

Diagnosis

Integument finely granulate. Eyes well pigmented. Male, head with two pairs of submedian conical processes; all pereonites with two pairs of elongate conical processes; second fused pleonite inflated, with six elongate processes; third fused pleonite with four elongate processes; pleotelson tapering posteriorly, dorsally flexed, acute, with one pair of submedian processes, lateral angle produced into elongate process. Female with pereonites 2-3 each with single anterior middorsal elongate process, epimera triangular, acute, with one or two small spines on anterior margin; epimeron of pereonite 4 truncate, with anterior spine. Male with bases of pereopods 5-6 with laterally directed spinose process; merus of pereopods 2-4 with distolateral spinose process. Female with pereopods 2-4 armed with spines on merus, ischium, basis, and coxa; coxal processes of pereopods 2-4 subcircular, increasing in size posteriorly; pereopods 5-6 with single spinose process on outer margin of basis. Pleopod 1 ♂, exopod with finely setulose lobe distal to end of groove elongate, rounded, extending beyond rounded distal margin; latter with nine elongate plumose setae; endopod three-fourths length and subequal in width to exopod. Copulatory stylet of pleopod 2 endopod with groove widening distally into hollowed area.

Remarks

Microarcturus longispinus resembles *M. rugosus* Nordenstam, 1933, in possessing elongate conical processes on the head, pereon, and pleon. The Antarctic species, however, has two elongate terminal pleotelsonic spines, unlike the single elongate posterior half of the pleotelson of the present species.

Etymology

The specific name is derived from the elongate spines on the head, pereon, and pleon seen in both the male and female.

Microarcturus nordenstami sp. nov.

Fig. 17

Material

East London area. Holotype SAM-A17812, SM 185, 33°39'S 27°11'E, 90 m, 1 ovig. ♀, TL 6,9 mm; allotype, 1 ♂, TL 5,4 mm. Paratypes SAM-A17813, SM 185, 90 m, 8 ♂, 8 ovig. ♀, 4 ♀, 9 juvs. Paratype SAM-A17814, SM 163, 33°04'S 28°06'E, 90 m, 1 ovig. ♀. Paratype SAM-A17815, SM 226, 32°28'S 28°58'E, 710-775 m, 1 ♂. Paratypes USNM 189074, SM 185, 90 m, 4 ♂, 4 ovig. ♀.

Diagnosis

Dorsolateral eyes large, well pigmented. Integument highly ornamented, with numerous rounded and acute granulate tubercles. Female with heavy granulate tripartite supraocular ridge. Pereonites 2-3 each with two strong

