

Map 18. *Anchiphimedia dorsalis*: rhomb.

sinuous, posteroventral corner subacutely pointed. Telson with shallow U-shaped excavation and rounded apices.

Size. Male 38 mm.

Remarks. Three pairs of dorsal processes combined with shallow carinae on pleonites 1-2 and distally wide coxa is unique within the Iphimediidae. This species has also very unique mouthparts. The outer plates of the maxilliped are shaped into a funnel. The very many spine-like setae on the outer plate of maxilla 1 might be used to brush food together (see Coleman, 1991).

Type locality. Palmer Archipelago: Neumayer Channel.

Distribution. Palmer Archipelago; South Shetland Islands; Ross Sea; Weddell Sea.

Depth range. 200-732 m.

Echiniphimedia K.H. Barnard, 1930

Type-species. *Iphimedia hodgsoni* Walker, 1906c

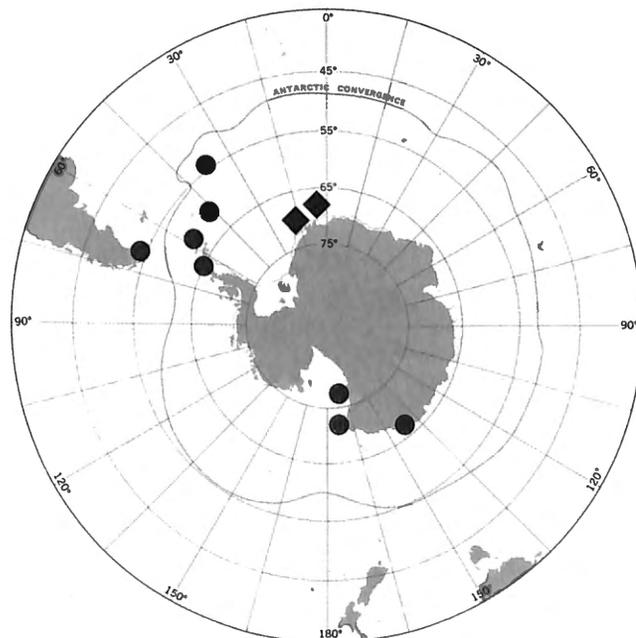
Diagnosis (modified after Barnard & Karaman, 1991). Body covered with teeth or processes. Peduncular articles of antennae expanded distally with apical processes. Antenna 1 peduncular articles 1-2 long, subequal (including processes) to second. Mouthparts projecting conically. Upper lip weakly incised or entire, not very broad. Mandibular incisor broad, stout, smooth or weakly toothed, molar absent or obsolescent. Lower lip without inner lobes, outer lobes broad without apical notches. Maxilla 1 palp 2-articulate, longer or subequal to outer plate. Maxilla 2 without facial row of setae. Maxilliped palp 4-articulate, article 2 not or only weakly produced mediodistally. Coxae 1-3 covered with teeth in some species, coxae 4-7 always with processes on lateral faces. Bases 5-7 at least marginally cuspidate. Telson incised.

Echiniphimedia barnardi Coleman & Andres, 1988

(Fig. 39a-b, Map 19: rhomb)

References and synonymy. De Broyer *et al.* 2007: 94.

Diagnosis. Dorsal side irregularly covered with acute teeth; but not on anterior pereonites. Posteroventral corners of pereonites strongly produced and pointed; mid-dorsal multidentate carinae on pleonites 1-3 and urosomite 1 present. Carinae on pereonite 7 and pleonites 1-2 highly elevated. Posterolateral process on epimeral plates 1-2 rounded and not produced, on plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 angular, that of plates 2-3 pointed. Subantennal notch narrow, with the anterior margin strongly produced and pointed, posterior margin angular. Antenna 1 distal margin of first article with 3 processes; longest process of peduncular article 1 not exceeding beyond distal margin of article 2; longest process of peduncular article 2 exceeding beyond distal margin of article 3; first peduncular article longer than second. Upper lip entire, only weakly depressed apically. Mandibular body elongate and strongly tapering distally, but distal region slightly expanded; incisor toothed; with oblique cutting edge. Lower lip with rounded unnotched lobes. Maxilla 1 palp longer than outer plate; 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Lateral face of all coxae and bases 5-7 with acute teeth submarginally only. Coxa 1 apex pointed distally. Coxa 2 pointed distally with posteromarginal notch. Coxae 3-4 pointed distally. Posterodistal margin of coxa 4 somewhat excavate. Coxae 5-6 posteriorly strongly pointed; posterior margin of bases sinuous and posteroventral corner pointed. Coxa 7 posteriorly rounded, but with submarginal tooth posteromarginally; posterior margin of basis sinuous and posteroventral corner pointed. Telson with wide v-shaped excavation.



Map 19. *Echiniphimedia barnardi*: rhomb; *Echiniphimedia echinata*: circle.

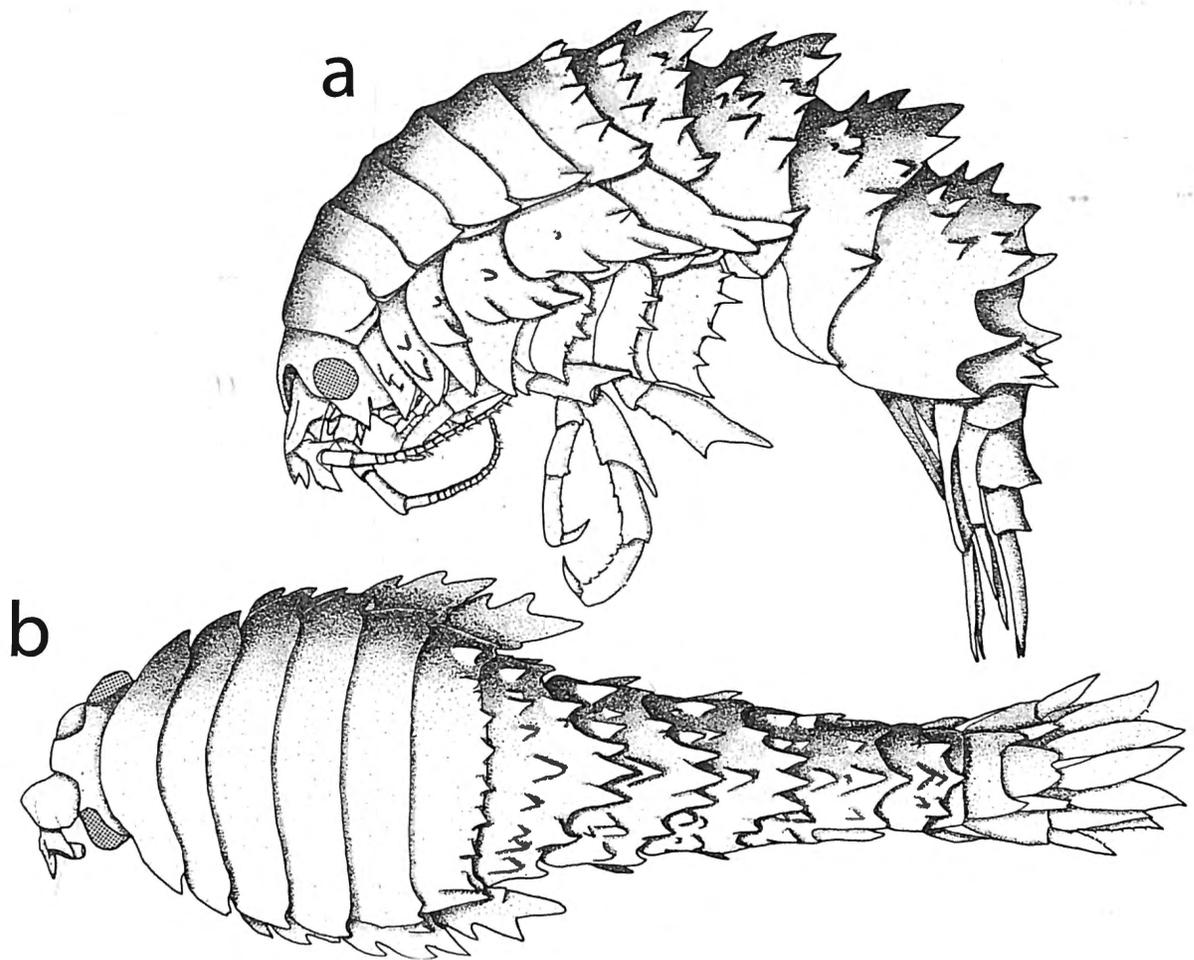


Fig. 39a-b. *Echiniphimedia barnardi*. a) left lateral view; b) dorsal view.

Size. Female 22-38 mm, male 24 mm.

Remarks. *Echiniphimedia barnardi* can be distinguished from the similar *E. waegeli* by the apically pointed coxa 1 (vs. rounded), palp of maxilla 1 subequal in length to outer plate (vs. longer) and the elevated carinae on pereonite 7 and pleonites 1-2.

Type locality. Weddell Sea: 73°12.84'S 20°27.31'W.

Distribution. Ross Sea; Weddell Sea.

Depth range. 165-710 m.

Echiniphimedia echinata (Walker, 1906c)

(Fig. 40a-b, Map 19: circle)

References and synonymy. De Broyer *et al.* 2007: 95.

Diagnosis. Dorsal side irregularly covered with spines or tubercles, except for anterior pereonites. Posteroventral corners of pereonites strongly produced and pointed. Mid-dorsal multidentate carinae on pleonites 1-3 and on urosomite 1 present. Posterolateral margin on epimeral plates 1-2 rounded and unproduced, on plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 rounded, that of plates 2-3 pointed. Subantennal notch narrow, with

anterior margin produced and pointed. Antenna 1 first peduncular article longer than second, distal margin of first article with 3 processes, longest process of peduncular article 1 not exceeding beyond distal margin of article 2, longest process of peduncular article 2 exceeding beyond distal margin of first flagellar article. Upper lip entire. Mandibular body elongate and strongly tapering distally, but distal region slightly expanded; incisor toothed with oblique cutting edge. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Teeth on coxae 1-3 absent, on coxae 4-7 present; bases 5-7 with submarginal teeth only. Apex of coxa 1 oblique and pointed distally. Coxa 2 tapering distally with subacute apex. Coxa 3 distally broad with small apical tip. Coxa 4 pointed distally laterally produced, posterodistal margin excavate. Coxa 5 drawn out into long pointed tooth posteriorly, laterally produced. Coxa 6 posteriorly strongly pointed. Coxa 7 posteriorly rounded, but with sharp submarginal tooth. Posterior margin of bases 5-7 weakly sinuous with short submarginal spines, posteroventral corner pointed. Telson with wide and shallow rounded excavation.

Size. Ovigerous females 23-45 mm, males 13-17 mm.

Remarks. *Echiniphimedia echinata* is very similar to *Echiniphimedia imparidentata*, but in the latter species there

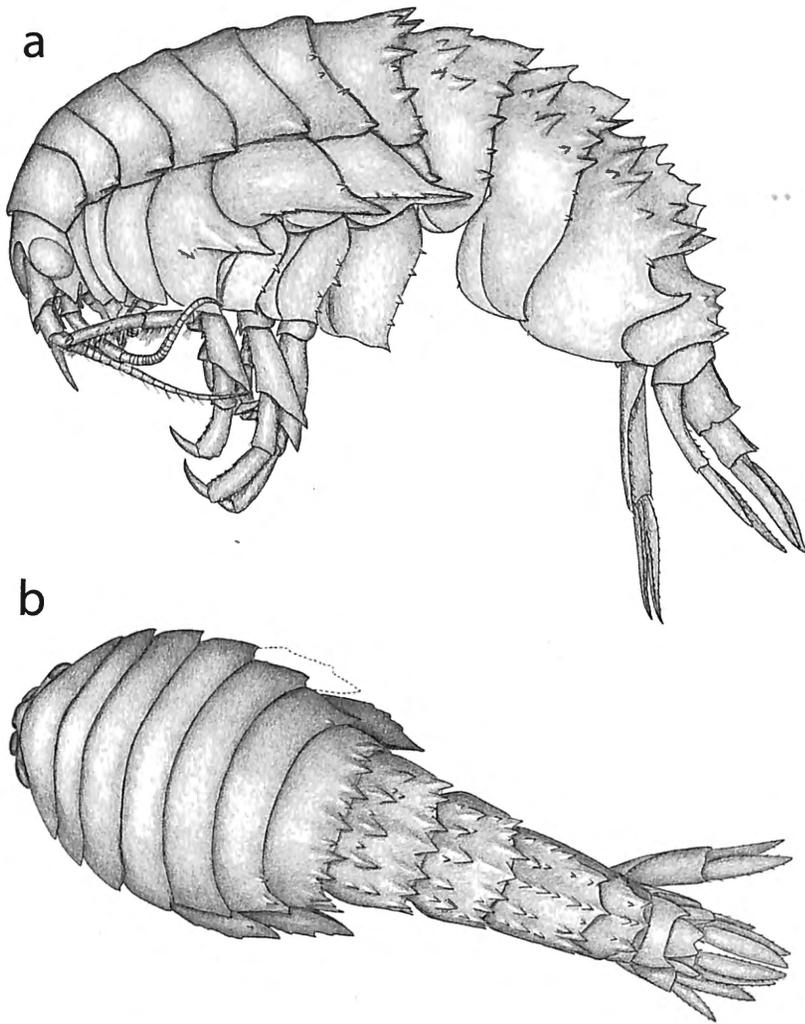


Fig. 40a-b. *Echiniphimedia echinata*. a) left lateral view; b) dorsal view.

are only very few dorsal teeth on both sides of the dorsal pleonite keel. Also the faces and posterior margins of the bases 5-7 lack any teeth. From *E. barnardi* and *E. waegelei* *E. echinata* differs in the untoothed faces of coxae 1-3.

Type locality. Ross Sea: Winter Quarters Bay.

Distribution. Adélie Coast; Bransfield Strait; Davis Sea; Marguerite Bay; Palmer Archipelago; Ross Sea; South Georgia; South Orkney Islands; South Shetland Islands; Weddell Sea.

Depth range. 0-728 m.

Echiniphimedia gabrielae Coleman & Andres, 1988

(Fig. 41a-b, Map 20: rhomb)

References and synonymy. De Broyer *et al.* 2007: 95.

Diagnosis. The complete dorsal body side irregularly covered with spines and tubercles. Posteroventral corners of pereonites strongly produced and pointed. Mid-dorsal multidentate carinae on pleonites 1-3 and urosomite 1 present. Posterolateral process on epimeral plate 1 rounded and not much produced, on plate 2 rounded sinuously, on epimeral

plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 rounded, that of epimera 2-3 pointed and produced. Subantennal notch relatively narrow, with anterior and posterior margin rounded and not produced. Antenna 1 first peduncular article longer than second; distal margin of first article with 2 long and one short process, longest process not exceeding beyond distal margin of article 2, longest process of peduncular article 2 exceeding beyond distal margin of first flagellar article. Upper lip entire, with weak depression apically. Mandibular body elongate and strongly tapering distally, distal region slightly expanded; incisor with oblique cutting edge and irregular and short dentations. Lower lip with rounded unnotched lobes. Maxilla 1 palp subequal to outer plate, 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Lateral face of all coxae covered with short acute teeth; bases 5-7 apart from submarginal teeth with additional teeth on lateral surface. Apex of coxae 1-2 rounded distally. Coxae 3-4 pointed distally. Posterodistal margin of coxa 4 excavate. Coxa of pereopods 5-6 posteriorly pointed not much produced laterally; posterior margin of bases 5-7 sinuous, posteroventral corner pointed. Coxa 7 posteriorly rounded, but with pointed submarginal tooth. Telson with

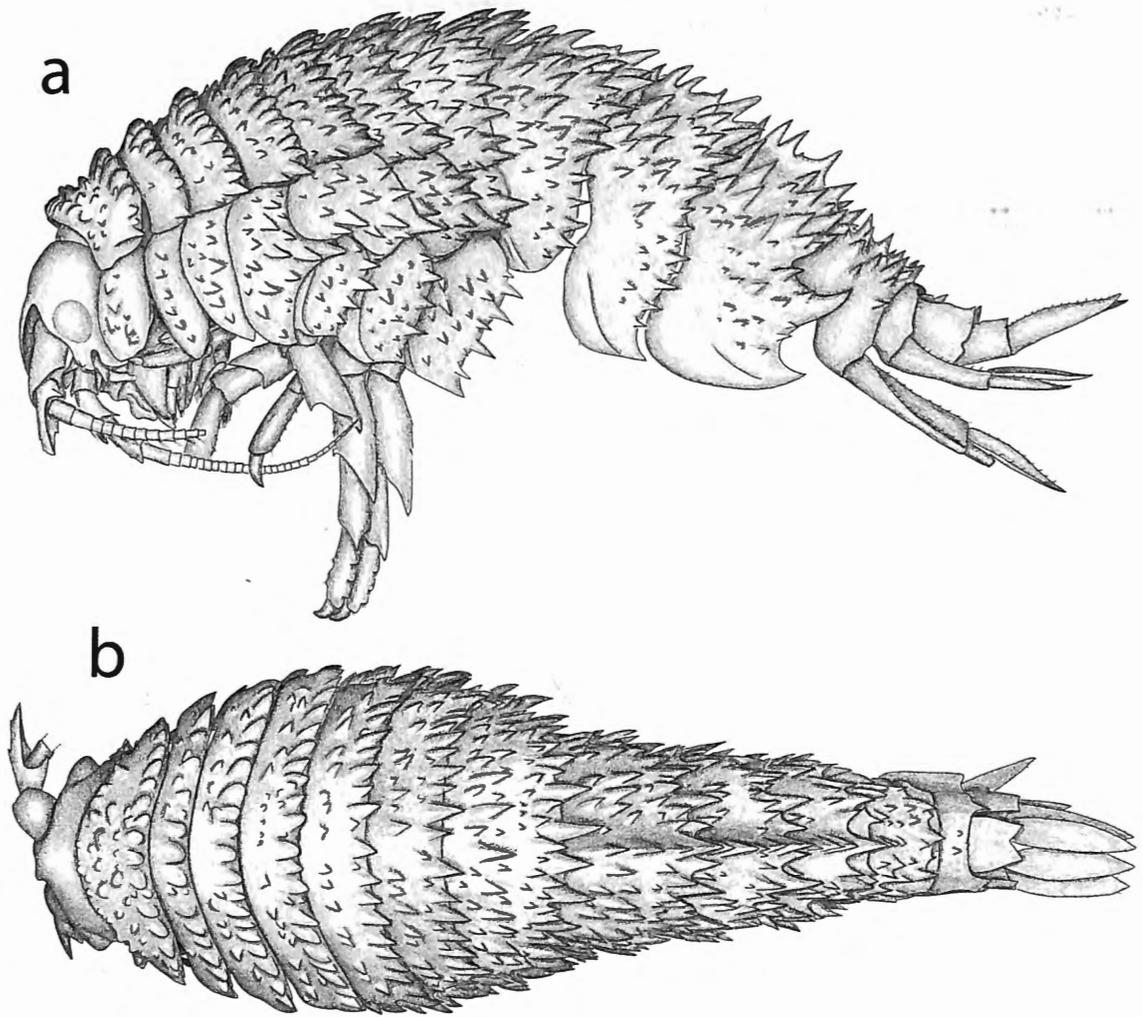
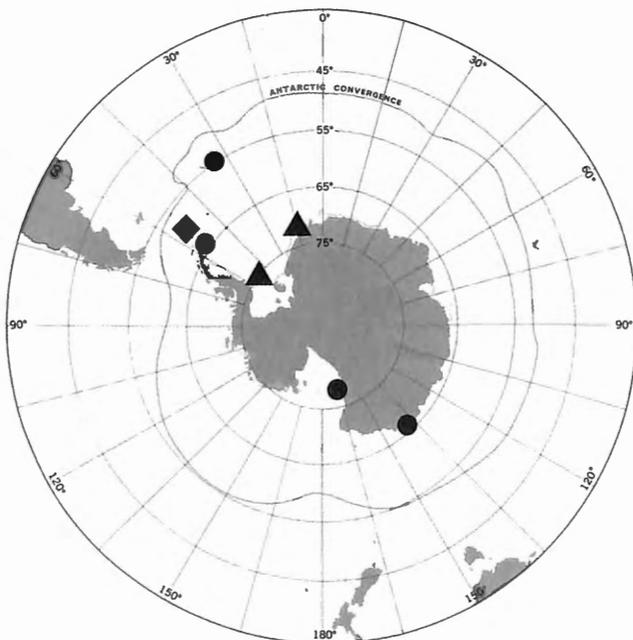


Fig. 41a-b. *Echiniphimedia gabrielae*. a) left lateral view; b) dorsal view.



Map 20. *Echiniphimedia gabrielae*: rhomb; *Echiniphimedia scotti*: circle; *Echiniphimedia waegelei*: triangle..

shallow and wide v-shaped excavation.

Size. Male 18-20 mm.

Remarks. The species *E. gabrielae*, *E. scotti* and *E. hodgsoni* are closely related, all three species have processes also on the anterior pereonites. Table 3 compares the main diagnostic characters of these species.

Type locality. South Shetland Islands: 61°13.45'S 55°58.21'W.

Distribution. Only known from type locality and Polarstern ANT VI/2 St. 218 (61°00.1'S 55°09.2'W), St. 230 (61°02.3'S 54°44.6'W).

Depth range. 130-424 m.

Table 3. Comparison of *Echiniphimedia* species with processes on anterior pereonites.

	<i>E. gabrielae</i>	<i>E. scotti</i>	<i>E. hodgsoni</i>
dorsal processes	many small tubercles and posteriorly directed spines	fewer and stouter, only weakly posteriorly curved processes	2+ rows of pointed, long, only weakly posteriorly curved processes
antenna 1 distal margin of first article with	3 processes	5 processes	5 processes
antenna 1 longest process of peduncular article 1	not exceeding beyond distal margin of article 2	exceeding beyond distal margin of article 3	exceeding beyond distal margin of article 2
maxilla 1 palp	subequal to outer plate	longer than outer plate	longer than outer plate
apex of coxae 1-2	distally rounded	distally pointed	tapering with shallow distal excavation

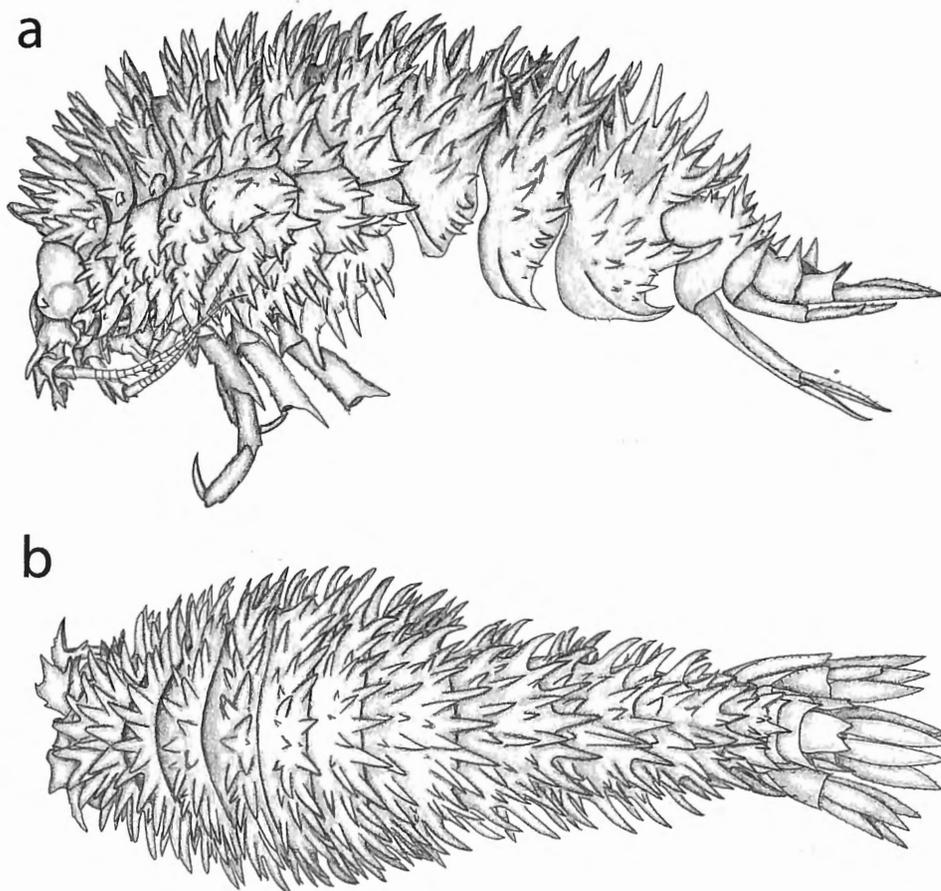
***Echiniphimedia hodgsoni* (Walker, 1906c)**

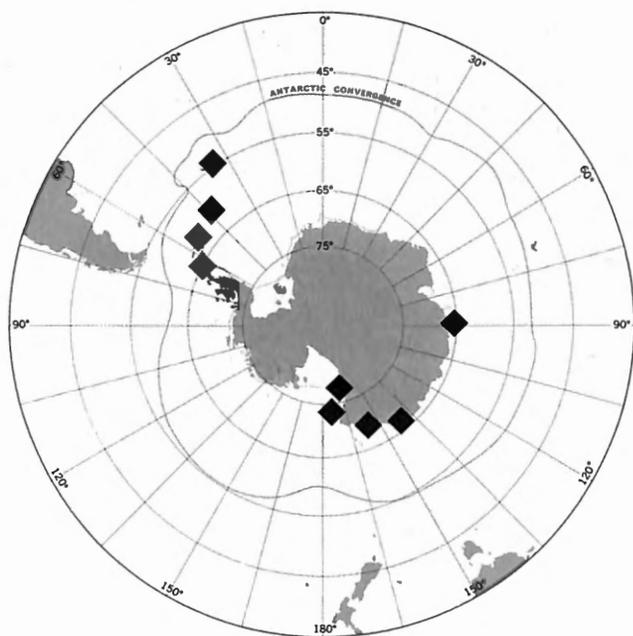
(Fig. 42a-b, Colour plates 3e-f, Map 21: rhomb)

References and synonymy. De Broyer *et al.* 2007: 95.

Diagnosis. Dorsal armature irregularly covered with spines with long pointed processes all over body surface. On first pleonite 3-4 rows of dorsal teeth, from pereonite 2 on only 2 rows. Posteroventral corners of pereonites produced and pointed. Multidentate mid-dorsal carinae on pleonites 1-3

and urosomite 1 present and additional acute processes on urosomites 2-3. Posterolateral process on epimeral plates 1-2 rounded and weakly produced, epimeral plate 3 strongly produced and pointed. Posteroventral corner of epimeral plate 1 angular, those of plates 2-3 pointed. Subantennal notch narrow, posterior margin drawn out into pointed tooth, anterior margin truncate. Antenna 1 distal margin of first article with 5 processes; longest process of peduncular article 1 exceeding beyond distal margin of article 2, longest process of peduncular article 2 exceeding beyond distal margin of first flagellar article. Upper lip entire with only

Fig. 42a-b. *Echiniphimedia hodgsoni*. a) left lateral view; b) dorsal view.



Map 21. *Echiniphimedia hodgsoni*: rhomb.

shallow depression. Mandibular body elongate and strongly tapering distally, but distal region slightly expanded; incisor with oblique cutting edge, toothed. Lower lip with rounded unnotched lobes. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially slightly produced and guarding along inside of article 3. Lateral face of all coxae and basis with acute teeth; bases 5-7 apart from submarginal teeth additional teeth on lateral surface present. Apex of coxae 1-3 excavate distally (bifid). Coxa 4 pointed distally and posterodistal margin excavate. Pereopod 5-7 coxae posteriorly rounded, with submarginal teeth, posterior margin of bases sinuous, posteroventral corner pointed. Telson with shallow and wide v-shaped excavation. **Size.** Females up to 40 mm (ovigerous already from 15-18 mm), male 18-26 mm.

Remarks. The species *E. hodgsoni*, *E. gabriellae* and *E. scotti* and are closely related, all three species have processes also on the anterior pereonites. Table 3 compares the main diagnostic characters of these species.

Type locality. Ross Sea: Coulman Island.

Distribution. Adélie Coast; Bransfield Strait; Davis Sea; Oates Coast; Palmer Archipelago; Ross Sea; South Georgia; South Orkney Islands; South Shetland Islands; Weddell Sea.

Depth range. 20-1120 m.

***Echiniphimedia imparidentata* (Bellan-Santini, 1972a) n. comb.**

(Fig. 43, Map 22: rhomb)

? *Pariphimediella imparidentata* (Bellan-Santini, 1972a), p. 181, pl. 9

Iphimediella imparidentata Watling & Holman, 1980, p. 625

References and synonymy. De Broyer *et al.* 2007: 96.

Diagnosis. Dorsal armature restricted to posterior margin of pereonite 7 and pleonites 1-3, which bear, seen from lateral side, irregularly shaped carinae. Very few small teeth on both sides of the carinae. Urosomite 1 with small dorsal pointed process. Posteroventral corners of pereonites strongly produced and pointed. Posterolateral process of epimeral plate 2 rounded and weakly produced, slightly angular, that of plate 3 strongly produced and pointed. Posteroventral corner on epimeral plates 2-3 pointed. Subantennal notch narrow, both margins drawn out into small pointed processes. Antenna 1 distal margin of first article with 3 processes; longest process of peduncular article 1 not exceeding beyond distal margin of article 2; longest process of peduncular article 2 exceeding far beyond distal margin of first flagellar article. Upper lip entire and rounded apically. Mandibular body elongate and strongly tapering distally; incisor oblique, with uneven cutting blade. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Lateral face of coxae 3-7 with acute teeth. Bases 5-7 without teeth. Coxa 1 apex rounded distally, with small pointed tip; basis straight anteromarginally and convex posteromarginally; carpus = 0.73 x propodus length. Coxa 2

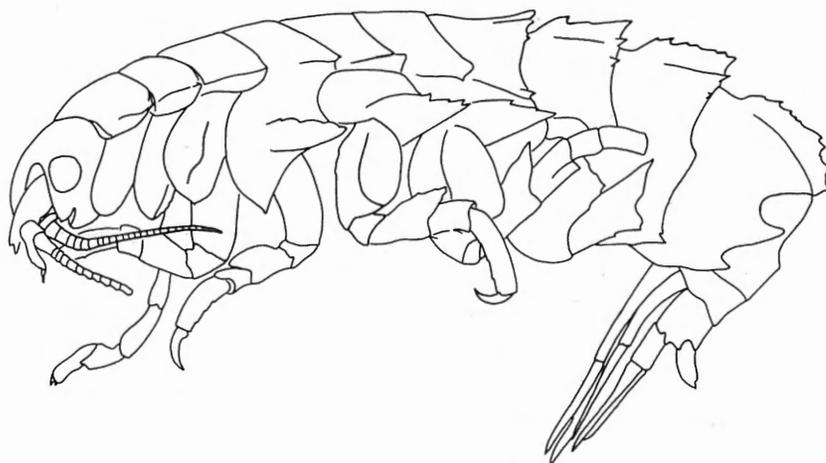
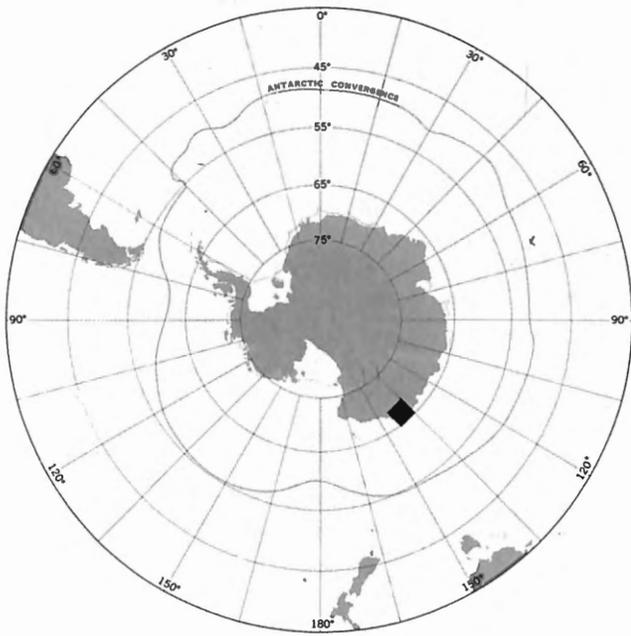


Fig. 43. *Echiniphimedia imparidentata*, redrawn after Bellan-Santini, 1972a. Left lateral view.



Map 22. *Echiniphimedia imparidentata*: rhomb.

rounded distally. Coxa 3 pointed distally, but rather angular. Coxa 4 pointed distally, with several teeth on posterior process, posterodistal margin excavate. Pereopod 5-6 coxae posteriorly pointed and strongly produced, with several teeth on process; posterior margin of basis rounded; posteroventral corner of basis rounded. Pereopod 7 coxa posteriorly pointed;

posterior margin of basis straight, posteroventral corner pointed. Telson with shallow and wide v-shaped excavation.
Size. Female 20-21 mm.

Remarks. This species is transferred to the genus *Echiniphimedia*, because it is morphologically very similar to *E. echinata*. It differs from this species only in the sparsity of the dorsal teeth on both sides of the dorsal keel and the lacking teeth on bases 5-7. Different from *E. echinata* the bases 5-6 have the posteroventral angle rounded.

Type locality. Adélie Coast, Géologie Archipelago between Bernard and Lamarck Islands: 66°139'S 139°55'E.

Distribution. Only known from type locality.

Depth range. 50 m.

Echiniphimedia scotti K.H. Barnard, 1930

(Fig. 44a-b, Map 20: circle)

References and synonymy. De Broyer *et al.* 2007: 96.

Diagnosis. Dorsal armature irregularly covered with rows of stout spines and with blunt tubercles on anterior pereonites. Posteroventral corners of pereonites strongly produced and pointed; multidentate mid-dorsal carinae on pleonites 1-3 and urosomite 1. Posterolateral process on epimeral plates 1-2 rounded and weakly produced, that of plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 rounded, that of 2-3 pointed. Subantennal notch narrow, anterior margin drawn out into tip. Antenna 1 distal

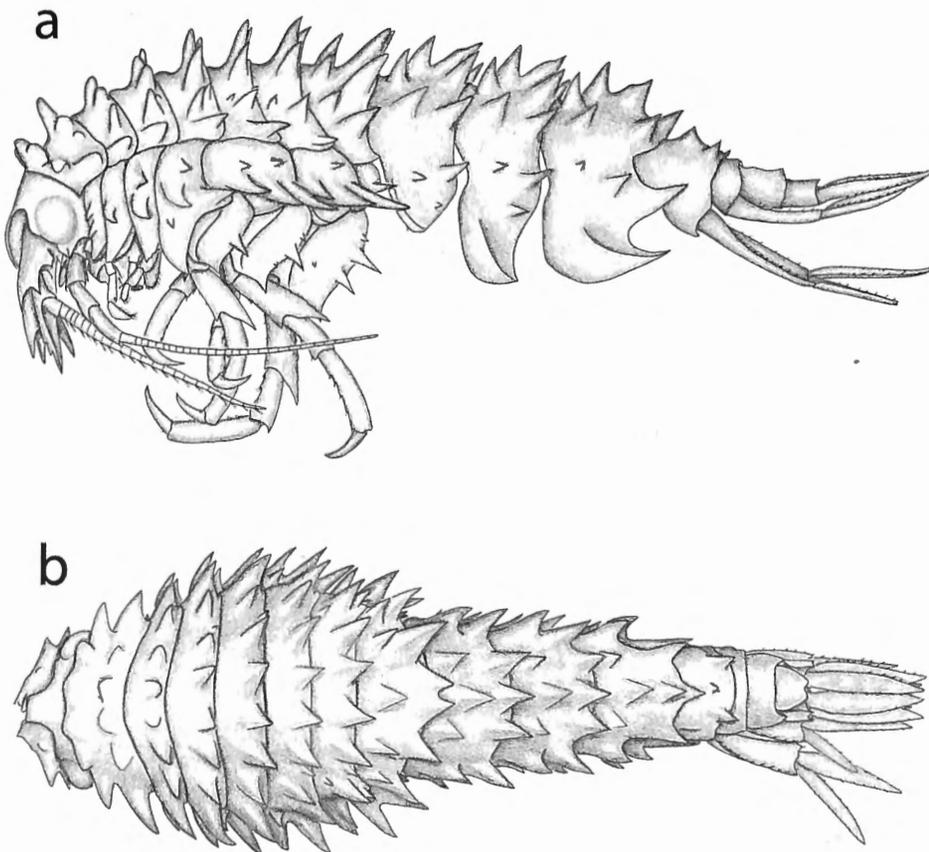


Fig. 44a-b. *Echiniphimedia scotti*. a) left lateral view; b) dorsal view.

margin of first article with 5 processes (some additional smaller processes may be present), longest process of peduncular article 1 exceeding beyond distal margin of article 3, longest process of peduncular article 2 exceeding beyond distal margin of first flagellar article. Upper lip entire. Mandibular body elongate and strongly tapering distally, but distal region slightly expanded; incisor with small teeth on oblique cutting edge. Lower lip with rounded unnotched lobes. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped medially not produced forward and not guarding along inside of article 3. Lateral face of all coxae and bases 5-7 with acute teeth; bases 5-7 apart from submarginal teeth few additional teeth on lateral surface present. Apex of coxae 1-2 pointed distally. Coxa 4 pointed distally and posterodistal margin excavate. Pereopod 5-6 coxae posteriorly pointed; posterior margin of bases sinuous and posteroventral corner pointed. Pereopod 7 coxa posteriorly rounded with submarginal teeth posteriorly); posterior margin of basis straight to sinuous and posteroventral corner of basis pointed. Telson with shallow and wide v-shaped excavation.

Size. Female 12-19 mm, male 22 mm.

Remarks. The species *E. scotti*, *E. hodgsoni* and *E. gabriellae* and are closely related, all three species have processes also on the anterior pereonites. Table 3 compares the main diagnostic characters of these species.

Type locality. Ross Sea: McMurdo Sound.

Distribution. Adélie Coast; Ross Sea; South Georgia; Trinity Peninsula.

Depth range. 0-457 m.

***Echiniphimedia waegelei* Coleman & Andres, 1988**

(Fig. 45a-b, Map 20: triangle)

References and synonymy. De Broyer *et al.* 2007: 97.

