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INVERTEDRATE

ZOOLOGY

Crustacoa

# ADDITIONS TO THE FAUNA-LIST OF SOUTH AFRICAN CRUSTACEA.

By K. H. BARNARD

THE following records and additions to the fauna-list are due to the University of Cape Town Ecological Survey under the direction of Prof. J. H. Day; and to Mr. R. W. Rand, Biologist to the Guano Islands Administration. Only localities which materially increase, or fill gaps in the previously known distribution of the species are recorded.

#### DECAPODA.

Trapezia cymodoce (Herbst). Embotje, Pondoland.

Trapezia rufopunctata (Herbst). Embotje, Pondoland.

Porcellana deĥaanii Krauss. Embotje, Pondoland.

Dromidia hirsutissima (Lam.). Mossel Bay.

Dromidia dissothrix Brnrd. Mossel Bay.

Dromidiopsis cornuta Brnrd. Algoa Bay.

Alpheus collumianus Stimpson. Embotje, Pondoland.

Alpheus lottini Guérin. Embotje, Pondoland.

Alpheus bisincisus de Haan. Port St. Johns (Univ. Witwatersrand).

#### ISOPODA.

Cymodocella magna Brnrd. From stomach of fish taken from stomach of Seal shot off Dassen Island, Table Bay. (R. W. Rand 1956).

Artopoles capensis Brnrd. Mossel Bay.

#### Амрнірода.

Orchomenella plicata Schell. Mossel Bay and Knysna.

Leucothoe ctenochir Brnrd. Mossel Bay.

Nototropis swammerdamei (M. Edw.). Mossel Bay.

Liljeborgia kinahani (Bate) var. capensis Brnrd. Mossel Bay.

#### $\mathbf{2}$ K. H. Barnard: Additions to fauna-list of S. African Crustacea

Megaluropus agilis Hoek. Mossel Bay. Siphonoecetes dellavallei Stebb. Hermanus and Mossel Bay. Caprellina spiniger Brnrd. Mossel Bay.

#### DECAPODA.

#### Gen. Caphyra Guérin.

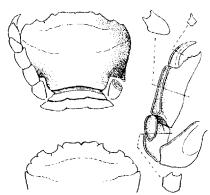
- 1832. Guérin. Ann. Sc. Nat. xxv. p. 285. (Sherborne and Neave incorrectly put; "Col." after this reference; the Prussian Nomenclator is correct).
- 1861. Heller. Verh. zool. bot. Ges. Wien. xi. p. 16. (Camptonyx, nom. preocc. Benson 1858, Moll.).
- 1880. Richters in Moebius, Beitr. Meeresf. Mauritius. . . p. 154.
- 1911. Rathbun. Trans. Linn. Soc. Lond. xiv. p. 204.
- 1928. Monod. Serv. océan. Pêches Indo-chine. Saigon. 8e note, p. 4.

### Caphyra rotundifrons (M. Edw.). Fig. 1.

- 1869. M. Edwards. Nouv. Arch. Mus. Paris, v. p. 156, pl. 7, figs. 11, 12. (Camptonyx r.).
- 1873. Id. ibid. ix, pl. 174.
- 1880.
- Richters, loc. cit. p. 154, pl. 16, figs. 23, 24 (var. tridens). Rathbun. Mem. Mus. Comp. Zool. Harv. xxxv, p. 60, pl. 1, fig. 4. 1907.
- 1911. Id. loc. cit., p. 204.

Carapace, smooth, minutely granulate or shagreened anteriorly and antero-laterally. Front straight or feebly bilobed on either side of the median notch. Inner orbital angle prominent in specimen A, less so in specimens B and C. Antero-lateral margin with four teeth in A, two in B and C (outer orbital angle incl.); in A two of the teeth are merely A faint post-frontal transverse line; a more distinct rounded lobes. line from the last antero-lateral tooth in A, from a scarcely visible notch in B and C.

Fig. 1.