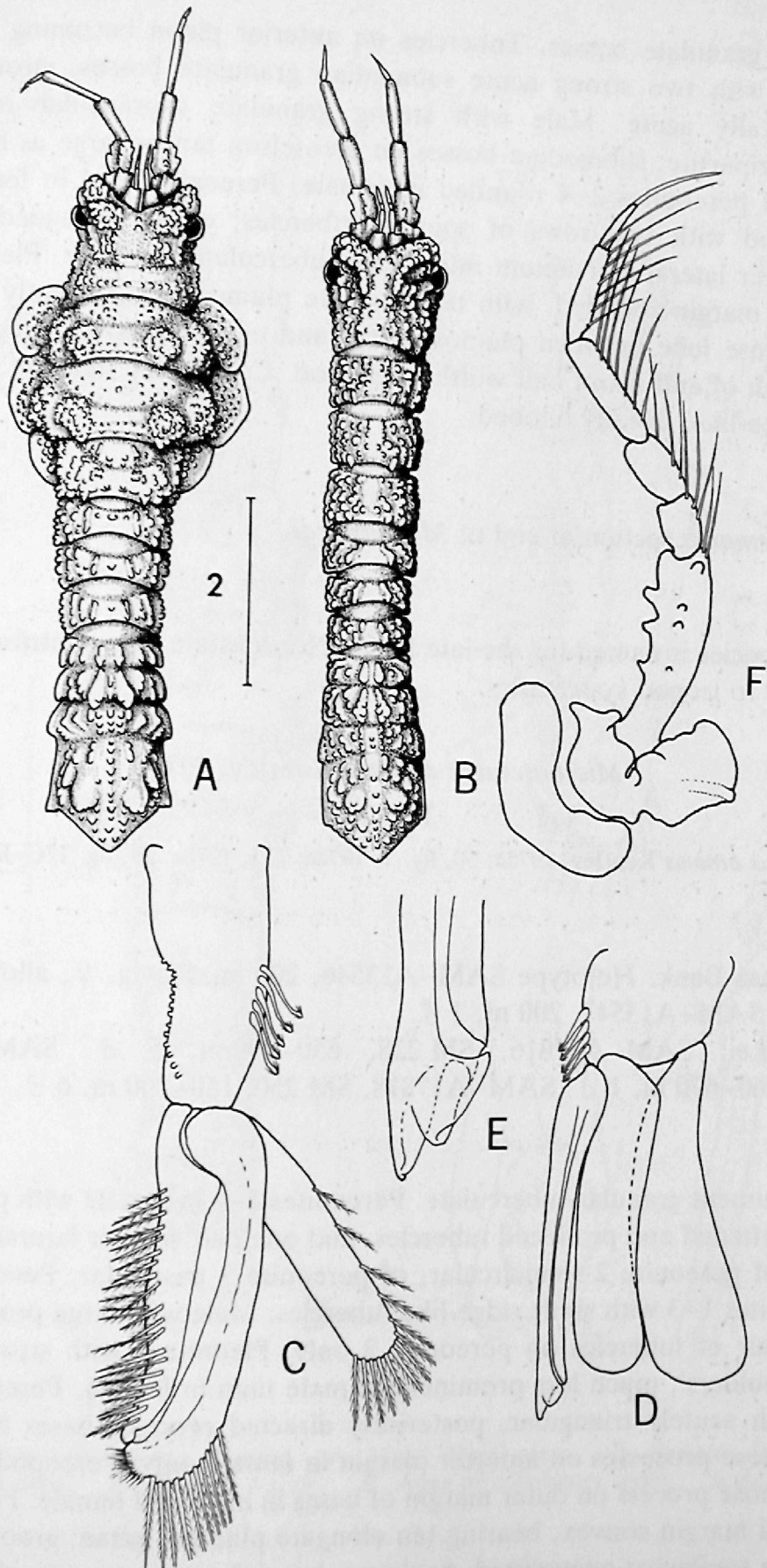


Fig. 17. *Microarcturus nordenstami* sp. nov. A. Female, dorsal view. B. Male, dorsal view. C. Pleopod 1 male. D. Pleopod 2 male. E. Apex of copulatory stylet. F. Pereopod 1. Scale = 2 mm.

submedian granulate bosses. Tubercles on anterior pleon becoming elongate; pleotelson with two strong acute submedian granulate bosses, strong lateral angle, apically acute. Male with strong granulate supraocular ridge, not markedly tripartite; submedian bosses on pleotelson not as large as in female. Epimera of pereonites 2–4 rounded in female. Pereopods 2–4 in female with bases armed with two rows of spinose tubercles; coxae expanded posteromesially over lateral marsupium into broad tuberculate structure. Pleopod 1 ♂ with distal margin rounded, with ten elongate plumose setae; gently rounded, finely setulose lobe between plumose setae and end of groove; endopod five-sixths length of and about half width of exopod. Copulatory stylet of pleopod 2 exopod tube-like, distally bilobed.

Remarks

See *Remarks* section at end of *M. barnardi*.

Etymology

The species is named for the late Dr A. Nordenstam who contributed much knowledge to isopod systematics.

Microarcturus ornatus Kensley, 1975

Fig. 18

Microarcturus ornatus Kensley, 1975a: 50, fig. 7; 1978a: 133; 1978e: 28, fig. 12C–E.

Material

Agulhas Bank. Holotype SAM–A13546, 200 m, 1 ovig. ♀; allotype, 1 ♂. Paratypes SAM–A13547, 200 m, 2 ♂.

Transkei. SAM–A17816, SM 228, 650–700 m, 5 ♂. SAM–A17817, SM 236, 660–670 m, 1 ♂. SAM–A17818, SM 250, 150–200 m, 6 ♂.