Diagnosis. Dorsal armature irregularly covered with spines or tubercles, except for anterior pereonites. Posteroventral corners of pereonites strongly produced and pointed; multidentate mid-dorsal carinae on pleonites 1-3 and on urosomite 1; one row of pointed teeth on posterior margin of pleonite 6, 2 irregular rows of pointed processes on pereonite 7. Posterolateral process on epimeral plates 1-2 rounded, on plate 3 strongly produced, pointed and curved upwards. Posteroventral corner on epimeral plate 1 rounded, that on plates 2-3 pointed. Subantennal notch narrow with the anterior margin subacute and produced, posterior margin rounded. Antenna 1 distal margin of first article with 3 processes; longest process of peduncular article 1 not exceeding beyond distal margin of article 2; longest process

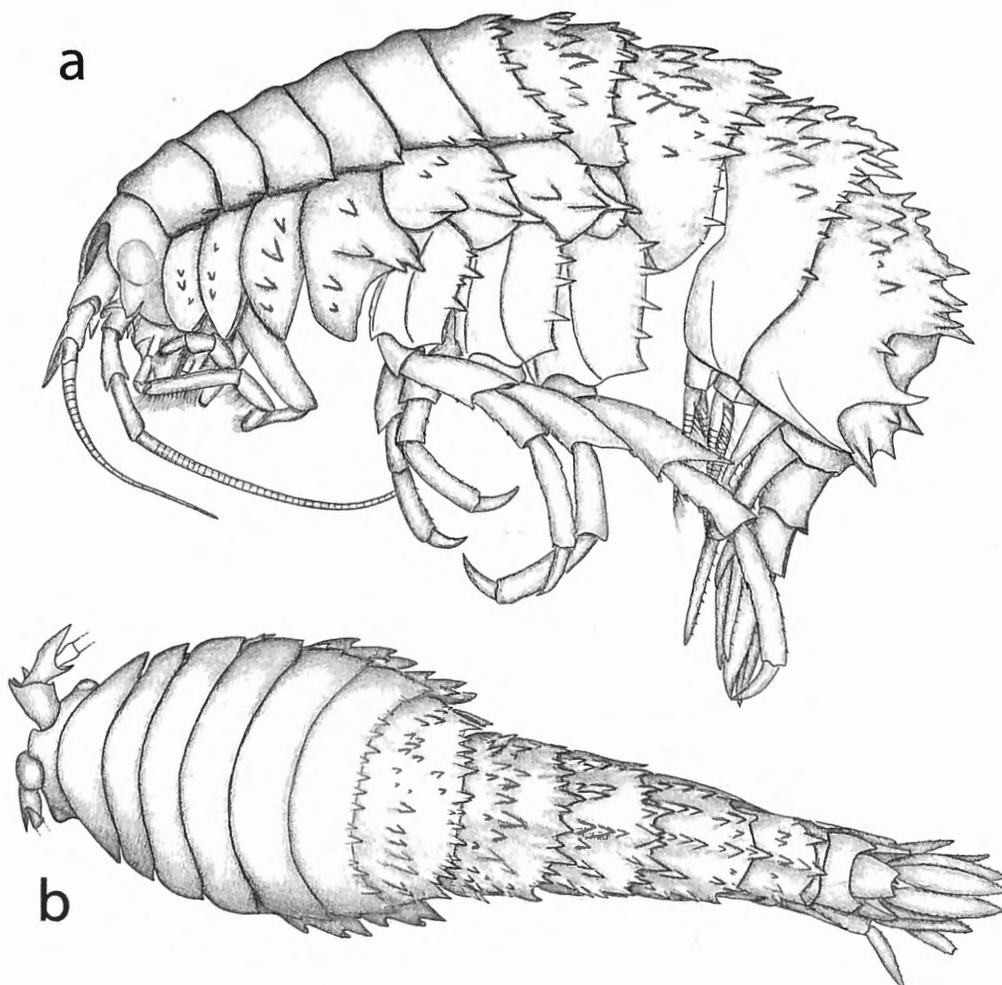


Fig. 45a-b. *Echiniphimedia waegelei*. a) left lateral view; b) dorsal view.

of peduncular article 2 exceeding beyond distal margin of article 3. Upper lip entire. Mandibular body elongate and strongly tapering distally; incisor with small teeth on oblique cutting edge. Lower lip with rounded unnotched lobes. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Lateral face of all coxae with acute teeth; bases 5-7 with submarginal teeth only. Apex of coxa 1 rounded distally, that of gnathopod 2 subacute. Coxae 3-4 pointed distally. Posterodistal margin of coxa 4 excavate. Coxae 5-6 posteriorly pointed, that of pereopod 7 rounded, posterior margin of the bases 5-7 weakly sinuous with the posteroventral corner pointed. Telson with wide and shallow rounded excavation.

Size. Female 26-37 mm, male 23-25 mm.

Remarks. *Echiniphimedia waegelei* is somewhat similar to *E. echinata*, *E. barnardi* and *E. imparidentata*. All these species have the anterior pereonites smooth. *Echiniphimedia waegelei* has processes on the lateral faces of coxae 1-3, as *E. barnardi*, whereas *E. echinata* and *E. imparidentata* have smooth coxae 1-3. From *E. barnardi* *E. waegelei* differs in the following: rounded apex of coxa 1 (vs. pointed); mid-dorsal carina not strongly elevated (vs. elevated) and maxilla 1 palp not exceeding outer plate (vs. longer).

Type locality. Weddell Sea, eastern shelf: Polarstern ANT III, St. 20: 71°21.61'S 13°24.50'W.

Distribution. Ross Sea; Weddell Sea.

Depth range. 170-254 m.

Gnathiphimedia K.H. Barnard, 1930

Type-species. *Gnathiphimedia mandibularis* K.H. Barnard, 1930, selected by J.L. Barnard, 1969c.

Diagnosis (modified after Barnard & Karaman, 1991). Dorsal body side covered posteriorly with paired processes. Antenna 1 peduncular article 1 longer 2. Mouthparts projecting conically but not strongly. Upper lip entire, epistome very broad. Mandibular incisor broad and blunt, not for cutting but crushing food. Lower lip without or with weak inner lobes. Maxilla 1 with 2-articulate palp, article 2 ordinary. Maxilla 2 inner plate without facial row of setae. Maxilliped palp article 2 narrow and apicomediaally unproduced, palp article 4 inconspicuous. Coxae tapering distally, coxa 4 long. Gnathopods alike, but of different length and setation, articles 5-6 elongate, narrow, both gnathopods chelate. Telson incised.

Gnathiphimedia barnardi Thurston, 1974b

(Fig. 46, Map 23: rhomb)

References and synonymy. De Broyer *et al.* 2007: 97.

Diagnosis. Dorsal armature with paired teeth on pereonite 7 and pleonites 1-3. Posteroventral corners of pereonites not produced on segments 1-4, somewhat produced on posterior pereonites; mid-dorsal carinae on pleonites and urosomite 1 wanting. Posterolateral process on epimeral plates 1-2 rounded and weakly, that of plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 rounded,

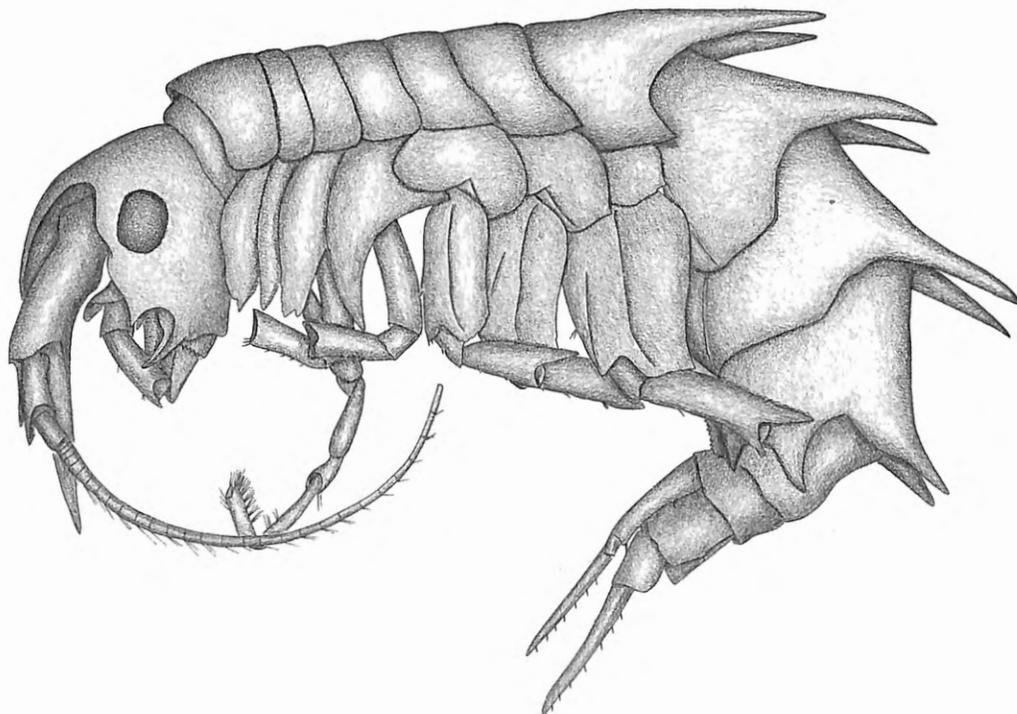


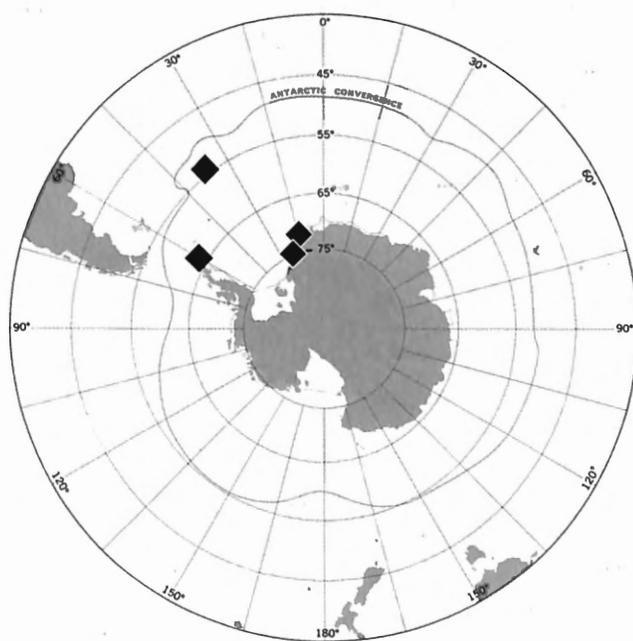
Fig. 46. *Gnathiphimedia barnardi*. Left lateral view.

that of pleonites 2-3 pointed. Subantennal notch as wide rounded excavation, posterior margin drawn out into pointed tooth, anterior margin shorter and also pointed. Antenna 1 first peduncular article longer than 2-3 combined, distal margin of first article with 2 processes; longest process of peduncular article 1 exceeding beyond distal margin of article 3; longest process of peduncular article 2 not exceeding beyond distal margin of article 3; first flagellar articles fused. Upper lip entire. Mandibular body bulky; incisor not toothed, rounded, not cutting. Lower lip with rounded unnotched lobes. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Apex of coxae 1-2 pointed distally. Coxa 3 narrow and excavate distally (bifid). Coxa 4 narrow and strongly pointed distally; posterodistal margin of coxa 4 deeply excavate. Coxae 5-7 posteriorly rounded; posterior margin of bases 5-7 weakly sinuous and their posteroventral corner pointed. Telson with wide v-shaped excavation, with subacute apices.

Size. Female 13 mm.

Remarks. *Gnathiphimedia barnardi* is most similar to *G. mandibularis*, *G. fuchsi* and *G. watlingi*. These species share the typical *Gnathiphimedia*-like bulky mandibles and 4 pairs of dorsal processes. For differences see Table 4.

Type locality. South Georgia: Discovery, St. 159: 53°48'S 35°57'W.



Map 23. *Gnathiphimedia barnardi*: rhomb.

Distribution. South Georgia; South Shetland Islands; Weddell Sea.

Depth range. 26-250 m.

Table 4. Differences between *Gnathiphimedia barnardi*, *G. mandibularis*, *G. fuchsi* and *G. watlingi*.

	<i>G. barnardi</i>	<i>G. fuchsi</i>	<i>G. mandibularis</i>	<i>G. watlingi</i>
Paired dorsal process on pleonite 3	about as long as on preceding segment	about as long as on preceding segment	about as long as on preceding segment	shortened
Antenna 1 longest process of peduncular article 1 exceeding beyond distal margin of article 3	yes	no	yes	yes
Antenna 1, first flagellar article	segmented	segmented	not segmented	not segmented
Posterolateral process on epimeral plates 1-2	rounded	rounded	pointed	pointed
Posterolateral process on epimeral plate 3	situated close to posteroventral corner	normal	normal	normal
Apex of coxa 1	pointed distally; or truncate	pointed distally	excavate with rounded anteroventral and pointed posteroventral corner	excavate distally
Apex of coxa 2	pointed distally	pointed distally	pointed distally	excavate distally
Apex of coxa 3	excavate distally	pointed distally	pointed distally	excavate distally
Coxae 5-7 posteriorly	rounded	rounded	pointed	rounded

Gnathiphimedia fuchsi Thurston, 1974a

(Fig. 47; Colour plate 4a, Map 24: rhomb)

References and synonymy. De Broyer *et al.* 2007: 97.

Diagnosis. Dorsal armature with paired teeth on pereonite 7 and pleonites 1-3. Posteroventral corners not produced on anterior pereonites, somewhat produced on posterior ones. Mid-dorsal carinae on pleonites and urosomites wanting. Posterolateral process on epimeral plates 1-2 rounded and weakly produced, that on plate 3 strongly produced and pointed. Posteroventral corner on epimeral plates 1-2 angular, that of plate 3 pointed. Subantennal notch wide, with both margins drawn out into tips, posterior tip longer. Antenna 1 distal margin of first article with 2 processes (or 3?), longest process of peduncular article 1 not (much?) exceeding beyond distal margin of article 2; longest process of peduncular article 2 not exceeding beyond distal margin of article 3; uniaarticulate accessory flagellum absent (?). Upper lip entire. Mandibular body bulky, incisor not toothed, rounded, not cutting. Lower lip with rounded unnotched lobes. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Apex of coxae 1-4 pointed distally. Posterodistal margin of coxa 4 excavate. Coxae 5-7 posteriorly rounded; posterior margin of the bases 5-7 sinuous and posteroventral corner pointed. Telson irregularly with wide and shallow rounded excavation.

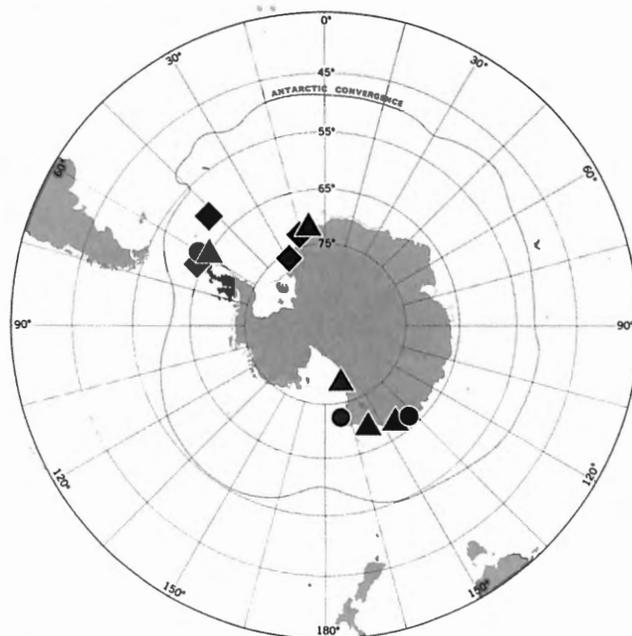
Size. Female 19 mm, male 16 mm.

Remarks. See remarks of *Gnathiphimedia barnardi* description and Table 4.

Type locality. South Orkney Islands: Signy Island, Borge Bay.

Distribution. South Orkney Islands; South Shetland Islands; Weddell Sea.

Depth range. 5-157 m.



Map 24. *Gnathiphimedia fuchsi*: rhomb; *Gnathiphimedia incerta*: circle; *Gnathiphimedia mandibularis*: triangle.

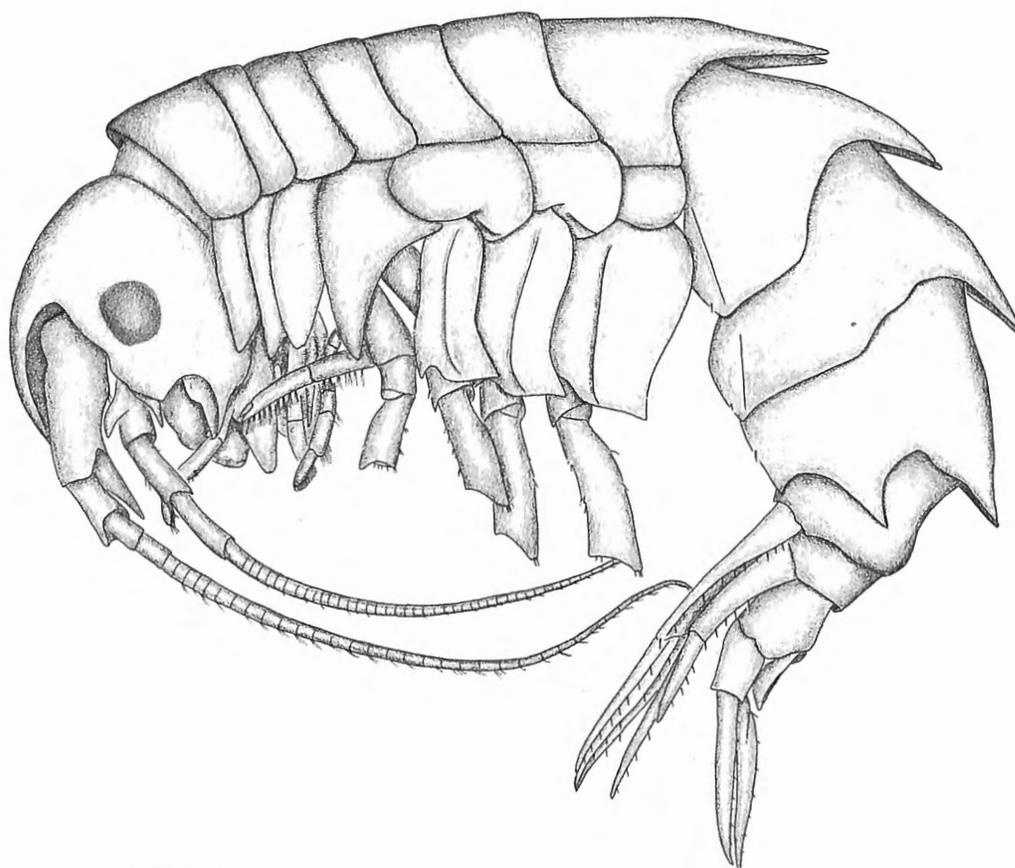


Fig. 47. *Gnathiphimedia fuchsi*. Left lateral view.

***Gnathiphimedia incerta* Bellan-Santini, 1972a**

(Figs. 48a-b, Colour plate 3h, Map 24: circle)

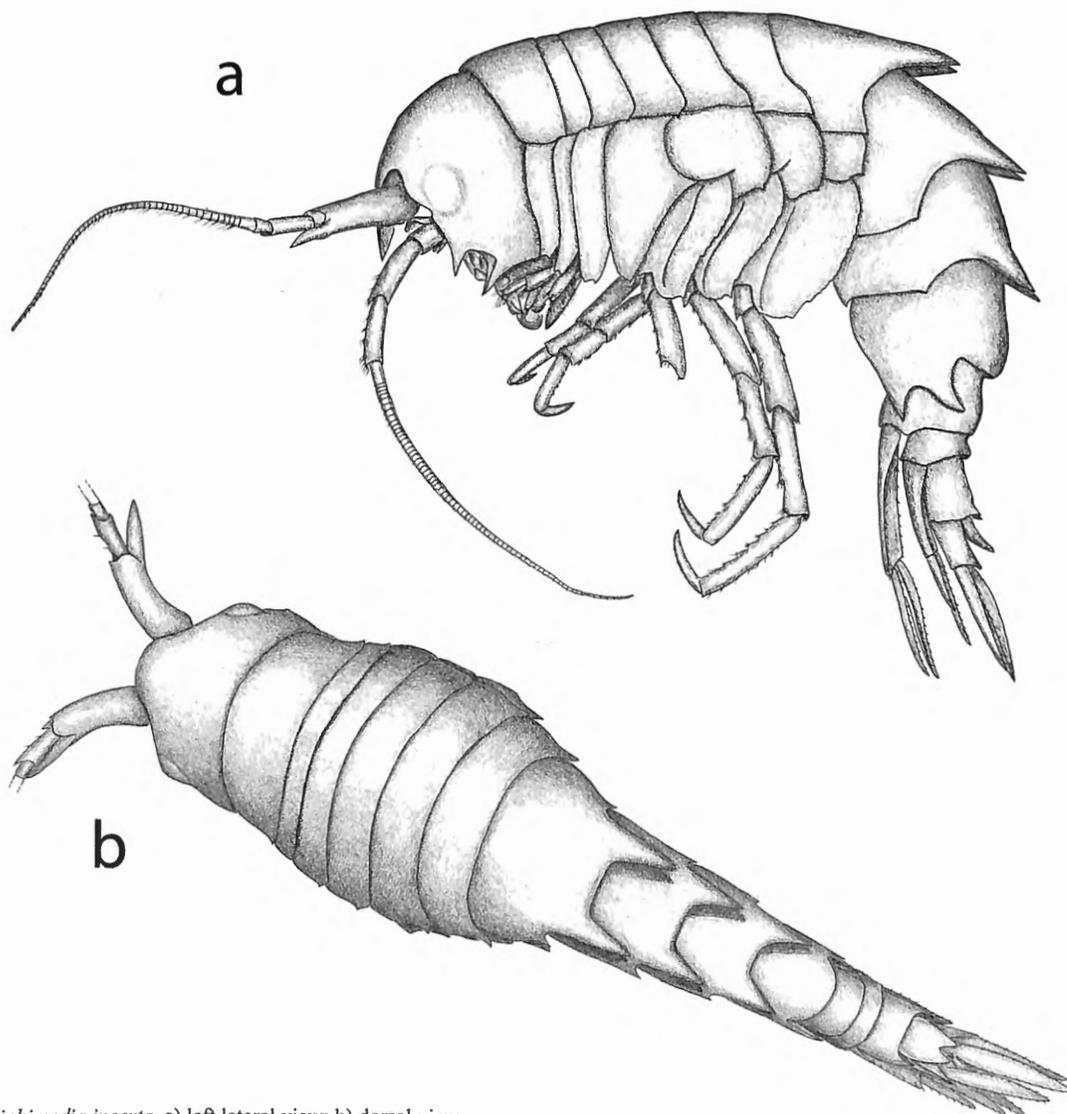
References and synonymy. De Broyer *et al.* 2007: 98.

Diagnosis. Dorsal armature with short paired teeth on pereonite 7 and pleonites 1-2. Posteroventral corners of anterior pereonites not produced, somewhat produced on posterior ones, mid-dorsal carinae on pleonites and ursomites wanting. Posterolateral process on epimeral plates 1-2 rounded and weakly produced, that of plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 rounded, that of plates 2-3 pointed. Subantennal notch wide, with both margins drawn out into pointed tip, the posterior one longer, rather slender and not bent ventrally. Antenna 1 distal margin of first article with 3 processes; longest process of peduncular article 1 exceeding beyond distal margin of article 3; longest process of peduncular article 2 exceeding beyond distal margin of article 3; 1st flagellar article of antenna 1 with „internal segmentation“. Upper lip entire. Mandibular body bulky, incisor not toothed, rounded, not cutting. Lower lip with rounded unnotched lobes. Maxilla 1 palp longer than

outer plate, 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Apex of coxae 1-3 excavate distally (narrowly bifid). Coxa 4 pointed distally. Posterodistal margin of coxa 4 rather straight only weakly excavate. Pereopod coxae 5-6 posteriorly pointed; posterior margins of bases rather straight, posteroventral corner pointed. Pereopod 7 coxa posteriorly pointed; posterior margin of basis rounded, posteroventral corner pointed. Telson with narrow U-shaped excavation.

Size. Female 14.5-15 mm.

Remarks. *Gnathiphimedia incerta* is very difficult to discriminate from *Gnathiphimedia sexdentata*. The only useful discriminating character is the posterior process of the head notch that is slender in *G. incerta* and much stronger and slightly curved in *G. sexdentata*. There is another species, *G. macrops*, which bears some resemblance to *G. incerta* and *G. sexdentata*, for separating characters see in the remarks section of *G. macrops*.

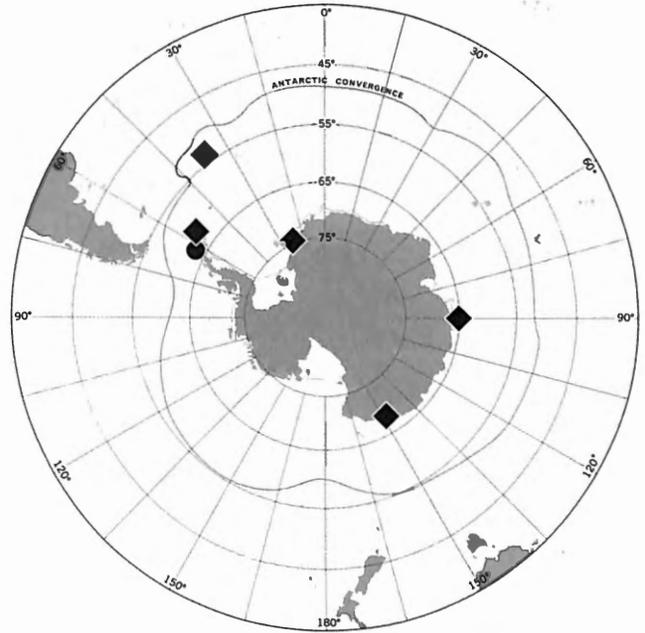
Type locality. Adélie Coast: Géologie Archipelago.**Distribution.** Adélie Coast; Ross Sea; South Shetland Islands.**Depth range.** 60-426 m.Fig. 48a-b. *Gnathiphimedia incerta*. a) left lateral view; b) dorsal view.

Gnathiphimedia macrops K.H. Barnard, 1932

(Fig. 49a-b, Map 25: rhomb)

References and synonymy. De Broyer *et al.* 2007: 98.

Diagnosis. Dorsal armature with short paired teeth on pereonite 7 and pleonites 1-2. Posteroventral corners not produced on anterior pereonites, somewhat pointed on posterior ones. Mid-dorsal carinae on pleonites and urosomites wanting. Posterolateral process on epimeral plates 1-2 slightly produced and rounded, on plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 rounded, on plates 2-3 pointed. Subantennal notch narrow with its posterior margin drawn out into a long pointed tooth, anterior margin rounded distally. Antenna 1 distal margin of first article with 3 processes, longest process of peduncular article 1 exceeding beyond distal margin of article 2, longest process of peduncular article 2 exceeding beyond distal margin of first flagellar article. Upper lip entire. Mandibular body bulky; incisor not toothed, rounded, not cutting. Lower lip with rounded unnotched lobes. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Apex of coxa 1 truncate to weakly excavate and oblique anterodistally and pointed distally. Coxae 2-3 pointed distally and truncate, oblique and shortly serrate anterodistally. Coxa 4 pointed distally, antermarginally shortly serrate; posterodistal margin of coxa



Map 25. *Gnathiphimedia macrops*: rhomb; *Gnathiphimedia watlingi*: circle.

4 excavate. Coxae 5-6 posteriorly pointed; posterior margin of bases 5-6 straight and posteroventral corner pointed. Coxa 7 posteriorly angular to pointed, posterior margin of basis rounded and posteroventral corner pointed. Telson with shallow U-shaped excavation.

Size. Female 10-14 mm, male 11.5 mm.

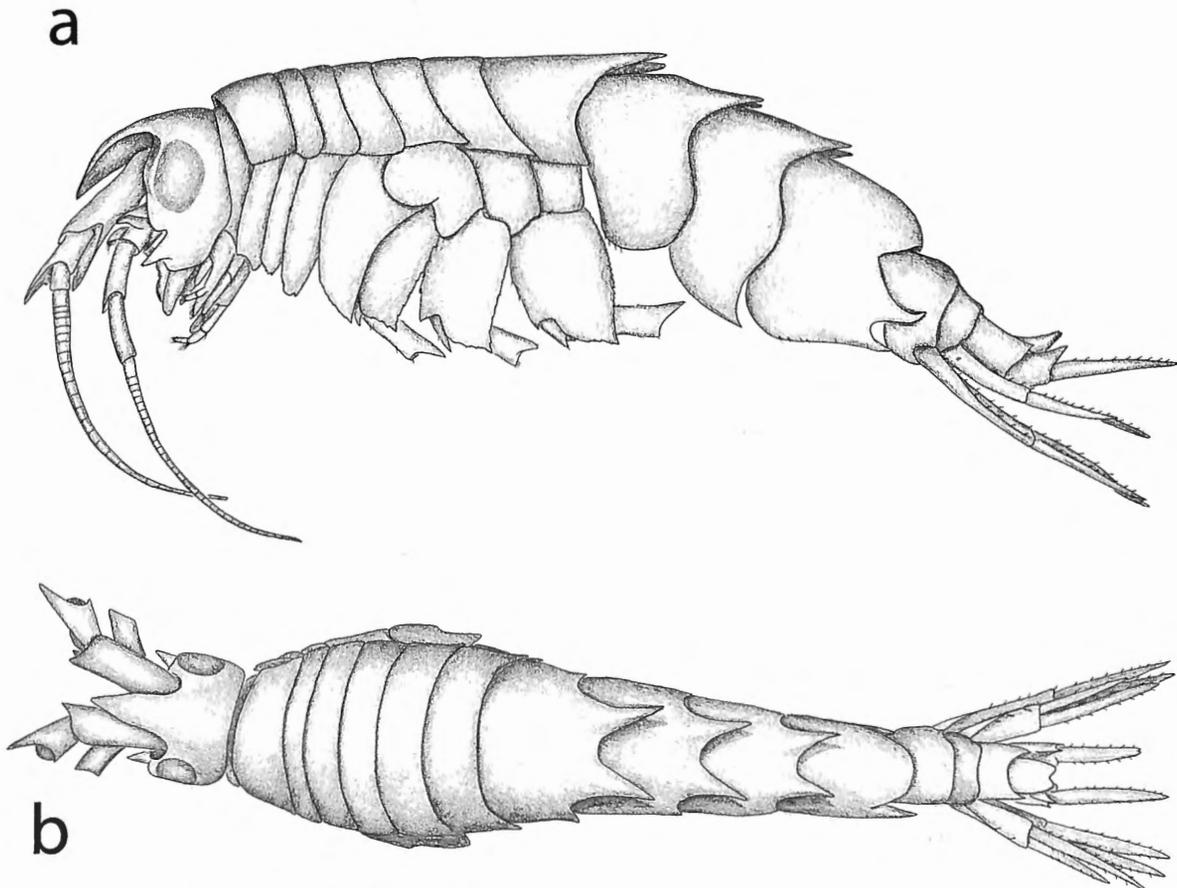


Fig. 49a-b. *Gnathiphimedia macrops*. a) left lateral view; b) dorsal view.

Remarks. There are 3 species in the genus *Gnathiphimedia* which have 3 pairs of dorsal processes: *G. incerta*, *G. sexdentata* and *G. macrops*. The last mentioned species has a characteristic long and slender posterior process on the narrow head notch and the longest process of peduncular article 1 of antenna 1 is no longer than the distal margin of the second article, whereas in the other two species the head notch is wide, the posterior process shorter and the longest process of antenna 1 peduncle article 1 exceeds beyond the 3 article.

Type locality. South Georgia: Cumberland Bay, Cape Saunders, Cumberland East Bay, 53°51'S 36°21'W.

Distribution. Adélie Coast; South Georgia; South Shetland Islands; Weddell Sea.

Depth range. 120-540 m.

***Gnathiphimedia mandibularis* K.H. Barnard, 1930**

(Fig. 50a-b, Colour plate 4b, Map 24: triangle)

References and synonymy. De Broyer *et al.* 2007: 98.

Diagnosis. Dorsal armature with paired teeth on pereonite 7 and pleonites 1-3. Posteroventral corners of anterior pereonites not produced, but somewhat produced on posterior ones. Mid-dorsal carinae on pleonites and urosomite 1 absent. Posterolateral process on epimeral plates 1-3 produced and

pointed, longest on plate 3. Posteroventral corner on epimeral plate 1 rounded and pointed on plates 2-3. Subantennal notch relatively wide, with both margins pointed, posterior process longer than anterior and wide. Antenna 1 distal margin of first article with 2 processes; longest process of peduncular article 1 exceeding beyond distal margin of article 3 (longer than 1st flagellar article in some descriptions, cf. K.H. Barnard, 1930); longest process of peduncular article 2 not exceeding beyond distal margin of article 3. Upper lip entire. Mandibular body bulky; incisor not toothed, rounded, not cutting. Maxilla 1 palp longer than outer plate; 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Apex of coxa 1 excavate with rounded anteroventral and pointed posteroventral corner. Coxae 2-4 pointed distally. Posterodistal margin of coxa 4 excavate. Coxae 5-7 posteriorly pointed. Posterior margin of the bases 5-7 straight to weakly sinuous and posteroventral corner pointed. Telson with narrow U-shaped excavation, about ¼ deep.

Size. Female 11-42 mm, male 7-36 mm.

Remarks. See remarks of *Gnathiphimedia barnardi* description and Table 4.

Type locality. Ross Sea: McMurdo Sound.

Distribution. Adélie Coast; South Shetland Islands; Ross Sea; Weddell Sea.

Depth range. 45-2000 m.

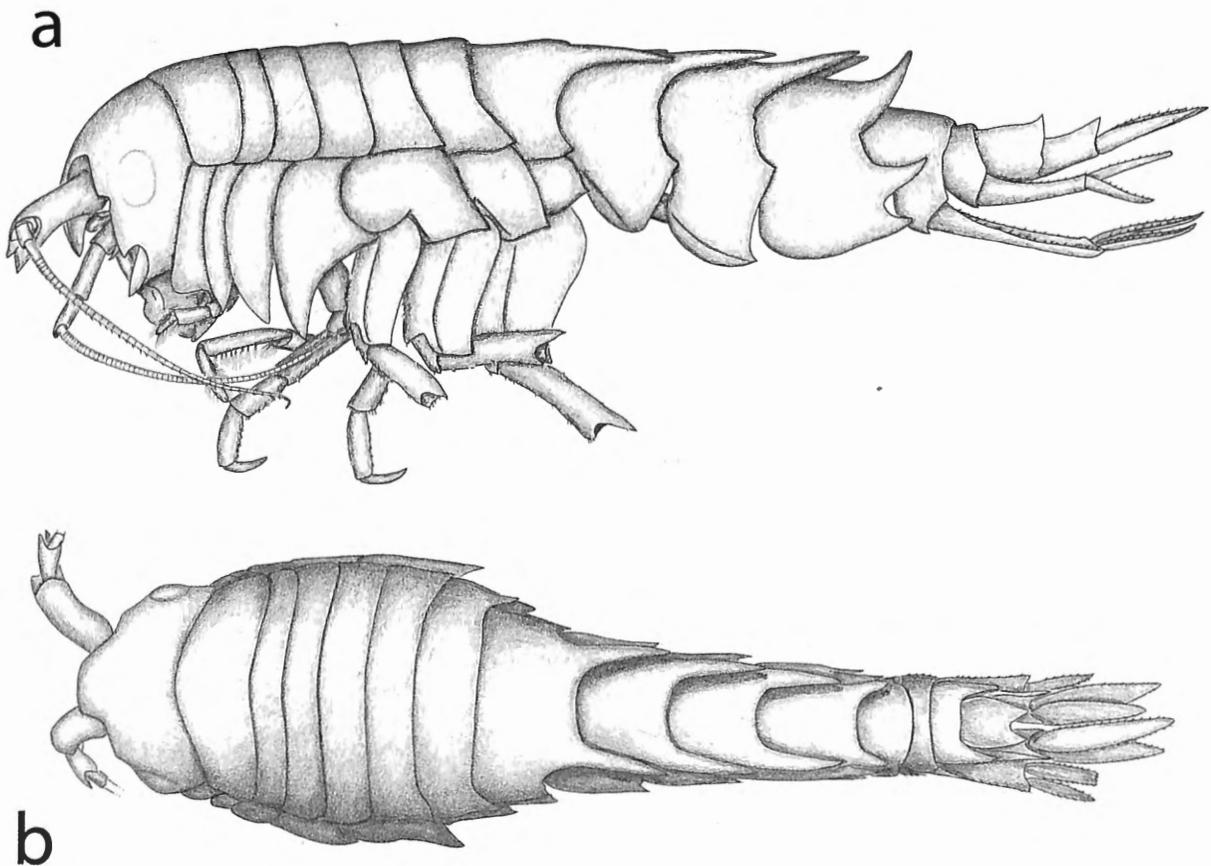


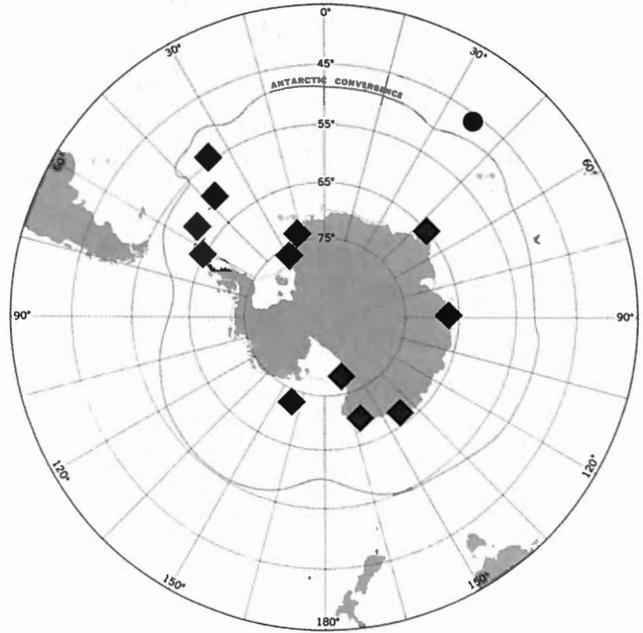
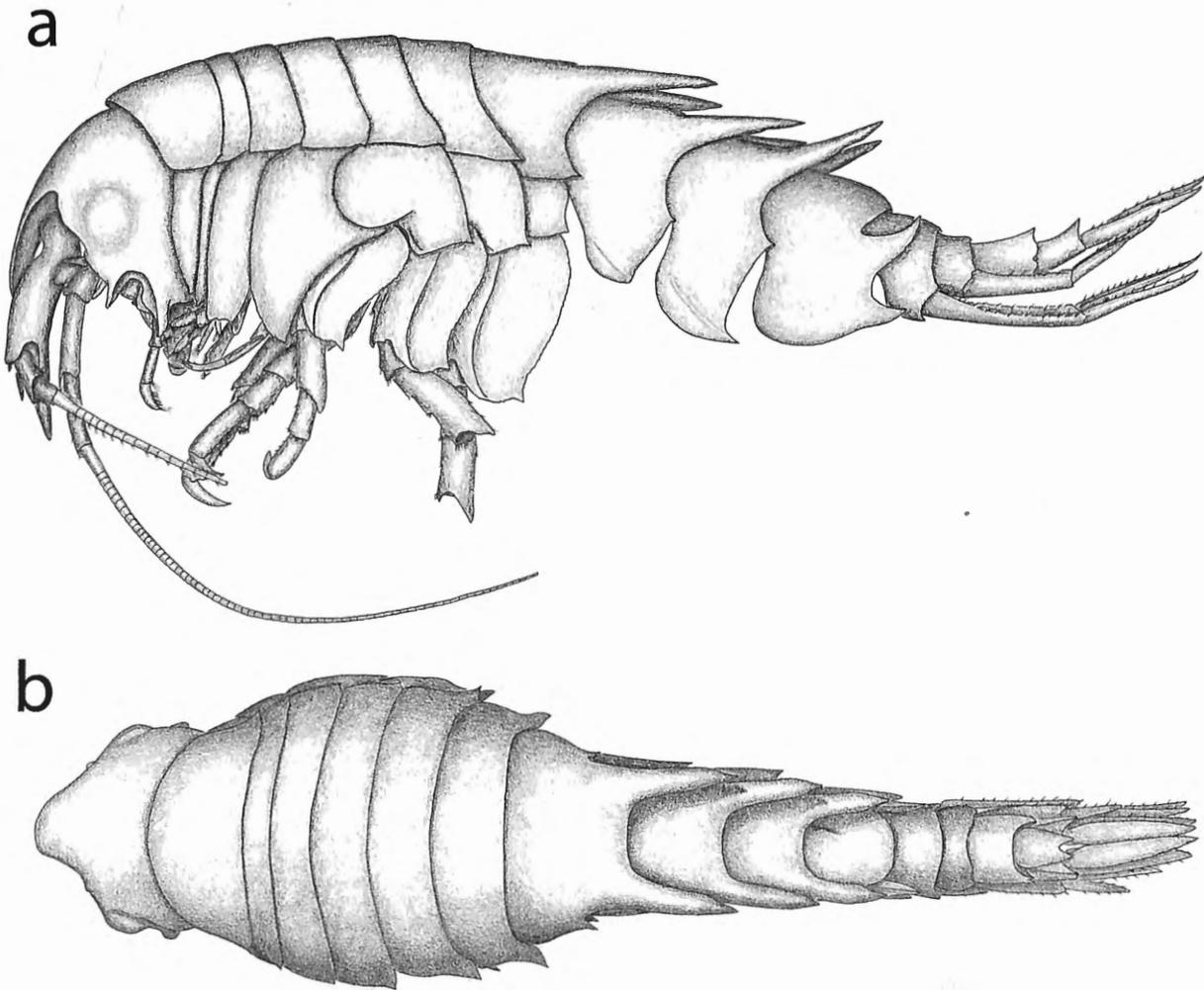
Fig. 50a-b. *Gnathiphimedia mandibularis*. a) left lateral view; b) dorsal view.