Caphyra rotundifrons (M. Edw.). Above, carapace of specimens B and C, with fifth leg in situ on left side. Below, carapace of specimen A. Inner view of left chela, with

Chelipeds similar  $(\mathcal{P})$ , the left or the right slightly the larger; arm with keeled upper inner margin; wrist with two keels on upper surface uniting proximally, and a keel on outer surface; hand with two keels on upper surface, uniting at base of joint, a more or less distinct keel on outer surface; finger distinctly keeled dorsally, with a faint keel on outer and inner surfaces.

Legs with plumose setæ on anterior surface. On the last leg this surface faces ventrally owing to torsion. Dactylus plus unguis shorter than sixth joint.

Length 7-8 mm., breadth 8-9 mm. As preserved, dull cream.

Locality: Durban,  $3 \stackrel{QQ}{=} (1 \text{ ovig.})$ , taken amongst Alcyonarians in a rock-pool, Dec. 1955. (U.C.T.).

Distribution.—Mauritius, Seychelles, New Caledonia and Samoan Islands.

Remarks.—Richters described his Mauritian  $\sigma$  as a variety of rotundifrons, but Ward (1942) seems to regard tridens as a separate species. When abundant material has been examined it may possibly be shown that not only tridens, but Richters' two species alata and tricostata are merely forms of rotundifrons. The marked difference in the anterior profiles of the carapace in the present three specimens, all found together in the same pool, indicates considerable variability.

C. alcyoniophila Monod (1928. loc. cit. p. 4, figs. 1-4), from an Aleyonium on the coast of Annam, differs in having no double keels on the wrist and hand of the chelipeds.

#### ISOPODA.

#### Gen. Haliophasma Haswell.

Haliophasma ornatum, n. sp. (Fig. 2).

At first sight might be mistaken for  $Mesanthura\ catenula\$ with variant or incompletely developed markings. The shape of the maxilliped, however, is typical of  $Haliophasma\ (1925,\ Barnard.\ J.\ Linn.\ Soc.\ Lond.\ xxxvi.\ fig.\ 1\ d)$ ; and the fifth joint of peraeopods 4–7 does not underride the sixth.

The telson is similar to that of *coronicauda* Brnrd. 1925 (see Barnard, 1940. Ann. S. Afr. Mus. xxii. fig. 3 d), but thicker, more convex dorsally, and convex also ventrally. Outer ramus of uropod ovate, distal joint of inner ramus longer than broad.

Length 10 mm.

Locality: Sea Point, near Cape Town, intertidal. (U.C.T.).

#### Gen. Arcturina Koehler.

1911. Koehler. Bull. Inst. oc. Monaco, No. 214, p. 53.

1925. Barnard. Ann. S. Afr. Mus. xx, p. 398.

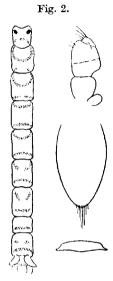
One point in my diagnosis (p. 400) of this genus requires consideration : the modification of the *first* pleopod in 3.

Koehler's figures of other species, in the paper cited, show a typical second pleopod with the appendix interna (masculina) articulated to the inner margin of the endopod; his figure of Arcturina rhomboidalis (fig. 34b) is similar, but he labels it first and describes it as the first pleopod in his text. I think this must be a laps. cal. For the time being this character should be excluded from the generic diagnosis.

On the other hand in some other Astacillid genera a modified first pleopod & does occur, e.g. Antarcturus (1914, Barnard, Ann. S. Afr. Mus.

x. pl. 18 B, and 1925, loc. cit. fig. 1; and 1921, Tattersall, Terra Nova Exp. Rep. III. 8, fig. 1 A and pl. 8, figs. 1, 2). Here the exopod is indurated and grooved.

Tattersall has also recorded a different type of modification in *Pseudarcturella* (1921, loc. cit. fig. 1, B and pl. 10, fig. 10) in which the exopod



Haliophasma ornatum n. sp. Whole animal, maxilliped, and telson with cross-section.

of first pleopod has a process on the inner side resembling the  $\delta$  stylet (app. masc.) on the endopod of a typical second pleopod, but not articulated.