Diagnosis

Integument granular-tuberculate. Pereonites 2–4 in female with pair of submedian flattened and produced tubercles, and one pair smaller lateral tubercles; epimera of pereonite 2 semicircular, of pereonite 3 triangular. Pereonites 5–7 and pleonites 1–3 with short ridge-like tubercles. Male with large produced submedian pair of tubercles on pereonite 2 only. Pleonite 2 with strong apically acute 'shoulders', much less prominent in male than in female. Pereopods 2–4, coxae with acutely triangular, posteriorly directed process; bases armed with acute spinose processes on anterior margin in female only. Pereopods 5–7 with single spinose process on outer margin of bases in male and female. Pleopod 1 ♂ with distal margin convex, bearing ten elongate plumose setae; groove opening distally on somewhat convoluted, finely setulose lobe, separated by distinct cleft from distal setose lobe; endopod about five-sixths length and half width of exopod. Copulatory stylet of pleopod 2 endopod distally bilobed.

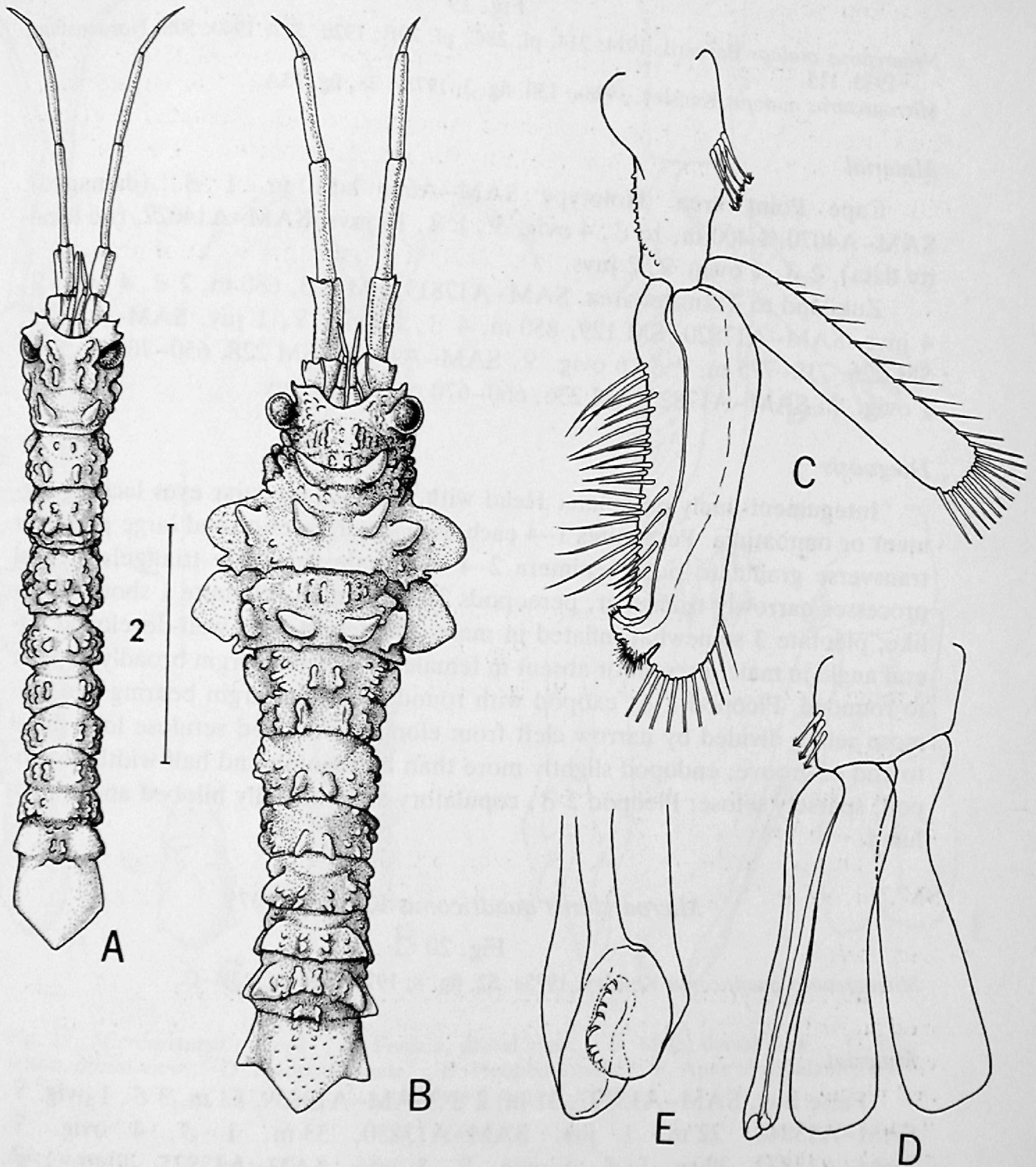


Fig. 18. *Microarcturus ornatus* Kensley A. Male, dorsal view. B. Female, dorsal view. C. Pleopod 1 male. D. Pleopod 2 male. E. Apex of copulatory stylet. Scale = 2 mm.

Microarcturus oudops (Barnard, 1914)

Fig. 19

Neoarcturus oudops Barnard, 1914: 214, pl. 28C, pl. 29B; 1920: 397; 1940: 508. Nordenstam, 1933: 115.

Microarcturus oudops: Kensley, 1978a: 130, fig. 3; 1978e: 28, fig. 13A.

Material

Cape Point area. Holotype SAM-A69, 1 510 m, 1 ♂, (damaged). SAM-A4070, 1 400 m, 16 ♂, 4 ovig. ♀, 1 ♀, 16 juvs. SAM-A14027, (no locality data), 2 ♂, 1 ovig. ♀, 2 juvs.