Gnathiphimedia sexdentata (Schellenberg, 1926a)

(Fig. 51a-b, Colour plate 4c, Map 26: rhomb)

References and synonymy. De Broyer *et al.* 2007: 99.

Diagnosis. Dorsal armature with long paired teeth on pereonite 7 and pleonites 1-2. Posteroventral corners of anterior pereonites not produced but pointed and posterior ones somewhat produced. Mid-dorsal carinae on pleonites and urosomites wanting. Posterolateral process on epimeral plates 1-3 produced and pointed, increasing in length progressively. Posteroventral corner on epimeral plate 1 rounded to angular; that of plates 2-3 pointed and produced. Subantennal notch wide and rounded, with both margins drawn out into tooth, posterior tooth somewhat longer and wide, bent ventrally and subacute, anterior one pointed. Antenna 1 distal margin of first article with 3 processes; longest process of peduncular article 1 exceeding beyond distal margin of article 3, even longer than distal margin of 1st flagellar article, longest process of peduncular article 2 not exceeding beyond distal margin of article 3. Upper lip entire. Mandibular body bulky; incisor not toothed and rounded, not cutting. Lower lip with

Map 26. *Gnathiphimedia sexdentata*: rhomb; *Gnathiphimedia urodentata*: circle.Fig. 51a-b. *Gnathiphimedia sexdentata*. a) left lateral view; b) dorsal view.

rounded unnotched lobes. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Coxa 1 apex pointed distally, that of gnathopod 2 similar but slightly longer. Coxa 3 truncate or weakly excavate distally. Coxa 4 pointed distally and posterodistal margin excavate. Coxae 5-7 posteriorly pointed; posterior margin of bases 5-7 sinuous and posteroventral corner pointed. Telson with shallow and narrow U-shaped excavation.

Size. Female 15 mm, male 13-17.5 mm.

Remarks. *Gnathiphimedia sexdentata* is very difficult to discriminate from *Gnathiphimedia incerta*. The only character useful discriminating is the posterior process of the head notch that is slender in *G. incerta* and much stronger and slightly curved in *G. sexdentata*.

Type locality. Davis Sea: "Gauss Station".

Distribution. Adélie Coast; Bransfield Strait; Davis Sea; Enderby Land; Marguerite Bay; Palmer Archipelago; Ross Sea; South Shetland Islands; Weddell Sea; Wilhelm Archipelago.

Depth range. 9-720 m.

Gnathiphimedia urodentata Bellan-Santini & Ledoyer, 1987

(Fig. 52, Map 26: circle)

References and synonymy. De Broyer *et al.* 2007: 99.

Diagnosis. Dorsal armature with paired teeth on pereonites 6-7 and pleonites 1-3. Mid-dorsal carina-like teeth on pleonites 1-3 and urosomite 1, on pleonite 3 sometimes with 2 teeth. Posteroventral corners of pereonites strongly produced and pointed. Posterolateral process on epimeral plates 1-3 strongly produced and pointed. Posteroventral corner on epimeral plates 1-3 pointed. Subantennal notch relatively

wide, both margins drawn out into pointed processes, anterior process longer than posterior one. Antenna 1 distal margin of first article with 3 processes, longest process of peduncular article 1 exceeding beyond distal margin of article 3; longest process of peduncular article 2 exceeding beyond distal margin of article 3. Upper lip entire. Mandibular body bulky; incisor not toothed, rounded, not cutting. Lower lip with rounded unnotched lobes. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Apex of coxae 1-2 narrow and pointed distally. Coxae 3-4 narrow and pointed distally. Posterodistal margin of coxa 4 strongly excavate. Coxae 5-7 posteriorly pointed; posterior margin of bases 5-7 excavate, with proxo-posteromarginal tooth, narrower excavation on basis 7; posteroventral corner of basis pointed and strongly produced. Telson with shallow and wide v-shaped excavation.

Size. Female 13 mm.

Remarks. This species has a unique dorsal armature. All other species bear 3 or 4 pairs of dorsal processes, but not mid-dorsal carinal teeth. In addition the excavate posterior margins of the bases 5-7 are not expressed in any other *Gnathiphimedia*. However, as the mandible incisor character is not always usable due to abrasion, it may be that this species could be classified in another genus in future. It bears some resemblance to *Pseudiphimediella* species and *Iphimedia acuticoxa* in the dorsal armature and the bases 5-7.

Type locality. Marion and Prince Edward Islands: Marion Dufresne 08, St. 13 CP 85, 46°56.3'S 37°55.6'E; St. 26 CP 135, 46°50.6'S 38°00.6'E.

Distribution. Only known from type locality.

Depth range. 120-145 m.



Fig. 52. *Gnathiphimedia urodentata*, redrawn after Bellan-Santini & Ledoyer, 1987. Left lateral view and variability of dorsal processes.

Gnathiphimedia watlingi Coleman, 1994

(Fig. 53a-b, Map 25: circle)

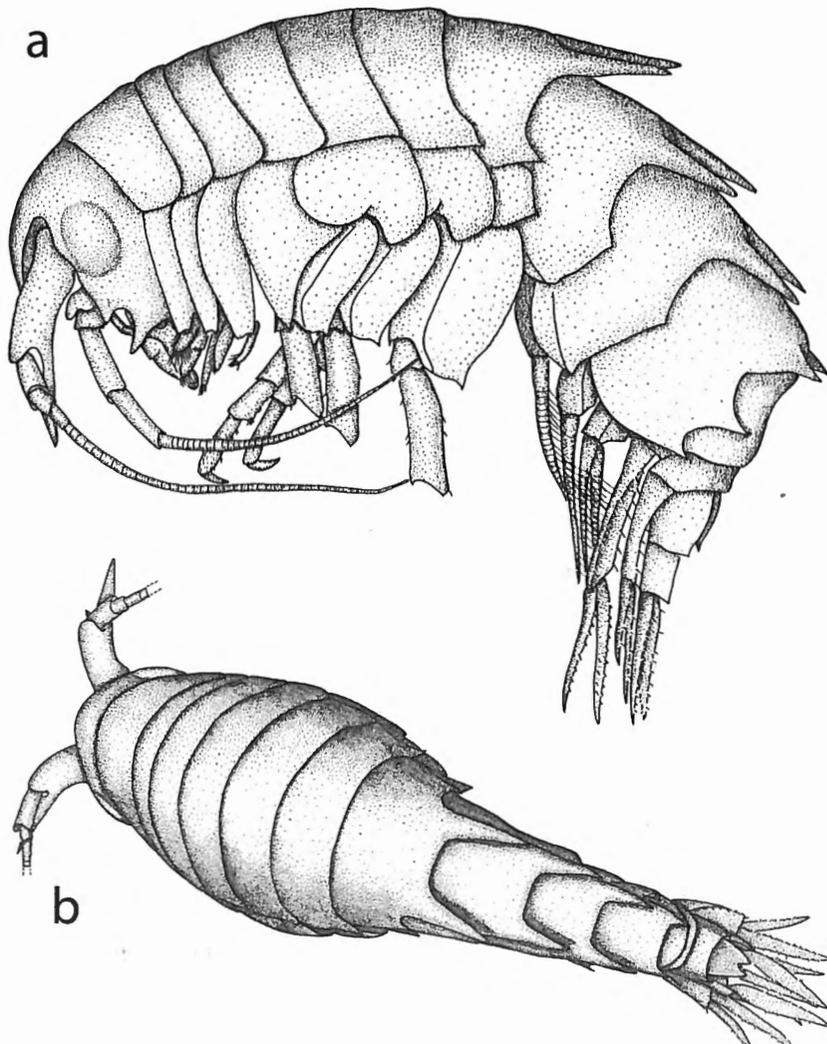
References and synonymy. De Broyer *et al.* 2007: 100.

Diagnosis. Paired teeth on pereonite 7 and pleonites 1-3, the posterior pair half the length of that on pleonite 2. Posteroventral corners of anterior pereonites rounded, somewhat pointed on posterior ones. Mid-dorsal carinae on pleonites and urosomites wanting. Posterolateral process on epimeral plates 1-3 produced and pointed, that of pleonite 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 rounded, that of plates 2-3 pointed. Subantennal notch wide, anterior and posterior margin drawn out into short acute processes, the posterior one longer than anterior. Antenna 1 distal margin of first article with 2 processes; longest process of peduncular article 1 exceeding beyond distal margin of article 3; longest process of peduncular article 2 not exceeding beyond distal margin of article 3. Upper lip entire. Mandibular body bulky; incisor not toothed and rounded, not cutting. Lower lip with rounded unnotched lobes. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially not

produced forward and not guarding along inside of article 3. Apex of coxae 1-3 strongly tapering distally and weakly excavate. Coxa 4 pointed distally and posterodistal margin excavate. Coxae 5-6 posteriorly rounded that of pereopod 7 pointed; posterior margin of bases 5-7 weakly sinuous and posteroventral corner pointed. Telson with narrow U-shaped excavation.

Size. 16 mm.

Remarks. *Gnathiphimedia watlingi* resembles *Gnathiphimedia barnardi* Thurston (1974). It differs from *G. barnardi* as follows: eyes with no clear border (vs. distinctly outlined); antennae 1 and 2 have a long first flagellar article, whereas in *G. barnardi* it is segmented (at least the tissue is segmented, but the cuticle appears to be smooth in the paratype material that was examined); coxa 1 is triangular whereas in the drawing of *G. barnardi* it seems to be narrow; the posterior lateral margins of epimera 1-2 are pointed (vs. rounded in *G. barnardi*); the paired dorsal processes on pleonite 3 are shorter than on the preceding segments (vs. of the same length in *G. barnardi*); posterolateral process on epimeral plate 3 half way between the dorsal process and the posterodistal corner (vs. situated more ventrally); merus of pereopods 5-7 posterodistally moderately produced with small tip (vs. much produced and pointed); outer ramus of uropods 1-2 with

Fig. 53a-b. *Gnathiphimedia watlingi*. a) left lateral view; b) dorsal view.

setae on lateral margin (vs. unarmed according to the explicit description of Thurston (1974), however with setation in paratype material).

Watling and Holman (1981) described a specimen from the South Shetland Island as *G. barnardi*. It resembles *G. watlingi* in the following characters and might belong to *G. watlingi*: paired dorsal processes on pleonite 3 shortened compared to preceding segments, posterolateral projection on the margin of (at least) epimeral plate 2 pointed, and posterolateral tooth on margin of epimeral plate 3 positioned more dorsally than in *G. barnardi*.

Watling and Holman (1981) emphasized the similarity of *G. barnardi* and *Iphimediella margueritei*. Andres (1985) found a specimen which he determined as *I. margueritei*, although it had a nondentate, smooth mandibular incisor as found in *Gnathiphimedia*. Similar variation in mandible morphology was described by Nicholls (1938) in *I. margueritei*. In the "Terra Nova" expedition material examined, a typical *Iphimediella*-form dentate mandible was present in one specimen, but a *Gnathiphimedia*-form mandible in another. Both specimens show only slight differences in habitus. It is not clear if these distinctions in the mandible morphology indicate the existence of two similar species that are adapted to different food sources or if the mandibular incisors of this individual of *I. margueritei* are worn down by eating hard food. Compare also Table 4.

Type locality. 60°56.3'S 55°07.7'W.

Distribution. Only known from type locality.

Depth range. 388 m.

Iphimedia Rathke, 1843

Type-species. *Iphimedia obesa* Rathke, 1843

Diagnosis (modified after Barnard & Karaman, 1991). Dorsal side of body with teeth posteriorly or smooth. Antenna 1 peduncular article 2 shorter than 1. Mouthparts projecting conically. Upper lip scarcely incised or entire, epistome not very broad. Mandibular incisor ordinary, toothed or not; setal row absent; molar conically or obsolescent, simple. Lower lip inner lobes absent, outer notched or not. Maxilla 1 palp 2-articulate, article 2 ordinary. Maxilla 2 inner plate without facial row of setae. Maxilliped inner plate as long as but narrower than outer plate, latter elongate; palp article 2 apicomediaally produced; palp article 4 obsolescent or absent. Coxa 1-4 progressively longer: coxa 4 sometimes weakly polycuspidate. Gnathopods diverse, of similar size, carpus and propodus elongate, narrow, chelate. Telson entire to incised.

Iphimedia imparilabia Watling and Holman, 1980

(Fig. 54a-b, Map 27: rhomb)

References and synonymy. De Broyer *et al.* 2007: 100.

Diagnosis. Body with short, paired dorsal processes on pereonite 7 and pleonites 1-2, with mid-dorsal keel on pleonite 3, mid-dorsal carina on urosomite 1 absent. Posterolateral process on epimeral plate 1 rounded and weakly produced, on epimeral plate 2 rounded and weakly produced, and strongly produced and pointed on epimeral plate 3. Posteroventral corner on epimeral plates 1 and 2 rounded, on epimeral plate 3 angular. Subantennal notch very wide, its dorsal margin runs into wide, subacute lobe. Antenna 1 distal margin of first article without processes; peduncular article 2 with blunt dorsal tooth, not exceeding beyond distal margin of article 3. Upper lip truncate. Mandibular body elongate and strongly

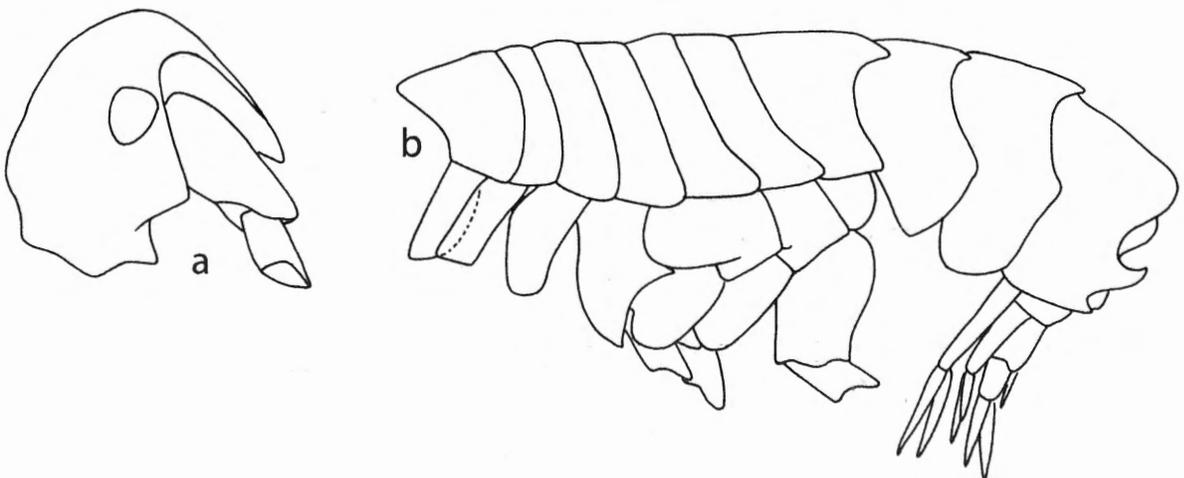
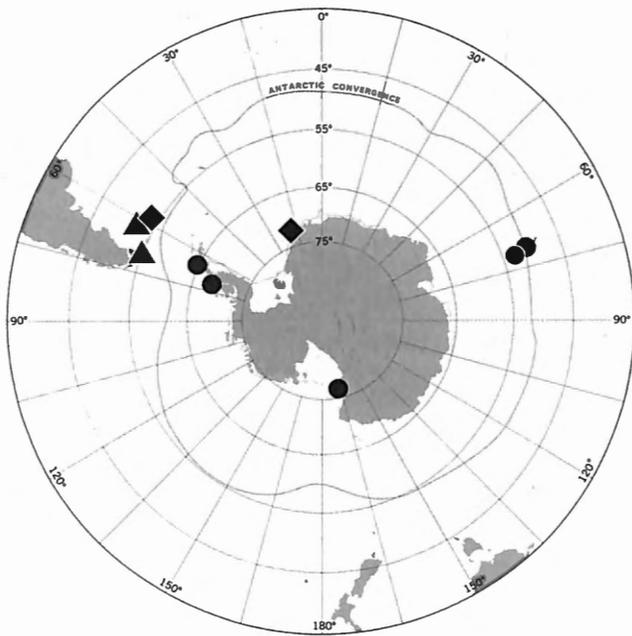


Fig. 54a-b. *Iphimedia imparilabia*, redrawn after Watling & Holman, 1980. a) head; b) left lateral view.



Map 27. *Iphimedia multidentata*: triangle; *Iphimedia imparilabia*: rhomb; *Iphimedia pacifica*: circle.

tapering distally, slightly spooned; incisor not toothed. Lower lip with mediodistal notches. Maxilla 1 palp shorter than outer plate, 2-articulate. Second article of maxilliped palp medially strongly produced guarding along inside of article 3, almost reaching apex of article 3. Gnathopod 1 apex of coxa rounded distally, anteroventral corner angular; basis strongly concave anteromarginally and convex posteromarginally; carpus = 1.75 x propodus, the latter chelate. Gnathopod 2 coxa with truncate slightly oblique apex, carpus subequal to propodus, chelate. Coxa 3 rounded distally. Coxa 4 pointed distally, posterodistal margin excavate. Pereopod 5 coxa posteriorly angularly pointed; posterior margin of basis rounded, posteroventral corner rounded. Pereopod 6 coxa posteriorly angularly pointed; posterior margin of basis rounded, posteroventral angle rounded. Pereopod 7 coxa posteriorly rounded; posterior margin of basis weakly sinuous, posteroventral corner subacutely pointed. Telson with shallow and wide v-shaped excavation (weakly emarginate).

Size. Male 7 mm.

Remarks. The form of the dorsal body processes of this species closely resembles those of several other species in the genus; however, the following mouthpart characters distinguish it from all other species of the genus: lower lip with unequal lobes; very short palp article 3 and lack of setae on outer margin on the maxilliped.

Type locality. 53°07-08'S 59°21-23'W.

Distribution. Known only from type locality.

Depth range. 567-578 m.

Iphimedia macrocystidis (K.H. Barnard, 1932)

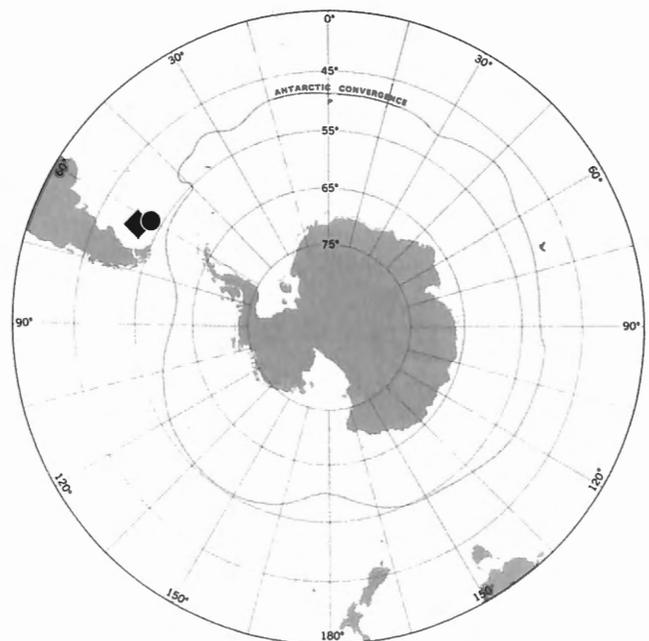
(Fig. 55a-b, Map 28: circle)

References and synonymy. De Broyer *et al.* 2007: 100.

Diagnosis. Paired teeth on pereonite 7 and pleonites 1-2; posteroventral corners of pereonites strongly produced and pointed; pointed mid-dorsal carinae on pleonites 1-3; mid-dorsal carina on urosomite 1 absent. Posterolateral process on epimeral plates 1-3 produced and pointed, strongly curved upwards on pleonite 3; posteroventral corner on epimeral plate 1 rounded, on plates 2-3 pointed. Posteroventral angle of pereonites 4-7 pointed. Subantennal notch not present, but a wide, shallow excavation with a slender, pointed, forwards curved tooth posteriorly. Eyes small, oval. Antenna 1 distal margin of first article with 2 processes; first peduncular article longer than second. Mandibular body elongate and strongly tapering distally; incisor not toothed, truncate. Maxilla 1 palp shorter than outer plate; 2-articulate. Second article of maxilliped palp medially produced guarding along inside of article 3. Gnathopod 1 apex of coxa subacutely pointed distally; basis concave anteromarginally and convex posteromarginally. Apex of coxae 2-3 truncate. Coxa 4 pointed distally, posterodistal margin excavate. Pereopod coxae 5-7 posteriorly pointed; posterior margin of bases multicuspitate, with the proximo-posteromarginal tooth longest and posteroventral corner pointed. Telson with narrow U-shaped excavation.

Size. Ovigerous female 8 mm.

Remarks. *Iphimedia macrocystidis* is very similar to *Iphimedia multidentata*. The latter species has pereopod 7 coxa bicuspidate, whereas in *I. macrocystidis* only the ventral process is well developed. Furthermore the posterolateral process on epimeral plate 3 is situated more dorsally in *I. macrocystidis*.



Map 28. *Iphimedia magellanica*: rhomb; *Iphimedia macrocystidis*: circle.

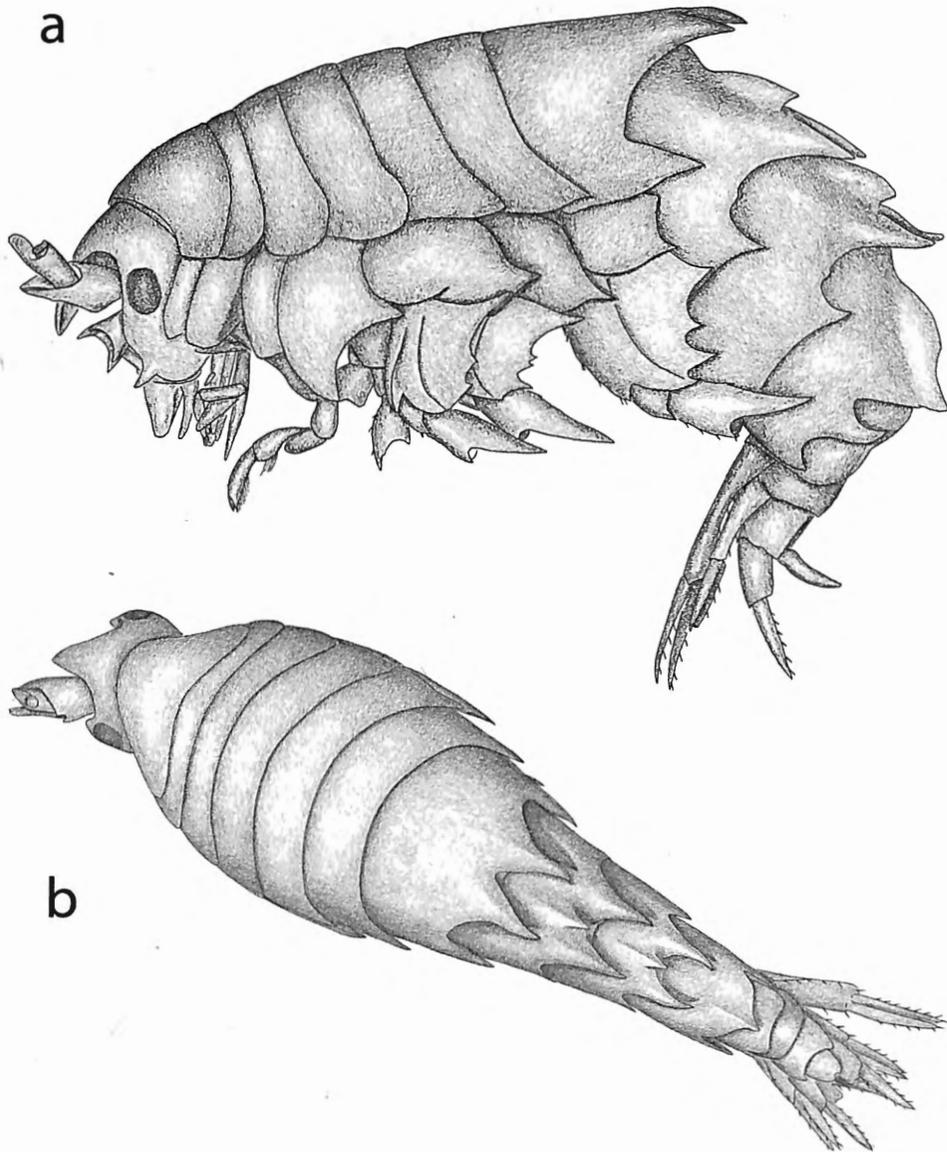


Fig. 55a-b. *Iphimedia macrocystidis*. a) left lateral view; b) dorsal view.

Type locality. Falkland Island, Discovery St. 53, Port Stanley.

Distribution. Only known from type locality.

Depth range. 0-2 m.

***Iphimedia magellanica* Watling & Holman, 1980**

(Fig. 56a-b, Map 28: rhomb)

References and synonymy. De Broyer *et al.* 2007: 100.

Diagnosis. Short paired teeth on pereonite 7 and pleonites 1-2; posteroventral corners of pereonites 1-4 not produced, somewhat produced on pereonites 5-7; shallow mid-dorsal keel-like elevations on pleonites 1-3 (on pleonite 3 largest); mid-dorsal carina on urosomite 1 absent. Posterolateral process on epimeral plates 1 and 2 produced and pointed; on plate 3 strongly produced and pointed. Posteroventral corner

on epimeral plates 1-2 rounded, on pleonite 3 produced, pointed and curved upwards. Subantennal notch not present, only weakly excavated and with pointed anteroventral tooth. Antenna 1 first peduncular article longer than second; distal margin of first article with 2 processes; longest process of peduncular article 1 barely exceeding beyond distal margin of article 2. Upper lip entire and rounded apically. Mandibular body elongate and strongly tapering distally; incisor not toothed, pointed. Lower lip with variably mediolateral notches. Maxilla 1 palp shorter than outer plate, 2-articulate. Second article of maxilliped palp medially produced guarding along inside of article 3 (less than half the length of article 3). Gnathopod 1 apex of coxa roundly pointed apically; basis sinuous; carpus = 1.67 x propodus. Coxa 2 with truncate apex. Coxa 3 rounded distally. Coxa 4 pointed distally, posterodistal margin excavate. Pereopod 5 coxa posteriorly rounded; posterior margin of basis multicuspidate (tricuspidate), posteroventral corner pointed.

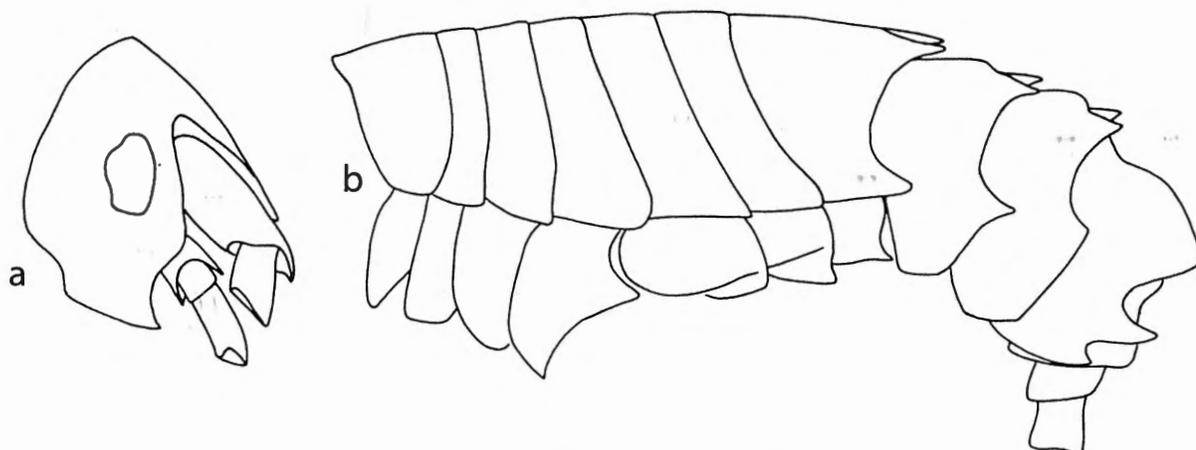


Fig. 56a-b. *Iphimedia magellanica*, redrawn after Watling & Holman, 1980. a) head; b) left lateral view.

Pereopod 6 coxa posteriorly subacutely pointed; posterior margin of basis tricuspidate, posteroventral corner pointed. Pereopod 7 coxa pointed posteriorly; posterior margin of basis tricuspidate, posteroventral corner pointed. Telson with shallow and wide v-shaped excavation.

Size. Ovigerous female 6 mm.

Remarks. Similar to *Iphimedia macrocystidis*, but with no dentate mid-dorsal carinae, just keel-like elevations. Similar also to *Iphimedia pacifica*, but this species does not have polycuspidate bases 5-7 and different from *I. macrocystidis* it has a clear subantennal notch.

Type locality. Magellan area: Eltanin 11, St. 977, 52°32'S 63°53'W.

Distribution. Only known from type locality.

Depth range. 299 m.

Iphimedia multidentata (Schellenberg, 1931a)

(Fig. 57a-b, Map 27: triangle)

References and synonymy. De Broyer *et al.* 2007: 100.

Diagnosis. Paired teeth on pereonite 7 and pleonites 1-2; mid-dorsal carinae on pleonites 1-3; mid-dorsal carina on urosomite 1 absent; posteroventral corners of pereonites 4-7 strongly produced and pointed. Posterolateral process on epimeral plates 1-3 produced and pointed. Posteroventral corner on epimeral plate 1 rounded and that of plates 2-3 pointed. Subantennal notch absent, only a shallow and wide excavation below the ocular lobe, with a narrow, pointed tooth anteroventrally. Antenna 1 first peduncular article longer than second; distal margin of first article with 2 processes; longest process of peduncular article 1 barely exceeding beyond distal margin of article 2; longest process of peduncular article 2 barely exceeding beyond distal margin of article

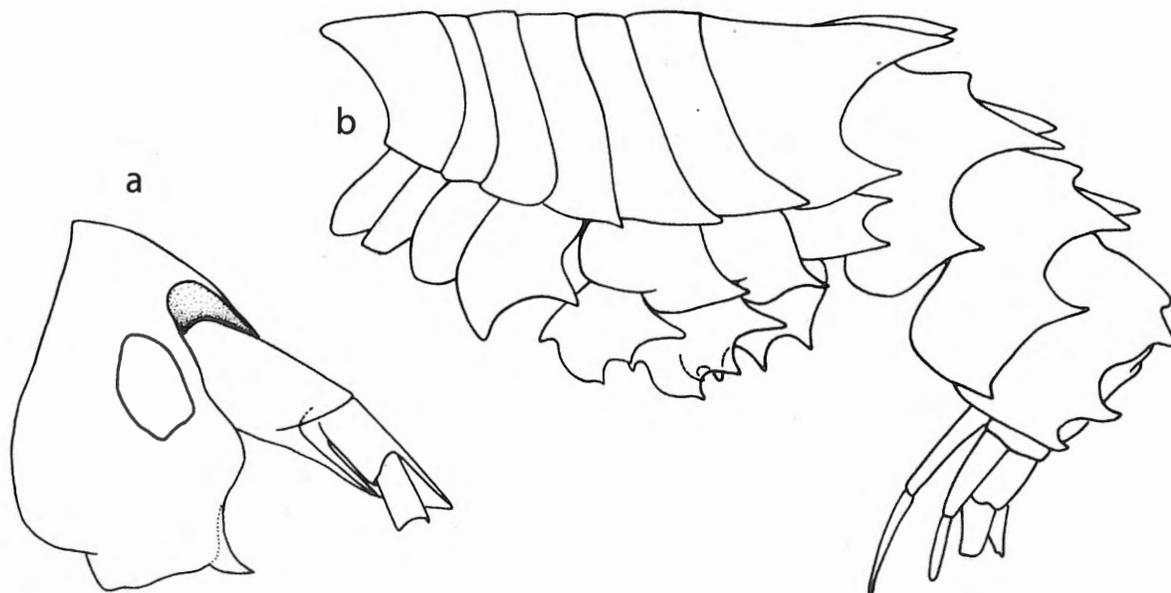


Fig. 57a-b. *Iphimedia multidentata*, redrawn after Watling & Holman, 1981. a) head; b) left lateral view.

3. Upper lip entire. Mandibular body elongate and strongly tapering distally; incisor rounded, untoothed; lacinia mobilis on both mandibles, that on right mandible bidentate. Lower lip with mediobasal notches and pointed apices. Maxilla 1 palp shorter than outer plate, 2-articulate. Second article of maxilliped palp medially produced guarding along inside of article 3. Gnathopod 1 apex of coxa subacutely pointed distally to rounded distally; basis concave anteromarginally and convex posteromarginally; carpus = 1.88 x propodus. Coxa of gnathopod 2 with subtruncate apex. Pereopod 3 coxa wide and rounded distally. Coxa 4 pointed distally, posterodistal margin excavate. Coxae 5-7 pointed posteriorly; posterior margin of bases 5-7 tricuspidate, proximo-posteromarginal tooth longest; posteroventral corner of basis pointed. Telson with shallow, wide v-shaped excavation and pointed apices.

Size. 10-12 mm.

Remarks. Similar to *I. macrocystidis*. See there for remarks.

Type locality. Magellan area: Elizabeth Island, beach; Rio Seco; Harris Bay, Picton Island, Banner Cove; Magellan Sound; Falkland Islands: 52°29'S 60°36'W; 53°45'S 61°10'W; 52°S 59°W.

Distribution. Magellan region, Falkland Islands.

Depth range. 5-285 m.

Iphimedia pacifica Stebbing, 1883

(Fig. 58, Map 27: circle)

References and synonymy. De Broyer *et al.* 2007: 101.