For the description of A. hexagonalis Brnrd. 1925 only QQ were available; and for the n. sp. described below the only Q was not quite mature.

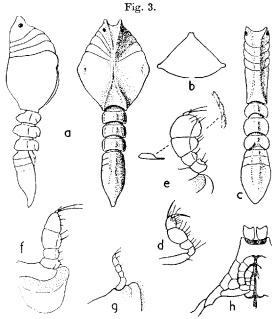
# Arcturina triangularis, n. sp. Fig. 3.

♀.—Head with first four peraeon segments lozenge-shaped in dorsal view, in cross-section triangular. Dorsally a fine keel from each ocular lobe, uniting posteriorly and continuing as a median ridge on peraeon segments 1–3; at base of segment 4 the two keels separate and diverge to the postero-lateral corners. Peraeon segments 5–7 with medio-dorsal ridge and lateral keel. Pleo-telson with double ridge anteriorly.

 $\eth$ .—(probably not fully adult) fourth segment not greatly longer than the preceding head plus segments 1–3. A double ridge from the ocular lobes to postero-lateral angles of segment 4, the two ridges approximating on segments 1–3. Pleo-telson relatively shorter and broader than in  $\Omega$ .

Flagellum of antenna 1 one-jointed, apex with two sensory setæ; on antenna 2 three-jointed, with slender unguiform apex. Maxilliped with large, subtrigonal epipod; a vibratory plate was not observed with certainty.

Peraeopod 1 completely within the buccal chamber, second joint longest, fifth largest, ovate, inner margin with spine-setae, sixth ovate, with spine-setæ distally, seventh narrow, with slender unguis as long as itself, the whole slightly longer than sixth joint. Peraeopods 2–4 indurated, fitting closely together and forming an operculum closing the buccal chamber. Peraeopod 2 robust, third to sixth joints increasing in size and width, thick, with thin scarious, minutely serrulate inner edge; seventh joint minute, no unguis, tipped with two setæ. Peraeopod 3 less robust, third to fifth joints with scarious inner edges, sixth without



Arcturina triangularis n. sp. a, lateral and dorsal views of  $\emptyset$ . b, cross-section at fourth segment. c.  $\emptyset$ , immature. d-g, peraeopods 1–4 respectively of  $\emptyset$ . h, ventral view of buccal cavity closed by peraeopods 2–4.

scarious edge (or only at base). Peraeopod 4 smallest, third to sixth joints of nearly uniform width, seventh minute, with two apical setæ. Peraeopods 5–7 not setose. Inner apex of seventh joint with a seta at base of the unguis.

Pleopod 1 rami slender, not modified (in the present 3). Pleopod 2 3 stylet scarcely exceeding length of endopod, apex pointed but not setose. Concealed ramus of uropod with one long seta.

Length 3 mm., 93.75 mm. As preserved, cream, pale brown, or dark sepia-brown, eyes dark.

Locality: Mossel Bay, 9 metres. (U.C.T.).

Remarks.—Very close to rhomboidalis Koehler from the coast of Mauritania, 80 metres, and Morocco, 55 metres (Koehler, 1911; Monod, 1925). The form of the body is very similar; the anterior and posterior borders of the lozenge (head plus segments 1-4) are slightly concave in Koehler's

figure of  $\mathfrak{P}$ , slightly convex in the present specimens. It is difficult to judge what a cross-section of rhomboidalis would be; according to Koehler's figure, not triangular as in the present specimens; moreover Koehler says (p. 56) "Dans cette région [du losange] la face dorsale est peu convexe, mais la face ventrale est fortement bombée . . . . . " (ital. mine).

As regards the 3 comparison is not possible because there is no fully

adult 3 in the present material.

