TYPE MATERIAL
Holotype: Canterbury Museum Type No. AQ3407 [104, ♂, 10 mm].
Paratypes: Canterbury Museum Type No. AQ3432 [104, 801 juvs, 2–9 mm; 299♀♀, 7–15 mm; 297♂♂, 6–12 mm].
TYPE LOCALITY: Kaikoura.
MATERIAL EXAMINED
Whangaroa Bay: [45] 1 juv (5 mm), 2♀♀ (9 mm), 1♂ (9 mm).
Russell: [E981] 3 juvs (2–5 mm).
Whangarei: [E953] 1♂ (8 mm).
Auckland: [E975, E979] 6 juvs (2–5 mm), 1♀ (9 mm), 1♂ (8 mm); [E956, E957] 1♀, 1♂ (9 mm); [Z2282] 1 sp.
Coromandel: [Z2308] 5 spp.
Mt Maunganui: [E959] 2 spp.
Napier: [Z2297] 3 spp.
Castlepoint: [E983] 4 juvs (3–7 mm), 5♂♂ (7–9 mm).
Wellington: [E966] 2 spp; [E985] 7 spp; [Z2306] about 20 spp; [Z2307] 7 spp.
Kaikoura: [104] 801 juvs (2–9 mm), 299♀♀ (7–15 mm), 297♂♂ (6–12 mm); [E969] about 20 spp; [98] many spp; [111] many spp.
Chatham Is: [CIE 12, 19, 47] 3 juvs (5–7 mm), 2♀♀ (12 mm), 1♂ (12 mm); [E105] 2 spp.
HABITAT: Algal fronds.
DEPTH RANGE: Intertidal and shallow subtidal.
REMARKS: The shape of the first segment of antenna I figured by Morton & Miller suggests that their species was *A. media*. They remark that it is kelp-brown in colour and fastens onto the blades of *Ecklonia*, "taking so firm a hold . . . as to make dislodgment difficult. The animal can, however, let itself go to swim in graceful arcs before re-attaching".

Hick's record from Island Bay is attributed here with a query because of *A. falcifer's* more southerly distribution. Hicks comments that his species is "commonly found on the large straps of surrounding brown algae" but "occasionally washed into the sublittoral corallines".

Cassidinopsis Hansen, 1905

Cassidinopsis Hansen, 1905: 108–9, 128. Menzies, 1962a: 142, 144.
TYPE SPECIES: *Cassidinopsis emarginata* (Guerin Meneville)

DIAGNOSIS
Eubranchiate Sphaeromatidae with pleopod 3 outer ramus of two segments. Pleopod 2 inner ramus has well developed appendix masculina. Antenna I, first segment of peduncle not expanded, posterodistal angle without process. Head small. Pleotelson apex feebly emarginate. Uropod inner ramus laterally expanded, outer ramus reduced. Female mouthparts not metamorphosed. Males and females similar, body segments without processes.

Cassidinopsis admirabilis n.sp. (Fig. 17)

DIAGNOSIS
Cassidinopsis with smooth body. Uropod outer ramus very small, attached anteriorly to inner ramus, and less than one-quarter its length. Inner ramus about twice as long as broad, with rounded apex.
TYPE MATERIAL
Holotype: NZOI Type No. 150 [E979, ♂, 3 mm].
Paratypes: NZOI Type No. P207 [E975, 979, 5 juvs, 1.5–2 mm; 7♀♀, 2–2.5 mm; 1♂, 3.5 mm].
TYPE LOCALITY: Leigh.
MATERIAL EXAMINED
Auckland: [E956] 1 juv. (1.5 mm); [E975, 979] 5 juvs (1.5–2 mm), 7♀♀ (2–2.5 mm), 2♂♂ (3–3.5 mm).
Gisborne: [E982] 4 juvs (1.5–2.4 mm).
Wellington: [E967] 24 juvs (1.5–2.5 mm).
OTHER RECORDS: None.
HABITAT: Rocks and algae.
DEPTH RANGE: Intertidal.
REMARKS: The type species, *Cassidinopsis emarginata*, appears to be of Antarctic and subantarctic distribution. *C. admirabilis* differs from *C. emarginata* in being smaller (mature males are about 3 mm long, whereas *C. emarginata* males reach 27 mm in length), and in the uropod rami. In *C. admirabilis*, the outer ramus is greatly reduced to less than one-quarter the length of the inner, which has a rounded apex. In *C. emarginata*, the outer ramus is reduced to only about half the length of the inner, and lies completely in the recessed outer margin of the broad, truncate inner ramus.

Cymodocella Pfeffer, 1887

Cymodocella Pfeffer, 1887: 109–10. Hansen, 1905; 107, 126. Menzies, 1962a: 138.
TYPE SPECIES: *Cymodocella tubicauda* Pfeffer, 1887.

