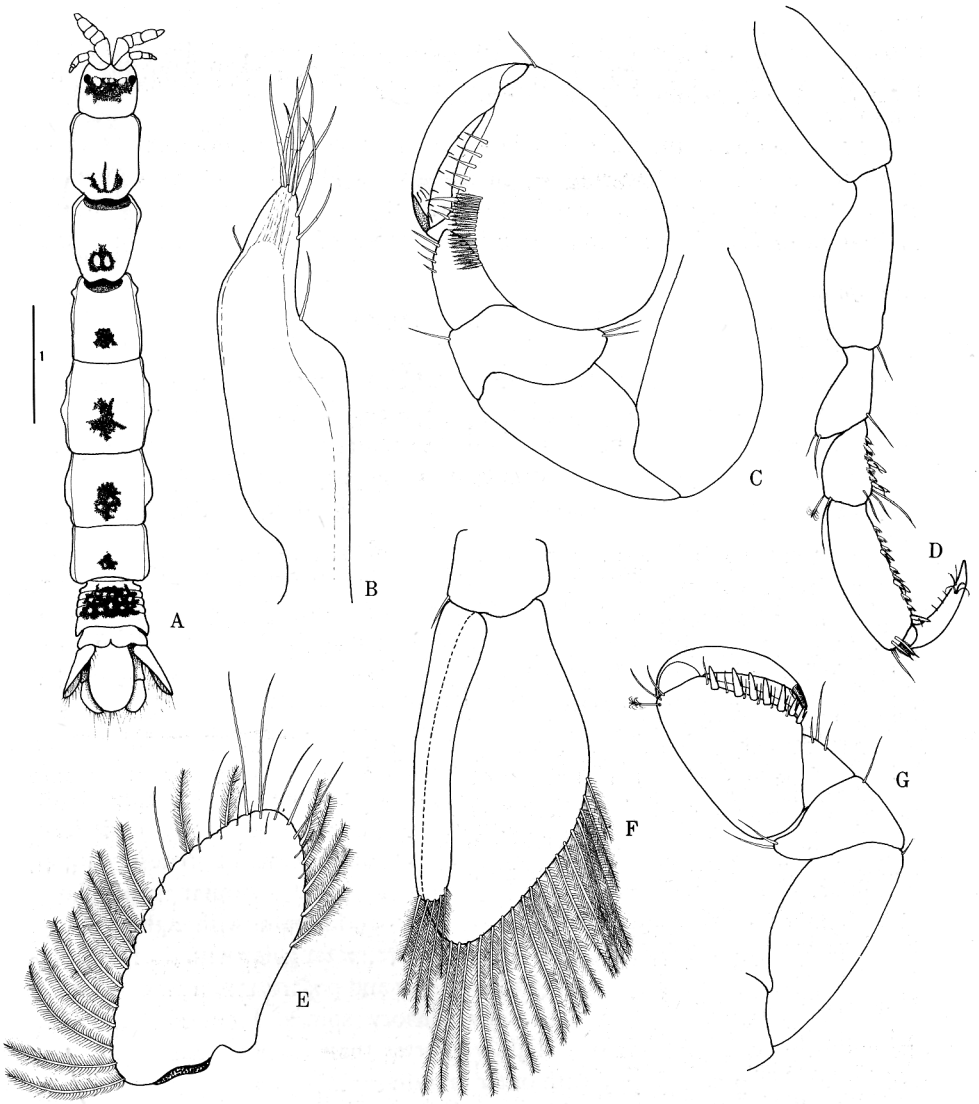

Fig. 4. *Colanthura pingouin*. A. Holotype in dorsal view. B. Maxilliped. C. Pereopod 1. D. Pereopod 6. E. Uropodal exopod. F. Pleopod 1. G. Pereopod 2.

Remarks

Of the seven species of *Colanthura* described, none possesses such a broad almost circular propodus of pereopod 1 as does the present species. The number of fringed spines in a comb-like formation on the inner surface of the propodus (which is characteristic of the genus) is higher than in the other species. The pigment pattern (apparently persistent) is also unique.

Etymology

The specific name, used as a noun in apposition, is taken from the type locality, Îles des Pingouins in the Crozet group.

Paranthura possessia sp. nov.