Zululand to Transkei area. SAM-A17819, SM 103, 680 m, 2 ♂, 4 ovig. ♀, 4 juvs. SAM-A17820, SM 129, 850 m, 4 ♂, 2 ovig. ♀, 1 juv. SAM-A17821, SM 226, 710-775 m, 7 ♂, 6 ovig. ♀. SAM-A17822, SM 228, 650-700 m, 5 ♂, 1 ovig. ♀. SAM-A17823, SM 236, 660-670 m, 1 ♂, 1 juv.

Diagnosis

Integument finely granulate. Head with rounded granular eyes lacking pigment or ommatidia. Pereonites 1-4 each with small anterior and large posterior transverse granulate ridge; epimera 2-4 in female shallowly triangular; coxal processes narrowly triangular, pereopods 2-4 unarmed. Pleonite 1 short, ridge-like; pleonite 3 somewhat inflated in male. Pleotelson with well-developed lateral angle in male, present or absent in female; posterior margin broadly angular to rounded. Pleopod 1 ♂, exopod with rounded distal margin bearing five plumose setae, divided by narrow cleft from elongate-rounded setulose lobe distal to end of groove; endopod slightly more than half length and half width of exopod, sparsely setose. Pleopod 2 ♂, copulatory stylet distally bilobed and convoluted.

Microarcturus quadriconus Kensley, 1975

Fig. 20

Microarcturus quadriconus Kensley, 1975a: 52, fig. 8; 1978e: 28, fig. 13B-C.

Material

False Bay. SAM-A13777, 31 m, 2 ♂. SAM-A13839, 53 m, 3 ♂, 1 ovig. ♀. SAM-A13848, 22 m, 1 juv. SAM-A13850, 33 m, 1 ♂, 4 ovig. ♀. SAM-A13873, 39 m, 1 ♂, 1 ovig. ♀, 3 juvs. SAM-A13875, 40 m, 1 ♂, 5 ovig. ♀. SAM-A13876, 39 m, 2 ovig. ♀. SAM-A13904, 75 m, 1 ovig. ♀. SAM-A13905, 40 m, 1 ovig. ♀, 1 juv. SAM-A17867, 3 ♂, 2 ovig. ♀, 1 ♀, 1 juv.

Agulhas Bank. Holotype SAM-A13548, 80 m, 1 ovig. ♀; allotype, 1 ♂. Paratypes SAM-A13549, 80 m, 2 ovig. ♀.

East London area. SAM-A17824, SM 179, 80 m, 2 ♂, 5 ovig. ♀. SAM-A17825, SM 180, 80 m, 8 ♂, 12 ovig. ♀, 1 ♀, 22 juvs.