DIAGNOSIS
Eubranchiate Sphaeromatidae with outer rami of pleopods 3, 4, and 5 unsegmented. Mature males with well developed appendix masculina on pleopod 2 inner ramus. Antenna I peduncle, first segment not expanded. Pleotelson produced posteriorly with sides bent down and around, forming tube open at both ends. Female mouthparts not metamorphosed. Broodplates overlapping in midline. Males and females similar, without processes. Uropods alike in both sexes, rami lamellar, outer ramus shorter than inner.

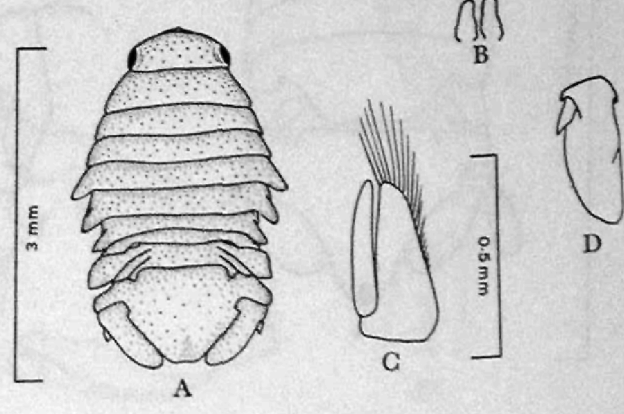

FIG. 17. *Cassidinopsis admirabilis* n.sp., mature ♂: A, whole animal; B, penes; C, pleopod 2, inner ramus; D, uropod, ventral view.

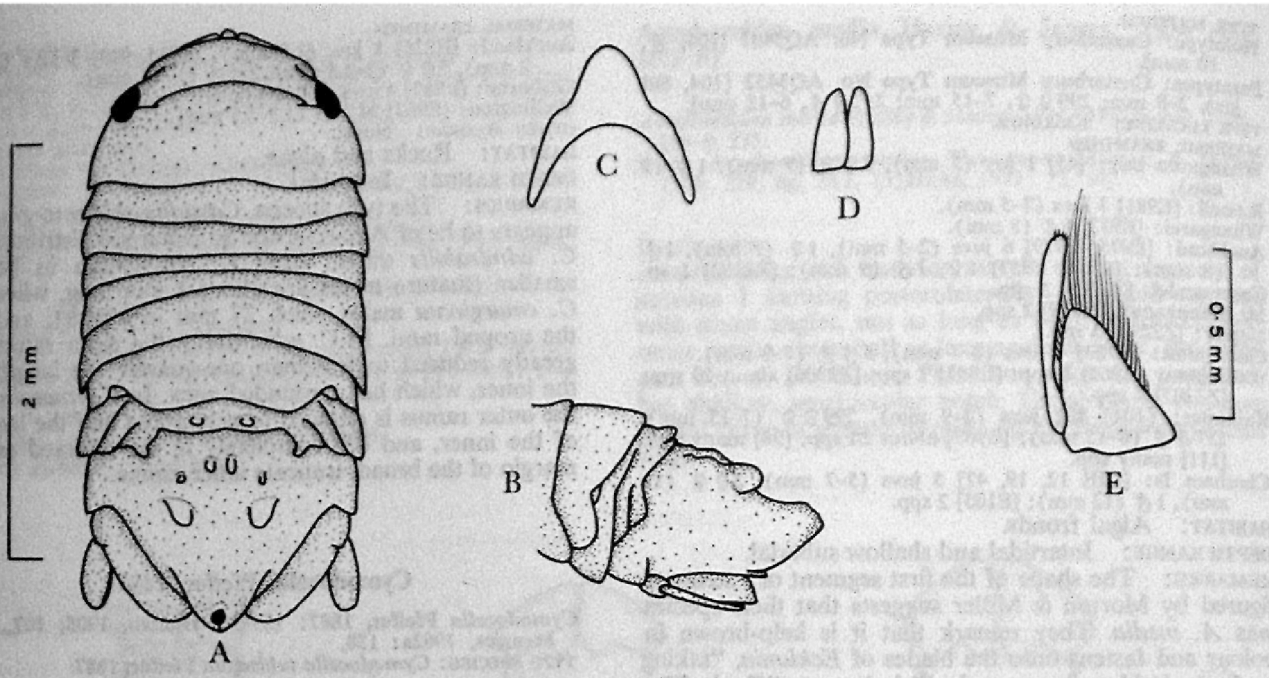

FIG. 18. *Cymodocella capra* n.sp., mature ♂: A, whole animal; B, pleon, side view; C, epistome; D, penes; E, pleopod 2, inner ramus.