Diagnosis. Paired teeth on pereonite 7 and pleonites 1-2; mid-dorsal carinae on pleonites 1-3; mid-dorsal carina on urosomite 1 absent; posteroventral corners of pereonites strongly produced and pointed. Posterolateral process on

epimeral plates 1-3 strongly produced and pointed, that on pleonite 3 slender and curved upwards. Posteroventral corner on epimeral plates 1-3 strongly pointed. Subantennal notch wide, with a short pointed tooth anteriorly and a slightly longer pointed tooth posterior. Antenna 1 first peduncular article longer than second, distal margin of first article with 3 short processes, longest process of peduncular article 1 not exceeding beyond distal margin of article 2. Upper lip entire, with weak apical depression. Mandibular body elongate and strongly tapering distally; incisor toothed, with apical teeth and with teeth along medial side. Lower lip with pointed apices and mediobasal notches. Maxilla 1 palp slightly longer than outer plate, 2-articulate. Second article of maxilliped palp medially produced guarding along inside of article 3. Gnathopod 1 apex of coxa pointed distally and serrate anteromarginally; basis concave anteromarginally and convex posteromarginally; carpus = 1.27 x propodus. Coxa 2-3 pointed distally, and serrate anteromarginally. Coxa 4 pointed distally, posterodistal margin excavate. Coxae 5-7 pointed and strongly produced posteriorly; posterior margin of bases 5-7 sinuous, posteroventral corner pointed, posterior and ventral margin serrate. Telson with wide and shallow rounded excavation and with narrow U-shaped excavation and pointed posterolateral tips.

Size. 8 mm.

Remarks. Similar to *Iphimedia magellanica* in respect of the keel-like mid-dorsal pleonite carinae. However, the paired dorsal teeth are longer, there is a real subantennal notch and the bases 5-7 are not polycuspidate in *I. pacifica*.

Type locality. Off Heard Island, 52°04'S 71°22'E; Iles Kerguelen: Cumberland Bay.

Distribution. Heard Island; Kerguelen Islands; Ross Sea; Marguerite Bay; Wilhelm Archipelago.

Depth range. 36-416 m.

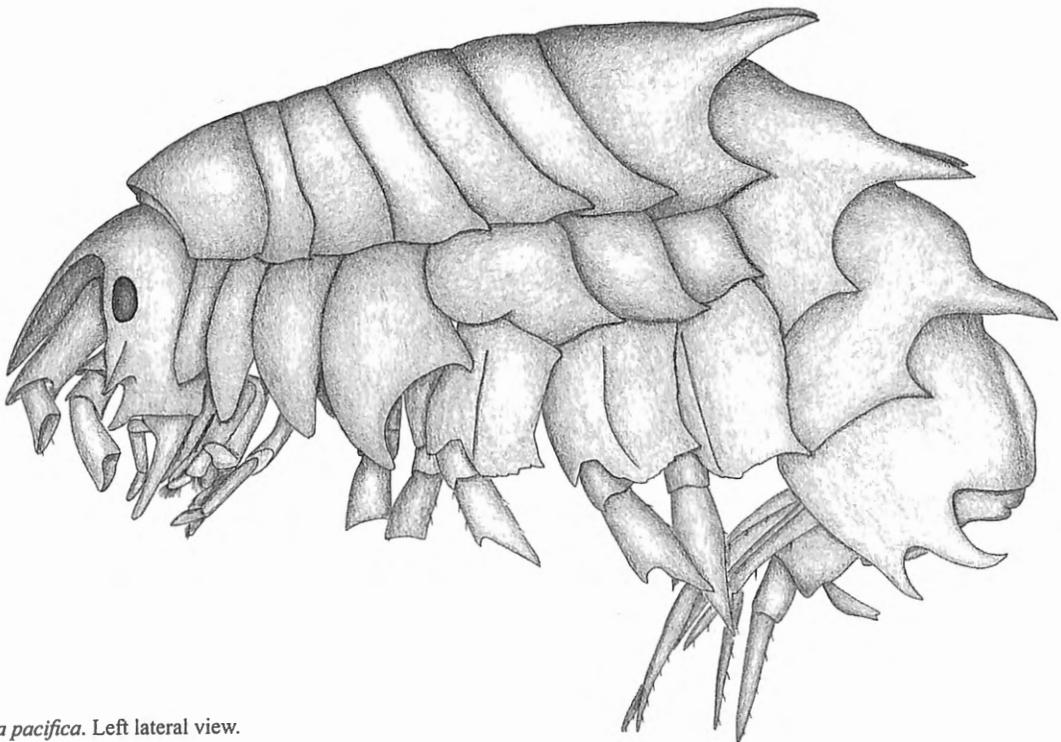


Fig. 58. *Iphimedia pacifica*. Left lateral view.

Iphimediella Chevreux, 1911c

Type-species. *Iphimediella margueritei* Chevreux, 1912a

Diagnosis (modified after Barnard, 1969). Antenna 1 accessory flagellum uniarticulate; epistome not broad, less than 3 times as wide as high. Upper lip entire or weakly incised. Mandible incisor elongate; not excessively thickened or broadened, oriented to cut in transverse plane. Lower lip without inner lobes, distal apices generally subacute. Maxilla 1 palp bi-articulate, reaching end of outer plate. Maxilliped palp 4-articulate; article 2 scarcely or not produced; gnathopods 1 and 2 chelate; telson slightly cleft.

Iphimediella acuticoxa Watling & Holman, 1980

(Fig. 59a-b, Map 29: circle)

References and synonymy. De Broyer *et al.* 2007: 101.

Diagnosis. Dorsal armature with paired teeth on pereonite 7 and pleonites 1-3, last pair being somewhat turned upwards; space between paired dorsal processes narrow, with additional U-shaped excavation of the dorsal surface close to the posterior segmental margin; posteroventral

corners of pereonites strongly produced and pointed; weak mid-dorsal keel on pleonites 1-3; weak mid-dorsal carina on urosomite 1 present. Posterolateral process on epimeral plates 1-2 strongly produced and pointed; that of pleonite 3 strongly produced and pointed (but shorter compared to those on pleonites 1-2). Posteroventral corner on epimeral plates 1-3 pointed. Subantennal notch on head not deep, narrow, anterior and posterior margin produced into pointed teeth, posterior tooth somewhat longer. Antenna 1 first peduncular article longer than second, but both rather short; distal margin of first article with 2 processes; longest process of peduncular article 1 not exceeding beyond distal margin of article 2. Upper lip rounded distally, entire. Mandibular body elongate and strongly tapering distally; incisor along the medial side of the mandibular body, not toothed; molar a short, setose, flat-topped protruberance; lacinia mobilis on both sides present. Lower lip with mediodistal notches. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially weakly produced guarding along inside of article 3. Gnathopod 1 apex of coxa rounded distally and shortened, about half the length of coxa 4; basis somewhat concave anteromarginally and convex posteromarginally; carpus = 1.15 x propodus. Coxa 2 rounded distally, weakly longer compared to coxa 1. Coxa 3 pointed distally, with an addition small tooth posteriorly close to the

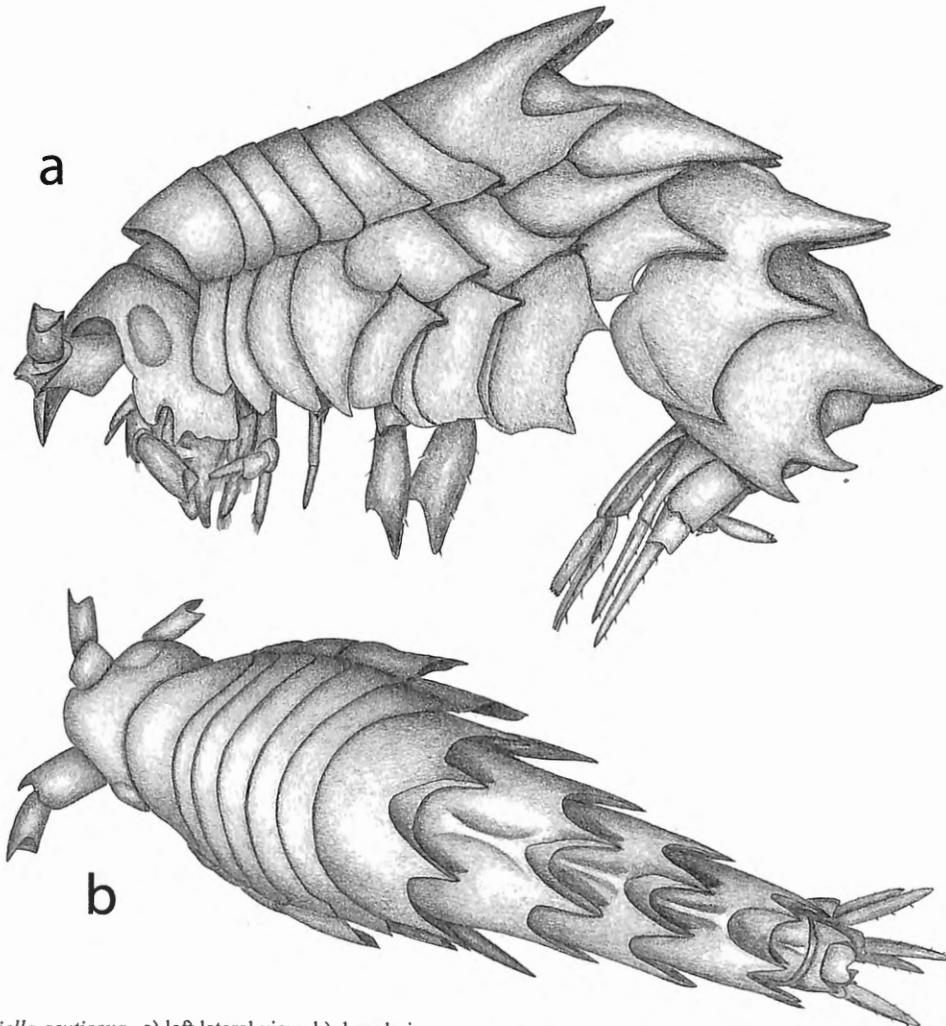
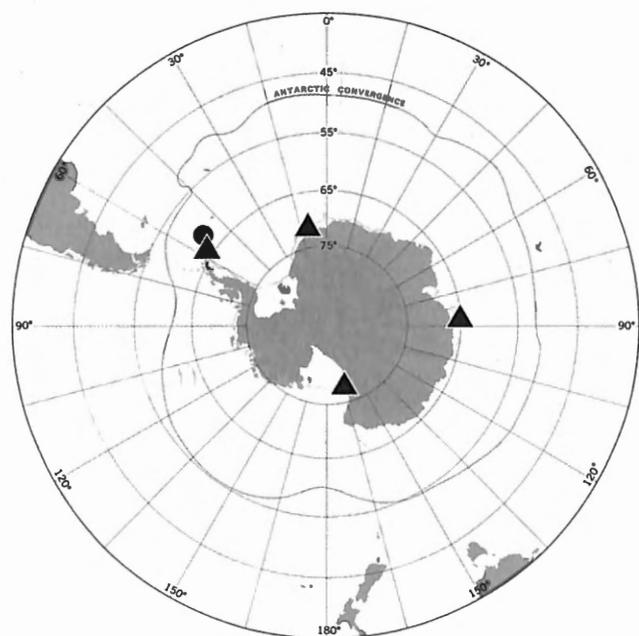


Fig. 59a-b. *Iphimediella acuticoxa*. a) left lateral view; b) dorsal view.



Map 29. *Iphimediella acuticoxa*: circle; *Iphimediella bransfieldi*: triangle.

apex. Coxa 4 pointed distally, posterodistal margin excavate. Pereopod 5 coxa posteriorly pointed and strongly drawn out; posterior margin of basis excavate, long tooth proximo-posteromarginally, posteroventral corner angular. Pereopod 6 coxa posteriorly pointed and drawn out considerably; posterior margin of basis excavate; posteroventral corner pointed and shorter than proximo-posteromarginal process. Pereopod 7 coxa posteriorly pointed and strongly drawn out; posterior margin of basis excavate, proximo-posteromarginal process is located more ventrally compared to bases 5-6; posteroventral corner of bases pointed. Telson with shallow and wide v-shaped excavation.

Size. 5-9 mm.

Remarks. This species bears some resemblance to *Iphimediella paracuticoxa* with respect to the acutely produced hind margins of coxae 5-7. Maxilliped palp article 2 is in both species expanded medially and slightly produced. However, in *I. paracuticoxa* the excavation between the dorsal processes narrows very much anteriorly whereas in *I. acuticoxa* it is wide and rounded.

Type locality. Graham Land: Eltanin 12, St. 1003: 62°41'S 54°43'W.

Distribution. Only known from type locality.

Depth range. 146-220 m.

Iphimediella bransfieldi K.H. Barnard, 1932

(Fig. 60a-b, Map 29: triangle)

References and synonymy. De Broyer *et al.* 2007: 101.

Diagnosis. Dorsal armature with paired teeth on pereonite 7 and pleonites 1-2; space between paired dorsal processes narrow, U-shaped; posteroventral corners of pereonites not produced on anterior pereonites, somewhat produced on pereonites 5-7; weak mid-dorsal carinae on pleonites 1-3; mid-dorsal carina on urosomite 1 as weak elevation present. Posterolateral process on epimeral plates 1-2 weakly produced and pointed; on epimeral plate 3 strongly produced, pointed and upturned. Posteroventral corner on epimeral plate 1-3 pointed. Subantennal notch of head with both margins drawn out into equally short tips. Antenna 1 first peduncular article longer than second; distal margin of first article with 3 processes; longest process of peduncular article 1 slightly exceeding beyond distal margin of article 2; longest process of peduncular article 2 exceeding beyond distal margin of article 3. Upper lip weakly incised. Mandibular body elongate and strongly tapering distally; incisor with teeth along medial side (and 1 strong tooth apically); mandibular molar conical; strong, with apical tuft of short hairs. Lower lip apically narrow, with rounded unnotched lobes. Maxilla 1 palp longer than outer plate, 2-articulate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Apex of coxa 1 excavate with rounded anteroventral and pointed posteroventral corner. Coxa 2 narrowed with truncate apex. Coxa 3 narrowed with truncate apex. Coxa 4 pointed distally, posterodistal margin straight to weakly excavate. Pereopod 5 coxa posteriorly pointed; posterior margin of basis rounded to straight, posteroventral corner pointed. Pereopod 6 coxa posteriorly pointed; posterior margin of basis rounded, posteroventral corner pointed. Pereopod 7 coxa posteriorly pointed; posterior margin of basis weakly sinuous, posteroventral corner pointed. Telson with shallow and wide v-shaped excavation.

Size. Female 14-22 mm.

Remarks. There are a few *Iphimediella* species with a typical coxa 1, where the anterodistal angle is rounded, the apex excavate and the posterodistal angle pointed. Besides *I. bransfieldi*, *I. georgei*, *I. rigida*, *I. serrata* and *I. microdentata* have this shape of the first coxa. However, only *I. georgei* has a similar dorsal arrangement, three pairs of dorsal processes with additional shallow pleon keels, but in this species the dorsal keel on pleonite 3 is drawn out posteriorly into a rounded process.

Type locality. Bransfield Strait: Discovery St. 175, 63°17'S 59°48'W.

Distribution. Bransfield Strait; Davis Sea; Ross Sea; Weddell Sea.

Depth range. 200-399 m.

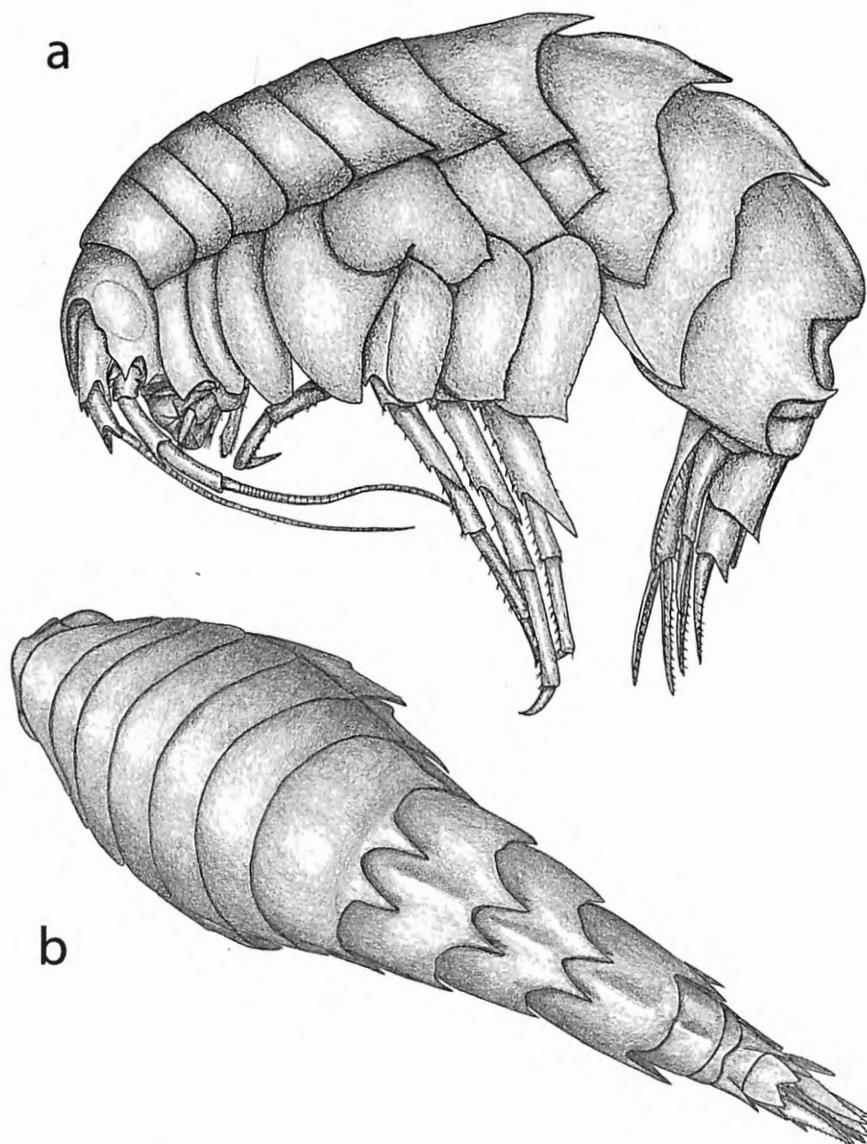


Fig. 60a-b. *Iphimediella bransfieldi*. a) left lateral view; b) dorsal view.

***Iphimediella cyclogena* K.H. Barnard, 1930**

(Fig. 61a-b, Map 30: rhomb)

References and synonymy. De Broyer *et al.* 2007: 102.

Diagnosis. Dorsal armature with long paired teeth on pereonite 7 and pleonites 1-3; posteroventral corners of pereonites not produced on anterior and produced on posterior pereonites; mid-dorsal carinae on pleonites and urosomites wanting. Posterolateral process on epimeral plates 1-2 produced and pointed, on plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 rounded; that of plates 2-3 pointed. Subantennal notch of head narrow, with posterior margin rounded and anterior margin acutely produced. Antenna 1 first peduncular article longer than second; distal margin of first article with 2 processes; longest process of peduncular article 1 somewhat exceeding beyond distal margin of article 2; longest process of peduncular article 2 not exceeding beyond distal margin of article 3. Upper lip

somewhat incised. Mandibular body elongate and strongly tapering distally; incisor with teeth along medial side. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Gnathopod 1 apex of coxa excavate distally, wide apex and pointed posteroventral corner; basis concave anteromarginally and convex posteromarginally; carpus = 0.95(-1.07) x propodus. Coxa 2 pointed distally and truncate and oblique anterodistally. Coxae 3 and 4 distally pointed. Posterodistal margin of coxa 4 strongly excavate. Pereopod 5 coxa posteriorly pointed; posterior margin of basis straight to slightly sinuous, posteroventral corner pointed. Pereopod 6 coxa posteriorly pointed; posterior margin of basis weakly sinuous, posteroventral angle pointed. Pereopod 7 coxa posteriorly pointed; posterior margin of basis sinuous, posteroventral angle pointed. Telson with narrow U-shaped excavation.

Size. Female 34-43 mm, male 26-48 mm.

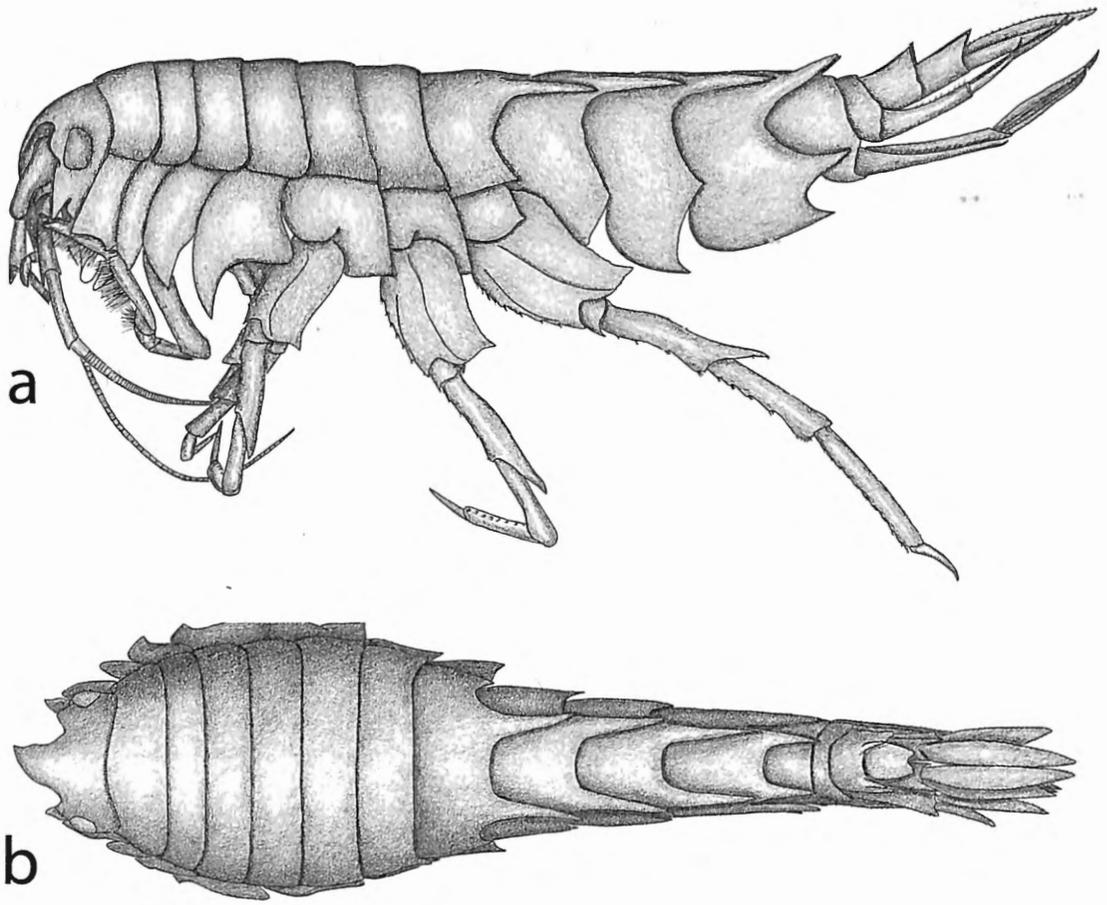


Fig. 61a-b. *Iphimediella cyclogena*. a) left lateral view; b) dorsal view.

Remarks. From the *Iphimediella* species with 4 pairs of dorsal processes, *I. cyclogena* bears some resemblance with *I. microdentata* and *I. rigida*. The latter, however, has mid-dorsal keels, which are not present in *I. cyclogena* and the

space between the dorsal processes is slit-like narrowed anteriorly in *I. rigida*. *Iphimediella microdentata* has much shorter dorsal teeth and the subantennal notch is different: in *I. cyclogena* the anterior process of the notch is pointed, the posterior one is shorter and rounded, whereas in *I. microdentata* it is vice versa. *Iphimediella margueritei* has very different coxae 1-3.

Type locality. Ross Sea: McMurdo Sound.

Distribution. Adélie Coast; Oates Coast; Ross Sea; South Shetland Islands; Weddell Sea.

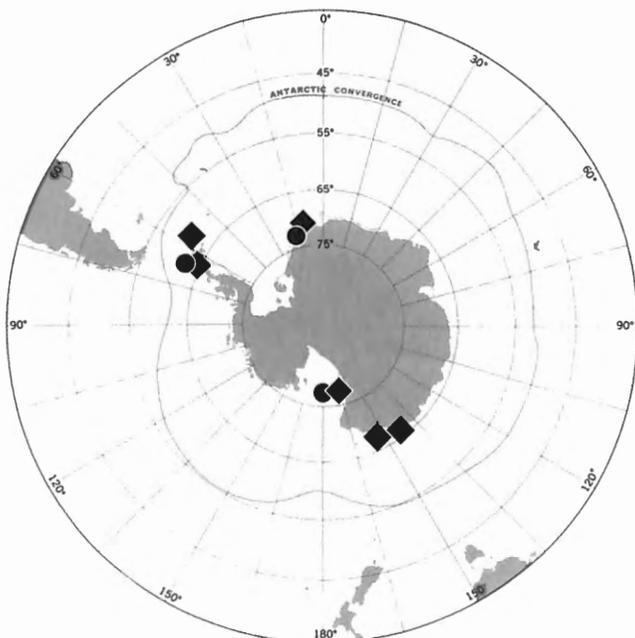
Depth range. 210-540 m.

***Iphimediella dominici* Coleman, 1996**

(Fig. 62a-b, Map 31: rhomb)

References and synonymy. De Broyer *et al.* 2007: 102.

Diagnosis. Dorsal armature with paired teeth on pereonite 7 and pleonites 1-2; posteroventral corners of pereonites 1-4 not produced, somewhat produced on segments 5-7; mid-dorsal carina on pleonite 3 only, pointed and strongly projecting posteriorly; mid-dorsal carina on urosomite 1 absent. Posterolateral process on epimeral plates 1-2 rounded and weakly produced; that of pleonite 3 strongly produced and



Map 30. *Iphimediella cyclogena*: rhomb; *Iphimediella georgei*: circle.

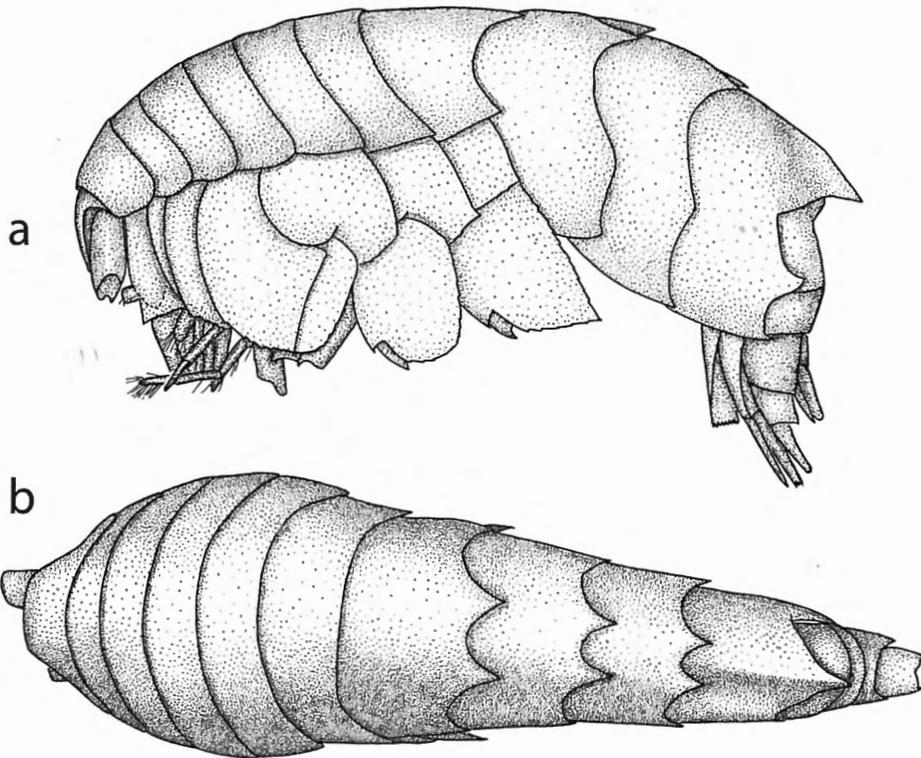


Fig. 62a-b. *Iphimediella dominici*. a) left lateral view; b) dorsal view.

pointed. Posteroventral corner on epimeral plate 1 angular to pointed; on plate 2 more pointed; on plate 3 acutely pointed and produced. Antenna 1 distal margin of first article with 3 short processes. Upper lip entire with weak apical depression. Mandibular body elongate and strongly tapering distally; incisor with apical teeth and along medial side. Lower lip with pointed apices. Maxilla 1 palp 2-articulate, subequal to outer plate. Second article of maxilliped palp medially produced guarding along inside of article 3. Gnathopod

1 apex of coxa rounded distally and weakly serrate; basis concave anteromarginally and convex posteromarginally; carpus length = 2.46 x propodus. Coxa of gnathopod 2 rounded distally with weakly serrate margin. Coxa 3 distally subacute to rounded, with serrate margin. Coxa 4 pointed distally, posterodistal margin rather straight. Pereopod 5 coxa posteriorly rounded; posterior margin and posteroventral angle of basis rounded. Pereopod 6 coxa posteriorly pointed; posterior margin and posteroventral angle of basis rounded. Pereopod 7 coxa posteriorly pointed; posterior margin of basis rounded, posteroventral corner of basis pointed. Telson with shallow and wide v-shaped excavation.

Size. Oviparous female 7 mm.

Remarks. From all iphimediids *Iphimediella dominici* is closest related to *Iphimediella serrata*. For comparison see Table 5.

Type locality. Weddell Sea: 72°53.10'S 19°29.33'W.

Distribution. Only known from type locality.

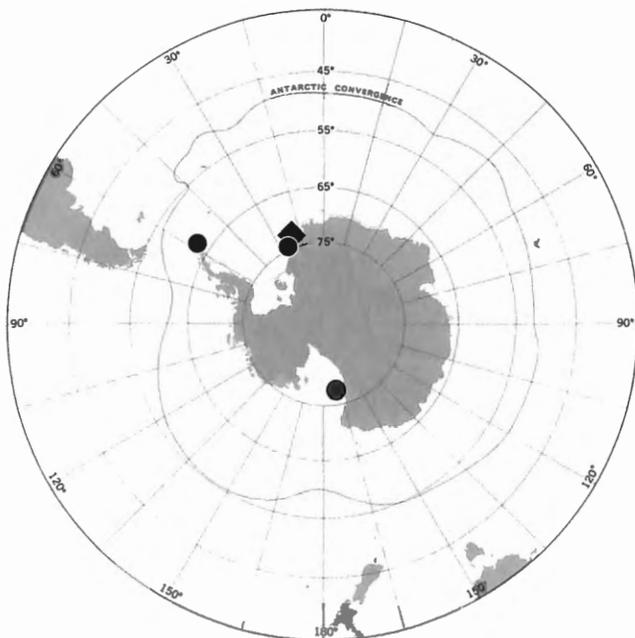
Depth range. 421-429 m.

Iphimediella georgei Watling & Holman, 1980

(Fig. 63a-b, Map 30: circle)

References and synonymy. De Broyer *et al.* 2007: 102.

Diagnosis. Dorsal armature with paired teeth on pereonite 7 and pleonites 1-2; posteroventral corners of pereonites 1-5 not produced, somewhat produced on pereonites 6-7; mid-dorsal carinae inconspicuously shallow on pleonite 2, drawn out



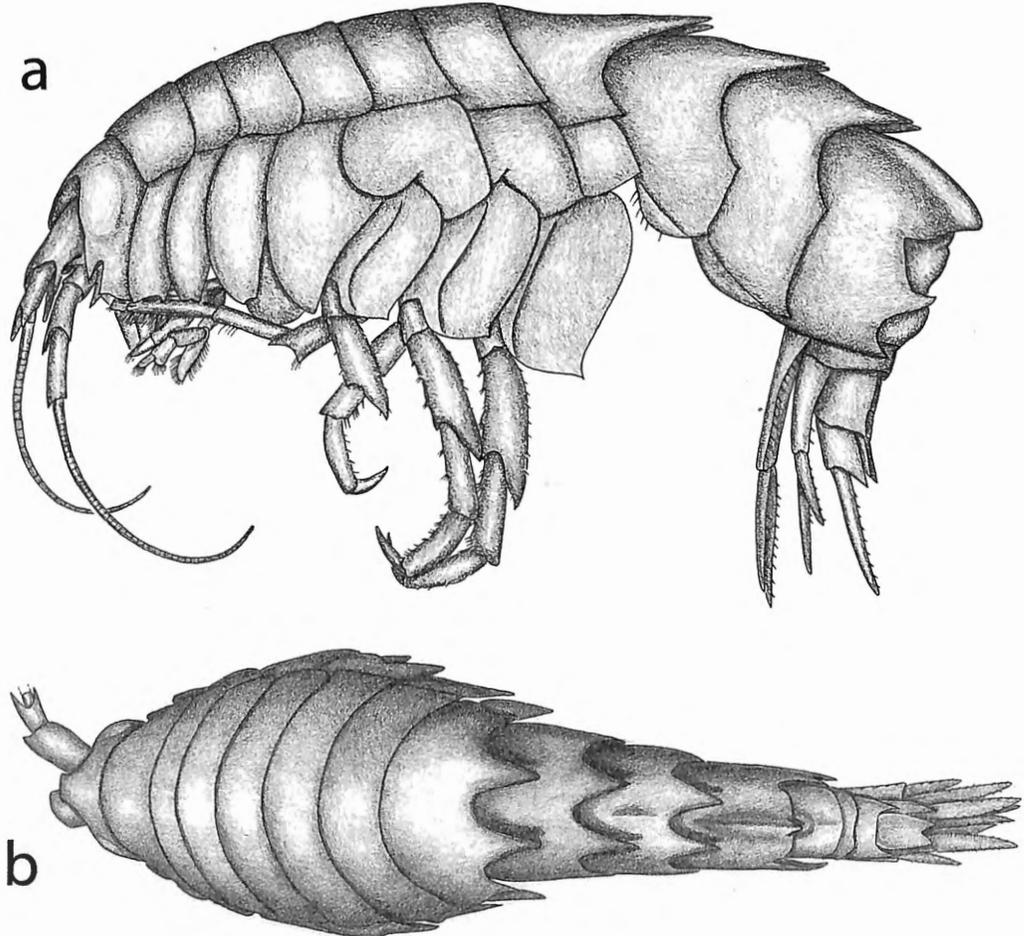
Map 31. *Iphimediella dominici*: rhomb; *Iphimediella rigida*: circle.

Table 5. Diagnostic differences between *Iphimediella dominici* and *I. serrata*.

	<i>Iphimediella dominici</i>	<i>Iphimediella serrata</i>
paired dorsal processes	pereonite 7, pleonites 1-2; quite short; not serrate medially	pereonites 6-7, pleonites 1-2 long; serrate medially
posteroventral angles of pereonites	unproduced on pereonites 1-4, weakly produced on pereonites 5-7, not serrate	laterally produced, pointed, serrate
posterior margins of epimera 1-2	weakly produced, rounded	strongly produced, pointed
1st peduncular antennal article	3 short apical processes	2 long processes
maxilliped palp article 2	medially produced	medially unproduced
coxa 1	subtriangular	subquadrate, apically truncate
basis 1	rather straight	strongly curved
carpus 2	shorter than propodus	longer than propodus
coxa 4	slender	wide
posterior margin of coxa 4	straight, non serrate	excavate, serrate
posterior margin of bases 5-6	convexly rounded, without processes	straight, 2 pointed processes

posteriorly on pleonite 3; mid-dorsal carina on urosomite 1 absent. Posterolateral process on epimeral plates 1-3 produced and pointed, especially produced on plate 3. Posteroventral corner on epimeral plates 1-3 pointed. Subantennal notch

narrow, both margins drawn out into small teeth, the posterior one slightly longer. Antenna 1 distal margin of first article with 3 processes; longest process of peduncular article 1 not exceeding beyond distal margin of article 2, but almost

Fig. 63a-b. *Iphimediella georgei*. a) left lateral view; b) dorsal view.

reaching it; longest process of peduncular article 2 exceeding beyond distal margin of article 3. Upper lip weakly incised. Mandibular body elongate and strongly tapering distally; incisor toothed along medial side and also apically. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Gnathopod 1 apex of coxa excavate with rounded anteroventral and pointed posteroventral angle; basis concave anteromarginally and convex posteromarginally; carpus length subequal to propodus. Coxae 2-3 with truncate apex. Coxa 4 pointed distally and posterodistal margin weakly excavate. Pereopod 5 coxa posteriorly angular; posterior margin of basis rounded to slightly sinuous, posteroventral angle pointed. Pereopod 6 coxa posteriorly pointed; posterior margin of basis rounded to slightly sinuous, posteroventral angle pointed. Pereopod 7 coxa posteriorly pointed; posterior margin of basis rounded to weakly sinuous, posteroventral angle pointed. Telson almost truncate, with shallow and wide v-shaped excavation.

Size. Female 28 mm.

Remarks. See under *Iphimediella bransfieldi*.

Type locality. Bransfield Strait: *Islas Orcadas* 19, St. 7, 8: 62°18.9'S 55°13'W; Ross Sea: *Eltanin* 27, St. 1924, 75°11'S 176°13'W.

Distribution. Known from type localities and also found at 60°51'4"S 55°29'7"W.

Depth range. 348-732 m.

Iphimediella margueritei Chevreux, 1912a

(Fig. 64a-b, Map 32: rhomb)

References and synonymy. De Broyer *et al.* 2007: 102.