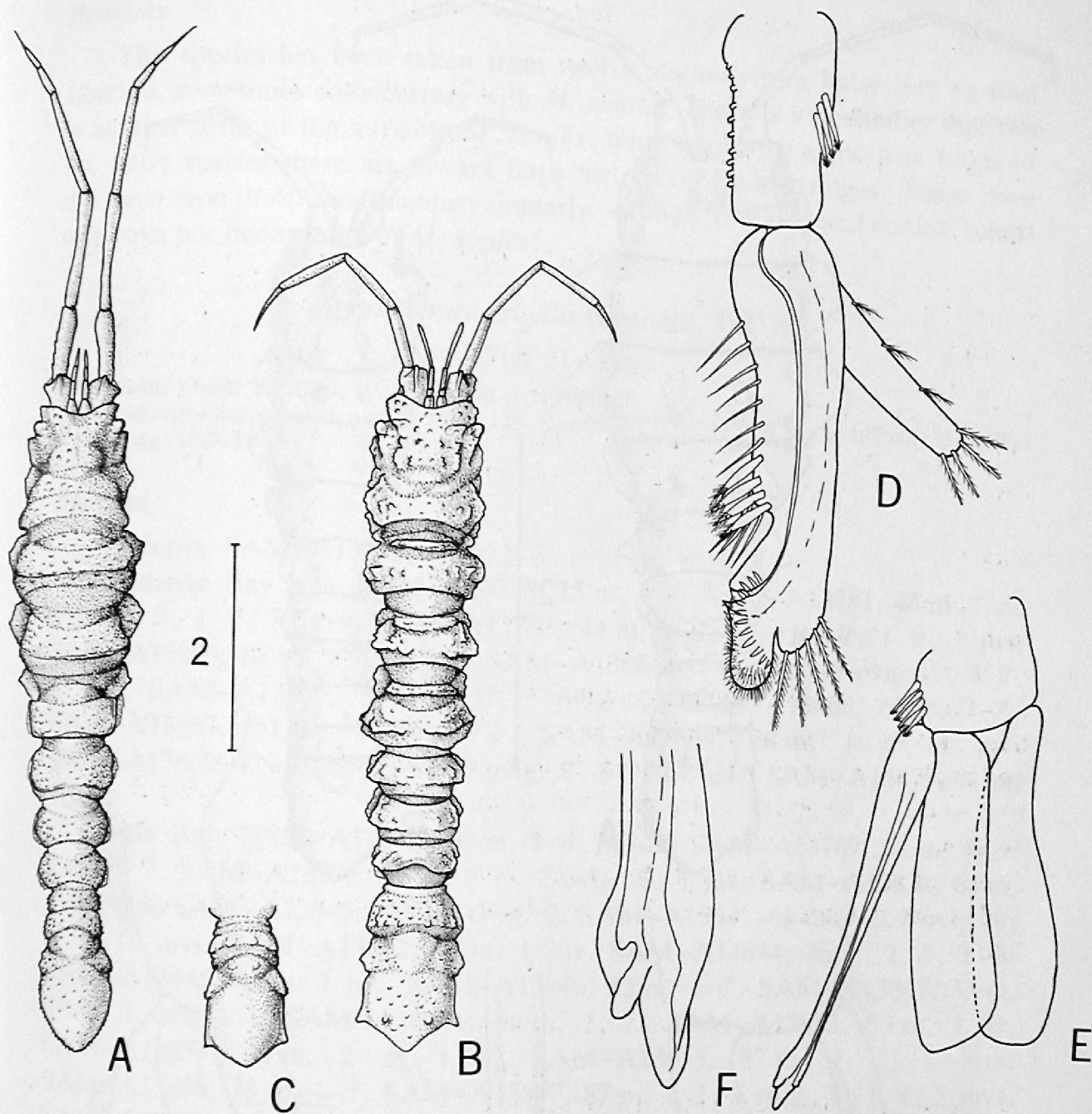


Fig. 19. *Microarcturus oudops* A. Female, dorsal view. B. Male, dorsal view. C. Pleotelson, dorsal view. D. Pleopod 1 male. E. Pleopod 2 male. F. Apex of copulatory stylet. Scale = 2 mm.