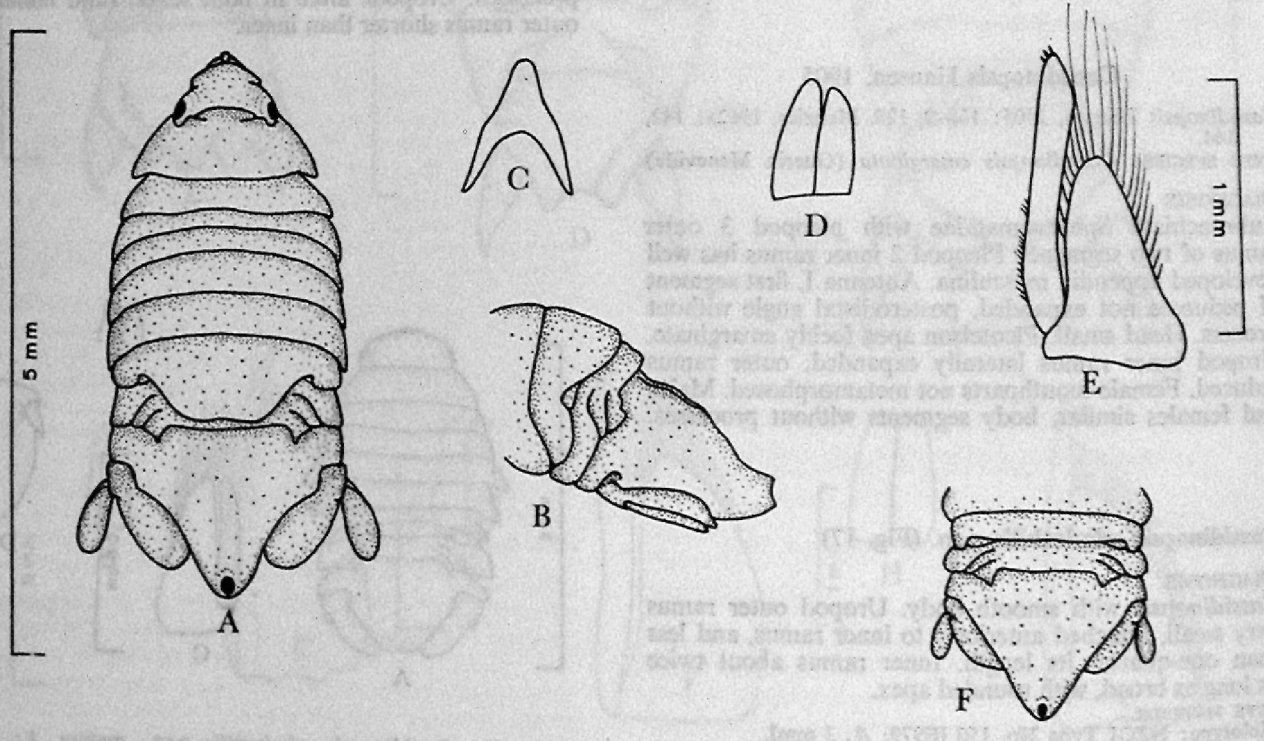

FIG. 19. *Cymodocella egregia* (Chilton), mature ♂ except F (♀): A, whole animal; B, pleon, side view; C, epistome; D, penes; E, pleopod 2, inner ramus; F, pleon, dorsal view.

KEY TO NEW ZEALAND AND SUBANTARCTIC SPECIES OF CYMODOCELLA

1. Pleonite 1 and pleotelson smooth, without sculpturing or tubercles ..... EGREGIA

   Pleonite 1 and pleotelson sculptured or tuberculate 2

2. Pleonite 1 with small, rounded tubercle each side of midline; pleotelson with one large and two small tubercles each side of midline ..... CAPRA

   Pleonite 1 raised in a transverse ridge; pleotelson with strong, parallel, longitudinal ridge each side of midline, ridges and lateral margins tuberculate ..... TUBICAUDA

Cymodocella capra n.sp. (Fig. 18)

DIAGNOSIS

Cymodocella with a small tubercle on pleonite 1 each side of midline. Pleotelson with one large and two small tubercles each side of midline.

TYPE MATERIAL

Holotype: NZOI Type No. 147 [E977, ♂, 3 mm].
Paratypes: NZOI Type No. P204 [E977, ♂, 2.8 mm].
TYPE LOCALITY: Leigh, Auckland.
MATERIAL EXAMINED
Bay of Islands: [Cop. 6] spp.
Auckland: [E977] 2♂♂ (2.8–3 mm).
OTHER RECORDS: None.
HABITAT: Rock pools in splash zone with filamentous brown algae.
DEPTH RANGE: Intertidal.

Cymodocella egregia (Chilton, 1892) (Fig. 19)

Sphaeroma (?) *egregia* Chilton, 1892: 269
[Part] *Cymodocella tubicauda* Pfeffer. Hansen, 1905: 126. Hurley, 1961: 271.
Cymodocella egregia Hutton, 1904: 263. Jansen, 1971: 266, 272–3.
[Not] *Cymodocella tubicauda*. Morton & Miller, 1968: 215, fig. 71.2. (?) Hicks, 1970: 52, 56.

DIAGNOSIS

Cymodocella with pleotelson smooth and with shallow median dorsal groove.