Fig. 5, 6

Description

Female

Integument moderately indurate, uropods and telson strongly indurate. Body proportion: C < 1 < 2 = 3 < 4 > 5 > 6 > 7. Cephalon with antero-lateral corners extending beyond triangular rostrum. Eyes well pigmented, dorsolateral. Pleonites separate; pleonite 6 longest, with middorsal slit in posterior margin. Telson lanceolate, apex narrowly rounded, dorsally gently convex.

Antennule with 4-segmented peduncle, first segment longest and broadest, segment 4 short; flagellum of six articles. Antenna with 5-segmented peduncle, segment 2 grooved to accommodate antennule; flagellum of three articles, two distal articles very short. Mandibular palp 3-segmented, first and third segments subequal in length, second segment twice length and broader, third segment with row of ten to twelve spines. Maxilla slender, lancet-like, with distal barbs. Maxilliped 2-segmented, terminal segment bearing several setae distally and on medial margin. Pereopod 1 subchelate, propodus proximally broad, palm with convex ridge on inner face bearing irregular double row of setae; outer face slightly concave, with single row of setae and proximal rounded process; carpus triangular, with several setae distally. Pereopods 2 and 3 similar, subchelate, more slender and elongate than pereopod 1; propodal palm with eight sensory spines. Pereopods 4–7 similar; propodus elongate/rectangular with four sensory spines on posterior margin; carpus with anterior and posterior margins subequal in length; posterior margin with four sensory spines. Pleopod 1 exopod operculiform; endopod narrow, slightly shorter than exopod; basis with two retinaculae. Uropodal exopod with outer margin slightly sinuous, apex rounded; endopod slightly longer than wide, rounded, reaching to telsonic apex.

Male

Eyes slightly larger than in female. Antennules elongate, with whorls of filiform aesthetascs. Pleopod 2 with copulatory stylet on endopod extending well beyond ramus, distally narrowed and recurved, apex rounded; distal half bearing very fine spinules.

Material

Holotype PM. Is. 1014, 1 ovig. female TL 14,0 mm.