Diagnosis

Integument smooth, lacking scattered small tubercles; with low conical processes, two on head, four on pereonites 1–4 each, two on pereonite 5, becoming obsolete posteriorly; middorsal rounded tubercle at base of pleotelson. Epimera 2 and 3 triangular, subacute in male and female. Pleotelson pentagonal, lateral angles more marked in female than in male. Pleopod 1 ♂, exopod very similar to that of *Microarcturus similis* and *M. dayi*; endopod subequal in length and width to exopod. Copulatory stylet as in *M. similis* and *M. dayi*, apically simple.

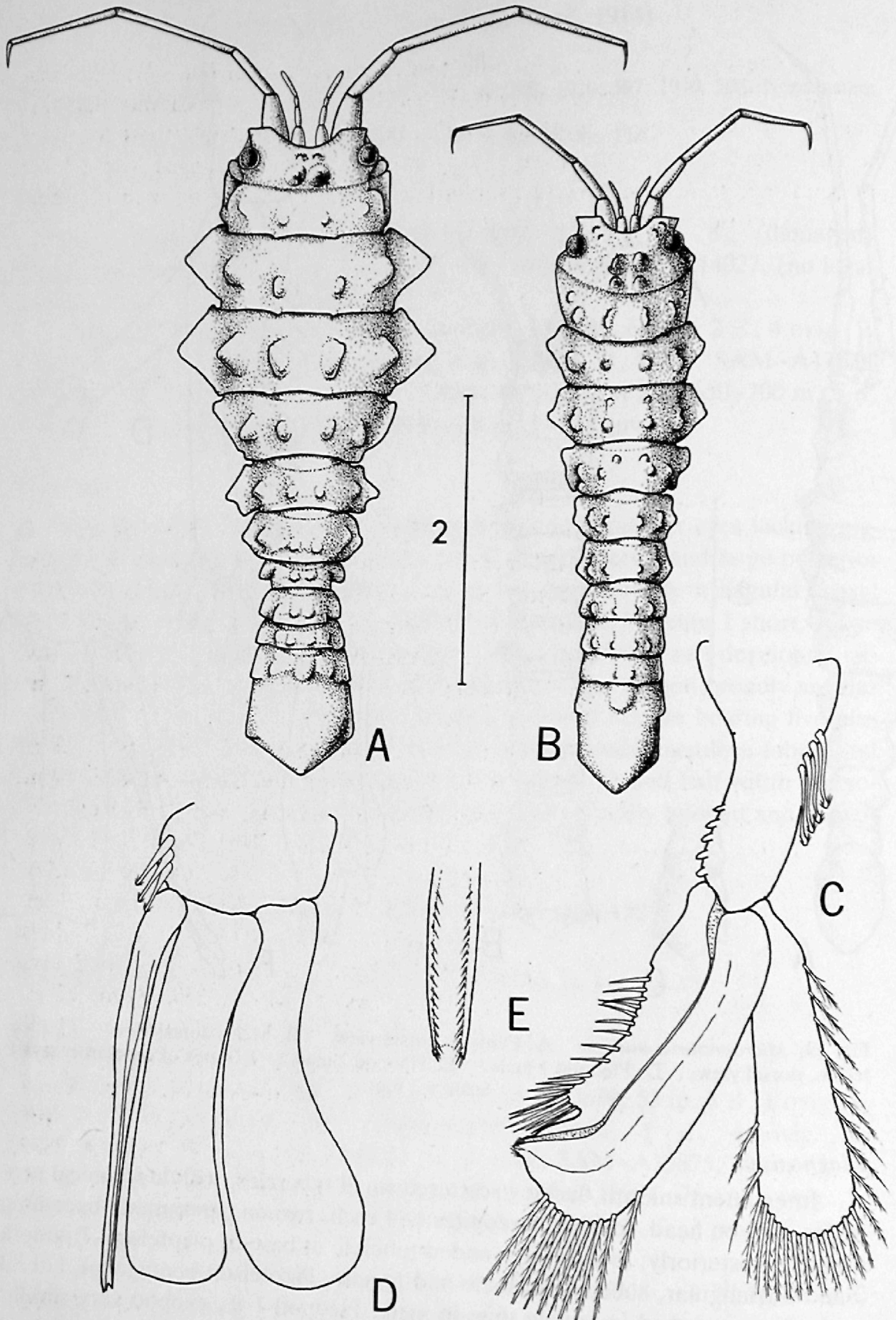


Fig. 20. *Microarcturus quadriconus* Kensley
 C. Pleopod 1 male. D. Pleopod 2 male.