TYPE LOCALITY: Island Bay, Wellington.
MATERIAL EXAMINED
Off North Cape: [E262] 6 spp.
Auckland: [E975, E977] 2 juvs (1.5–2 mm), 3♀♀ (3–5 mm), 1♂ (3.5 mm).
Gisborne: [E982] 5 juvs (1.5–2.5 mm), 2♀♀ (3 mm), 1♂ (3 mm).
Wellington: [E967] 1 juv. (2.5 mm).
Kaikoura: [104] 169 juvs (1.5–3 mm), 436 ♀♀ (2–4 mm), 173♂♂ (3–4.5 mm); [112] 4 spp.
Oamaru: [131] 1 sp.
OTHER RECORDS: None.
HABITAT: Among algae and under stones.
DEPTH RANGE: Intertidal.

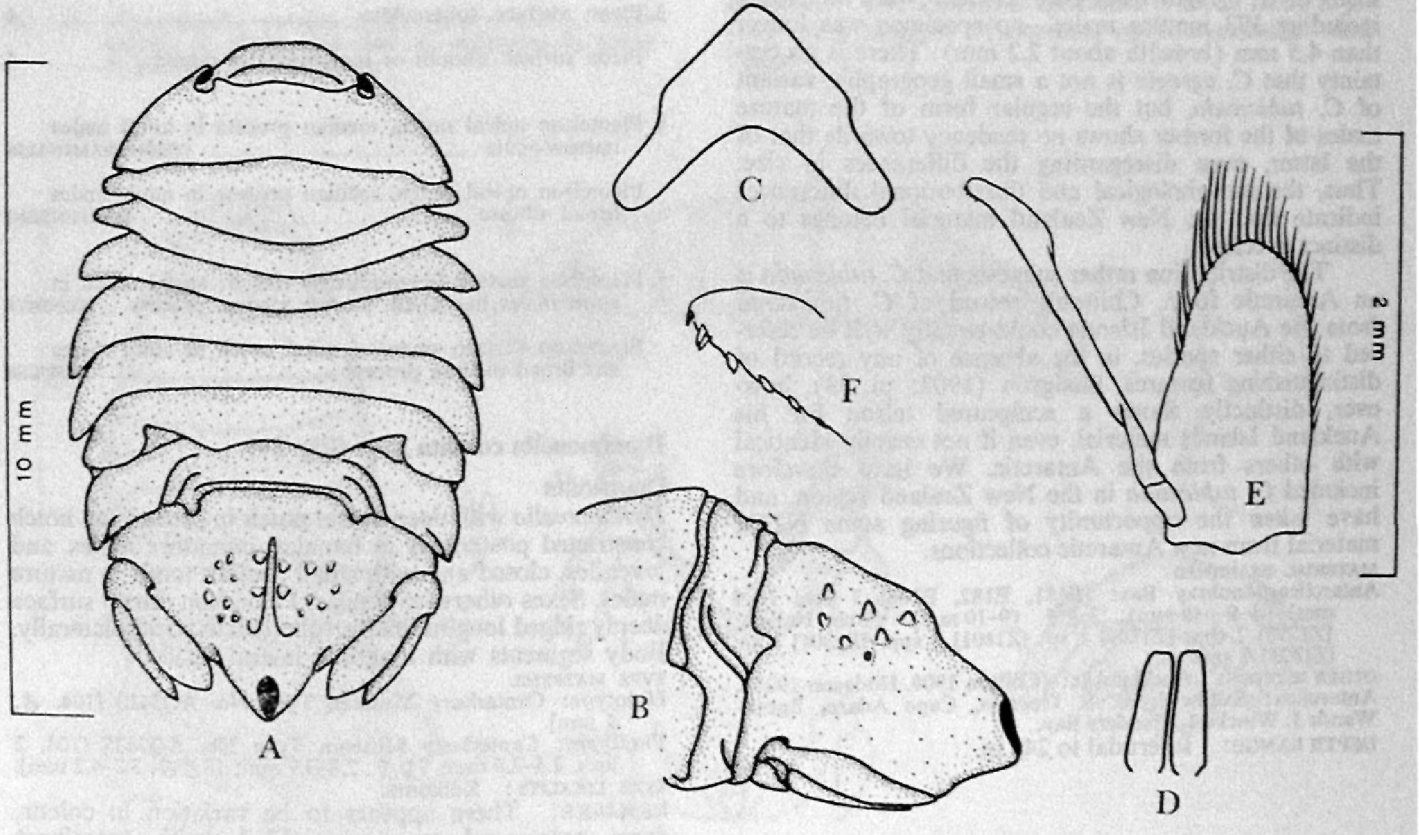

FIG. 20. *Cymodocella tubicauda* Pfeffer, mature ♂: A, whole animal; B, pleon, side view; C, epistome; D, penes; E, pleopod 2, inner ramus; F, tip of appendix masculina.