Diagnosis. Dorsal armature with paired teeth on pereonite 7 and pleonites 1-3; posteroventral angles of pereonites 1-4 rounded, somewhat produced posteriorly and with short acute tips on pereonites 5-7; mid-dorsal carinae on pleonites and urosomite 1 absent. Posterolateral process on epimeral plates 1-2 produced and pointed, that of pleonite 3 strongly produced and pointed. Posteroventral corner on epimeral plates 1-3 pointed. Subantennal notch narrow, both margins drawn out into teeth, the posterior tooth about twice as long as anterior. Antenna 1 distal margin of first article with 3 processes, longest process exceeding well beyond distal margin of article 3, even beyond first flagellar article; longest process of peduncular article 2 exceeding beyond distal margin of article 3. Upper lip entire and rounded. Mandibular body bulky; incisor toothed, sometimes dentation worn down;

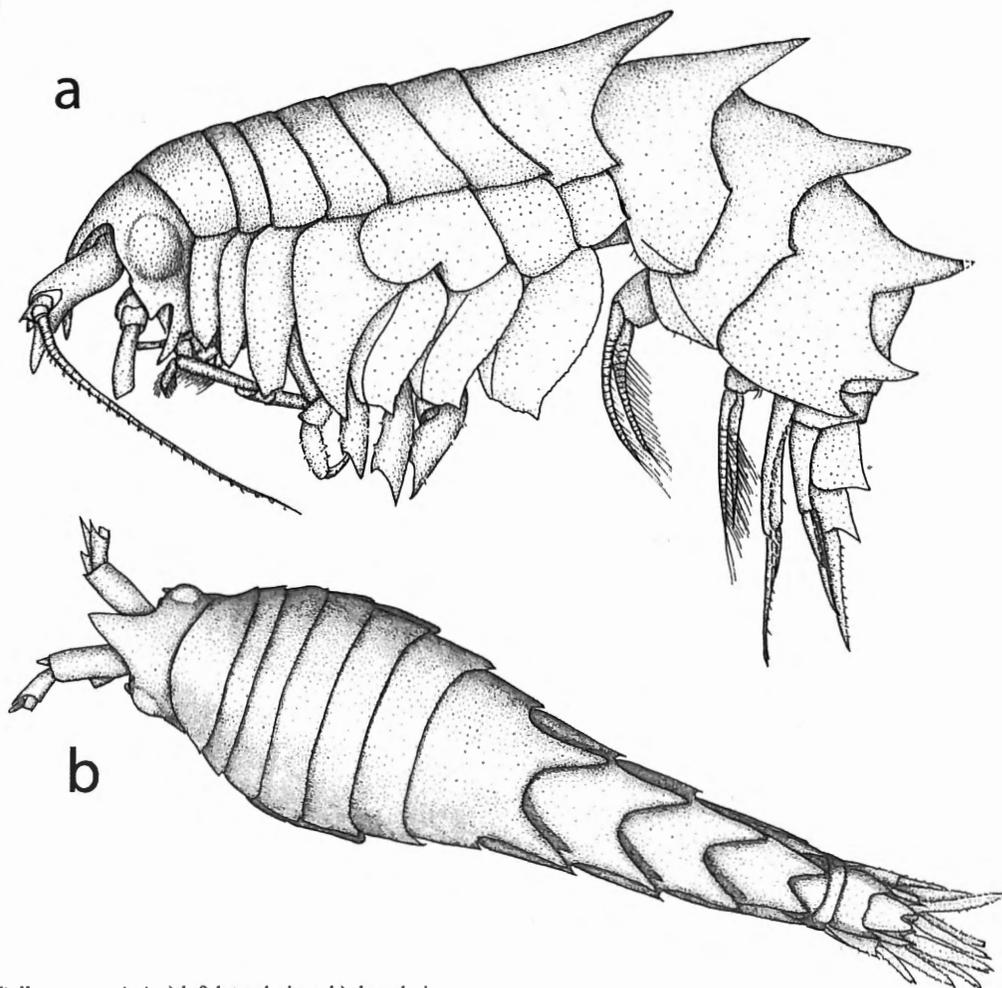
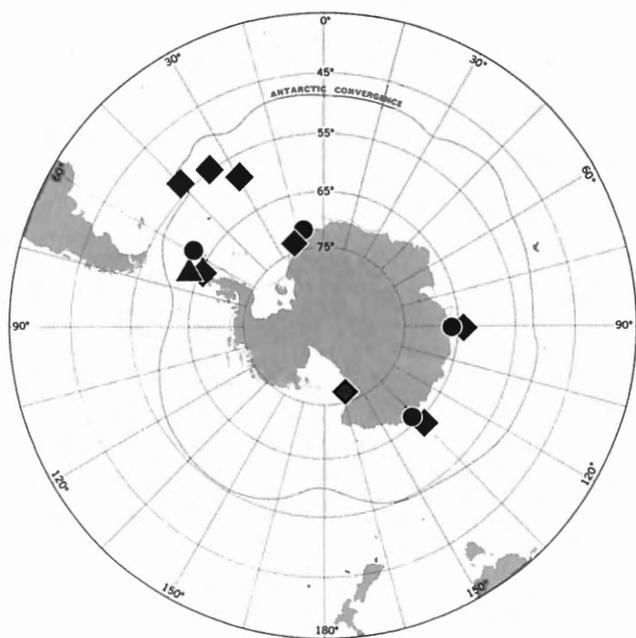


Fig. 64a-b. *Iphimediella margueritei*. a) left lateral view; b) dorsal view.



Map 32. *Iphimediella margueritei*: rhomb; *Iphimediella serrata*: circle; *Iphimediella paracuticoxa*: triangle.

incisor distally rounded, not cutting; teeth along medial side of mandibular body. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Gnathopod 1 apex of coxa excavate distally (bifid), or pointed and truncate and oblique anterodistally; basis concave anteromarginally and convex posteromarginally; carpus = 1.23(-1.34) x propodus. Coxa 2 pointed distally, truncate and oblique anterodistally, or excavate distally (narrow and bifid). Coxa 3 pointed distally and truncate and oblique posterodistally, or excavate distally (and bifid). Coxa 4 pointed distally; posterodistal margin excavate. Pereopod 5 coxa posteriorly rounded, or pointed; posterior margin of basis weakly sinuous, posteroventral corner pointed. Pereopod 6 coxa posteriorly pointed; posterior margin of basis weakly sinuous, posteroventral corner pointed. Pereopod 7 coxa posteriorly pointed; posterior margin of basis rounded to weakly sinuous, posteroventral corner pointed. Telson with narrow U-shaped excavation.

Size. Female 17-25 mm, male 17 mm.

Remarks. This species has some similarity to *Gnathiphimedia watlingi*. Compare with the remarks there. Within the genus *Iphimediella ruffoi* has some similarity, however, it does not have dorsal teeth on pleonite 3 as *I. margueritei*.

Comparing extensive material there seem to be some variability in the shape of the coxae. It might also be that the differences in these characters indicate the presence of another, undescribed species.

Type locality. Marguerite Bay.

Distribution. Adélie Coast; Bransfield Strait; Marguerite Bay; Ross Sea; South Georgia; South Sandwich Islands; South Shetland Islands; Weddell Sea.

Depth range. 10-732 m.

Iphimediella microdentata (Schellenberg, 1926a)

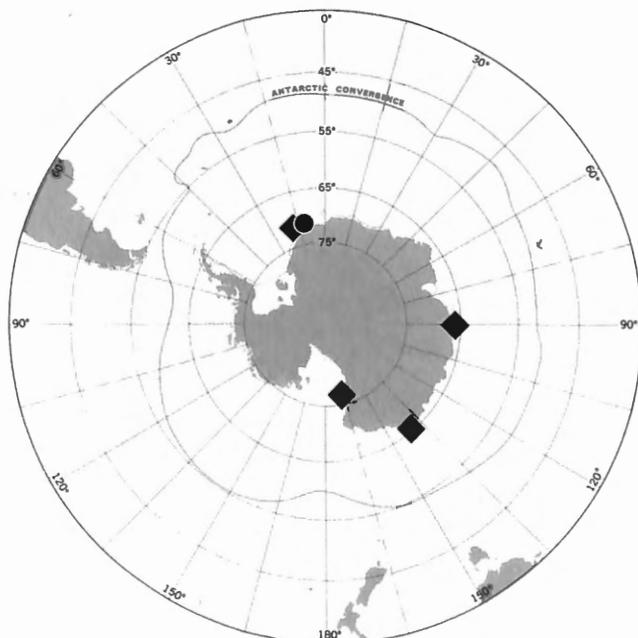
(Fig. 65a-b, Map 33: rhomb)

References and synonymy. De Broyer *et al.* 2007: 103.

Diagnosis. Paired rather short teeth on pereonite 7 and pleonites 1-3. Posteroventral corners of pereonites 1-4 rounded and not produced, short and pointed on pereonites 5-7; mid-dorsal carinae on pleonites and on urosomite 1 absent. Posterolateral process on epimeral plates 1 and 2 rounded and weakly produced; that of plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 rounded; that of plate 2 and 3 pointed. Subantennal notch narrow, anterior distal margin rounded, posterior margin drawn out into pointed tooth. Antenna 1 distal margin of first article with 3 processes; longest process of peduncular article 1 not exceeding beyond distal margin of article 2; longest process of peduncular article 2 exceeding beyond distal margin of article 3. Upper lip entire. Mandibular body elongate and strongly tapering distally; incisor with teeth along medial side and apically. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Gnathopod 1 apex of coxa excavate with rounded anteroventral and pointed, produced posteroventral corner; basis concave anteromarginally and convex posteromarginally; carpus length = 1.25 x propodus. Coxae 2-4 pointed distally. Posterodistal margin of coxa 4 excavate. Pereopod 5 coxa posteriorly pointed; posterior margin of basis straight, posteroventral angle pointed. Pereopod 6 and 7 coxae posteriorly pointed; posterior margin of basis weakly sinuous; posteroventral corner of basis pointed. Telson with wide and shallow rounded excavation.

Size. Female 14-16 mm, male 13 mm.

Remarks. This species bears some resemblance to *I. cyclogena*. For differences compare with remarks of



Map 33. *Iphimediella microdentata*: rhomb; *Iphimediella ruffoi*: circle.

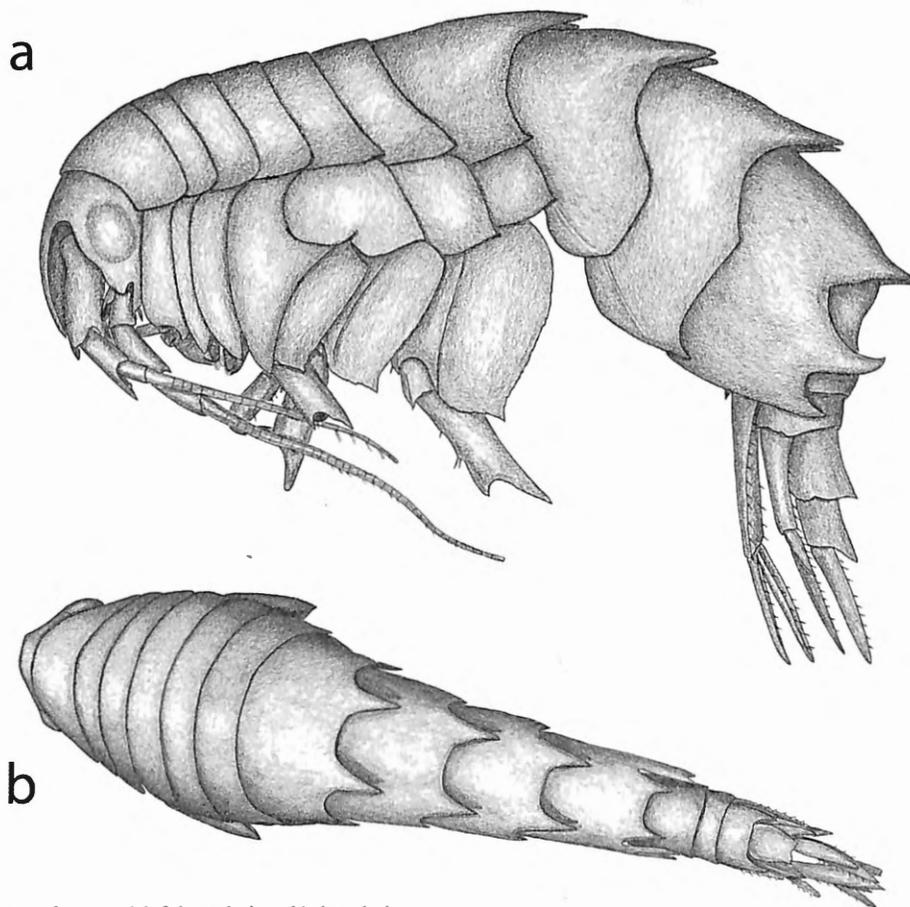


Fig. 65a-b. *Iphimediella microdentata*. a) left lateral view; b) dorsal view.

this species. *Gnathiphimedia mandibularis* has a similar morphology of the shape of the apices of coxae 1-4, however, its paired dorsal teeth are longer, the incisors of the mandibles are non cutting and the longest process of article 1 of the antenna 1 peduncle surpasses the first flagellar article (vs. only reaching the apical margin of the second article).

Type locality. Davis Sea: Gauss Station.

Distribution. Adélie Coast; Davis Sea; Ross Sea; Weddell Sea.

Depth range. 216-720.

Iphimediella paracuticoxa Andres, 1988b

(Fig. 66a-h, Map 32: triangle)

References and synonymy. De Broyer *et al.* 2007: 103.

Diagnosis. Paired teeth on pereonite 7 and pleonites 1-3; space between paired dorsal processes strongly narrowed v-shaped at the segmental border; posteroventral corners of pereonites strongly produced and pointed; weak mid-dorsal carinae on pleonite 1-3. Posterolateral process on epimeral plates 1-3 very strongly produced and pointed; that of epimeral plate 3 not longer compared to pleonites 1-2. Posteroventral angle of epimeral plates 1-3 pointed. Subantennal notch narrow, not deep, anterior and posterior margin produced into pointed

teeth, posterior tooth somewhat longer. Distal margin of first article of antenna 1 with 2 processes, one lateral tooth and one longer ventral tooth; longer process of peduncular article 1 not exceeding beyond distal margin of article 2; first peduncular article only scarcely longer than rostrum. Upper lip entire. Mandibular body elongate and strongly tapering distally; incisor along the medial side of the mandibular body, not toothed, only inconspicuously serrate. Lower lip with mediodistal notches. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp very weakly medially produced guarding along inside of article 3. Gnathopod 1 apex of coxa truncate and oblique anterodistally; basis concave anteromarginally and convex posteromarginally; carpus = 1.2 x propodus length. Coxae 2-4 pointed distally, coxa 2 rather subacute. Posterodistal margin of coxa 4 excavate. Pereopod 5-7 coxae posteriorly pointed, and strongly drawn out; posterior margin of bases excavate and with proximo-posteromarginal long tooth; posteroventral corner of bases pointed. Bases 5-7 wider successively. Telson with shallow and wide v-shaped excavation.

Size. Only juveniles are known: 4.5-6.8 mm.

Remarks. The species is close to *Iphimediella acuticoxa*. It can be distinguished from this species by the following: coxa 1 not rounded apically, but angular; coxa 2 is subacute; first peduncular article with 1 dorsal and 1 longer ventral tooth apically; outer plate with 11 spiniform setae.

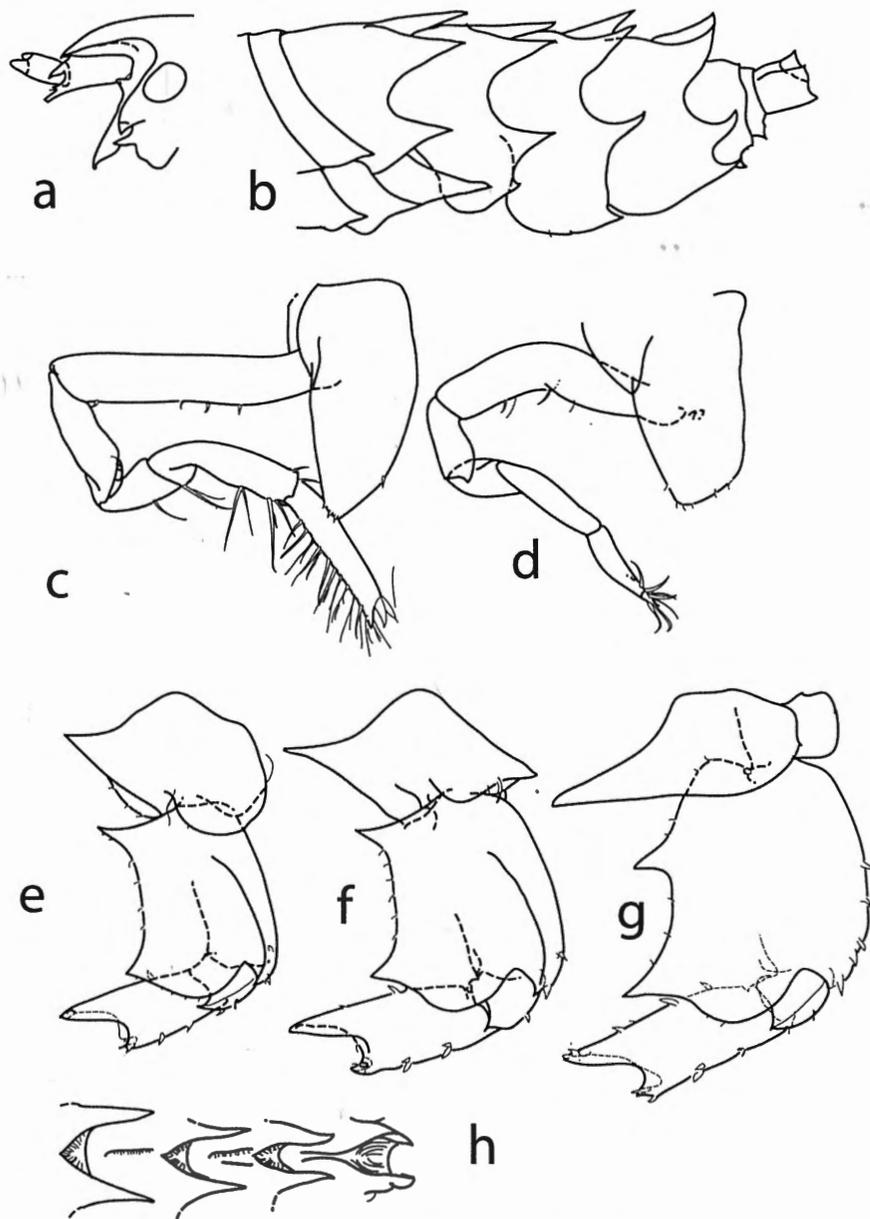


Fig. 66a-h. *Iphimediella paracuticoxa*, redrawn after Andres, 1988a. a) head; b) posterior part of the body; c) gnathopod 2; d) gnathopod 1; e) pereopod 5; f) pereopod 6; g) pereopod 7; h) paired dorsal processes of pereonite 7 and pleonites 1-3.

Type locality. Bransfield Strait: *Polarstern*, St. 207, 62°59'S 57°05'W.

Distribution. Only known from type locality.

Depth range. 68 m.

Iphimediella rigida K.H. Barnard, 1930

(Fig. 67a-b, Colour plate 3d, Map 31: circle)

References and synonymy. De Broyer *et al.* 2007: 103.

Diagnosis. Paired teeth on pereonite 7 and pleonites 1-3; space between paired dorsal processes strongly narrowed to a v-shaped slit at the segmental border; posteroventral angles of pereonites not produced on pereonites 1-4, somewhat produced on segments 5-7. Mid-dorsal carinae on pleonites

1-3 and on urosomite 1 present. Posterolateral process on epimeral plates 1-2 slightly produced and pointed, on epimeral plate 3 strongly produced and pointed. Posteroventral corner on epimeral plates 1-3 somewhat pointed. Subantennal notch narrow, both margins drawn out into pointed tooth, posterior tooth somewhat longer than anterior one. Antenna 1 distal margin of first article with 2 processes; longest process of peduncular article 1 not exceeding beyond distal margin of article 2; longest process of peduncular article 2 not exceeding beyond distal margin of article 3. Upper lip incised. Mandibular body elongate and strongly tapering distally; incisor toothed along medial side and with apical teeth. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Gnathopod 1 apex of coxa excavate with rounded anteroventral and pointed posteroventral angle;

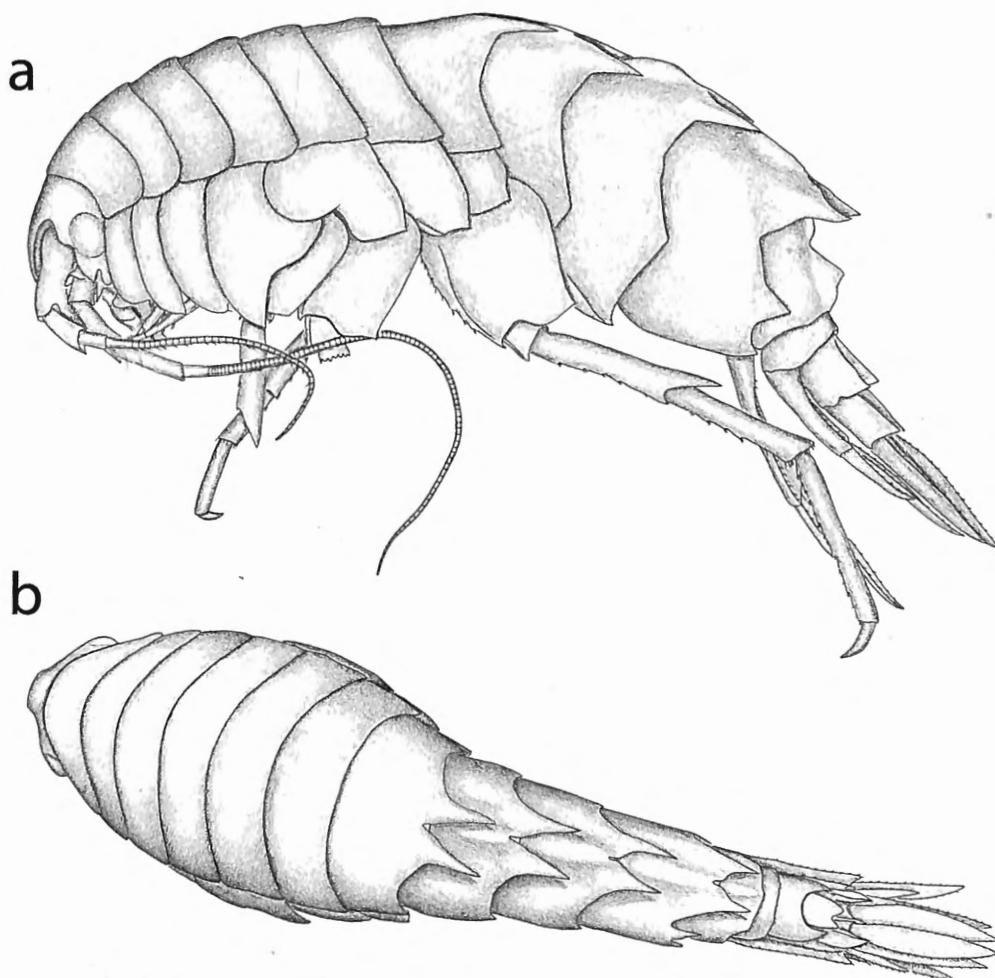


Fig. 67a-b. *Iphimediella rigida*. a) left lateral view; b) dorsal view.

carpus = 0.92 x propodus length. Coxa 2 excavate with rounded anteroventral and pointed posteroventral corner. Coxa 3 excavate with rounded anteroventral and pointed posteroventral corner. Coxa 4 pointed distally, posterodistal margin excavate. Pereopod 5-7 coxae posteriorly pointed; posterior margin of bases weakly sinuous, posteroventral corner angular, that of pereopods 6-7 pointed. Pereopod 6 coxa posteriorly pointed; posterior margin of basis weakly sinuous, posteroventral corner pointed. Telson with wide and shallow rounded excavation.

Size. Male 32 mm.

Remarks. This species can be easily distinguished from all other *Iphimediella* species by the 4 pairs of dorsal teeth, the pleon keels and the v-shaped excavation between the dorsal processes, narrowed to a slit at the segmental borders.

Type locality. Ross Sea: McMurdo Sound, Terra Nova, St. 339.

Distribution. Ross Sea; South Shetland Islands; Weddell Sea.

Depth range. 256-625 m.

Iphimediella ruffoi Coleman, 1996

(Fig. 68a-b, Map 33: circle)

References and synonymy. De Broyer *et al.* 2007: 104.

Diagnosis. Paired dorsal teeth on pereonite 7 and pleonites 1-2; posteroventral angles of pereonites rounded and not produced on pereonites 1-3, somewhat produced on pereonites 4-7. Mid-dorsal carinae on pleonites and urosomite 1 wanting. Posterolateral process on epimeral plates 1-2 produced and pointed, that of epimeral plate 3 strongly produced and pointed. Posteroventral angle on epimeral plate 1 rounded, that of epimera 2-3 pointed. Subantennal notch narrow, both margins acutely drawn out, posterior process longer than anterior. Antenna 1 distal margin of first article with 3 processes; longest process of peduncular article 1 exceeding well beyond distal margin of article 3; longest process of peduncular article 2 not exceeding beyond distal margin of article 3. Upper lip entire with weak apical depression. Mandibular body elongate and strongly tapering distally; incisor toothed along medial side. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article

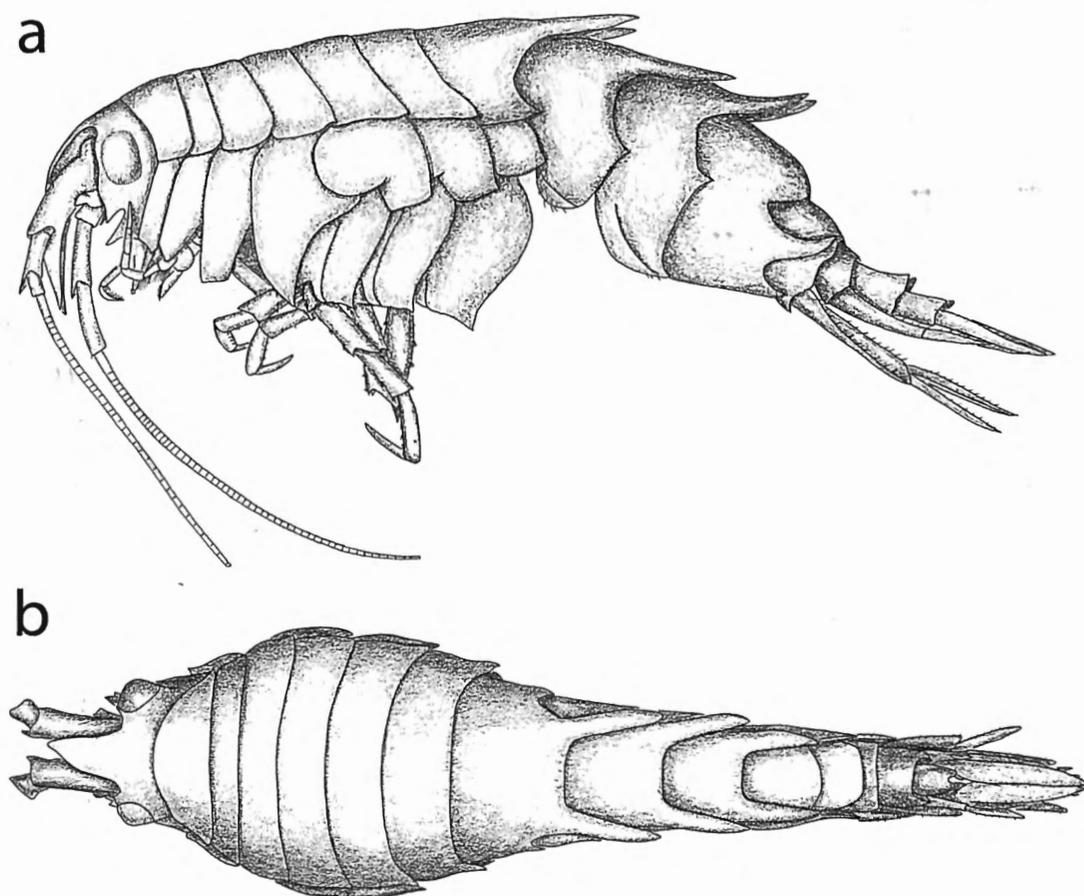


Fig. 68a-b. *Iphimediella ruffoi*. a) left lateral view; b) dorsal view.

3. Gnathopod 1 apex of coxa truncate, oblique anterodistally and slightly excavate distally; basis concave anteromarginally and convex posteromarginally; carpus = 1.29 x propodus length. Coxa 2 truncate and oblique anterodistally. Coxa 3 with truncate apex. Coxa 4 pointed distally and posterodistal margin excavate. Pereopod 5-7 coxae posteriorly pointed; posterior margin of bases weakly sinuous, posteroventral corner pointed. Telson with narrow U-shaped excavation.

Size. Female 26 mm.

Remarks. Similar to *I. margueritei*, however, with only 6 dorsal teeth (vs. 8).

Type locality. Weddell Sea: eastern shelf: *Polarstern* 72°31.64'S 17°34.97'W.

Distribution. Only known from type locality.

Depth range. 242-264 m.

Iphimediella serrata (Schellenberg, 1926a)

(Fig. 69a-b; Map 32: circle)

References and synonymy. De Broyer *et al.* 2007: 104.

Diagnosis. Dorsal armature with paired serrate teeth on pereonites 6-7 and pleonites 1-2; space between paired dorsal processes wide on pereonites and narrower on pleonites,

U-shaped. Mid-dorsal carina on pleonite 3 only, mid-dorsal carina on urosomite 1 absent. Posteroventral corners of pereonites strongly produced and pointed. Posterolateral process on epimeral plates 1-3 strongly produced and pointed, that of epimeral plate 3 serrate on ventral margin and longest. Posteroventral corner on epimeral plates 1-3 pointed; increasing in length successively. Subantennal notch absent, but short tooth. Antenna 1 distal margin of first article with 2 processes, and 2 additional small teeth; longest process of peduncular article 1 not exceeding beyond distal margin of article 2; distal process of peduncular article 2 not exceeding beyond distal margin of article 3. Upper lip incised. Mandibular body elongate and strongly tapering distally; incisor toothed along medial side. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, subequal in length to outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Gnathopod 1 apex of coxa weakly excavate with rounded anteroventral and pointed posteroventral corner, serrate ventromarginally; basis strongly concave anteromarginally and convex posteromarginally; carpus = 2.62 x propodus length. Coxa 2 truncate and oblique posterodistally, serrate along ventral margin. Coxa 3 truncate and oblique anterodistally, pointed distally, serrate anteromarginally. Coxa 4 pointed distally, posterodistal margin excavate and serrate. Pereopod 5-6 coxae posteriorly pointed; posterior margin of bases excavate,

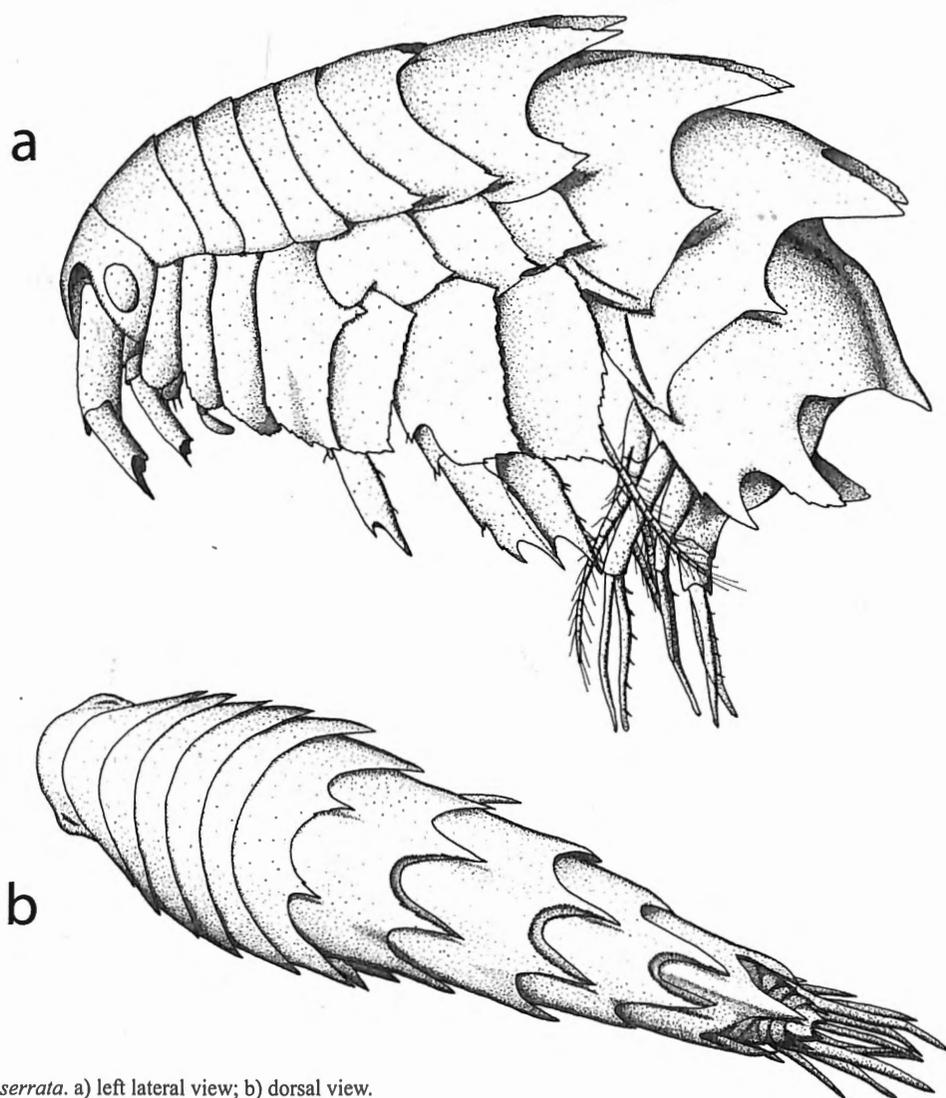


Fig. 69a-b. *Iphimediella serrata*. a) left lateral view; b) dorsal view.

posteroventral corner pointed, those of pereopods 6-7 drawn out and pointed. Telson with shallow and wide v-shaped excavation and additional notches on both apices.

Size. Female 8.5-10 mm, ? male 8 mm.

Remarks. This species is very similar to *I. dominici*. See Table 5 in the remarks on *I. dominici* for comparison.

Type locality. Davis Sea: Gauss Station.

Distribution. Adélie Coast; Bransfield Strait; Davis Sea; South Shetland Islands; Weddell Sea.

Depth range. 54-549 m.

Labriphimedia K.H. Barnard, 1931a

Type-species. *Labriphimedia vespuccii* K.H. Barnard, 1931a

Diagnosis (emended after Barnard & Karaman, 1991). Dorsal body side covered with teeth or processes. Antenna 1 peduncular articles 1-2 subequal. Mouthparts projecting conically. Upper lip incised or entire, it and epistome very

broad. Mandibular incisor broad, hollowed out in form of a spoon; setal row absent; molar obsolescent, simple. Lower lip inner lobes absent. Maxilla 2 inner plate without facial row of setae. Maxilliped inner plate narrower but as long as outer plate, latter elongate; palp article 2 narrow and apicomediaally unproduced. Coxae ordinary; coxae 1-4 progressively longer, coxa 4 long, polycuspidate. Gnathopods alike, gnathopod 2 longer than 1, carpus and propodus elongate; narrow, both gnathopods chelate. Telson incised or cleft.

Labriphimedia pulchridentata (Stebbing, 1883)

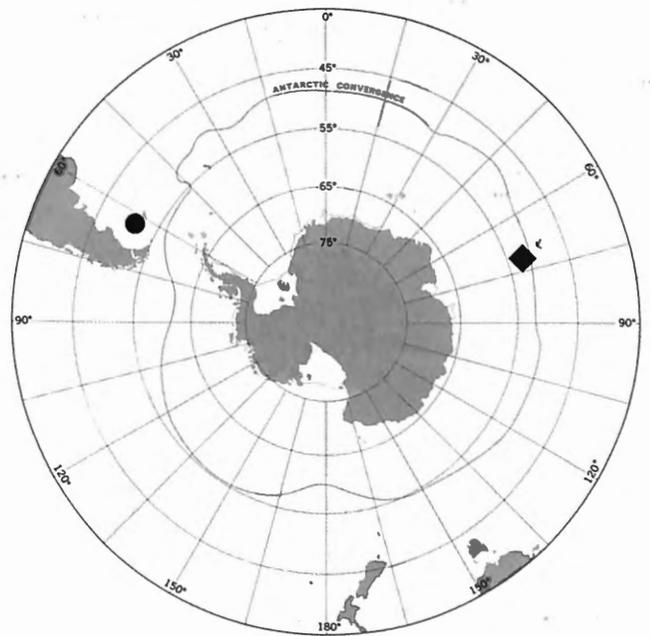
(Fig. 70a-b, Map 34: rhomb)

References and synonymy. De Broyer *et al.* 2007: 104.

Diagnosis. Dorsal armature with paired teeth on pereonites 6-7 and pleonites 1-3; space between paired dorsal processes narrow, U-shaped; with an additional tooth from pereonite 6 to pleonite 2 on both sides of the dorsal pair of processes. Dorsal carinae on pleonites 1-3 (on Stebbing's, 1888 drawing

there are mid-dorsal teeth on pereonites 6-7 too), consisting of a pointed posterior directed tooth, with a small additional tooth anteriorly. Posteroventral corners of pereonites strongly produced and pointed, especially long on pereonites 6-7. Posterolateral process on epimeral plates 1-3 strongly produced and pointed. Posteroventral angle on epimeral plates 1-3 progressively longer. Eyes, circular. Subantennal notch wide, both margin drawn out into pointed process, posterior process much longer. Antenna 1 first article with one proximal tooth and distal margin with 2 processes; longest process of peduncular article 1 exceeding beyond distal margin of article 2; longest process of peduncular article 2 exceeding beyond distal margin of article 3. Upper lip entire. Mandibular body elongate and strongly tapering distally; incisor not toothed, medially excavate, spoonshaped. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Gnathopod 1 apex of coxa bifid and strongly excavate distally; basis concave anteromarginally and convex posteromarginally; carpus = 1.35 x propodus length. Coxae 2-3 bifid and deeply excavate distally. Coxa 4 narrow, pointed distally, posterodistal margin excavate. Pereopod coxae 5-7 posteriorly bicuspidate; posterior margin of bases multicuspidate. Telson with narrow U-shaped excavation and pointed lobes.

Remarks. This species is unique in the iphimeriids. There



Map 34. *Labriphimedia pulchridentata*: rhomb; *Labriphimedia vespuccii*: circle.

are no other species with this specific dorsal armature, bicuspidate coxae 5-7 and such impressive teeth on bases 5-7.

Type locality. Heard Island: 52°59'S 73°33'E.

Distribution. Only known from type locality.

Depth range. 136 m.