A. Female, dorsal view. B. Male, dorsal view.
 E. Apex of copulatory stylet. Scale = 2 mm.

Remarks

This species has been taken from twelve stations from False Bay to East London, sometimes co-occurring with *M. similis*. There is a possibility that this is another form of the variable *M. similis*, but even in the smoothest forms of the latter species there are always fairly strong submedian ridges. These have not been seen in *M. quadriconus*; similarly, strongly rounded and conical tubercles have not been noted in *M. similis*.

Microarcturus similis (Barnard, 1925)

Figs 21-22

Antarcturus similis Barnard, 1925: 395, fig. 1; 1940: 508.*Microarcturus similis*: Nordenstam, 1933: 128. Kensley, 1975a: 47, figs 5a-b; 1978a: 133; 1978e: 31, fig. 13D-E.*Material*

Lüderitz. SAM-A13902, 35 m, 3 ♂.

Saldanha Bay area. SAM-A13778, 15 m, 1 ♀. SAM-A13781, 44 m, 1 ♂, 1 ovig. ♀, 1 ♀, 8 juvs. SAM-A13782, 44 m, 2 ♂, 2 ovig. ♀, 1 ♀, 1 juv. SAM-A13863, 68 m, 1 ♂, 1 juv. SAM-A13864, 65 m, 6 ♂, 3 ovig. ♀, 3 ♀, 6 juvs. SAM-A13865, 78 m, 1 ♂, 1 ovig. ♀. SAM-A13866, 62 m, 3 ♂. SAM-A13867, 51 m, 1 ovig. ♀. SAM-A13868, 78 m, 1 ♂, 1 juv. SAM-A13869, 42-51 m, 26 ♂, 10 ovig. ♀, 8 ♀, 64 juvs. SAM-A13870, 71 m, 1 juv.

False Bay. SAM-A13776, 38 m, 1 ♂, 1 juv. SAM-A13769, 60 m, 3 ♂, 2 ovig. ♀. SAM-A13775, 75 m, 6 ♂, 2 ovig. ♀, 1 juv. SAM-A13838, 64 m, 1 ♂, 1 juv. SAM-A13840, 33 m, 1 ovig. ♀. SAM-A13841, 66 m, 4 ♂, 8 ovig. ♀, 3 ♀, 11 juvs. SAM-A13842, 71 m, 1 juv. SAM-A13844, 36 m, 1 ♂, 1 ♀. SAM-A13845, 42 m, 1 juv. SAM-A13846, 33 m, 1 ♂. SAM-A13847, 33 m, 5 ♂, 3 ovig. ♀. SAM-A13851, 36 m, 1 ♀. SAM-A13853, 53 m, 1 ♂. SAM-A13854, 60 m, 2 ♂, 1 ♀. SAM-A13855, 87 m, 1 ♂, 2 juvs. SAM-A13856, 73 m, 1 ♂. SAM-A13857, 87 m, 2 ♂, 1 ovig. ♀, 1 ♀, 5 juvs. SAM-A13858, 48 m, 4 ♂, 1 ovig. ♀, 3 juvs. SAM-A13859, 87 m, 23 ♂, 14 ovig. ♀, 8 ♀, 20 juvs. SAM-A13860, 31 m, 3 ♂, 2 ovig. ♀, 4 ♀. SAM-A13861, 1 ovig. ♀. SAM-A13862, 26 m, 1 ♂, 1 ovig. ♀. SAM-A13871, 68 m, 2 ♂, 1 juv. SAM-A13872, 40 m, 1 juv. SAM-A13874, 48 m, 1 juv. SAM-A13877, 41 m, 1 ♀. SAM-A13878, 68 m, 1 ovig. ♀, 1 juv. SAM-A13880, 31 m, 4 ♂, 1 ♀. SAM-A13881, 73 m, 1 ovig. ♀. SAM-A13882, 31 m, 1 ♀. SAM-A13896, 28 m, 1 ♂, 1 juv. SAM-A13897, 75 m, 19 ♂, 8 ovig. ♀, 4 ♀, 10 juvs. SAM-A13898, 1 ♀. SAM-A13903, 80 m, 1 ♂, 1 ♀, 1 juv. SAM-A17826, 87 m, 1 ♂, 1 juv. SAM-A17827, 66 m, 1 ♂. SAM-A17828, 40 m, 4 ♂, 4 ovig. ♀, 7 ♀, 5 juvs.