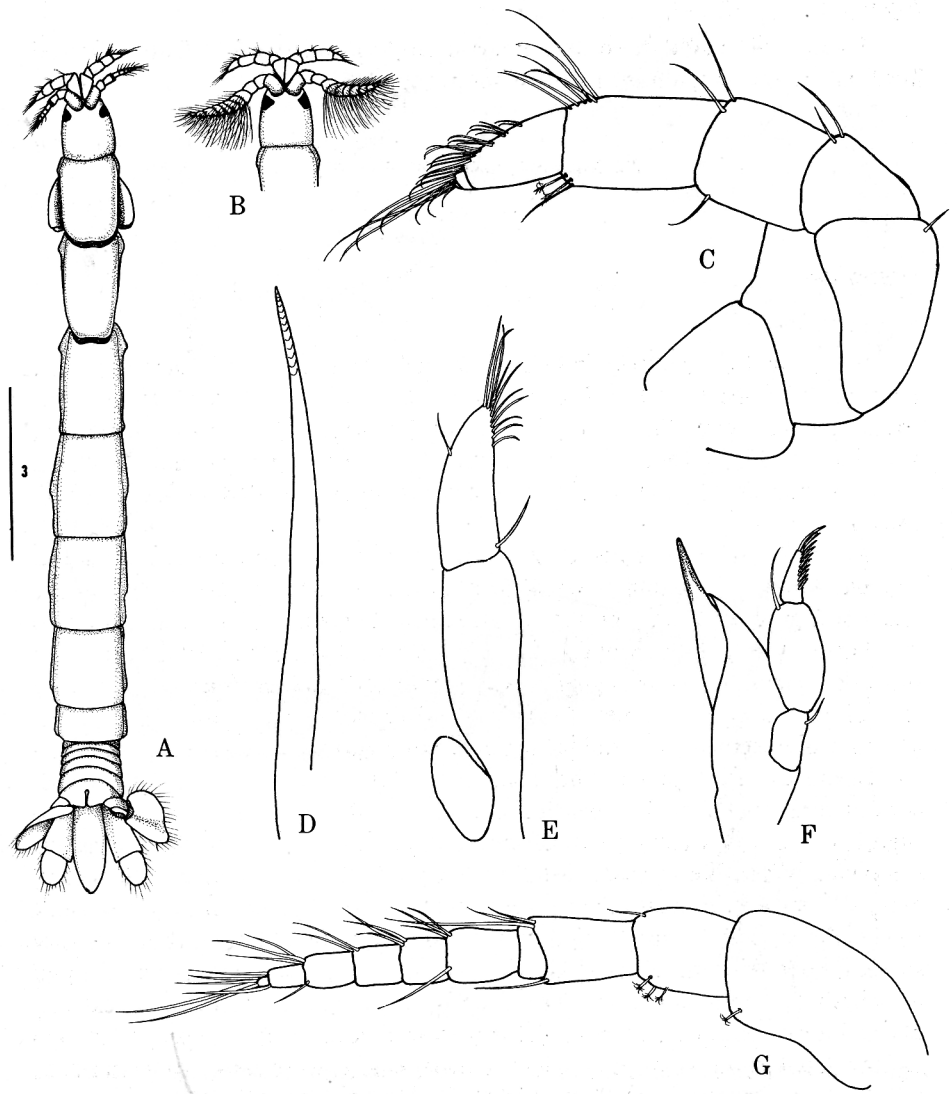

Fig. 5. *Paranthura possessia.* A. Female in dorsal view. B. Cephalon of male. C. Antenna. D. Maxilla. E. Maxilliped. F. Mandible. G. Antennule female.

Paratype PM. Is. 1015, 1 ovig. female TL 14,0 mm 4 female TL 13,5 14,2 14,2 15,6 mm.

Paratypes USNM 173119, 1 male TL 13,9 mm 1 ovig. female TL 15,6 mm. 2 female TL 14,1 15,6 mm

Paratypes SAM–A16771, 1 ovig. female TL 15,0 mm 1 female TL 15,5 mm. 46/CP. 204 between Île de la Possession and Île aux Cochons, 375–490 m.

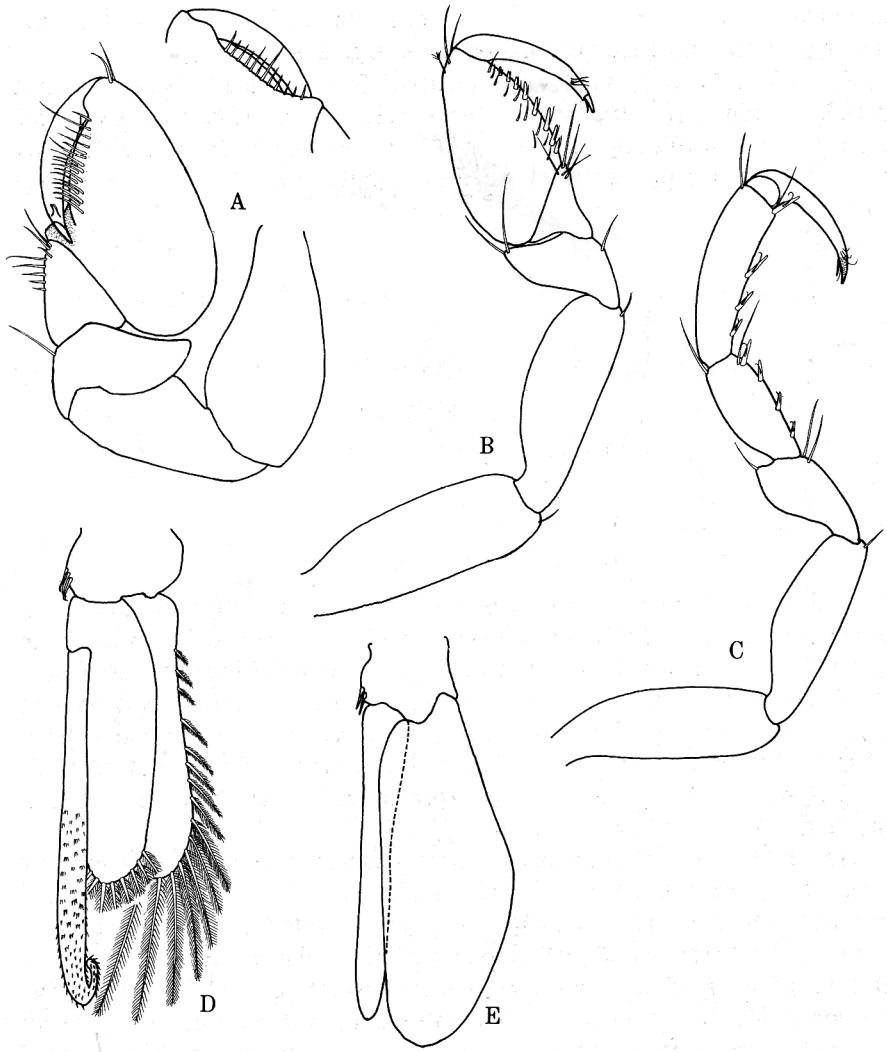

Fig. 6. *Paranthura possessia*. A. Pereopod 1, with outer view of palm. B. Pereopod 2. C. Pereopod 7. D. Pleopod 2 male. E. Pleopod 1 (setae omitted).