Cymodocella tubicauda Pfeffer, 1887 (Fig. 20)

Cymodocella tubicauda Pfeffer. 1887: 110–15, pl. 2 fig. 8, pl. 6 figs 11, 12. Hansen, 1905: 126. Richardson, 1908: 4–5, Chilton. 1909: 657. Hodgson, 1910: 31–4. Nierstrasz, 1931: 214. Richardson, 1913: 6–7.
Cymodocea antarctica Hodgson, 1902: 243–5, pl. 33, fig. 2.
[Not] *Cymodocella egregia* (Chilton). Richardson, 1960b: 7.

DIAGNOSIS
Cymodocella with pleonite 1 raised in a transverse ridge. Pleotelson strongly sculptured, with a longitudinal ridge each side of midline, tuberculate between ridges and lateral margins.

TYPE LOCALITY: South Georgia.

REMARKS: Hansen (1905: 126) and Richardson (1906b: 7) synonymised *Cymodocella tubicauda* Pfeffer (1887) from South Georgia and other Antarctic localities and *Sphaeroma* (?) *egregia* Chilton (1891). Hansen wrote, "The two species are identical, and the type must, therefore, be named *C. egregia* (Chilt.)". In fact, Pfeffer's description predated Chilton's by 4 years. Thus, *Cymodocella tubicauda* Pfeffer (1887) is the senior synonym, and must be retained as the type species of the genus. This was corrected by Richardson (1908: 4–5). However, the two species are apparently far from identical. Pfeffer's description, "Schwanzschild mit stark skulpiertem Mittelfelde" (Pleotelson with strongly sculptured middle section–1887: 109) is not the same as Chilton's "Body rather convex, smooth" (1892: 269). Pfeffer's largest specimen was 5.7 mm long, its greatest breadth 3.5 mm. During an ecological study of Sphaeromatidae (Jansen 1971) several hundred specimens of *C. egregia* from New Zealand were measured, including 173 mature males—no specimen was longer than 4.5 mm (breadth about 2.2 mm). There is no certainty that *C. egregia* is not a small geographic variant of *C. tubicauda*, but the regular form of the mature males of the former shows no tendency towards that of the latter, even disregarding the differences in size. Thus, the morphological and distributional differences indicate that the New Zealand material belongs to a distinct species.

The distribution rather suggests that *C. tubicauda* is an Antarctic form. Chilton's record of *C. tubicauda* from the Auckland Islands could equally well be referred to either species, in the absence of any record of distinguishing features. Hodgson (1902: pl. 33), however, distinctly shows a sculptured telson for his Auckland Islands material, even if not exactly identical with others from the Antarctic. We have therefore included *C. tubicauda* in the New Zealand region, and have taken the opportunity of figuring some NZOI material from new Antarctic collections.

MATERIAL EXAMINED
Antarctica–Moubray Bay: [E181, E182, E186] 3 juvs (6–8 mm), 1 ♀ (9 mm), 3 ♂♂ (9–10 mm). Cape Hallett: [Z1795] 7 spp; [Z1799] 1 sp; [Z1801] 3 spp; [Z1804] 1 sp; [Z1824] 3 spp.

OTHER RECORDS: Auckland Is: (Chilton 1909, Hodgson 1902). Antarctica: Sandwich Is, S. Georgia, Cape Adare, Booth-Wande I. Wincke I. Flanders Bay.

DEPTH RANGE: Intertidal to 245 m.

*According to Menzies & Glynn (1968), the type of *Dynamenella* has pleopod 3 outer ramus 2-segmented.

Dynamenella Hansen, 1905

Dynamenella Hansen, 1905: 107, 126. Menzies, 1962a: 135.
TYPE SPECIES: *Dynamenella perforata* (Moore)

DIAGNOSIS
Eubranchiate Sphaeromatidae with outer rami of pleopods 3 and 4 usually unsegmented*, pleopod 5 segmented. Antenna I, first segment not expanded in large plate. Both sexes without dorsal processes. Uropod rami subequal. In mature males, pleopod 2 inner ramus has well developed appendix masculina. Female mouthparts not metamorphosed. Broodplates overlapping in midline. Pleotelson has apical notch or foramen formed by closing of tips of notch.

KEY TO NEW ZEALAND AND SUBANTARCTIC SPECIES OF DYNAMENELLA

1. Pleotelson with apical notch open, not constricted posteriorly, without median tooth 2
   Pleotelson with apical notch closed or constricted posteriorly, has median tooth in males 3
2. Pleotelson has shallow apical notch, body segments without lateral marginal setae ..... HUTTONI
   Pleotelson has deep apical notch, body segments have lateral marginal setae ..... HIRSUTA
3. Pleon surface tuberculate 4
   Pleon surface smooth or longitudinally ridged 5
4. Pleotelson apical notch, median process in adult males narrow-acute ..... CORDIFORAMINALIS
   Pleotelson apical notch, median process in adult males broad, obtuse ..... MORTENSENI
5. Pleotelson surface longitudinally ridged; apical notch in adult males has small, narrow median process ..... CONDITA
   Pleotelson surface smooth; apical notch in adult males has broad median process ..... INSULSA

Dynamenella condita n.sp. (Fig. 21)

DIAGNOSIS
Dynamenella with deep apical notch in pleotelson, notch constricted posteriorly in females, immature males, and juveniles, closed and with small median tooth in mature males. Sexes otherwise similar. Pleotelson dorsal surface deeply ridged longitudinally, tuberculate posterolaterally. Body segments with marginal lateral setae.