Agulhas Bank. Syntypes SAM-A5951, 84 m, 1 ovig. ♀, 1 ♀. SAM-A5953, 86 m, 1 ♂. SAM-A5954, 80 m, 2 ♀. SAM-A13765, 50 m, 1 ♂. SAM-A13766, 50 m, 1 ovig. ♀. SAM-A13767, 50 m, 1 ♀. SAM-A13884, 79 m, 3 ♂.

2 ovig. ♀. SAM-A13885, 49 m, 1 ovig. ♀, 1 juv. SAM-A13886, 44 m, 4 ♂, 4 ovig. ♀, 1 ♀. SAM-A13887, 73 m, 1 ♂, 1 juv. SAM-A13888, 48 m, 1 juv. SAM-A13889, 42 m, 4 ♂, 4 ovig. ♀, 2 ♀, 1 juv. SAM-A13890, 36 m, 1 ovig. ♀. SAM-A13891, 78 m, 2 juvs. SAM-A13892, 32 m, 2 ♀. SAM-A13893, 45 m, 1 ovig. ♀. SAM-A13894, 46 m, 1 ovig. ♀. SAM-A13901, 43 m, 1 ovig. ♀.

Diagnosis

Integumental sculpturing varying from very granular to almost smooth, in all cases with double submedian dorsal series of elongate ridge-like tubercles on head, pereonites, and three fused pleonites. Epimera of pereonites 2-4, especially in female, broadly triangular, subacute. Pleotelson pentagonal, with distinct lateral angle. Bases of pereopods 2-4 unarmed in male and female. Pleopod 1 ♂, exopod distally rounded, with nine plumose setae, area between setose distal margin and end of groove almost straight; endopod subequal in length and width to exopod. Copulatory stylet of pleopod 2 endopod distally simple, open, gutter-like.

Remarks

Barnard (1925) remarked on the superficial similarity of his species to *Arcturus simplicissimus* Whitelegge, 1904, but noted that the antennae differed markedly. *Arcturus stebbingi* Beddard, 1886, which Barnard also mentioned, is unmistakably an *Antarcturus*, with very elongate antennae, anterior 'horns' on the head, and strong submedian spines on the pleon, and bears little resemblance to *M. similis*.

Barnard's syntypic material of this species (SAM-A5951) is a mixture of two specimens of *M. similis* and several specimens of *M. dayi*, hence his remarks on the variability of the tubercles (1925: 396).

Microarcturus youngi Kensley, 1978

Fig. 23

Microarcturus youngi Kensley, 1978a: 131, fig. 4; 1978e: 31, fig. 13E-G.

Material

Zululand to Transkei area. Holotype SAM-A15465, SM 86, 550 m, 1 ovig. ♀, TL 5,8 mm; allotype, 1 ♂, TL 6,0 mm. Paratypes SAM-A15466, SM 103, 680 m, 8 ♂, 10 ♀, 37 juvs. Paratypes SAM-A17829, SM 86, 550 m, 12 ♂, 5 ♀, 3 ovig. ♀, 50 juvs. SAM-A17830, SM 123, 690 m, 1 ♂. SAM-A17831, SM 129, 850 m, 3 ♂, 2 juvs. SAM-A17832, SM 226, 710-775 m, 4 ♂, 2 ovig. ♀, 1 juv.

Diagnosis

Eyes well pigmented. Integumental sculpturing varying, especially in male, from relatively smooth to having small scattered granules. Epimera of pereonites 2-3 in female laterally rounded to bluntly triangular. Pereonites 2-3 with