Additional material: 2 female 2 juv. 78/CP.319, 1 female 75/CP.303, 1 female 9/CP.74, 1 female 68/CP.273

Remarks

The present material to some extent resembles two species described by Kussakin (1967). *P. argentinae*, however, has a broader telson, a narrow and non-sinuous uropodal exopod, and the proportions of the three mandibular palpal segments also differ. *P. antarctica* differs from *P. possessia* in having fewer

antennular flagellar articles, a non-sinuous uropodal exopod, and in the relative proportions of the antennal peduncle segments.

P. neglecta Beddard, (1886) was described from Kerguelen Island, but not figured. Examination of the type has shown it to be a juvenile, with pereonite 7 very short and lacking legs. The telson of this specimen is much more broadly oval than the present species, while the uropodal exopod is very obviously notched.

Etymology

The specific name derives from the type locality, Île de la Possession.

Suborder GNATHIIDEA

Family **Gnathiidae**

Bathygnathia porca sp. nov.

Figs 7–8

Description

Male

Body almost four times longer than wide, widest at fourth free pereonite. Cephalon indurate, dorsally concave; lacking eyes; rostrum at base more than half width of cephalon; rostrum and ventrolateral walls of buccal cavity fused; rostral apex some distance posterior to rounded apex of ventrolateral walls of buccal cavity, with subapical row of eight setae. Free pereonites 1 and 2 short, 3–5 somewhat longer, pereonite 7 very reduced, lacking free lateral margins. Pleonites with lateral extensions acute, becoming shorter posteriorly. Telson triangular, apically narrowly rounded.

Antennular peduncle 3-segmented, basal segment slightly curved, segment 2 shorter than 1 or 3, latter with several simple setae; flagellum of five articles, three distal articles each with single aesthetasc. Antennal peduncle of four segments, distal segment almost as long as three proximal segments together; flagellum of seven articles. Mandible curved towards midline in dorsal view, with dorsal denticle at proximal third, ventral margin slightly sinuous. Maxillipedal palp 4-segmented, two basal segments much broader than two distal segments, all with plumose setae on outer margins; endite reaching to midlength of second palpal segment, with eight retinaculae on medial margin. Pylopod operculiform, 5-segmented, second segment broadest and longest, with plumose setae on median margin, terminal segment minute. Pereopods similar, 1 and 2 more slender/elongate than posterior three pairs, armed with numerous spines and setae. Pleopods biramous, similar, rami lamellar, oval. Uropods biramous, reaching to telsonic apex.

Female

Body swollen, cylindrical. Cephalon broadly triangular, rostrum dorsally convex. Two anterior free pereonites short, following three pereonites broad and

long. Pleon as in male. Pereopods similar to male, but posterior three pairs not as robust. Five pairs oostegites present, anterior pair very small.

Material

Holotype PM. Is. 1019, 1 male TL 8,0 mm; allotype PM. Is. 1020, 1 ovig. female TL 8,2 mm, 60/DC.248 west of Île aux Cochons, 245–250 m.

Remarks

Four species of *Bathygnathia* have been described, viz. *B. bathybius* Beddard, 1886, from the North Atlantic, *B. curvirostris* Richardson, 1909, also from the North Atlantic, *B. affinis* Birstein, 1963, from off the Kurile Islands, and *B. magnifica* Moreira, 1977 (the only species with eyes), off southern Brazil. The three blind species are very similar, the main differences lying in the rostrum and appendages. The present species most closely resembles *B. affinis*, especially in the overall body proportions. The main differences lie in the more rounded distal margin of the rostrum-ventrolateral buccal walls, and the broader and dorsally unflexed mandibles of *B. porca*. Birstein (1963) does not illustrate or mention a minute terminal segment in the pylopod, while the two subterminal segments of this appendage are relatively more slender in *B. porca*.