TYPE MATERIAL
Holotype: Canterbury Museum Type No. AQ3410 [104, ♂, 4 mm].
Paratypes: Canterbury Museum Type No. AQ3435 [104, 2 juvs, 2.5–2.8 mm; 7 ♀♀, 2.8–3.9 mm; 18 ♂♂, 3.2–4.2 mm].

TYPE LOCALITY: Kaikoura.

REMARKS: There appears to be variation in colour, from orange-red to grey-speckled (with prominent chromatophores), and in the degree of ridging. Two specimens from Stephens Island, which appear to be otherwise identical, have very pronounced ridging.

MATERIAL EXAMINED
Raglan: [E948] 1 juv. (2.5 mm).
New Plymouth: [Cop. 23] spp.
Wellington: [E967] 12 juvs (1–3 mm), 4♀♀ (3 mm), 2♂♂ (3 mm).
Stephens I: [28] 2 spp.
Kaikoura: [104] 2 juvs (2.5–2.8 mm), 7♀♀ (2.8–3.9 mm), 19♂♂ (3.2–4.2 mm); [E971] 69 juvs (1–4 mm), 6♀♀ (3 mm), 9♂♂ (3–4 mm); [109] about 40 spp.
Dunedin: [E973] 20 juvs (1–3 mm), 1♀ (3 mm), 6♂♂ (3–4 mm).
Snares Is: [63–74] 11 juvs (3 m), 1♀ (4 mm).

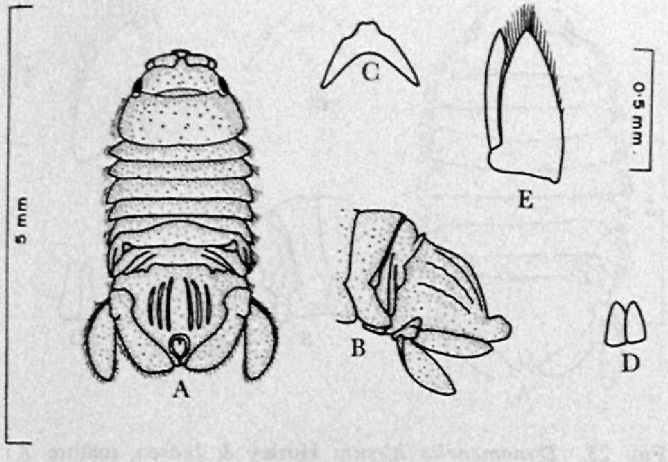

FIG. 21. *Dynamenella condita* n.sp., mature ♂: A, whole animal; B, pleon, side view; C, epistome; D, penes; E, pleopod 2, inner ramus.

OTHER RECORDS: None.
HABITAT: Under stones, among algae.
DEPTH RANGE: Intertidal.

Dynamenella cordiforaminalis (Chilton, 1883) (Fig. 22)

Cymodocea cordiforaminalis Chilton, 1883b: 188–9, pl. 22A, figs 1–1d. Thomson & Chilton, 1886: 152.
Cymodoce cordiforaminalis. Hurley, 1961: 270.
Dynamenella cordiforaminalis. Jansen, 1971: 267–8, 273.

DIAGNOSIS
Dynamenella with deep apical notch in pleotelson constricted posteriorly in females, immature males, and juveniles, closed and with a narrow median tooth in mature males. Sexes otherwise similar. Pleotelson dorsally tuberculate. Body segments with marginal lateral setae.

TYPE LOCALITY: Lyttelton Harbour.
MATERIAL EXAMINED
Cape Brett: [Cop. 5] spp.
Auckland: [E949] 15 juvs (3–5 mm), 18♀♀ (4–5 mm), 8♂♂ (5–6 mm); [138] spp; [Gal. 644] 1♂.
Castlepoint: [E983] 1 sp.
Wellington: [E967] 7 spp.
Kaikoura: [104] 740 juvs (1–4 mm), 220♀♀ (3–5 mm), 263♂♂ (3–7 mm); [E969] about 20 spp; [102] 1 sp; [103] 1 sp; [105] 20–30 spp; [106] 40–50 spp; [111] many small spp.
Lyttelton: [149] 24 spp. (3.5–4.5 mm); [150] 1 sp. (4.5 mm); [151] 6 spp. (3–5 mm).
Chatham Is: [CIE 22] about 14 spp.
HABITAT: Under stones, among algae, algal holdfasts.
REMARKS: The Lyttelton specimen [150] is from a jar (No. 211) labelled "*Cymodoce cordiforaminalis*" and "type".