The second-fourth peracopods are alike in both species. Koehler says peraeopods 1-4 form "une masse compacte qui se termine en avant par un bord vertical. . . " (p. 60); in the lateral view of \$\partial\$ (fig. 31) he shows the first peracopod as visible, which would be quite impossible in the present species (and also hexagonalis Brnrd.) because it arises within, and lies wholly within, the projecting lateral wall of the buccal chamber.

Koehler does not seem to have fully appreciated the peculiar structure of peracopods 2 and 3, the thin inner borders of which allow peracopods 2-4 to fold imbricately (four snugly against three, three against two) and thus in profile form an even curve between ventral surface of head and the fourth peraeon segment (in  $\mathcal{J}$ : in  $\mathcal{D}$  the marsupial plate attached to that segment). Probably in Koehler's material the method of preservation had forced these appendages out of place.

Koehler figures the thin inner margin on the sixth joint of both peraeopods 2 and 3; in the present specimens this thin margin occurs only on third to fifth joints in peracopod 3 (at most on the proximal inner corner of sixth joint); there is in fact no need for it to be on the sixth joint because peraeopod 4 extends only as far as the fifth joint of peraeopod 3 (see fig. 3).

It is obvious that the South African n. sp. and rhomboidalis are congeneric. The question might be asked whether hexagonalis should remain in the same genus. Peraeopods 2-4 show no progressive reduction in size, nor any special modification for fitting tightly together. merely shut together over the buccal chamber, which is further protected by the long setose fringes on fifth to seventh joints. Until the 3 of hexagonalis has been found, the species may remain in Arcturina.

#### AMPHIPODA.

#### Gen. Seba Bate, 1862.

Chilton. Tr. N. Zeal. Inst. xvi, p. 257. (Teraticum).

1889. Chevreux. Bull. Soc. zool. Fr. xiv, p. 283. (*Grimadia*).
1906. Stebbing. Das Tierreich, xxi, pp. 162, 724.
1916. Barnard. Ann. S. Afr. Mus. xv, p. 112. (*Paravalettia*).
1931. Schellenberg. Further zool. Res. Swed. Antaret. Exp. 11, 6, p. 83.

1932. Barnard. Discovery Rep., v, p. 106.

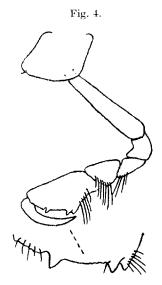
The long third joint of gnathopod 2 evidently misled me in proposing Paravalettia as a new genus in the family Lysianassidae; nor did I discover my mistake in studying the "Discovery" collection.

Schellenberg in 1931 (a paper which was not available to me until after the MS, of my Discovery Report had left my hands) showed that the subadult  $\delta$  has a subchelate first gnathopod, which becomes chelate in the fully adult  $\delta$ .

Seba saundersii Stebb. (Fig. 4.)

1875. Stebbing. Ann. Mag. Nat. Hist. (4) xv, p. 186, pl. 15, figs. 2, 2 a–c. ( $\varphi$ ). 1916. Barnard. loc. cit. p. 112, pl. 26, figs. 2, 3. (Paravalettia chelata,  $\varphi$ ).

An additional ovigerous  $\mathcal{Q}$  has been found in the s.s. *Pieter Faure* collection, taken off Hood Point Lighthouse (East London area) in 49 fathoms.



Seba saundersii Stebb. Gnathopod 1 of immature 3.

The U.C.T. Ecol. Survey has taken a ♂ (subchelate stage) in the same locality where I had found my original ♀ in 1914, viz. : Sea Point near Cape Town.

Gnathopod 1, palm more oblique (i.e. sloping proximally from fingerhinge) than in Chilton's figures 1 b, 1 c, with the tooth nearer to the crenulate ridge than to the defining angle; the latter with two teeth between which the finger-tip closes.

Fourth joint of peraeopods 3 and 4 acutely produced to half length of fifth joint (Schellenberg, 1931, fig. 43 c); of peraeopod 5 strongly expanded (cf. Schellenberg, fig. 46 h of prp. 4 of juv. 3), more so on left than right side.