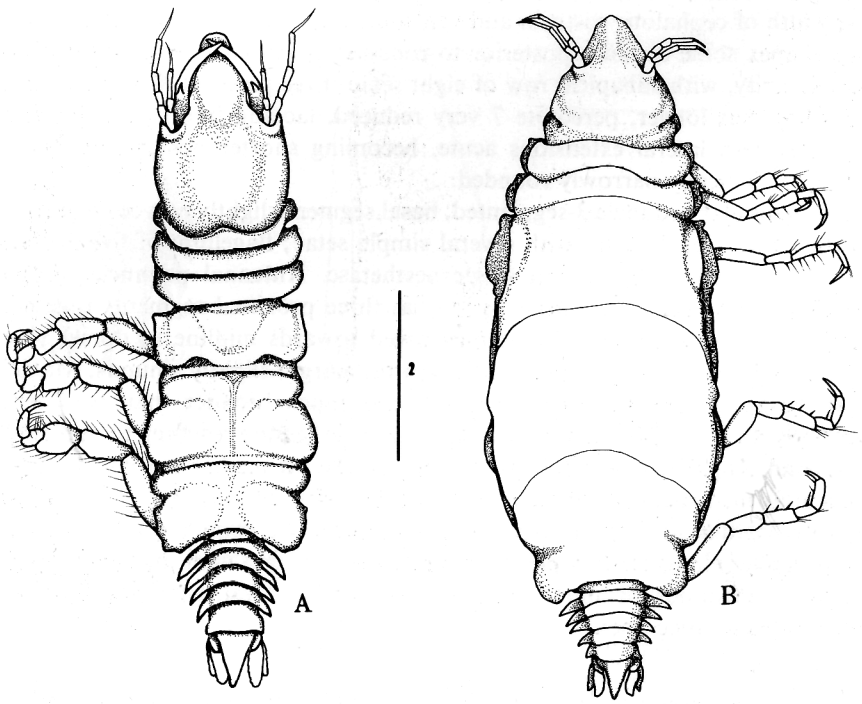

Fig. 7. *Bathygnathia porca*. A. Male. B. Female.

Etymology

The specific name 'porca' meaning pig, derives from the type locality, Îles aux Cochons (Island of Pigs).