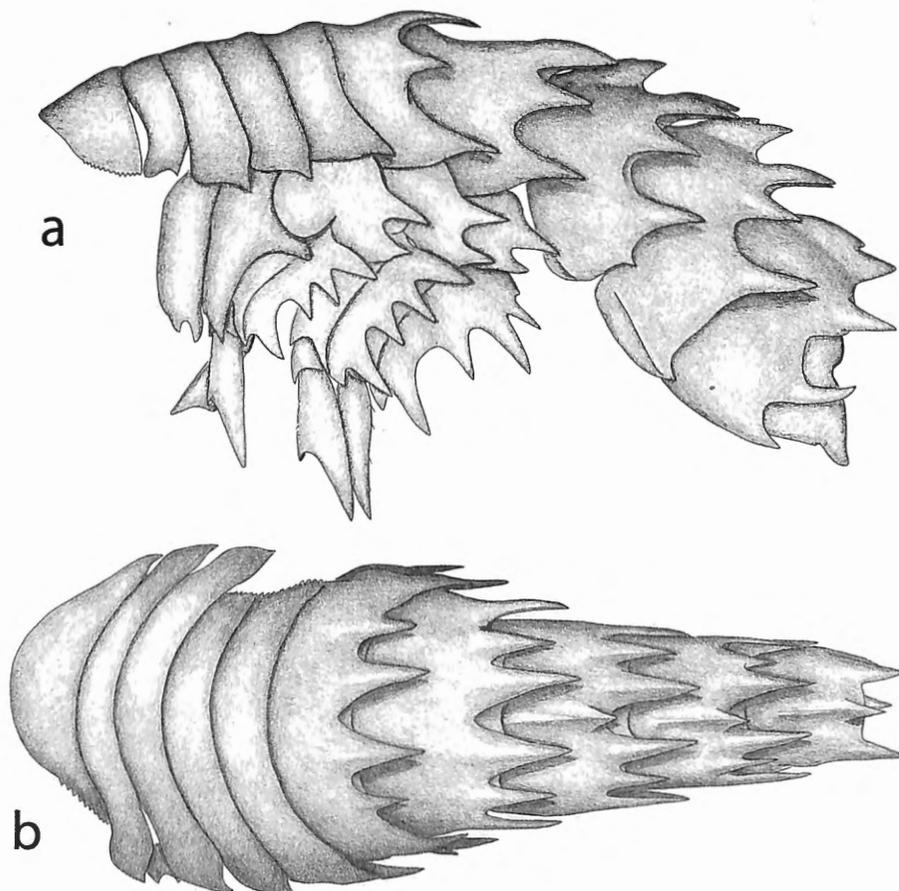


Fig. 70a-b. *Labriphimedia pulchridentata*. a) left lateral view of damaged type specimen; b) dorsal view.

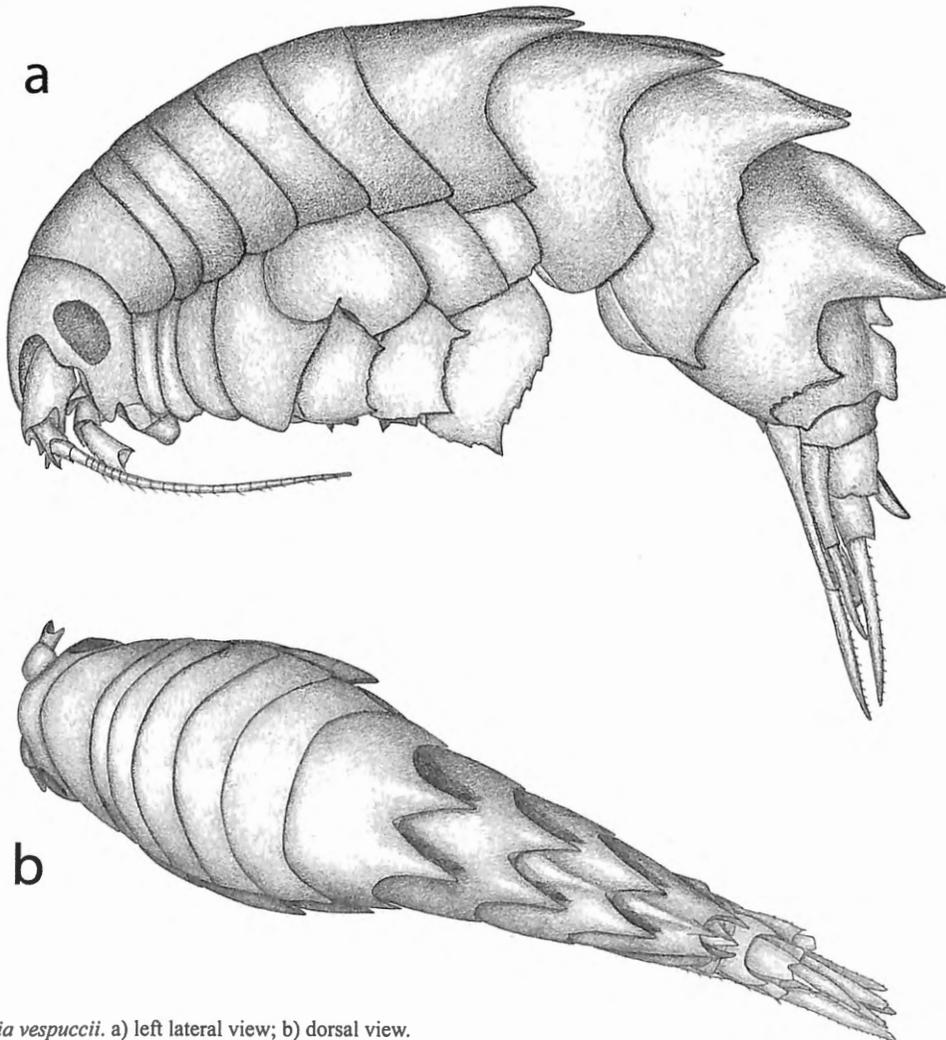
***Labriphimedia vespuccii* K.H. Barnard, 1931a**

(Fig. 71a-b, Map 34: circle)

References and synonymy. De Broyer *et al.* 2007: 104.

Diagnosis. Paired teeth on pereonite 7 and pleonites 1-3; space between paired dorsal processes strongly narrowed at the segmental edge and v-shaped; posteroventral angles of pereonites rounded and not produced on pereonites 1-4, somewhat produced on pereonites 6-7. Mid-dorsal carinae on pleonites 2-3, that on pleonite 2 inconspicuous, but on pleonite 3 strongly projecting with a pointed tip posteriorly. Mid-dorsal carina on urosomite 1 present with a notch-like excavation, thus bidentate, posterior part ending in a pointed tooth. Posterolateral process on epimeral plates 1-3 progressively produced and pointed. Posteroventral corner on epimeral plate 1 rounded; plates 2-3 pointed, margin between posterolateral and posteroventral process of epimeral plate 3 serrate. Urosomite 1 with mid-dorsal keel that is subdivided by notch. Subantennal notch narrow, posterior margin ending in a rounded process, anterior lobe angularly rounded. Antenna 1 distal margin of first article with 3 processes; longest process of peduncular article 1 not exceeding beyond distal margin of article 2; longest process of peduncular

article 2 not exceeding beyond distal margin of article 3. Upper lip entire. Mandibular body elongate and strongly tapering distally; incisor not toothed, medially excavate, spoonshaped. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Apex of coxa 1 rounded distally. Coxa 2 rounded distally, that of pereopod 3 with truncate apex. Pereopod 4 coxa with rounded angular apex, posterodistal margin straight to weakly excavate. Pereopod 5 coxa posteriorly angularly rounded; posterior margin of basis excavate with pointed proximo-posteromarginal tooth and serrate posterior margin, posteroventral corner pointed. Pereopod 6 coxa posteriorly pointed; posterior margin of basis similar to that of pereopod 7, but longer. Pereopod 7 coxa posteriorly angular to pointed; posterior margin of basis sinuous; posteroventral corner pointed. Telson with narrow U-shaped excavation with pointed lobes.

Size. Ovigerous female 16 mm.**Remarks.** The combination of keeled pleonites 2-3, notched keel on urosomite 1 and serrate posterior margin of pleonite 3 is unique in the family.**Type locality.** Falkland Islands, Eddystone Rock.**Distribution.** Only known from type locality.**Depth range.** 105-115 m.Fig. 71a-b. *Labriphimedia vespuccii*. a) left lateral view; b) dorsal view.

Maxilliphimedia K.H. Barnard, 1930

Type-species. *Maxilliphimedia longipes* Walker, 1906c

Diagnosis (emended after Watling & Holman, 1981). Epistome moderately broadened. Upper lip broad, asymmetrically incised. Mandibular incisor broad but flattened, cutting edge multidentate; orientated to cut in frontal plane. Lower lip without inner lobes. Maxilla 1 palp 2-articulate, article 2 greatly expanded. Maxilla 2 inner and outer plates expanded. Maxilliped palp 3 articulate, article 2 expanded but not produced along article 3. Gnathopods chelate.

Maxilliphimedia longipes Walker, 1906c

(Fig. 72a-b, Colour plate 3c, Map 35: rhomb)

References and synonymy. De Broyer *et al.* 2007: 105.

Diagnosis. Paired dorsal teeth on pereonite 7 and pleonites 1-2. Posteroventral corners of pereonites 1-4 rounded and not produced, somewhat produced on pereonites 5-7. Mid-dorsal carinae on pereon, pleon and urosomite absent. Posterolateral process on epimeral plates 1-2 rounded and weakly produced; plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 rounded; that of plates 2-3 pointed. Subantennal notch narrow, not deep, posterior margin drawn

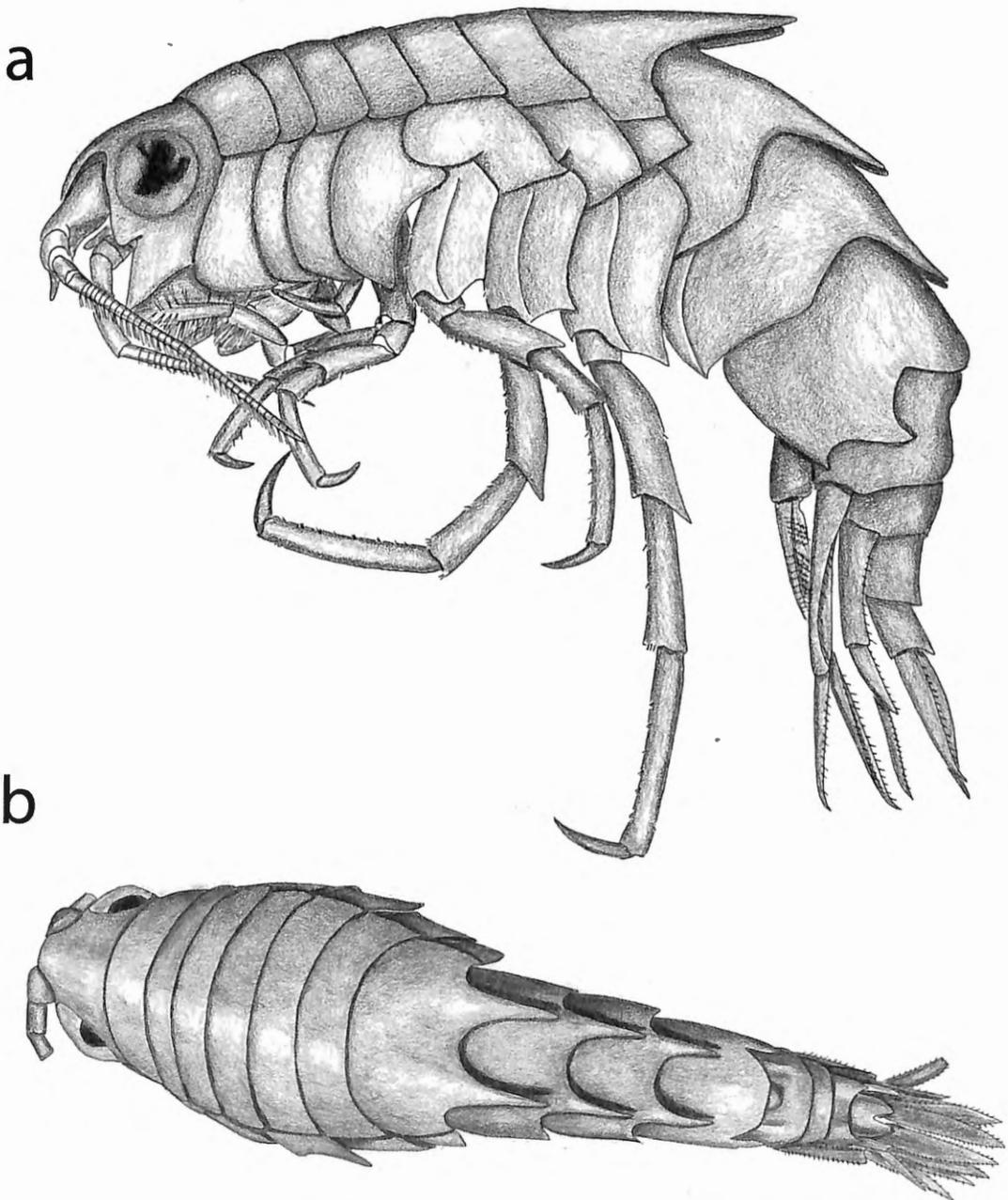


Fig. 72a-b. *Maxilliphimedia longipes*. a) left lateral view; b) dorsal view.

out into long, wide, pointed tooth. Antenna 1 distal margin of first article with 1 processes, slightly exceeding beyond distal margin of article 2; peduncular article 2 apically straight. Upper lip incised. Mandibular body bulky, medially excavate; incisor with apical teeth, multidentate. Lower lip with rounded unnotched lobes, but weak apical depression. Maxilla 1 palp 2-articulate, much longer than outer plate; second palp article palp strongly elongate and expanded to ovale shape. Second article of maxilliped palp weakly medially produced guarding along inside of article 3. Gnathopod 1 apex of coxa truncate and expanded apically; basis concave anteromarginally and convex posteromarginally; carpus = 0.88 x propodus length. Coxae 2-3 with truncate to rounded distal apex. Coxa 4 pointed distally, posterodistal margin excavate. Pereopod 5 coxa posteriorly produced and pointed; posterior margin of basis weakly sinuous; posteroventral corner pointed. Pereopod 6-7 coxae posteriorly subacutely pointed; posterior margin of basis weakly sinuous, posteroventral corner pointed. Pereopod 7 coxa posteriorly pointed; posterior margin of basis sinuous, posteroventral corner pointed. Telson with narrow U-shaped excavation.

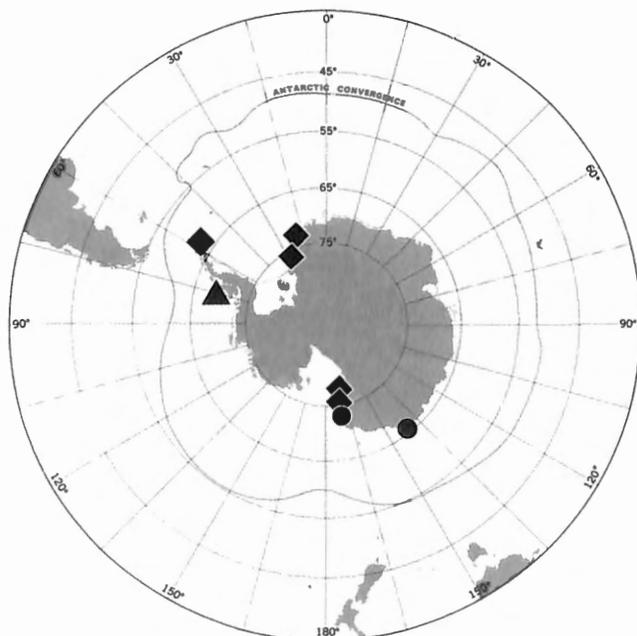
Size. Female 43 mm, male 32-35 mm.

Remarks. This species can be easily recognized from lateral view by the scarcely projecting not cone-like mouthparts that are covered by the large maxilliped plates and the expanded second article of the maxilla 1 palp, by the large anteroventral head process and the rounded coxa 1.

Type locality. Ross Sea, Coulman Island.

Distribution. Ross Sea; South Shetland Islands; Weddell Sea.

Depth range. 60-769 m.



Map 35. *Maxillipimedia longipes*: rhomb; *Nodotergum bicarinatum*: circle; *Paranchiphimedia monodi*: triangle.

Nodotergum Bellan-Santini, 1972a

Type-species. *Nodotergum bicarinatum* Ballan-Santini, 1972a

Diagnosis (modified after Barnard & Karaman, 1991). Dorsal body side covered with teeth or processes. Antenna 1 peduncular article 2 shorter than 1. Accessory flagellum 1-articulate, obsolescent. Mouthparts projecting. Upper lip incised, not very broad. Mandibular incisor ordinary, toothed; setal row absent, molar obsolescent. Lower lip inner lobes absent, outer lobes relatively broad, entire. Maxilla 1 palp 2-articulate, article 2 ordinary. Maxilla 2 inner plate without facial row of setae. Maxilliped inner plate narrower but as long as outer plate, latter elongate; palp article 2 narrow and apicomediaally unproduced; palp article 4 absent. Coxae ordinary; coxae 1-4 progressively longer; coxa 4 long, polycuspidate. Gnathopods diverse, gnathopod 2 longer than 1, articles 5-6 elongate, narrow; gnathopod 1 simple, gnathopod 2 chelate. Telson entire, but apically trifid.

Nodotergum bicarinatum Bellan-Santini, 1972a

(Fig. 73, Map 35: circle)

References and synonymy. De Broyer *et al.* 2007: 105.

Diagnosis. Paired dorsal teeth on all pereon and pleon segments. Posteroventral angles of pereonites strongly produced and pointed. Mid-dorsal carinae on pleonites 1-3, two long acute processes on urosomite 1 present. Posterolateral process on epimeral plates 1-3 strongly produced and pointed. Posteroventral corner on epimeral plates 1-3 pointed. Shape of subantennal notch unknown. Antenna 1 distal margins of peduncular articles 1-3 without processes, straight. Upper lip notched. Mandibular body elongate and strongly tapering distally; incisor with apical teeth. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, scarcely longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Gnathopod 1 simple; apex of coxa pointed distally; basis concave anteromarginally and convex posteromarginally; carpus = 0.78 x propodus length. Coxa 2 truncate and oblique posterodistally. Coxa 3 rounded distally to pointed distally. Coxa 4 subacutely pointed distally; posterodistal margin deeply excavate. Pereopod 5 coxa posteriorly pointed; posterior margin of basis straight, posteroventral corner angular. Pereopod 6 coxa posteriorly rounded; posterior margin of basis straight, with shallow and narrow excavation posterodistally, posteroventral corner angular to rounded. Pereopod 7 coxa posteriorly pointed; margin of basis excavate posterodistally, posteroventral corner pointed. Telson entire, with small denticles posteromarginally.

Size. 7 mm.

Remarks. This species has paired processes from pereonite 1 on, which is unique within the Iphimediidae. Another unusual trait is the simple gnathopod 1 (vs. chelate condition in all

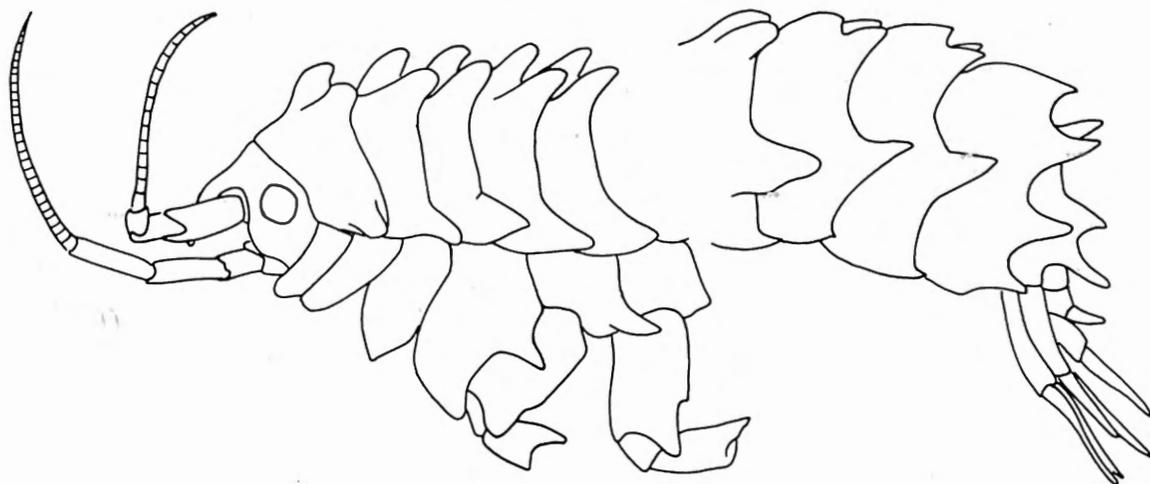


Fig. 73. *Nodotergum bicarinatum*, redrawn after Bellan-Santini, 1972a. Left lateral view of a damaged specimen.

species of the family).

Type locality. Adélie Coast, Cap Géodésie, 66°40'S 139°51'E.

Distribution. Only known from type locality.

Depth range. 115-135m.

Paranchiphimedia Ruffo, 1949

Type-species. *Paranchiphimedia monodi* Ruffo, 1949

Diagnosis (after Barnard & Karaman, 1991). Dorsal body side with paired teeth. Antenna 1 peduncular article 1-2 subequal. Accessory flagellum obsolete. Upper lip incised, not very broad. Mandibular incisor ordinary, broad, smooth; setal row absent; molar absent; palp long and strong. Lower lip inner lobes absent. Maxilla 1 palp 1-articulate, very short. Maxilla 2 inner plate without facial row of setae. Maxilliped inner plate narrower but as long as outer plate, latter elongate; palp article 2 broad and apicomediaally unproduced; palp article 4 absent. Coxae ordinary; coxae 1-4 progressively longer; coxa 4 monocuspitate. Gnathopods alike but of different setations and sizes, carpus and propodus elongate, narrow; both gnathopods chelate. Telson incised.

Paranchiphimedia monodi Ruffo, 1949

(Fig. 74a-s, Map 35: triangle)

References and synonymy. De Broyer *et al.* 2007: 105.

Diagnosis. Paired dorsal teeth on pereonite 7 and pleonites 1-2. Shallow mid-dorsal carina on pleonite 3; mid-dorsal carina on urosomite 1 absent. Posterolateral process on epimeral plates 1-2 produced and pointed; that of plate 3 strongly

produced and pointed. Posteroventral corner on epimeral plate 1 rounded; those of plates 2-3 pointed. Subantennal notch only a shallow depression. Antenna 1 distal margin of first article with 1 processes. Upper lip incised. Mandibular body elongate and strongly tapering distally; incisor oblique, not toothed. Lower lip with rounded unnotched lobes. Maxilla 1 palp unarticulate shorter than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Gnathopod 1 apex of coxa truncate, weakly oblique; basis concave anteromarginally and convex posteromarginally. Coxae 2-3 with truncate apex. Coxa 4 with rounded apex, posterodistal margin weakly excavate. Coxa 5 posteriorly rounded to subacutely angular. Pereopod 6 coxa posteriorly rounded to subacutely angular; posterior margin of basis sinuous, posteroventral corner pointed. Pereopod 7 coxa posteriorly pointed; posterior margin of basis sinuous, posteroventral corner pointed. Telson with shallow and wide v-shaped excavation.

Size. Male (?) 5 mm.

Remarks. This species has a short, unarticulate maxilla 1 palp, which occurs only in two other Antarctic species: *Pariphimedia normani* and *Pariphimedia integricauda*. From both species *P. monodi* can be discriminated by the presence of paired dorsal processes on pereonite 7 and pleonites 1-2.

Type locality. Bellinghausen Sea: 70°00'S 80°48'W.

Distribution. Only known from type locality.

Depth. Unknown.

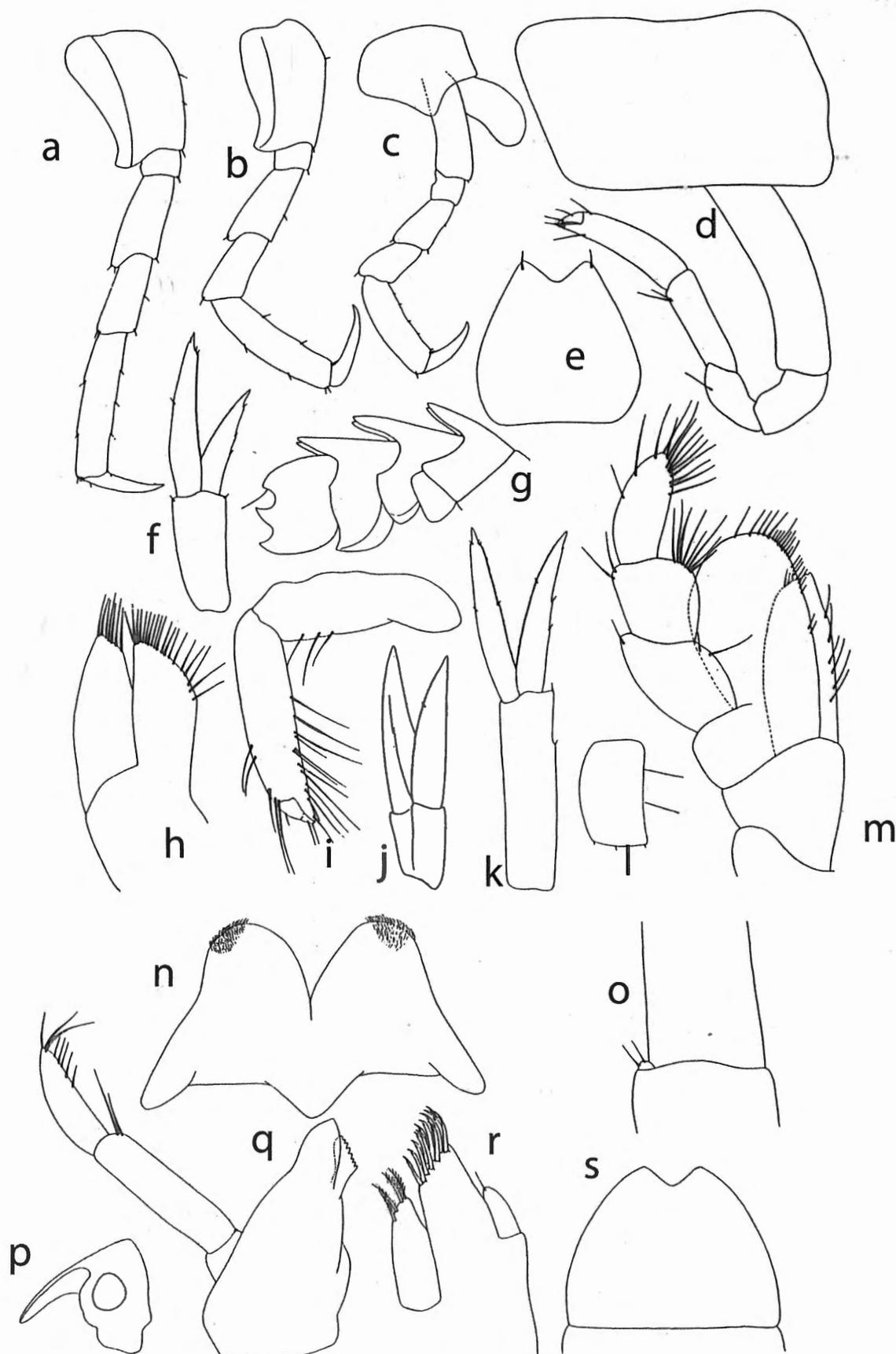


Fig. 74a-s. *Paranchiphimedia monodi*, redrawn after Ruffo, 1949. a) pereopod 8; b) pereopod 6; c) pereopod 4; d) gnathopod 1; e) telson; f) uropod 2; h) maxilla 2; i) carpus to dactylus of gnathopod 2; j) uropod 3; k) uropod 1; l) coxa 3; m) maxilliped; n) lower lip; o) scale-like accessory flagellum; p) head; q) mandible; r) maxilla 1; s) upper lip.

***Parapanoploea* Nicholls, 1938**

Type-species. *Parapanoploea oxygnathia* Nicholls, 1938

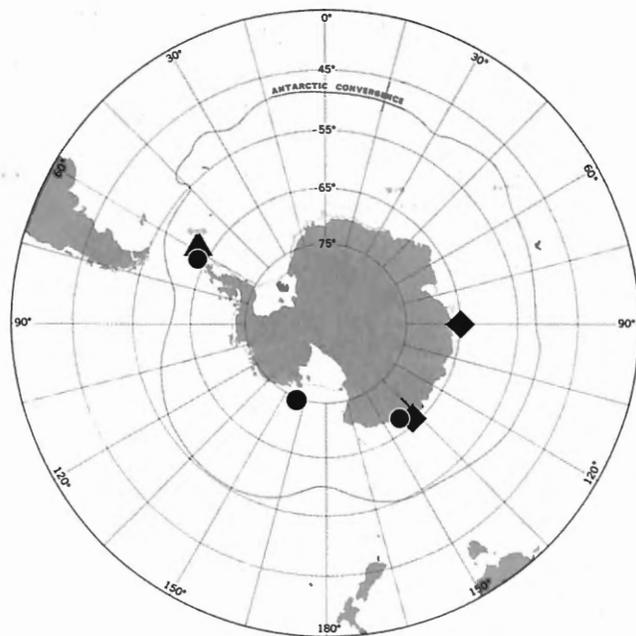
Diagnosis (after Watling & Holman, 1981): Upper lip broad, faintly emarginate. Mandible incisor narrow, elongate. Lower lip lobes not incised. Maxilla 1 palp biarticulate, reaching end of outer plate. Maxilliped palp 4-articulate, article 2 slightly expanded but not produced along article 3. Gnathopods 1 and 2 chelate. Telson notched.

***Parapanoploea longirostris* Bellan-Santini, 1972a**

(Fig. 75a-b, Map 36: rhomb)

References and synonymy. De Broyer *et al.* 2007: 105.

Diagnosis. Paired dorsal teeth on pereonite 7 and pleonites 1-2. Posteroventral corners of pereonites strongly produced and pointed, or not produced anteriorly, somewhat produced posteriorly. Mid-dorsal carinae on pleonites 1-3 wanting. Mid-dorsal carina on urosomite 1 absent. Posterolateral process on epimeral plates 1-2 produced and pointed, that of plate 3 strongly produced and pointed. Posteroventral corner on epimeral plate 1 only inconspicuously pointed, those of plates 2-3 clearly pointed. Subantennal notch narrow, with



Map 36. *Parapanoploea longirostris*: rhomb; *Parapanoploea oxygnathia*: circle; *Parapanoploea recessa*: triangle.

both margins drawn out into pointed teeth, posterior tooth much longer than anterior. Antenna 1 distal margin of first article with one long and one short process; longest process

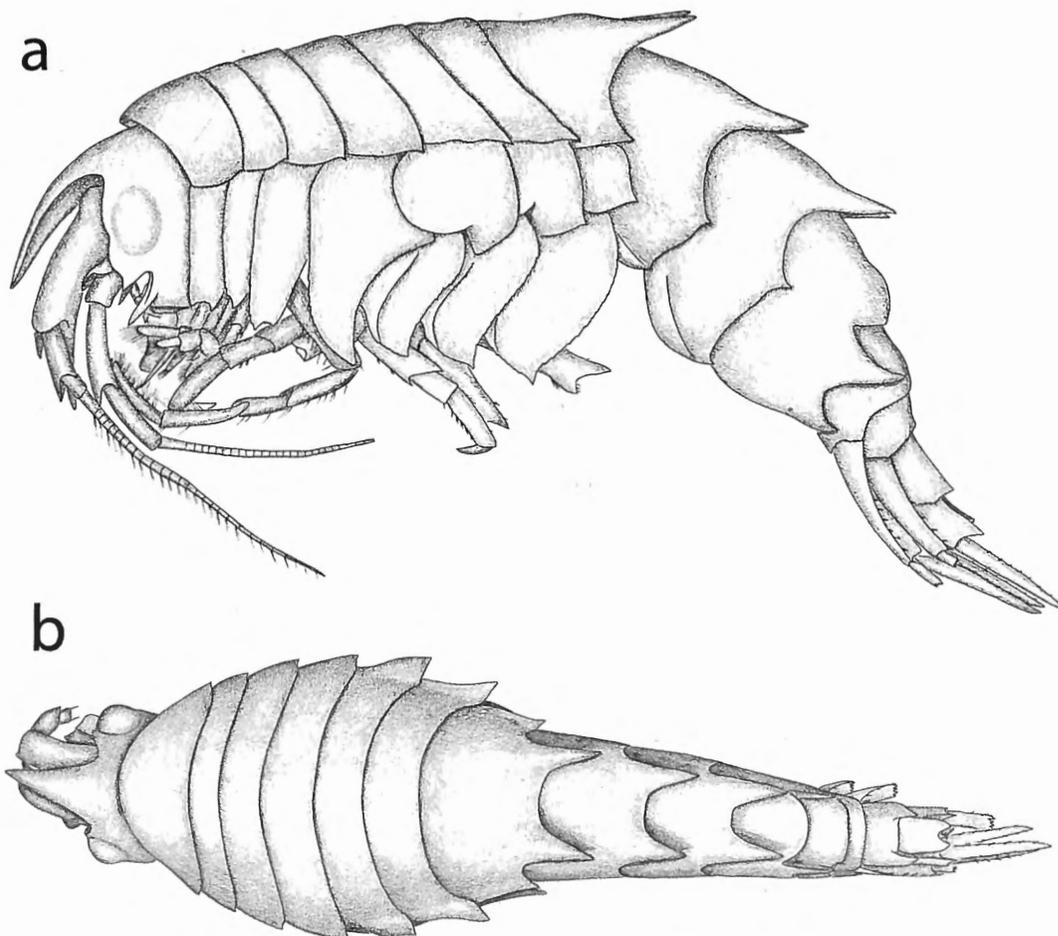


Fig. 75a-b. *Parapanoploea longirostris*. a) left lateral view; b) dorsal view.

of peduncular article 1 not exceeding beyond distal margin of article 2; longest process of peduncular article 2 exceeding beyond distal margin of article 3; first peduncular article longer than second, longer than article 2 and 3 combined. Upper lip weakly incised. Mandibular body elongate and strongly tapering distally; incisor toothed along needle-like apex. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, subequal to outer plate. Second article of maxilliped palp medially weakly produced forward, but not guarding along inside of article 3. Gnathopod 1 apex of coxa strongly tapering and excavate distally; basis strongly concave anteromarginally and convex posteromarginally; carpus = 2.27 x propodus length. Coxa 2 pointed distally, with weak anteroventral depression. Coxa 3 excavate distally, posterior process slightly shorter than anterior one. Coxa 4 pointed distally, posterodistal margin excavate. Pereopod 5 coxa posteriorly rather angular; posterior margin of basis sinuous, posteroventral corner pointed. Pereopod 6-7 coxae posteriorly pointed; posterior margin of bases sinuous, posteroventral corner pointed. Telson with narrow U-shaped excavation.

Size. Female 13 mm.

Remarks. In this species there seem to occur some variability. Different from the description of Bellan-Santini (1972a) the first article of antenna 1 has 3 teeth, the longest of which surpasses the third peduncular article. This is also characteristic for *P. oxygnathia*, so the antenna 1 peduncle armature cannot be used to differentiate these similar species. However, in *P. longirostris* the rostrum is somewhat longer

and coxae 1-3 bear a different apex and there is no trace of keel on pereonite 7 and pleonite 1.

Type locality. Adélie Coast: Géologie Archipelago, southeast of Curie Island (66°39'S 139°55'E).

Distribution. Adélie Coast; Davis Sea.

Depth range. 68-130 m.

Parapanoploea oxygnathia Nicholls, 1938

(Fig. 76a-d, Map 36: rhomb)

References and synonymy. De Broyer *et al.* 2007: 105.