Stebbing's original (1875)  $\[Qepsilon]$  may possibly have come from Algoa Bay (1888, Challenger Rep. xxix, p. 787). Schellenberg (1931) states that this type specimen is lost, and therefore follows Stebbing 1888 in regarding the "Challenger"  $\[Qepsilon]$  from Magellan Strait as the (neo-) type.

The delimitation of the so-called "species" is not satisfactory; far more information about growth-changes of both sexes is required.

Gen. Ceradocus A. Costa.

Ceradocus rubromaculatus (Stimpson).

Sheard (1939, Rec. S. Austr. Mus. vi. 3, p. 275) revised the genus *Ceradocus* and proposed (p. 299 and in key p. 277) the name *C.* (*Denticeradocus*) capensis for the specimen figured by Stebbing in "Challenger" Report (1888, pl. 95, fig. E.); and also suggested (p. 291) that South African examples needed re-examination.

I have now examined 186 examples  $(\Im\Im, \Im, \Im$ , juv.) from various localities on the west and south coasts. Not a single example has an enlarged *median* tooth on pleon segments 4 and 5 (or any of the segments). The other character used in Sheard's key is variable: the apical spines on each telsonic lobe may be, *e.g.*: two long plus two short, two long plus one short, two long, one long plus two or three very short, three short, four long, three long plus one short.

"C. capensis" is therefore a hypothetical species based on the assumed accuracy of a drawing. Stebbing's accuracy is in no way impugned; but until the "Challenger" specimen is re-examined I offer the following explanation. In one large ♀ specimen examined by me, the submedian denticle on either side of the median one on pleon segments 4 and 5 was larger than the median one, and when viewed in profile hid the latter. Is it perhaps possible that Stebbing drew his specimen in a slightly tilted position so that the submedian tooth appeared as if in the middle line?

Stebbing's text says that the central tooth of the pleon serrations is the most prominent, especially on segments *three* and four, not four and five as his figure shows. He makes no special mention of the Cape specimen figured on pl. 95, fig. E.

Even if the "Challenger" specimen should prove to support Sheard's conception of "capensis", it would be one specimen against 186, which indicates that it should be regarded as a casual variation.

Living examples are mottled, spotted, or banded with rose-pink, sometimes partly suffused, or even uniformly pink; eyes black.

Gen. Eurystheus Bate, 1856.

Eurystheus semichelatus, n. sp. (Fig. 5.)

None of the segments dorsally dentate. Postero-inferior angle of pleon segment 3 quadrate, with oblique line running to a minute notch (cf. Barnard, 1955, Ann. S. Afr. Mus. xliii, fig. 48 g).

Accessory flagellum of first antenna five-jointed.

Gnathopod 1  $\Im$   $\updownarrow$ , second joint nearly parallel-sided, distal margin wider than third joint but not lobed, third not lobed, fifth subequal (upper margin) to sixth, sixth oblong, about twice as long as broad, palm slightly oblique, no defining tooth, finger matching palm, inner margin serrulate; lower margins of fourth to sixth joints with groups of numerous long setæ, sixth joint also with groups of setæ near upper margin.

Gnathopod 2 3, second joint distally lobed, third strongly lobed, fifth triangular, sixth elongate oblong, about twice as long as broad, lower distal corner projecting forwards forming a chela with the short stout finger;

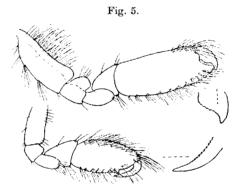
anterior margin of second joint with long setæ, also a few on third, upper margin of sixth distally with four to five transverse series of long setæ, while lower margin with similar series. In  $\[ \varphi \]$  similar to gnathopod 1, but larger and fifth joint triangular, sixth ovoid, palm oblique, with defining tooth, upper and lower margins with short transverse series of setæ.