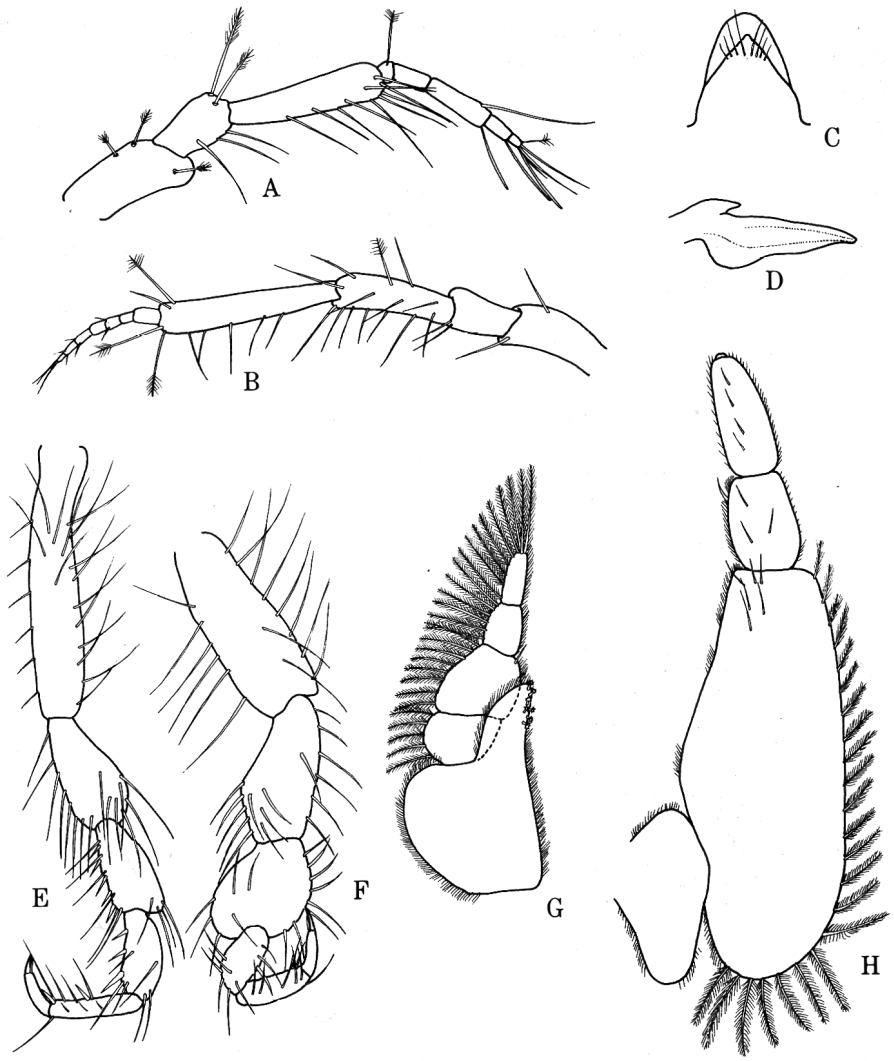

Fig. 8. *Bathygnathia porca*. A. Antennule. B. Antenna. C. Rostrum male. D. Mandible male. E. Pereopod 1 male. F. Pereopod 5 male. G. Maxilliped. H. Pylopod male.

Suborder ASELLOTA

Family **Îlyarachindae**

Echinozone cf. *spicata* (Hodgson)

Fig. 9

Notopais spicatus Hodgson, 1910: 70, pl. 8 (fig. 1).
Pseudarachna spicata: Hale, 1937: 43, figs 18–19. Kussakin, 1967: 313, fig. 54.
Ilyarachna spicata: Wolff, 1962: 95. Amar & Roman, 1974: 579, pl. 11.
Echinozone spicata: Schultz, 1976: 8, figs 3–4.

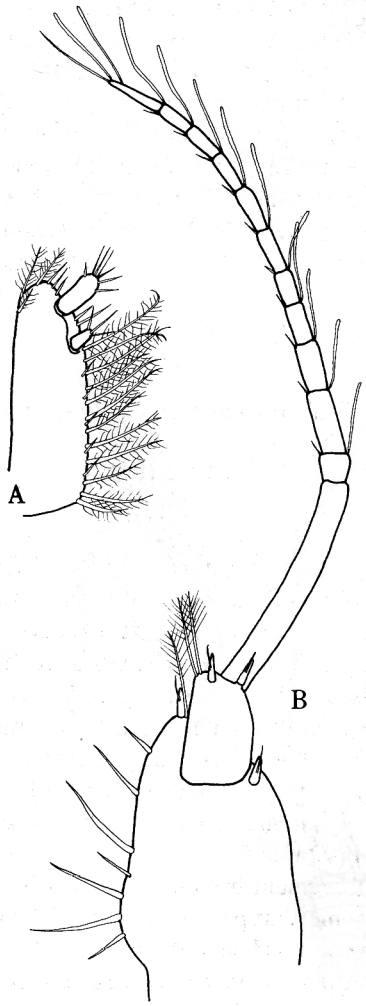

Fig. 9. *Echinozone* cf. *spicata*. A. Uropod. B. Antennule.

Previous records

Numerous circum-antarctic records.

Remarks

The biramous uropod, and the lack of a mandibular palp place this material in *Echinozone*.

The present material, although not coming from the Antarctic, closely resembles the species recorded from almost the entire circumference of the Antarctic Continent. The spination of the cephalon and the first five pereonites and coxal plates agree with the abovementioned figures and descriptions. Pereonites 6 and 7 possess small tubercles as Kussakin (1967) noted in his material. Schultz (1976) and Hale (1937) do not figure or mention these.

Slight differences are apparent between the present material and the antarctic material, but these can probably be accounted for in terms of variation between relatively isolated populations. The outer (lower) uropodal ramus of the Crozet material is longer than in the antarctic material, relative to the length of the inner (upper) ramus. The antennular flagellum has eleven or twelve articles in the Crozet specimens, thirteen in Kussakin's material, sixteen in Schultz's. Schultz (1976, fig. 3D, E) shows the female pleonal operculum with a longitudinal ridge bearing about nine spines, while the number in the Crozet specimens varies between six and seven.

Ilyarachna crozetensis sp. nov.