Diagnosis. Paired dorsal teeth on pereonite 7 and pleonites 1-2, with suggestion of a keel on pereonite 7 and pleonite 1; posteroventral corners of pereonites not produced anteriorly, somewhat produced posteriorly. Mid-dorsal carinae on pleonite 1 and pereonite 7, but only shallow. Mid-dorsal carina on urosomite 1 absent. Posterolateral process on epimeral plates 1-2 produced and pointed, that of plate 3 strongly produced and pointed. Posteroventral corner of epimeral plate 1 angular, that of 2-3 pointed. Subantennal notch narrow, with both margins drawn out into pointed teeth, posterior tooth much longer than anterior one. Antenna 1 longest process of peduncular article 1 exceeding beyond distal margin of article 3; process on article 2 exceeding beyond distal margin of article 3; first peduncular article longer than article 2 and 3 combined. Upper lip weakly incised. Mandibular body

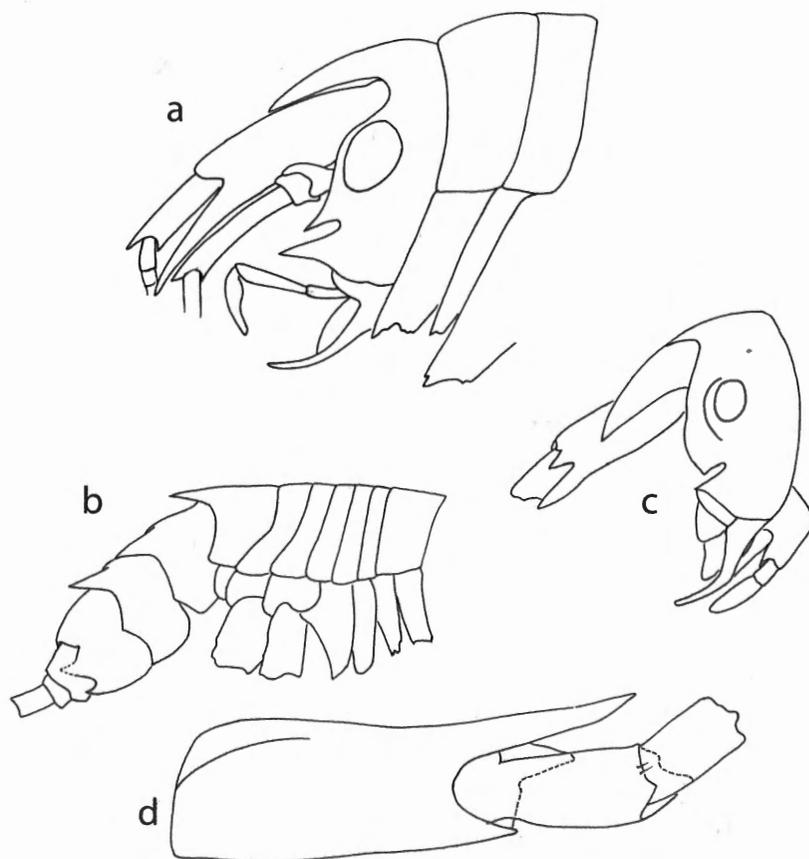


Fig. 76a-d. *Parapanoploea oxygnathia*, redrawn after Nicholls, 1938, and Watling & Holman, 1981. a) head and pereonites 1-2; b) right side view of habitus; c) head; d) peduncle of antenna 1.

elongate and strongly tapering distally; incisor with teeth along needle-like apex. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, subequal to outer plate. Second article of maxilliped palp medially not produced forward and only weakly guarding along inside of article 3. Gnathopod 1 apex of coxa strongly tapering and excavate distally; basis strongly concave anteromarginally and convex

posteromarginally; carpus = 1.38 x propodus length. Coxa 2 pointed distally, with weak anteroventral depression. Coxa 3 excavate distally, but not clearly bifid, posterior margin rounded. Coxa 4 pointed distally, posterodistal margin excavate. Pereopod 5 coxa posteriorly rounded; posterior margin of basis excavate, posteroventral corner pointed. Pereopod 6 coxa posteriorly rounded; posterior margin of

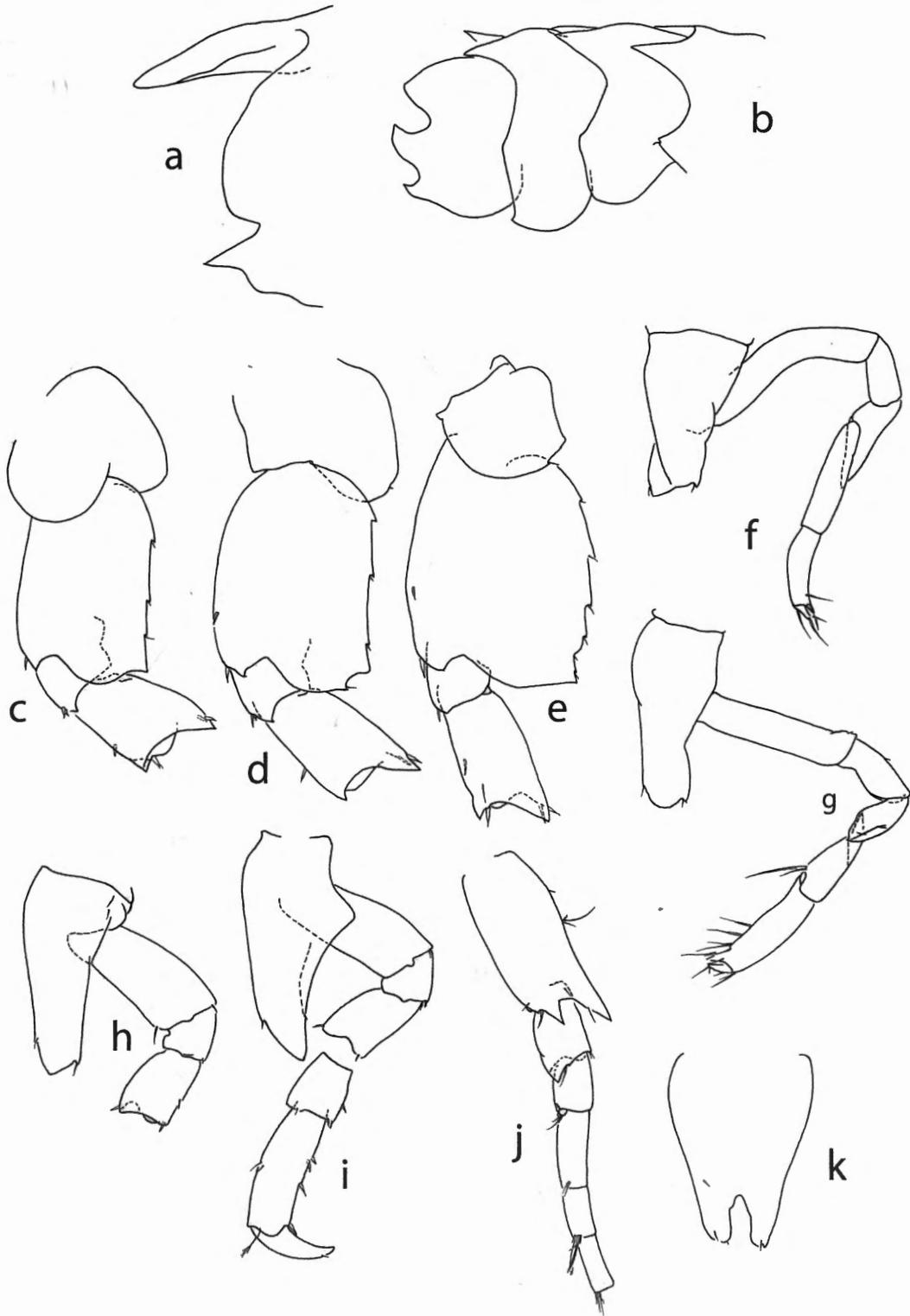


Fig. 77a-k. *Parapanoploea recessa*, redrawn after Andres, 1988b. a) anterior margin of head; b) pereonite 7 and pleonsegments 1-3; c) pereopod 5; d) pereopod 6; e) pereopod 7; f) gnathopod 1; g) gnathopod 2; h) pereopod 3; i) pereopod 4; j) antenna 1; k) telson.

basis straight, posteroventral corner pointed. Pereopod 7 coxa posteriorly pointed; posterior margin of basis sinuous, posteroventral corner pointed. Telson with shallow and wide v-shaped excavation.

Size. Female 12.5 mm.

Remarks. Very similar to *P. longirostris*, see there for remarks. The location "Davis Sea" which occurs frequently in the secondary literature as the type locality seems to be a mistake.

Type locality. Adélie Coast; Commonwealth Bay.

Distribution. Adélie Coast; South Shetland Islands; Ross Sea.

Depth range. 17-357 m.

Parapanoploea recessa Andres, 1988b

(Fig. 77a-k, Map 36: triangle)

References and synonymy. De Broyer *et al.* 2007: 106.

Diagnosis. Short paired teeth on pereonite 7 and pleonites 1-2. Posteroventral corners of pereonites strongly produced and pointed. Mid-dorsal carinae on pleonites and urosomite 1 absent. Posterolateral process on epimeral plates 1 and 2 rounded and weakly produced, that of plate 3 strongly produced and pointed. Posteroventral angle on epimeral plate 1 rounded, those of plates 2-3 pointed. Subantennal notch not deep, anterior margin rounded apically, posterior margin drawn out into acute process. Antenna 1 distal margin of first article with 2 processes; longest process of peduncular article 1 not exceeding beyond distal margin of article 2; longest process of peduncular article 2 not exceeding beyond distal margin of article 3. Upper lip weakly incised; Mandibular body elongate and strongly tapering distally, very slender; incisor with teeth along needle-like apex. Lower lip with shallow mediolateral notches. Maxilla 1 palp 2-articulate, subequal to outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3, but widened distally. Gnathopod 1 apex of coxa truncate and oblique posterodistally; basis concave anteromarginally and convex posteromarginally; carpus = 1.19 x propodus length. Coxa 2 rounded distally. Coxa 3 truncate and oblique posterodistally. Coxa 4 pointed distally, posterodistal margin excavate. Pereopod 5-6 coxae posteriorly rounded; posterior margin of basis straight, posteroventral corner pointed. Pereopod 7 coxa posteriorly subacutely pointed; posterior margin of basis rounded; posteroventral corner pointed. Telson with narrow U-shaped excavation.

Size. 2.5 mm.

Remarks. As the specimen used in the description seems to be a juvenile, it may be that it belongs to one of the two other species of this genus.

Type locality. 62°10'S 58°30'W.

Distribution. Only known from type locality.

Depth range. 150 m.

Pariphimedia Chevreux, 1906a

Type-species. *Pariphimedia integricauda* Chevreux, 1906a

Diagnosis. Body with few dorsal teeth or processes. Antenna 1 peduncular article 1-2 subequal. Bundle of mouthparts projecting conically. Upper lip almost entire, not very broad. Mandibular incisor cutting surface elongate, oblique, toothed; setal row absent; molar obsolescent. Lower lip inner lobes absent, outer lobes pointed. Maxilla 1 palp 1-articulate, very short. Maxilla 2 inner plate with facial row of setae. Maxilliped inner plate narrower but as long as outer plate, latter elongate; palp article 2 narrow but apicomediaally produced; palp article 4 obsolescent or absent. Coxae ordinary; coxae 1-4 progressively longer; coxae 4-5 forming weak ventral arc; coxa 4 scarcely polycuspidate. Gnathopods chelate. Telson entire.

Pariphimedia integricauda Chevreux, 1906a n. comb.

(Fig. 78a-b, Colour plate 3b, Map 37: rhomb)

Pariphimedia incisa Andres, 1985, p. 121-123, Figs. 5 d-q, 6, 7 a-c.

References and synonymy. De Broyer *et al.* 2007: 106.

Diagnosis. Paired teeth on pleonite 2 only; space between paired dorsal processes narrow, U-shaped. Posteroventral corners of pereonites not produced on segments 1-4, somewhat produced on segments 5-7. Mid-dorsal carina on pleonite 3, as keel with tooth-like process; shallow mid-dorsal carina on urosomite 1 present. Posterolateral process on epimeral plates 1-2 rounded and weakly produced, that of plate 3 strongly produced and pointed. Posteroventral corner on epimeral plates 1-2 angular, that of plate 3 pointed. Subantennal notch absent, but pointed tooth present. Antenna 1 distal margin of first article without processes. Upper lip entire, elongate and apically truncate. Mandibular body elongate and strongly tapering distally; incisor toothed along medial side. Lower lip with weakly pointed apices. Maxilla 1 palp uniaarticulate; shorter than outer plate. Maxilla 2 facial setae on inner plate present. Second article of maxilliped palp medially strongly produced guarding along inside of article 3. Gnathopod 1 apex of coxa rounded distally; basis straight anteromarginally and convex posteromarginally; carpus = 1 x propodus length. Coxa 2-3 with truncate apex, rounded anteroventrally, angular posteroventrally. Coxa 4 with angular apex; posterodistal margin excavate. Pereopod 5 coxa posteriorly pointed; posterior margin of basis straight to weakly excavate, with subacute proximo-posteromarginal lobe, posteroventral corner rounded. Pereopod 6 coxa posteriorly rounded to angular; posterior margin of basis straight, posteroventral corner rounded. Pereopod 7 coxa posteriorly rounded; posterior margin of basis straight, posteroventral corner rounded. Telson truncate.

Size. Female 9-24 mm, male 8-17 mm.

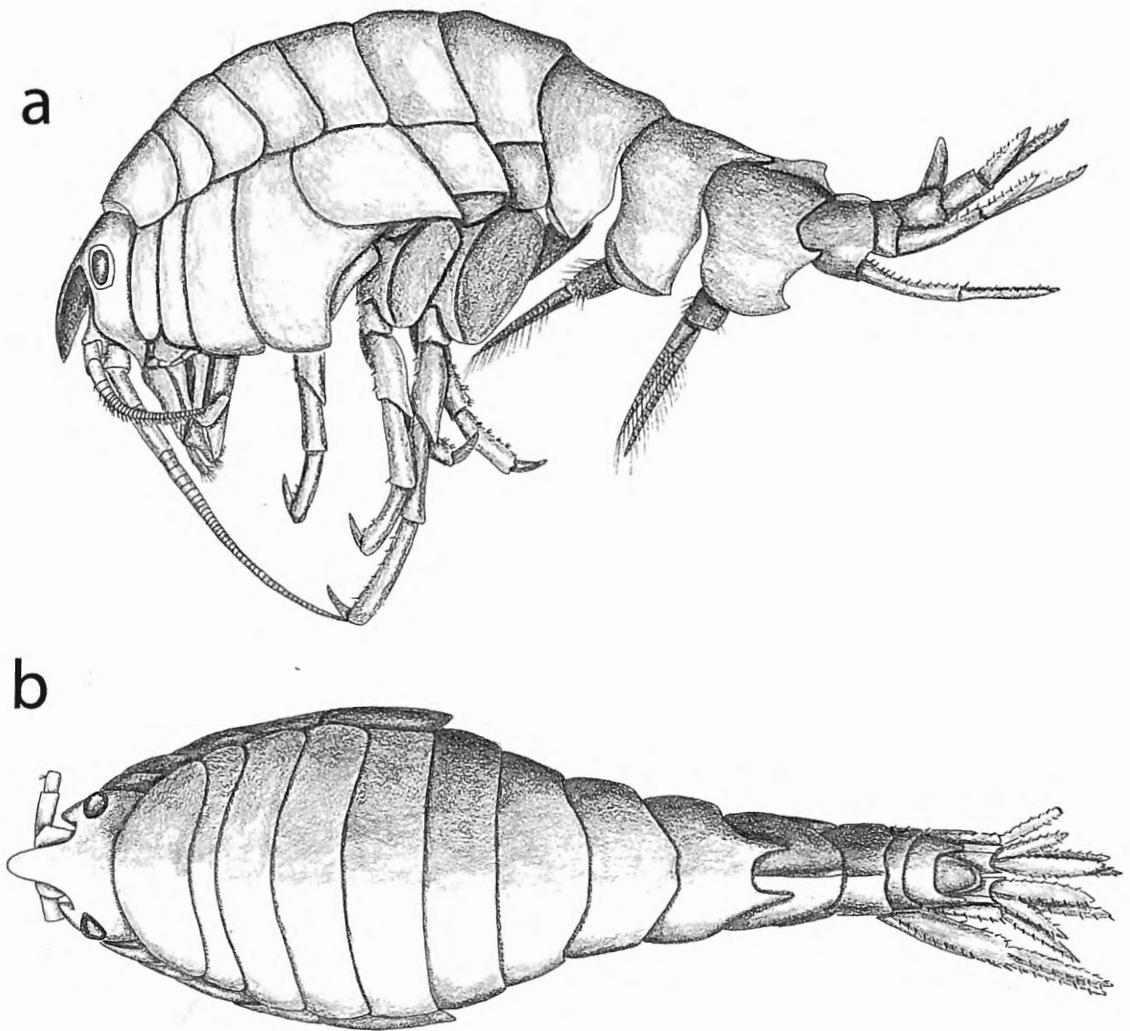
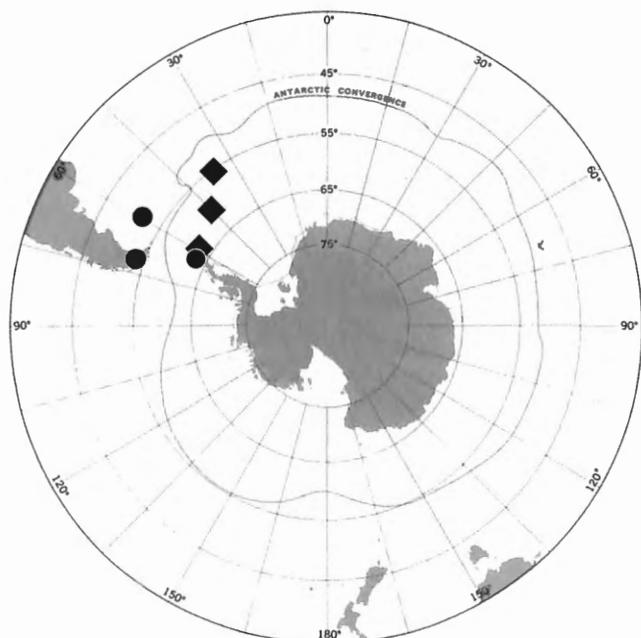


Fig. 78a-b. *Pariphimedia integricauda*. a) left lateral view; b) dorsal view.



Map 37. *Pariphimedia normani*: circle; *Pariphimedia integricauda*: rhomb.

Remarks. The character combination of paired dorsal processes only on pleonite 2 and mid-dorsal keels on pleonite 3 and urosomite 1 are unique in the iphimeriids. *Pariphimedia incisa* is very similar to *P. integricauda*. It is considered synonymous with the last-mentioned species (see Coleman & Barnard, 1991e) for discussion.

Type locality. Wilhelm Archipelago: Booth Island.

Distribution. Danco Coast; Palmer Archipelago; South Orkney Islands; South Sandwich Islands; South Shetland Islands; Trinity Peninsula; Wilhelm Archipelago.

Depth range. 0-145 m.

Pariphimedia normani (Cunningham, 1871)

(Fig. 79a-b, Map 37: circle)

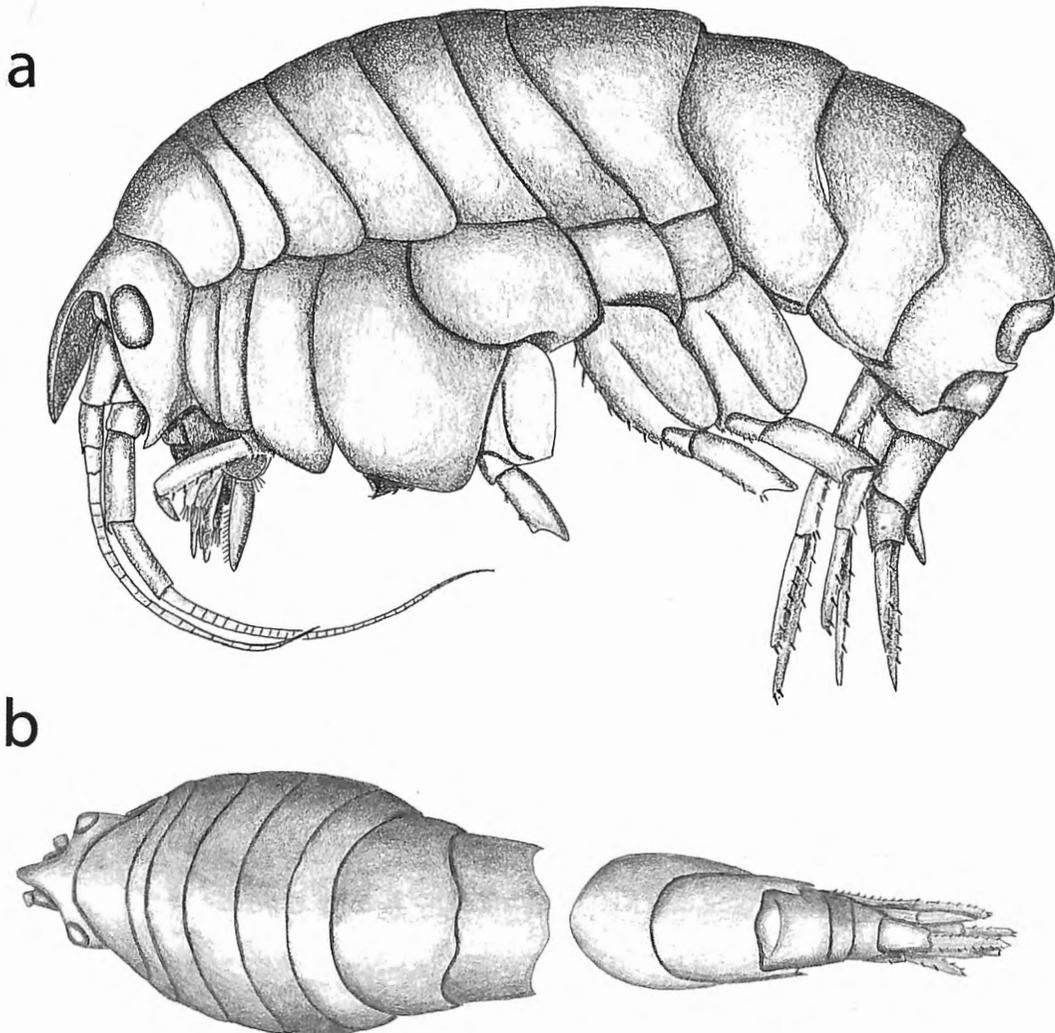
References and synonymy. De Broyer *et al.* 2007: 106.

Diagnosis. Mid-dorsal body side smooth, without any teeth or keel. Posteroventral corners of pereonites 1-4 not produced and rounded, angular on pereonites 5-7. Mid-dorsal carinae on pleonites and urosomites absent. Posterolateral process on epimeral plates 1-2 rounded and weakly, that of plate 3 strongly produced and shortly pointed. Posteroventral corner on epimeral plate 1 angular, those of plates 2-3 pointed. Subantennal notch absent, but pointed tooth present. Antenna 1 distal margin of first article with 1 short process, not exceeding beyond distal margin of article 2; longest process of peduncular article 2 not exceeding beyond distal margin of article 3. Upper lip elongate and entire. Mandibular body elongate and strongly tapering distally; incisor shortly toothed along medial side. Lower lip with pointed apices. Maxilla 1 palp uniarticulate, shorter than outer plate. Maxilla 2 with facial setae on inner plate. Second article of maxilliped palp

medially strongly produced guarding along inside of article 3, almost reaching apex of article 3. Gnathopod 1 apex of coxa rounded or subacutely pointed distally; basis concave anteromarginally and convex posteromarginally; carpus = 1.65 x propodus length. Coxa 2 with truncate apex. Coxa 3 truncate and oblique anterodistally. Coxa 4 with rounded apex, posterodistal margin straight. Pereopod 5 coxa posteriorly rounded; posterior margin of basis straight, posteroventral corner rounded. Pereopod 6-7 coxae posteriorly rounded; posterior margin of bases rounded, posteroventral corner rounded. Telson with wide and shallow rounded excavation, very shallowly emarginate.

Size. Female 12-16 mm.

Remarks. Devoid of any paired dorsal teeth and no keels on pleonites and urosomites. This combination is unique within Antarctic iphimediids.

Type locality. Magellan Area: Isla Elizabeth.**Distribution.** Falkland Islands; Magellan Area; South Shetland Islands.**Depth range.** 0-124 m.Fig. 79a-b. *Pariphimedia normani*. a) left lateral view; b) dorsal view.

Pseudiphimediella Schellenberg, 1931a

Type-species. *Ampithoe nodosa* (Dana, 1852a).

Diagnosis. Dorsal body side covered with teeth or processes. Antenna 1 peduncular article 2 shorter than 1. Mouthparts projecting quadrately. Upper lip incised, not very broad, cutting frontally, weakly toothed; setal row absent; molar absent. Lower lip inner lobes absent. Maxilla 1 palp 2-articulate, article 2 ordinary. Maxilla 2 inner plate without facial row of setae. Maxilliped inner plate as long but not as broad as outer plate, palp article 2 broad and apicomediaally unproduced; palp article 4 obsolescent. Coxae ordinary. Gnathopods scarcely diverse, of slightly different sizes, carpus and propodus elongate, narrow. Gnathopod 2 more strongly setose than 1. Telson scarcely incised.

Pseudiphimediella glabra Schellenberg, 1931

(Fig. 80a-b, Map 38: circle)

References and synonymy. De Broyer *et al.* 2007: 107.

Diagnosis. Paired teeth on pereonites 6-7 and pleonites 1-3 with an additional tooth from pereonite 7 to pleonite 2 on both sides of dorsal pair of processes, space between paired dorsal processes narrow, U-shaped, with ridges dorsomedially. Posteroventral corners of pereonites rounded and not produced on pereonites 1-4, somewhat produced posteriorly, that of pereonite 7 strongly pointed. Mid-dorsal carinae on pleonites 1-3. Mid-dorsal carina on urosomite 1 present, shallow and pointed. Posterolateral process on epimeral plates 1-3 produced and strongly pointed. Posteroventral corner on epimeral plate 1 pointed to angular, those of plates 2-3 pointed. Subantennal notch narrow and shallow, additional wider notch ventrally. Antenna 1 distal margin of first article with 3 processes of different length, longest process barely exceeding beyond distal margin of article 3; longest process of peduncular article 2 not exceeding beyond distal margin of article 3; uniaarticulate accessory flagellum present, but quite small. Upper lip entire. Mandibular body

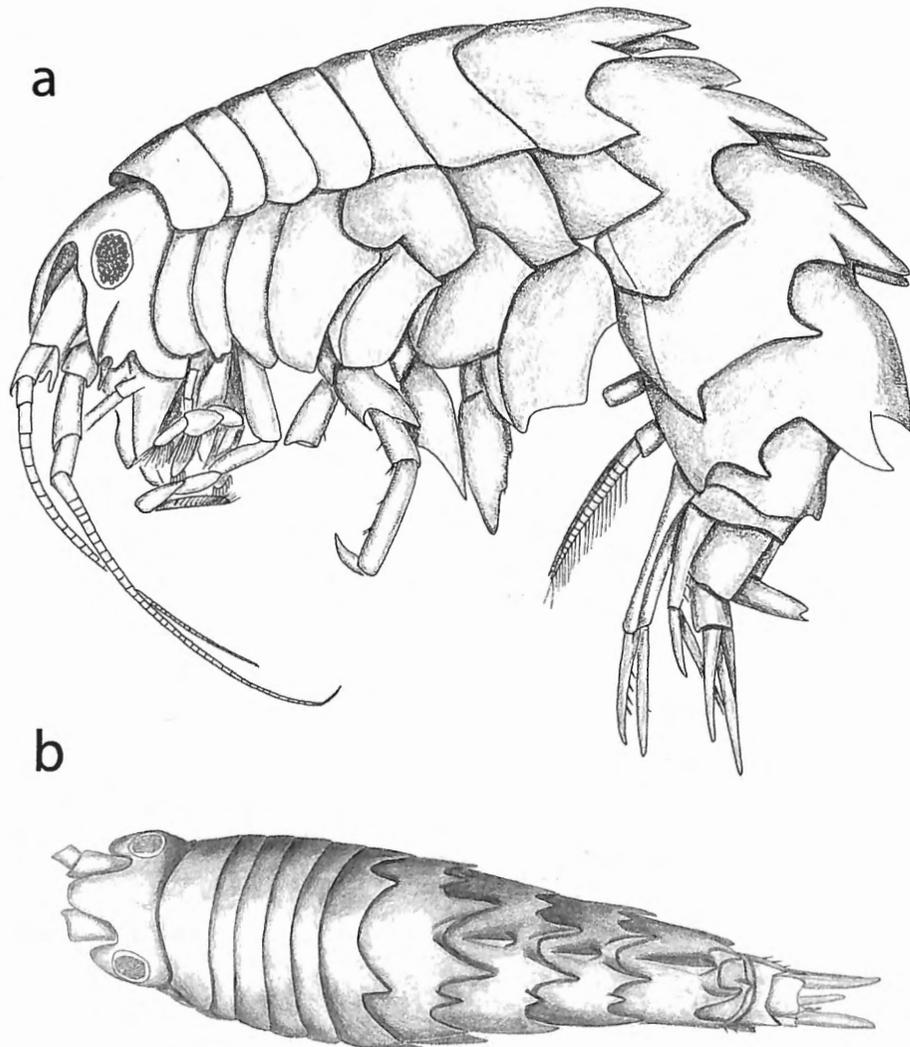
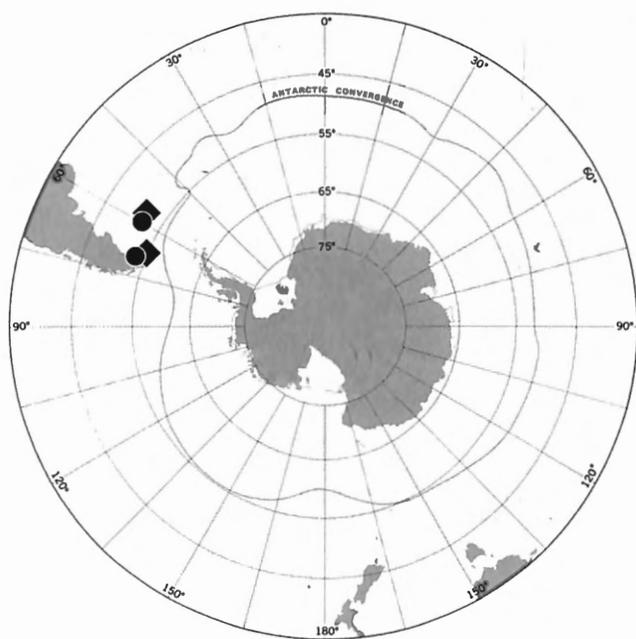


Fig. 80a-b. *Pariphimediella glabra*. a) left lateral view; b) dorsal view.



Map 38. *Pariphimediella glabra*: rhomb; *Pariphimediella nodosa*: circle.

elongate and strongly tapering distally; incisor toothed, with oblique cutting edge. Lower lip with wide and rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp medially not produced forward and not guarding along inside of article 3. Gnathopod 1 apex of coxa rounded distally to truncate; basis concave anteromarginally and convex posteromarginally; carpus = 0.76 x propodus length. Coxa 2 somewhat truncate and oblique posterodistally. Coxa 3 rounded distally to truncate and somewhat oblique posterodistally. Coxa 4 with angular apex, posterodistal margin excavate. Pereopod 5 coxa posteriorly angularly pointed; posterior margin of basis weakly excavate, produced proximo-posteromarginal pointed tooth, posteroventral corner very bluntly angular. Pereopod 6 coxa posteriorly pointed; posterior margin of basis straight to weakly excavate, produced and acute proximo-posteroventral lobe, posteroventral corner angular. Pereopod 7 coxa posteriorly pointed; posterior margin of basis tricuspidate; posteroventral corner of basis pointed, bluntly produced. Telson with very shallow and wide v-shaped excavation and somewhat irregular margin.

Size. Female 9-17 mm.

Remarks. *Pseudiphimediella glabra* is similar to *P. nodosa*. They differ in the following: the habitus of *P. nodosa* is more robust, the dorsal teeth are broader and shorter compared to *P. glabra*. *P. glabra* bears a mid-dorsal tooth on urosomite 1. The upper lip of *P. nodosa* is incised, but truncate in *P. glabra*. The first peduncular article of antenna 1 of *P. nodosa* bears teeth of subequal length apically, but they are of different length in *P. glabra*. Article 2 of antenna 2 has short processes in *P. nodosa*, they are longer in *P. glabra*. The third article of the mandibular palp of *P. glabra* is strongly curved laterally, but normal in *P. nodosa*. The maxillular palp is broader in *P. nodosa*. The inner plate of maxilla 2 is broad and expanded distally in *P. glabra* (normal in *P. nodosa*). Articles 1 and 2 of

the maxilliped palp are broadened and densely covered with setae in *P. nodosa* (possibly not always?). Gnathopod 1 of *P. nodosa* has a shorter merus, carpus and propodus than in *P. glabra*. Coxae 3-4 are wider in *P. nodosa*. The bases and ischia of pereopod 5-7 bear a conspicuous acute distal process in *P. nodosa* (short in *P. glabra*). The basis of pereopod 7 of *P. nodosa* is slightly excavate, forming 2 short processes, but bi-excavate in *P. glabra* resulting in 3 processes. The telson of *P. nodosa* is rounded or truncate distally, but excavate in *P. glabra*.

Type locality. Burdwood Bank: 53°45'S 61°10'W. Falkland Islands: Berkeley Sound; Port Albemarle; 52°29'S 60°36'W. Magellan Area: Rio Seco; Cabo Valentina; Bahia Ushuaia; Ultima Esperanza; Magellan Sound; Punta Arenas.

Distribution. Burdwood Bank; Falkland Islands; Magellan area.

Depth range. 2-494 m.

Pseudiphimediella nodosa (Dana, 1852a)

(Fig. 81a-b, Map 38: circle)

References and synonymy. De Broyer *et al.* 2007: 107.

Diagnosis. Paired teeth on pereonite 7 and pleonites 1-3; space between paired dorsal processes narrow, U-shaped and ridges dorso-medially. Additional dorsolateral teeth on pereonite 6 (short protuberances already on pereonite 5) to pleonite 2 on both sides of dorsal pair of processes. Posteroventral corners of pereonites rounded on pereonites 1-6, that of pereonite 7 strongly pointed. Mid-dorsal carinae on pleonites 1-3. Mid-dorsal carina on urosomite 1 absent, only hump present. Posterolateral process on epimeral plates 1-3 produced and strongly pointed; that of plate 3 shorter than that of preceding segment. Posteroventral corner on epimeral plate 1 pointed to angular; those of plates 2-3 pointed. Subantennal notch narrow and shallow. Antenna 1 distal margin of first article with 3 equally long processes; these not exceeding beyond distal margin of article 2; longest process of peduncular article 2 not exceeding beyond distal margin of article 3; first peduncular article elongate; unarticulate accessory flagellum present, but quite small. Upper lip incised. Mandibular body bulky; incisor with apical teeth. Lower lip with rounded unnotched lobes. Maxilla 1 palp 2-articulate, longer than outer plate. Second article of maxilliped palp very wide and somewhat produced medially, guarding along inside of article 3. Gnathopod 1 apex of coxa pointed distally and truncate and oblique posterodistally; basis concave anteromarginally and convex posteromarginally; carpus = 0.83 x propodus length. Coxa 2 with truncate apex, or truncate and weakly oblique posterodistally. Coxa 3 rounded distally. Coxa 4 with rounded apex, posterodistal margin excavate. Pereopod 5 coxa posteriorly subacutely pointed; posterior margin of basis weakly excavate, produced proximo-posteromarginal pointed tooth, posteroventral corner rounded. Pereopod 6 coxa posteriorly pointed; posterior margin of basis straight to weakly excavate, produced and acute proximo-

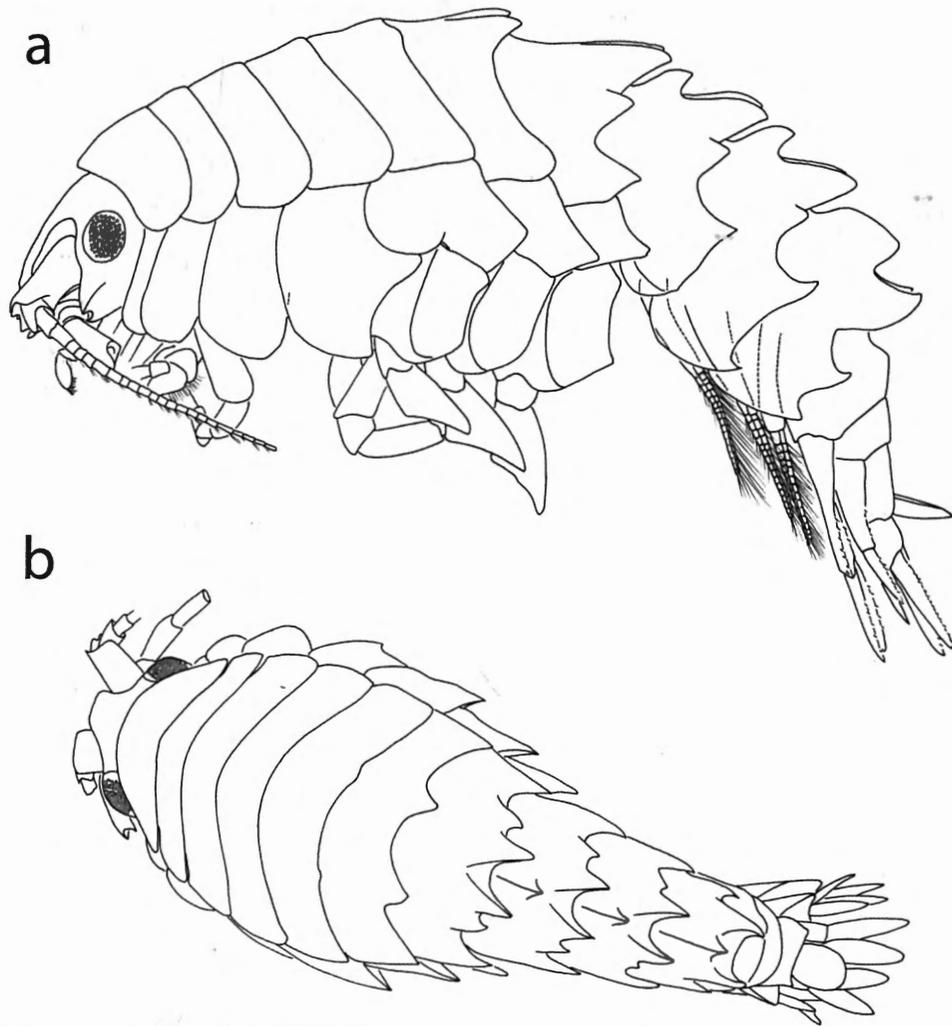


Fig. 81a-b. *Pariphimediella nodosa*. a) left lateral view; b) dorsal view.

posteroventral lobe, posteroventral corner rounded. Pereopod 7 coxa posteriorly subacutely pointed; posterior margin of basis excavate (proximo-posteromarginal tooth present), posteroventral corner pointed. Telson entire, longer than wide.

Size. Ovigerous female 7.5-15 mm.

Remarks. See those of *P. glabra*.

Type locality. Magellan Area: Tierra del Fuego, Isla Hermite.

Distribution. Falkland Islands; Magellan area.

Depth range. Low tide to 150 m.

Stegopanoploea Karaman, 1980b

Type-species. *Panoploea joubini* Chevreux, 1912a

Diagnosis (after Barnard & Karaman, 1991). Body with strong dorsal teeth and processes. Rostrum very long. Antenna 1 peduncular article 1 nearly twice as long as 2, accessory flagellum absent. Mouthparts projecting conically. Upper lip entire, rather narrow, epistome not very broad. Mandibular incisor narrow and long, toothed, setal row absent; molar well developed; triturative. Inner lobes of lower lip absent, outer lobes narrow, long pointed distally, with nearly smooth inner margin. Maxilla 1 with short palp, 2-articulate, ratio of articles normal. Maxilla 2 inner plate with facial row of setae. Maxilliped inner plate narrower and shorter than outer plate; palp 3-articulate, article 2 apicomediaally produced. Coxae 1-4 progressively longer, coxae 4-5 forming ventral arc; coxa 4 strongly polycuspidate. Gnathopod 1 chelate, gnathopod 2 poorly subchelate. Telson incised.