None of the joints of the peraeopods expanded. Hind margin of second joints of peraeopods three to five very feebly indented, with a few minute setules.

Length 5-6 mm. As preserved, white, faintly speckled with grey dorsally, four or five darker grey spots (not sharply defined) along side of peraeon and pleon, eyes dark brown.

Locality: Embotje, 17 miles north of Port St. Johns (U.C.T.) るる,

ovig. ♀♀. July 1956.



Eurystheus semichelatus n. sp. Gnathopod 2 & and Q.

### Fam. Caprellidae.

#### Eupariambus, nov. gen.

Antenna 2 without swimming setæ, flagellum two-jointed. Mandible with molar and three-jointed palp. Branchiæ on segments 3 and 4. Peracopods 1 and 2 absent. Peracopod 3 reduced to two joints, without claw. Peracopods 4 and 5 normal, elongate, sixth joint cylindrical, with one or two basal spines. Abdomen  $\Im$  with one pair rudimentary appendages,  $\Im$  with none.

Remarks.—The mandibular palp occurs in all the specimens, which, except for this feature, could be included in Pariambus Stebb. (Mayer uses Kröyer's preoccupied name Podalirius); in fact they might even be referable specifically to P. typicus. But Mayer has laid stress on the various forms of the mandibular palp, and its absence, as a generic character, and consequently a new genus seems necessary.

## Eupariambus fallax, n. sp. (Fig. 6.)

Body smooth, glabrous. Head rounded in front. Antenna 1, no basal tubercle on third peduncular joint in 3, flagellum nine- to ten-jointed; antenna 2 flagellum two-jointed, first joint a little longer than second.

Mandible with five-dentate cutting-edge, feebly dentate secondary cuttingedge, spine-row of two spines, and well-developed molar; palp slender, three-jointed, third joint with a single long apical seta (cf. palp of Protomima; Mayer 1903, pl. 9, fig. 6). Maxilliped inner plate narrow, with apical denticle and two setæ, outer plate with undulate inner margin and one apical seta (cf. Pariambus typicus: Mayer, 1890, pl. 6, fig. 17); penultimate joint of palp with apical process, ultimate joint slender, non-setose.

Gnathopod 2 attached in middle of segment, second joint not quite as long as segment, second and third joints not keeled; sixth joint, in immature 5 mm. specimen, with basal lobe and spine only, palm, evenly convex, spinulose; subadult with acute palmar tooth; adult 3 and 9 without sexual difference, palmar tooth strongly developed, with stout spine.





Eupariambus fallax n.g., n. sp. Gnathopod 2 of mature 3 and 2. Palm of gnathopod 2 of immature. Ventral lappets on fifth peraeon segment Q, with peraeopod 3. Mandible.

Peraeopod 3 reduced to a two-jointed rudiment, second joint slightly longer than first, with four to five apical setæ. Peraeopods 4 and 5 elongate, slender, sixth joint cylindrical, with one, or usually two basal spines, seventh joint strongly curved.

Branchiæ pear-shaped, stalked. A submedian pair of small lappets on ventral surface of fifth segment in  $\mathcal{P}$  (as figured for P. typicus by Mayer, 1903, pl. 10, figs. 8, 9). Both pairs of oostegites with marginal setæ, but more setæ on the anterior than on the posterior pair.

Length & 8 mm., \$\to 7\$ mm. As preserved, white, eyes faintly brown.

Locality: off St. Helena Bay: 32° 23′ S., 17° 48′ E. 143 metres. 4. ii. 1953, 2 33, 1  $\circlearrowleft$ ; and 32° 26′ S., 17° 28′ E. 208 metres. 5. iv. 1947,  $4 \stackrel{?}{\sim} 3$ ,  $2 \stackrel{?}{\sim} 2$  (one of the latter immature). (U.C.T.).

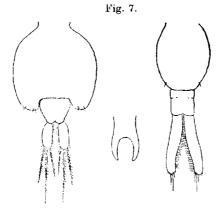
COPEPODA PARASITICA.