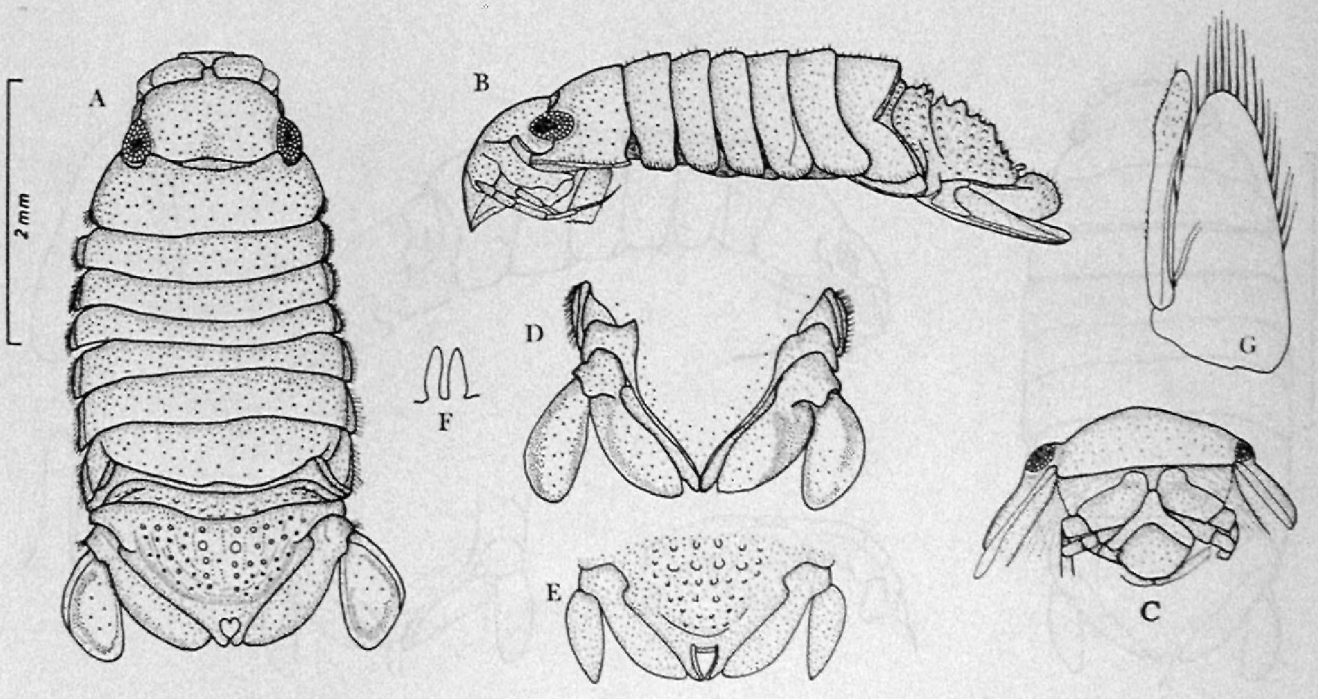

FIG. 22. *Dynamenella cordiforaminalis* (Chilton), mature ♂ except E (♀): A, whole animal; B, side view; C, frontal view of head, showing epistome and peduncles of antenna I; D, pleotelson, ventral view; E, pleotelson, dorsal view; F, penes; G, pleopod 2, inner ramus.

Dynamenella hirsuta Hurley & Jansen, 1971 (Fig. 23)

DIAGNOSIS

Dynamenella hirsuta Hurley & Jansen, 1971. Jansen, 1971: 268. *Dynamenella* with deep apical notch in pleotelson, notch lacking median tooth and posterior constriction. Body surface smooth, segments with marginal setae laterally. Uropod inner ramus with convex outer margin outer ramus broadly elliptical. Sexes similar.

TYPE MATERIAL

Holotype: Canterbury Museum Type No. AQ 3408 [107, ♂, 8 mm].

Paratypes: Canterbury Museum Type No. AQ 3433 [107, 137 juvs, 2–8 mm; 120 ♀♀, 5–8 mm; 73 ♂♂, 5–10 mm].

TYPE LOCALITY: Kaikoura.

MATERIAL EXAMINED

Cape Brett: [Cop. 5] spp.

Wellington: [23] 1 sp.

Kaikoura: [107] 137 juvs (2–8 mm), 120 ♀♀ (5–8 mm), 73 ♂♂ (5–10 mm); [116] 20–30 spp; [113] 20–30 spp; [93] spp; [96] spp; [97] spp.

Stewart I: [74] 1 sp.

HABITAT: Algal holdfasts.

DEPTH RANGE: Intertidal.