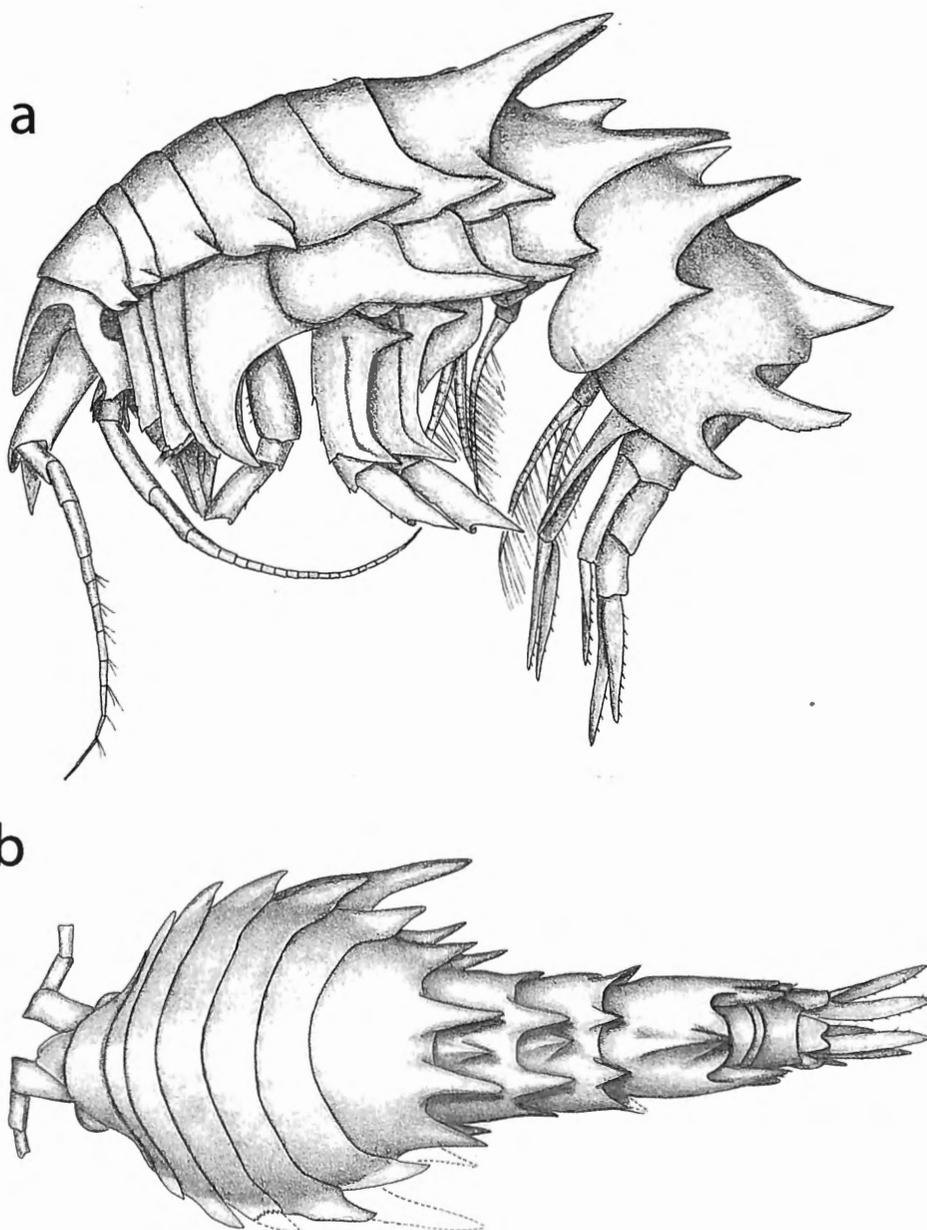
Stegopanoploea joubini (Chevreux, 1912a)

(Fig. 82a-b, Map 39: rhomb)

References and synonymy. De Broyer *et al.* 2007: 107.

Diagnosis. Paired teeth on pereonite 7 and pleonites 1-2; space between paired dorsal processes relatively narrow, U-shaped. Posteroventral corners of pereonites strongly produced and pointed. Mid-dorsal carinae on pleonites 1-3 drawn out into pointed tooth, that on pleonite 3 largest; mid-dorsal carina on urosomite 1 absent. Pereonite 2 shorter than 1, about half the size of pereonite 1. Posterolateral process on epimeral plate 1 strongly produced and pointed; that of plate 2 strongly produced and pointed and that of plate 3 very strongly produced, pointed and ventrally serrate. Posteroventral corner on epimeral plates 1-2 rounded and tapering distally; plate 3 strongly produced and pointed. Subantennal notch very wide, only a shallow excavation

with rounded margins. Antenna 1 first article elongate, much longer than second, distal margin with 2 processes; longest process of peduncular article 1 not exceeding beyond distal margin of article 2, but almost reaching it; distal process of peduncular article 2 not exceeding beyond half length of article 3. Upper lip longer than wide, tapering distally, entire. Mandibular body elongate and strongly tapering distally; incisor with teeth along medial side; mandibular molar rudimentary. Lower lip with pointed apices. Maxilla 1 palp much shorter than outer plate, 2-articulate. Maxilla 2 facial setae on inner plate present. Second article of maxilliped palp medially somewhat produced guarding along inside of article 3. Gnathopod 1 apex of coxa pointed distally; basis concave antermarginally and convex postermarginally; carpus = 1.38 x propodus length. Coxae 2-4 pointed distally. Posterodistal margin of coxa 4 deeply excavate. Pereopod 5 coxa drawn out into long tooth posteriorly; posterior margin of basis excavate, posteroproximal and posteroventral corner

Fig. 82a-b. *Stegopanoploea joubini*. a) left lateral view; b) dorsal view.

cuspidate. Pereopod 6 coxa posteriorly pointed, but not drawn out as much as on pereopod 5; basis similar in shape to that of pereopod 5, but wider. Pereopod 7 coxa pointed posteriorly; posterior margin of basis sinuous, posteroventral corner strongly produced and pointed. Telson with shallow and wide v-shaped excavation, or with wide and shallow rounded excavation.

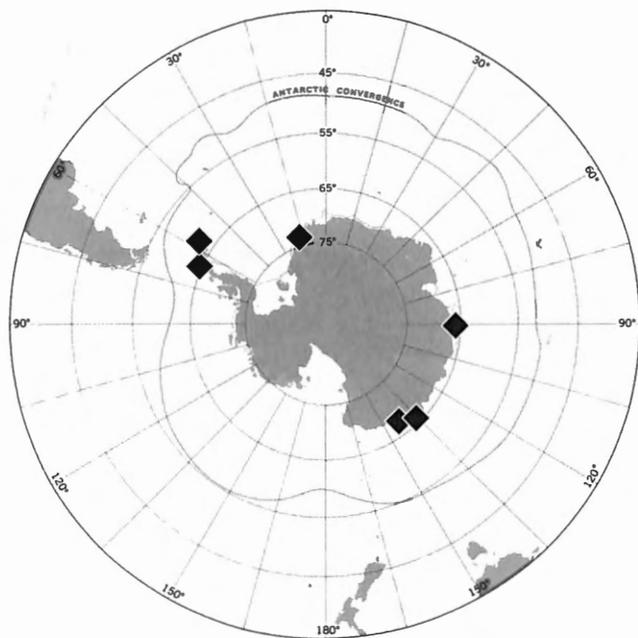
Size. Ovigerous female 8-10 mm.

Remarks. This species has a similar dorsal armature as *Iphimedia macrocystidis* and both species share a shortened maxilla 1 palp. However, *S. joubini* differs in the following: posteroventral corners of pereonites 1-4 pointed, coxae 1-3 pointed, epimeral plate 2 ventrally rounded, bases 5-6 bidentate posteromarginally (vs. multidentate). The shortened maxilla 1 palp also occurs in *Anchiphimedia dorsalis*, but in this species the dorsal armature and the apices of coxae 1-3 are different.

Type locality. Marguerite Bay: South of Jenny Island, Adelaide Island, Graham Land.

Distribution. Adélie Coast; Davis Sea; Marguerite Bay; Palmer Archipelago; South Shetland Islands; Weddell Sea.

Depth range. 45-540 m.



Map 39. *Stegopanoploea joubini*: rhomb.

OCHLESIDAE Stebbing, 1910

Type species. *Ochlesis innocens* Stebbing, 1910

Diagnosis. Body laterally compressed. Head telescoped into pereonite 1, with small round or reniform eyes. Pereonites and pleonites projecting as dorsal keel. Rostrum well developed. Antennae 1-2 short, few flagellar articles; accessory flagellum absent. Mouthparts conically projecting ventrally. Epistome and upper lip narrow, long. Mandible incisor elongate, toothed, needle-shaped or blunt; molar small and produced; palp 3-articulate, third article slender, with very short marginal setae and some terminal setae. Inner plate of maxilla 1 minute, with reduced setation; outer plate slender, setation along very oblique apex; palp shortened unarticulate (except normal sized and 2-articulate in *Antarctodius*). Maxilla 2 inner plate wider and shorter than outer plate, both with terminal setae. Plates of maxilliped slender, palp 0-4 articulate. Coxae 1 and 4 shortened or coxae 1-4 subequal in length. Gnathopod 1 with elongate carpus and propodus, simple or chelate. Pereopod 5-7 bases wide. Epimeral plate 3 with pointed posterventral angle, occasionally additional tooth on posterolateral margin. Telson elongate strongly tapering distally, sometimes with terminal notch.

List of genera. *Antarctodius* Berge, Vader & Coleman, 1999; *Curidia* Thomas, 1983; *Cryptodius* Moore, 1992; *Meraldia* Barnard & Karaman, 1987; *Ochlesis* Stebbing, 1910; *Ochlesodius* Ledoyer, 1982; *Odius* Lilljeborg, 1865; *Postodius* Hirayama, 1983.

Antarctodius Berge, Vader & Coleman, 1999

Type-species. *Antarctodius antarcticus* (Watling & Holman, 1981)

Diagnosis (after Berge et al., 1999). Body with rudimentary dorsal keel. Pleonites 1 and 2 dorsally smooth; pleonite 3 dorsally weakly produced. Upper lip apically cleft; mandible toothed. Lower lip long but apically truncated, covered with small setae. Maxilla 1 palp powerful, 1-articulate. Maxilliped palp with 4 articles. Gnathopod 1 chelate. Gnathopod 2 subchelate. Telson cleft.

Antarctodius antarcticus (Watling & Holman, 1981)

(Fig. 83, Map 40: rhomb)

References and synonymy. De Broyer et al. 2007: 170.

Diagnosis. Head with well-developed rostrum, surpassing distal margin of peduncular article 1 of antenna 1; eyes small, not reniform. Antennae 1 and 2 short. Maxilla 1 with palp reaching outer plate. Pereonites 1-7 with not very sharp dorsal keel. Pleonites 1-3 with conspicuous keel, pleonite 3 with posterior hump. Epimeral plates 1-2 with unproduced

posteroventral angle, epimeral plate 3 with 1 ventral and 1 lateral projection on posterior margin. Urosomites 1-3 smooth, except for dorsolateral ridges on both sides of urosomites 2-3. Coxa 1 distally rounded, gnathopod 1 chelate. Gnathopod 2 subchelate, merus posterodistal corner free and angular, carpus drawn out posterodistally. Pereopod 2-3 anterior margin of coxae slightly concave, anteroventral corner rounded, apex truncate. Coxa 4 anterior margin sublinear, anteroventral corner angular, apex straight, posterodistal margin forming together with that of coxa 5 an excavation.

Coxa 6 longer than wide, anterior margin straight, ventrally sinuous. Pereopod 5-7 bases broad, with anterior and posterior margin weakly convex, posterodistal region lobate, apically rounded; posterior end of merus drawn out and pointed. Telson tapering distally, cleft one third.

Size. Female 5 mm.

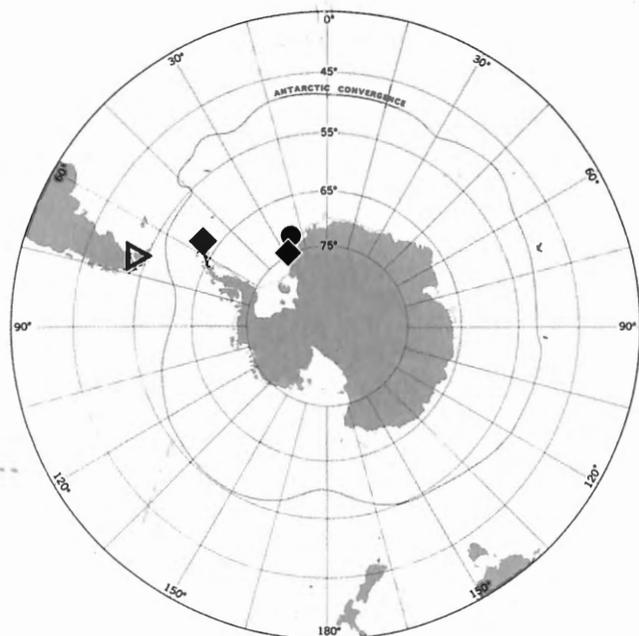
Remarks. In the original description of *A. antarcticus* the palp of maxilla 1 is described as 1-articulate. The author checked this character on *A. antarcticus* specimens from the collection of the Museum für Naturkunde Berlin and found that also this species has a 2-articulate maxilla 1 palp.

This species is similar to *Antarctodius rauscherti* Coleman & Kauffeldt, 2001. For differences see Table 6.

Type locality. South Shetland Islands: *Eltanin* 12, St. 1003, 62°41'S 54°43'W.

Distribution. South Shetland Islands; Weddell Sea.

Depth range. 146-227 m.



Map 40. *Antarctodius antarcticus*: rhomb; *Antarctodius rauscherti*: circle; *Curidia magellanica*: open triangle.

Antarctodius rauscherti Coleman & Kauffeldt, 2001

(Fig. 84, Map 40: circle)

References and synonymy. De Broyer *et al.* 2007: 170.

Diagnosis. Eyes apparently not present, or if so pigments washed out in alcohol; rostrum strongly flexed and shortened, not surpassing half length of peduncular article 1 of antenna 1. Pereonites 1 and 3 subequal in length; pereonite 2 shortest and pereonites 6 and 7 longest; pleonites subequal in length to pereonite 7. Pereon and pleon with keel, on pleon segment 3 shallow keel only anteriorly, posterior dorsal surface rounded. Epimeral plates 1-3 posteroventral corner pointed,

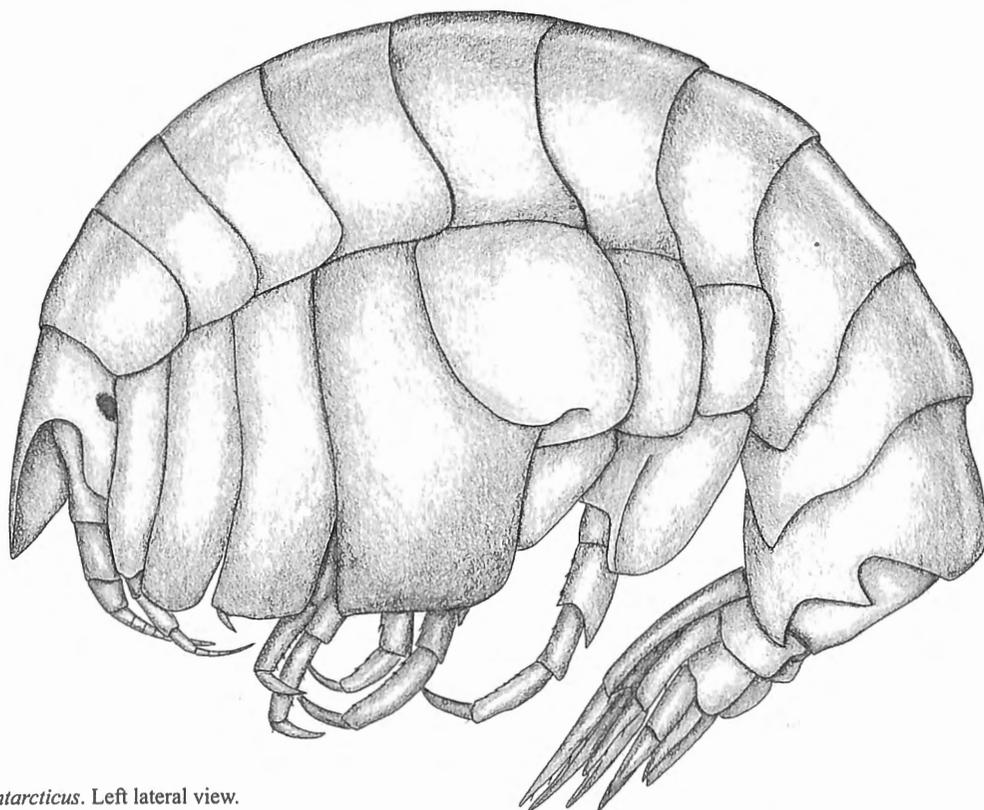


Fig. 83. *Antarctodius antarcticus*. Left lateral view.

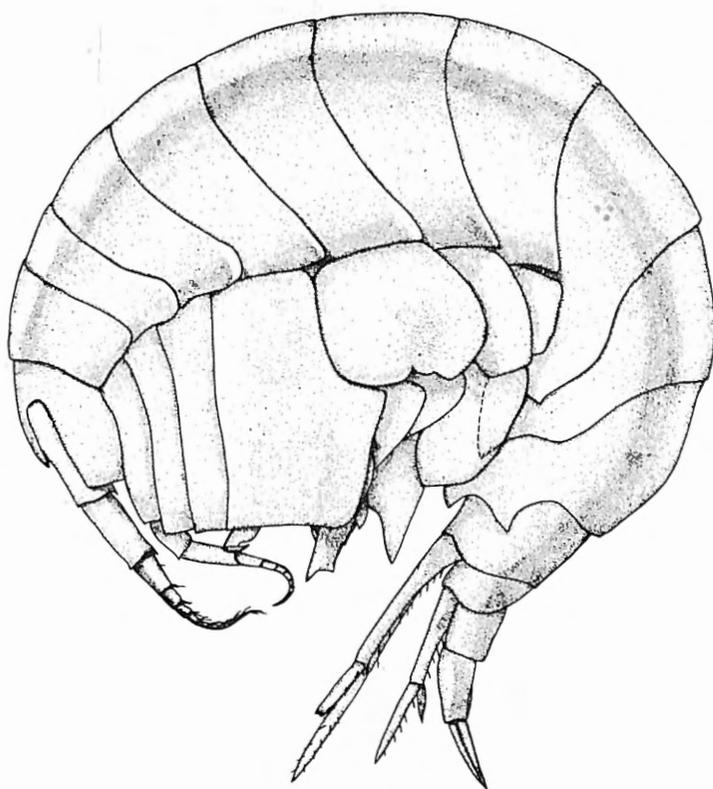


Fig. 84. *Antarctodius rauscherti*. Left lateral view.

posterolateral margin lobate and rounded on pleonites 1 and 2, produced and pointed on pleonite 3. Posterodorsal hump on pleonite 3 absent. Urosomite 1 smooth, subequal in length to urosomites 2-3 combined. Urosomite 2 shortest, dorsally rounded. Urosomite 3 with laterodorsal ridge-like elevations. Antenna 1 peduncle article 1 slightly surpassing ventral margin of head, subequal to articles 2 and 3 combined, posteroventromedial angle acutely produced, article 3 with inconspicuous indication of point, flagellum 9-articulate, each equipped with long aesthetascs. Antenna 2 peduncle articles 1-3 about the length of article 4, article 5 subequal in length to article 4; flagellum 8-articulate. Upper lip strongly tapering distally and clearly notched apically, apex of right side slightly shortened. Mandibular body slender with pointed apex. Lower lip lobes narrow, oblique apically and with shallow depression apicomediaally and deep excavations medially. Maxilla 1 outer plate elongate, pointed, with oblique margin bearing stout serrate, spine-like setae on medial margin; palp 2-articulate, reaching to distal end of outer plate; inner plate short, with 3 apical setae. Maxilliped basis and outer plate about subequal in length; inner plate narrow with distomedial angle produced; outer plate relatively wide, rounded apically, longer than distal margin of article 2 of palp; palp 4-articulate, somewhat longer than outer plate. Gnathopod 1 coxa shorter than that of gnathopod 2, tapering distally, anterior margin concave, posterior margin rather straight; carpus elongate; propodus 73% of carpus length; propodus process of chela substituted by stout spine, dactylus bulky, with spine apically. Gnathopod 2 coxa

concave anteromarginally, truncate apically; carpus lobe less than half the length of propodus; propodus weakly expanded distally, with serrate palm; dactylus stout with pointed process on inner margin. Coxa 3 excavate anteromarginally, with truncate angular apex, subequal to that of coxa 2. Coxa 4 straight anteromarginally, slightly angularly produced anterodistally, ventral margin truncate, posteroventral angle rounded, posterior margin drawn out into a long pointed process. Pereopod 5 coxa not strongly produced laterally, wider than long, posteriorly angular and subacute, anterior lobe rounded; basis both margins weakly convex, produced into rounded lobe posteroventrally. Pereopod 6 coxa longer than wide, posteriorly rather rounded; basis longer than wide, both margins convex, posteroventral margin lobe-like. Pereopod 7 coxa smallest; basis wide, posterior margin clearly convex, posteroventral margin lobe-like. Uropod 1 rami subequal in length. Uropod 2 peduncle shorter than inner ramus; outer ramus shorter than inner, rami each with a terminal spine, both margins spinose. Uropod 3 peduncle short; outer ramus shorter than inner, both rami spinose. Telson elongate, longer than distal margin of peduncle of uropod 3, tapering distally, cleft 55% of length, with 2 pairs of long slender dorsal facial setae.

Size. 3.9-5.7 mm.

Remarks. This species is similar to *Antarctodius antarcticus* (Watling & Holman, 1981). For differences see Table 6.

Type locality. Weddell Sea: 73°37.0'S 22°24.9'W.

Distribution. Only known from type locality.

Depth range. 756 m.

Table 6. Comparison of *Antarctodius antarcticus* and *A. rauscherti*.

	<i>A. antarcticus</i> , female 5 mm	<i>A. rauscherti</i> , holotype female 5.7 mm
cuticle	strongly sclerotized, not transparent	soft and transparent
rostrum	surpassing ventral margin of head, rather straight and stout	strongly shortened and flexed
peduncle of antenna 1	bulky, article 3 not surpassing apex of coxa 1; stout with straight apical margins	elongate, article 2 surpassing apex of coxa 1; pointed posterodistomedial acute processes on articles 1-2
peduncle article 4 of antenna 2	length 1.6 x breadth	length 3 x breadth
peduncle article 5 of antenna 2	length 1.5 x breadth	length 3.5 x breadth
apex of coxae 2 and 3	truncate with anterior and posterior angles rounded	truncate with anterior and posterior angles angular
coxa 5	strongly produced laterally	not strongly produced laterally
pleonite 3	with dorsal hump posteriorly	smooth
dorsal surface of urosomite 2	with lateral ridge-like elevations	smooth

Curidia Thomas, 1983

Type species. *Curidia debrogania* Thomas, 1983

Diagnosis (emended after Thomas, 1993). Articles 1 and 2 of antenna 1 each with long ventrodistal tooth, peduncular article 1 longer than 2, flagellum 3-articulate, article 1 longest. Upper lip and lower lip apically acute. Mandible with molar. Maxilla 1 with uniarticulate palp, outer plate styliform. Maxilla 2 with both plates styliform, outer plate longest. Maxilliped with elongate inner plate, outer plate slightly armed, palp present, consisting of slender article bearing terminal seta. Coxa 1 rounded to subacute ventrally. Coxae 2 and 3 dominant, elongate.

Curidia magellanica Coleman & Barnard, 1991c

(Fig. 85, Map 40: open triangle)

References and synonymy. De Broyer *et al.* 2007: 170.

Diagnosis. Rostrum normal; laterocephalic margin with acute spine. Pleonite 1 with small apically subquadrate dorsodistal carina. Pleonite 2 with a small apically rounded dorsodistal carina. Pleonite 3 with a narrow apically rounded mid-dorsal carina. Epimeral plates 1-2 posteroventral corner tapering distally and acutely produced. Epimeral plate 3 posteromedian corner acute, posteroventral margin not excavate, ventral margin broadly rounded. Antenna 1 peduncular article 1 with posteroventral spine, spine longer than peduncular article 3; peduncular article 2 long, about 1.4 x as long as broad, with posteroventral spine, spine much longer than peduncular article 3; peduncular article 3 posterior margin not deeply telescoped into article 2. Antenna 2 longer than peduncular

article 1 of antenna 1; peduncular article 4 ventral spine present, spine longer than half length of article 5, reaching its distal margin. Mandible molar reduced, triturating. Maxilla 1 palp reduced, 1-articulate, with a long apical seta. Maxilliped palp present, palp with 1 article, with a long apical seta. Pereon with sharply raised carina forming a dorsal keel. Pereonite 1 enlarged, longer than pereonite 2. Pereonite 7 with a small apically acute dorsodistal spine. Gnathopod 1 coxa curved anteriorly, ventrally subacute; carpus not elongate, less than 2 x propodus length. Gnathopod 2 coxa ventrally rounded, anteroproximal margin produced; carpus distal lobe shorter than half the propodus length. Coxa 3 ventrally obliquely truncated, anteroproximal margin strongly produced. Coxa 4 ventral margin angular, anteroproximal margin strongly produced. Coxa 5 anteriorly produced, tapering, apically rounded, posteroventral corner subquadrate. Coxa 6 posteroventral corner subquadrate. Coxa 7 subequal in length to coxa 6. Uropod 3 biramous. Telson medium length, 1.7 x as long as wide, apically acute.

Size. Female 2.4 mm.

Remarks. The genus *Curidia* differs very much from the two Antarctic oidiid species in the family. It has different shaped coxae and gnathopods. *Curidia magellanica* is the only cold water species in the genus, all other species have been reported from tropical oceans. It has very long distoventral spines on the peduncle of antenna 1, very long distoventral spine on peduncular article 4 of antenna 2, reaching the distal end of article 5. Both *Antarctodius* species do not have any spines on the antennae.

Type locality. Magellan area: 52°56'S 75°00'W.

Distribution. Only known from type locality.

Depth range. 92-101 m.

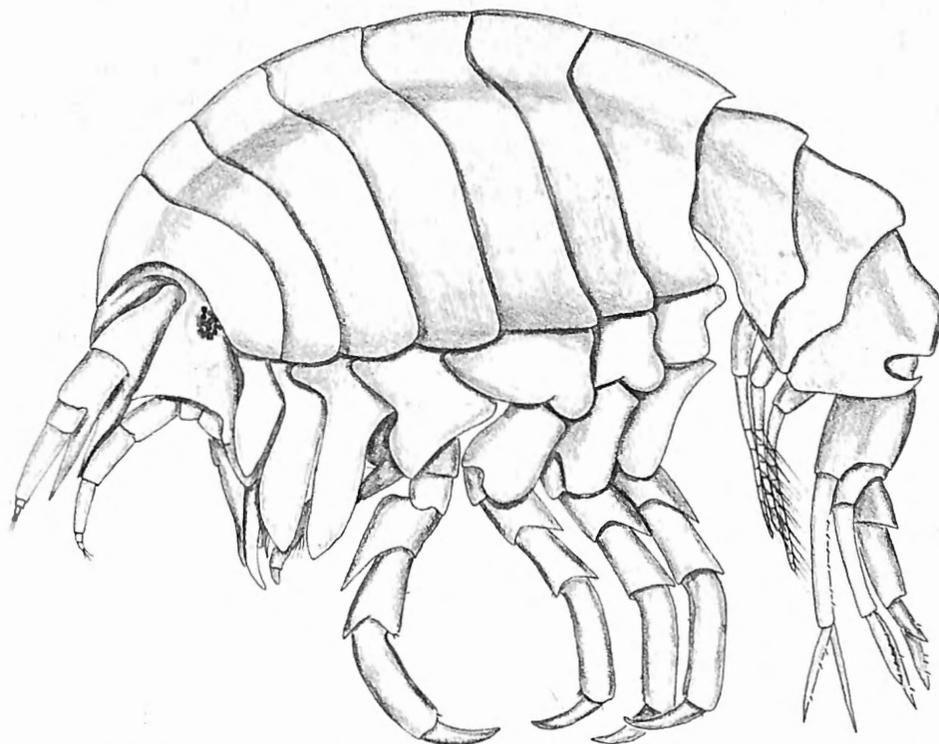


Fig. 85. *Curidia magellanica*. Left lateral view.

VICMUSIIDAE Just, 1990

Type species. *Vicmusia duplocoxa* Just, 1990.

Diagnosis (slightly emended after Just, 1990). Body robust, broad. Head markedly shortened, about twice as deep as dorsal length. Pereonite 1 greatly enlarged, overlapping head and pereonite 2. Primary flagellum of antennae multiarticulate; accessory flagellum a single vestigial setose article. Mouthparts conically produced, pointing forward, terminating in setose funnel. Upper lip notched. Mandibles elongate, with strong 3-articulate palp and condyle-like protuberance (possibly vestigial molar). Lower lip with large, separate inner lobes. Maxilla 1 with vestigial nonsetose inner plate, outer plate with 9 apical spines. Maxilla 2, inner plate slender with distoapical marginal setae and spines only, both inner and outer plates partly articulating with enlarged basis. Maxilliped with 3-articulate palp, plates well developed; palp and outer plates folded upwards creating a funnel partly enclosing apices of other mouthparts. Pereopod coxae 1, 3 and 4 deeper than broad, of subequal length, coxa 2 half the length of coxa 4 with posterior margin entire. Gnathopods 1 and 2 simple, similar. Pereopods 3-7 subsimilar, strong, crawling-clinging, bases 5-7 broadly expanded posteriorly. Uropods with full complement of slender, unarmed, lanceolate rami; outer ramus uropod 3 1-articulate. Telson short, entire, flat ventrally. Gills, on pereopods 2-7, simple sacks. Oostegites on pereopods 2-4 broad, on 5 shorter and more slender, all with simple marginal setae.

List of genera. *Acanthonotozomopsis* Watling & Holman, 1980 (= *Vicmusia* Just, 1990).

Acanthonotozomopsis Watling & Holman, 1980

Type-species. *Acanthonotozomopsis pushkini* (Bushueva, 1978).

Diagnosis (after Barnard & Karaman, 1991b). Body with weak posterior transverse segmental rugae, no sharp teeth. Antenna 1 peduncular article 2 shorter than 1. Mouthparts projecting conically. Upper lip incised, not very broad. Mandibular incisor broad, serrate; setal row long; molar absent. Lower lip inner lobes absent. Maxilla 1 palp 2-articulate, article 2 enlarged. Maxilla 2 inner plate without facial row of setae. Maxilliped inner plate shorter and much narrower than outer plate, latter elongate; palp article 2 broad but unproduced; palp article 4 obsolescent. Coxa 2 short; coxae 3-4 progressively longer; coxa 4 monocuspidate. Gnathopods scarcely diverse, of different sizes, carpus and propodus elongate, both gnathopods simple. Telson entire.

Acanthonotozomopsis pushkini (Bushueva, 1978)

(Fig. 86, Colour plate 4d, Map 41: rhomb)

References and synonymy. De Broyer *et al.* 2007: 228.

Diagnosis. Head with short rounded rostrum, slightly turned upwards; eyes very large, circular, ocular lobe weakly produced; anteroventral corner subacutely produced. Pereonite 1 as large as pereonite 7; all pereonites and pleonites with hump-like dorsal protrusions; pereonite 2 to urosomite 1 each with dorsolateral transverse rugae. Pleonites

1-3 with posteromarginal excavation close at the transverse rugae. Ventral margin of epimeral plates 1-3 rounded, without posteroventral process. Coxa 1 with weakly concave anterior margin, distally expanded, anteriorly produced, apex rounded, posterior margin convex. Coxa 2 about half the length of coxa 1, tapering distally, with rounded apex. Coxae 3-4 subtriangular with rounded apex; coxa 4 slightly longer than 3. Pereopod 5-7 coxae with rounded protrusion on lateral surface; bases expanded distally with posterodistal rounded lobe partly covering ischium, merus weakly drawn out posterodistally. Pereopod 7 basis subrectangular. Telson tapering distally, apically entire and truncate.

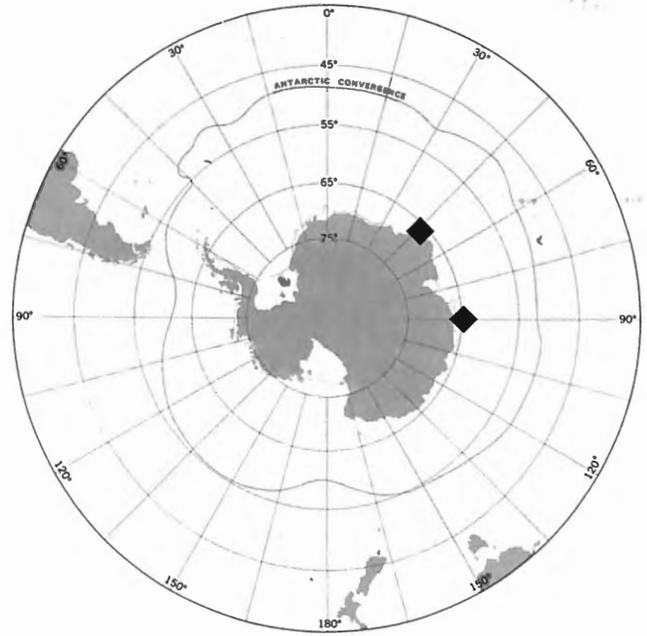
Size. Female 8.5 mm, male 12.5 mm.

Remarks. Unique morphology and easy to be determined. Just (1990) described the related and very similar species *Acanthonotozomopsis duplocoxa* from Australian bathyal waters.

Type locality. Davis Sea: Haswell Island.

Distribution. Davis Sea, Enderby Land.

Depth range. 24-45 m.



Map 41. *Acanthonotozomoides pushkini*: rhomb.

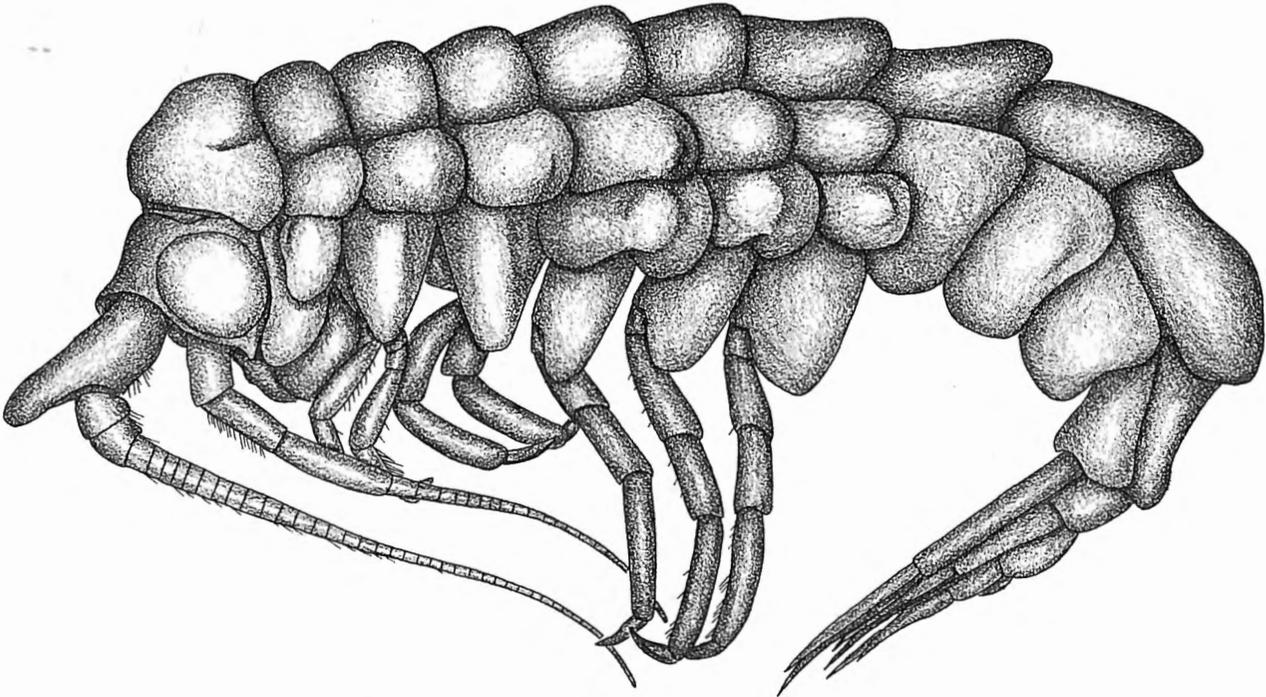


Fig. 86. *Acanthonotozomopsis pushkini*. Left lateral view. Redrawn from De Broyer (1983)

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All references cited in this volume can be found in: De Broyer C., Lowry J.K., Jazdzewski K., Robert H., 2007. Catalogue of the Gammaridean and Corophiidean Amphipoda of the Southern Ocean with distribution and ecological data, In: De Broyer C. (Ed.), Census of Antarctic Marine Life: Synopsis of the Amphipoda of the Southern Ocean, Volume 1. Bulletin de l'Institut Royal des Sciences Naturelles de Belgique, Biologie 77 suppl. 1: 1-325.

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Plate 2: a. *Epimeria rubriques* (© Martin Rauschert); b. *Epimeria grandirostris* (© Gauthier Chapelle); c. *Epimeria monodon* (© Claude De Broyer); d. *Epimeria puncticulata* (© Gauthier Chapelle); e. *Epimeria rimicarinata* (© Martin Rauschert); f. *Epimeria pulchra* (© Oliver Coleman); g. *Epimeria oxicarinata* (© Oliver Coleman); h. *Epimeria reoproii* (© Martin Rauschert).

Plate 3: a. *Epimeriella walkeri* (© Martin Rauschert); b. *Pariphimedia integricauda* (© Martin Rauschert); c. *Maxilliphimedia longipes* (© Martin Rauschert); d. *Iphimediella rigida* (© Martin Rauschert); e. *Echiniphimedia hodgsoni* (© Martin Rauschert); f. *Echiniphimedia hodgsoni* (arrow) sitting on a sponge host (© Oliver Coleman); g. *Anchiphimedia dorsalis* (© Martin Rauschert); h. *Gnathiphimedia incerta* (© Martin Rauschert).

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