Gen. Caligus Müller.

Barnard, 1955, Ann. S. Afr. Mus. xliii, p. 99, gives an extended key to the South African species known to that date. The following species falls under II.B. 3 a, and is easily distinguished from the only other species, engraulidis, by the genital segment and the & caudal rami.

Caligus hottentotus, n. sp. (Fig. 7).

- $\bigcirc$ . 4-4·5 mm. (excl. caudal rami), carapace 3 mm. Carapace more than half total length. Genital segment slightly wider than long in middle line, but longer than wide if posterior lobes are included; posterior Abdomen one-segmented, about as long as lobes with three setules. wide, slightly tapering. Caudal rami as long as abdomen, inner margin with fringe of fine setules, each apex with one very short seta at inner corner, two very short setæ at outer corner, tip with three long setæ of unequal length, the shortest (inner one) longer than the ramus; all setæ, long and short, plumose. Furca with narrow actute prongs. Fourth leg three-jointed. Ovisacs 3 mm. in length.
- 3.—3.5 mm. (excl. caudal rami). Carapace more than half total length. Genital segment longer than wide, barrel-shaped, with seta on outer margin distally. Abdomen slightly longer than basal width, quadrangular, obscurely two-segmented, notched laterally but suture not traceable dorsally. Caudal rami twice as long as abdomen, divergent distally, inner margin with fringe of fine setules, apex with plumose setæ as in Q but the length of the long ones not more than twice width of ramus.



Caligus hottentotus n. sp. Genital segment and abdomen of Q and J. Furca.

on the Hottentot fish (Pachymetopon blochi), Table Bay Locality:(R. W. Rand).

There are many precedents, from 1766 onwards, for latinising the name hottentot.

Gen. Gloiopotes Steenstrump & Lütken.

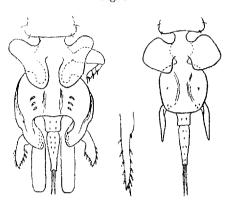
1907. Wilson. Proc. U.S. Nat. Mus. xxxi, p. 698 (key to species). 1932. Id. Bull. U.S. Nat. Mus. No. 158, p. 415.

Gloiopotes auriculatus, n. sp. (Fig. 8.)

In general resembling ornatus Wilson 1905. (♀ figured 1907, loc. cit. pl. 17; & loc. cit. 1932).

Q.—10 mm. (excl. caudal rami), width of carapace 6 mm. Posterior median lobe of thorax with two spines on each postero-lateral rounded corner. Dorsal plates of fourth segment completely separate, lobately auriculate. Genital segment with a longitudinal series of three spines on either side of the dorsal convexity; posterior lobes spinulose on inner surface, the ovate projection spinose on inner and outer margins, those on the latter inserted ventrally. Abdomen with two pairs of spines

Fig. 8.



Gloiopotes auricularius n. sp. Fourth thoracic and genital segments, and abdomen of  $\varphi$  and  $\delta$ . Lateral view of caudal ramus, dorsal edge to right.

on first segment, with three pairs and a median one on second segment. Caudal rami laterally compressed, spinose on dorsal and ventral margins. Antenna 1 visible dorsally. Appendages and furca as in *ornatus*. Ovisacs cylindrical, extending only slightly beyond tips of caudal rami.

3.-9 mm. (excl. caudal rami), width of carapace 4.5 mm. Dorsal plates of fourth segment completely separate, subtriangular, projecting laterally. Genital segment with a small spine on each half near centre, and three to four on each rounded postero-lateral corner. Abdomen with one pair of spines on first segment, three pairs and two median alternating on second segment. Caudal rami as in 9.

Locality: on a Striped Marlin (Makaira) caught at Mossel Bay, February 1956. Specimens collected by U.C.T. when the fish was exhibited in Cape Town.

Differs from the other three species by the completely separated dorsal plates of the fourth segment.