Figs 10–11

Description

Cephalon with lateral flanges anteriorly rounded, laterally broadly angular; dorsal convex areas with varying number of short spines (one or two in male, four to ten in female); anterior margin concave, with faint rostral point. Pereonites 1 to 3 subequal in middorsal length. Pereonite 1 slightly narrower than 2, with rounded lateral process bearing single spine. Pereonite 2 laterally rounded, with single spine. Pereonites 3 and 4 with anterolateral flange appearing as spine in dorsal view. Pereonites 5 to 7 laterally rounded. Pereonites 1 to 4 with row of fifteen to nineteen small equidistant spines on anterior margin. Pleotelson preceded by single narrow pleonal segment, triangular, dorsally convex, apex narrowly rounded.

Antennular basal segment broadest at base with single spine at inner distal angle, two spines on somewhat produced outer distal angle; second segment half length of basal segment; third segment shorter than second; flagellum of nine articles in female, twenty-two in male. Basal antennal segment with spine on rounded lateral process. Mandibular palp basal segment slightly curved, equal in length to terminal segment, second segment just less than twice length of basal

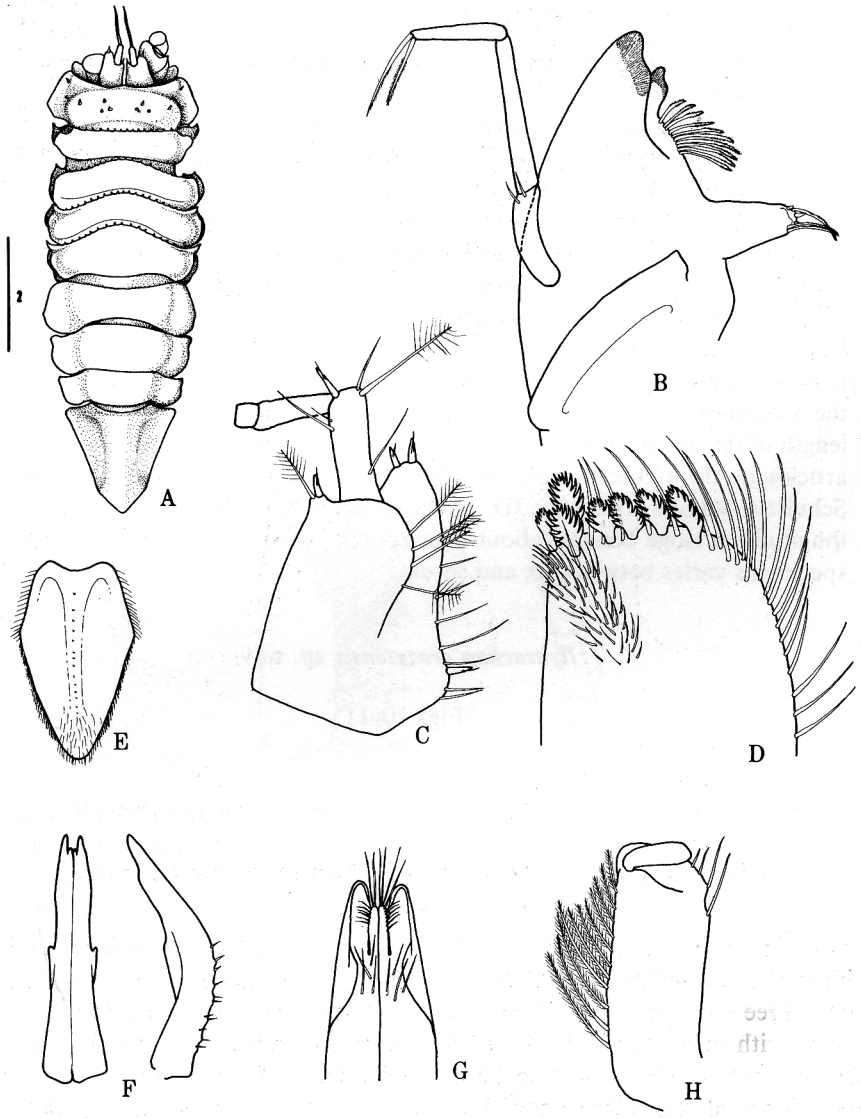

Fig. 10. *Ilyarachna crozetensis*. A. Holotype in dorsal view. B. Mandible. C. Antennular base. D. Apex of maxillipedal endite. E. Operculum female. F. Pleopod 1 male in dorsal and lateral view. G. Apex of pleopod 1 male. H. Uropod.