Dynamenella huttoni (Thomson, 1879) (Fig. 24)

Cymodocea (*Dynamena*) *huttoni* Thomson, 1879: 234, pl. 10, fig. A6.

Cymodoce huttoni. Hutton 1904: 263. Chilton, 1906: 272.

Dynamenella huttoni. Chilton, 1909: 657–8. Chilton, 1911a: 568. Stephenson, 1927: 368–9. Monod, 1931b: 25. Nierstrasz, 1931: 212. Hurley, 1961: 271. Holdich, 1968b: 407. Hicks, 1971: 52, 56. Jansen, 1971: 268, 273.

Dynamenella huttoni. Thomson & Anderson, 1921: 114. Naylor 1961: 11, figs 3a–g. Morton & Miller, 1968: 214, 215, 217, fig. 71.1.

DIAGNOSIS

Dynamenella with shallow apical notch in pleotelson, lacking both median tooth and posterior constriction. Body surface smooth, without setae. Uropod inner ramus with convex outer margin, outer ramus broadly elliptical. Sexes similar.

TYPE LOCALITY: Dunedin.

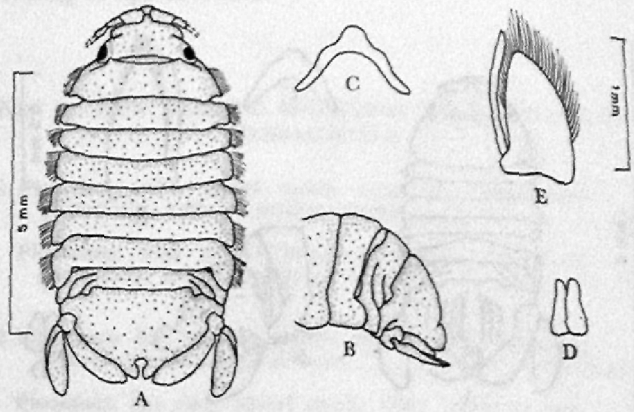

FIG. 23. *Dynamenella hirsuta* Hurley & Jansen, mature ♂: A, whole animal; B, pleon, side view; C, epistome; D, penes; E, pleopod 2, inner ramus.

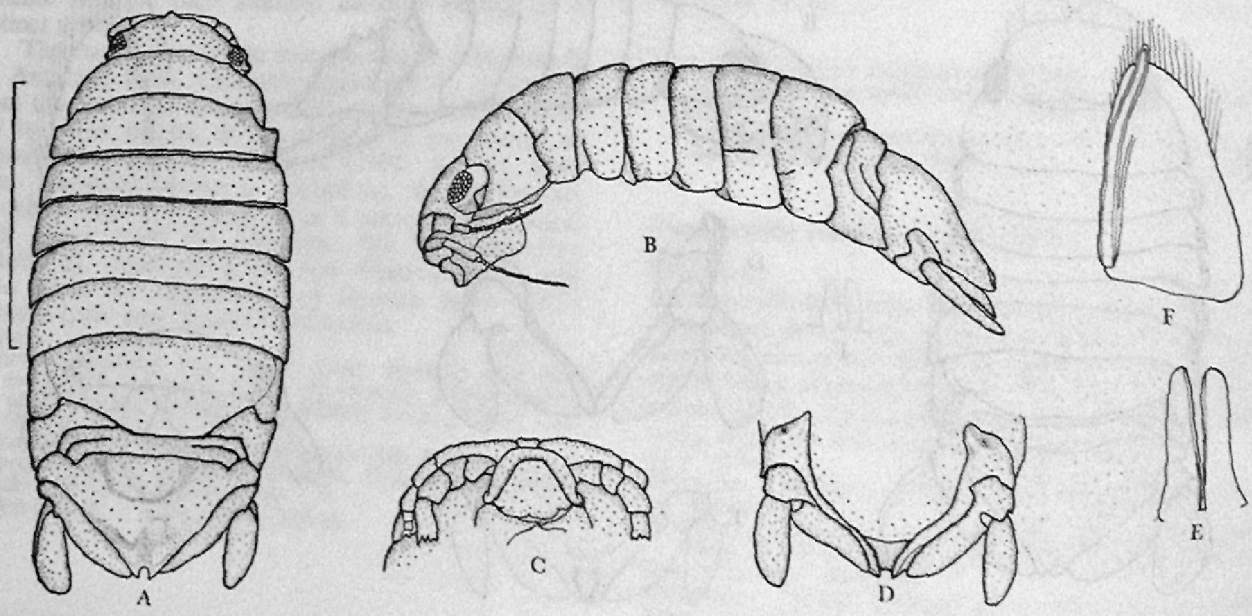

FIG. 24. *Dynamenella huttoni* (Thomson), mature ♂: A, whole animal; B, side view; C, ventral view of head showing epistome and peduncles of antennae; D, pleotelso n, ventral view; E, penes; F, pleopod 2, inner ramus.