

Remarks

The present species belongs to the groups of species possessing well-separated obliquely-inserted uropods (Barnard 1965: 200), which includes *J. stebbingi* Kensley, 1975, *J. paulensis* Vanhöffen, 1914, and *J. waltervadi* Kensley, 1975. Both *J. waltervadi* and *J. stebbingi* each possess a pleon with serrate margins. *J. monsmarinus* most closely resembles *J. paulensis*, especially in rostral shape and mouthparts. Vanhöffen's species, however, does not have a hook on the inner distal angle of the uropod, while the triangular terminal part of the pleopod 1 ♂ is broader than in the present species. Considering the isolated nature of Vema, *J. monsmarinus* possibly represents a population of *J. paulensis* (known from Gough, St Paul and Amsterdam Islands) which has become genetically isolated.

Etymology

The specific name is the Latin for 'seamount'.

Order DECAPODA

SPECIES LIST

	<i>Material</i>	<i>Station No.</i>	<i>Locality</i>	<i>Distribution</i>
* material not seen				
Family Penaeidae				
<i>Funchalia villosa</i> (Bouvier)	11 ♂ 7 ♀ 40 juv.		Vema, from tuna stomach	eastern and western North Atlantic, Caribbean, South and Central Atlantic to Natal
Family Ophlophoridae				
<i>Notostomus auriculatus</i> Barnard	1 ♀	IK 52	Vema	off Cape Point
Family Alpheidae				
* <i>Alpheus macrocheles</i> (Hailstone)			Vema	Mediterranean, Great Britain, Antilles, Guinea, Sao Tome
✓ <i>Synalpheus huluensis africanus</i> Croisnier & Forest	5 ♂ 5 ovig. ♀ 12 juv. 1 ♀	VEM 2.3 VEM 4.6	Vema, 39 m Vema, 42 m	Guinea, Sao Tome, Cape Verde Is., Principe, Annobon
Family Hippolitidae				
✓ <i>Eualus ctenifera</i> (Barnard)	1 ♂ 11 ♂ 16 ♀ 1 ovig. ♀ 1 ♀ 1 ♀	VEM 2.2 VEM 2.2 VEM 3.2 VEM 3.3	Vema, 39 m Vema, 48 m Vema, 50 m	Port Elizabeth to Natal, Walter's Shoal
Family Crangonidae				
* <i>Pontophilus sculptus</i> (Bell)			Vema	False Bay to Durban, Mediter- ranean, North Atlantic
Family Palinuridae				
<i>Jasus tristani</i> Holthuis			Vema	Tristan da Cunha
Family Paguridae				
* <i>Pagurus chevreuxi</i> Bouvier			Vema	Mediterranean
✓ <i>Pagurus cuanensis</i> (Bell)	1 ♂	VEM 4.5	Vema, 42 m	False Bay to Port Elizabeth, North Atlantic, west Africa, Mediterranean
Family Galatheidae				
<i>Eumunida picta</i> Smith	1 ♀ 1 ♂ 1 ♀		Off Lüderitz Seamount Tripp	North-western Atlantic, Cuba, Florida, New Zealand, Australia
<i>Galathea</i> sp.	1 ♂	VEM 2.3	Vema, 39 m	
Family Lithodidae				
<i>Lithodes murrayi</i> Henderson	2 ♂ 3 ♂		Off Lüderitz Off South West Africa	St Paul and Amsterdam Is. Prince Edward Is., Crozet Is., off Natal
Family Dromiidae				
<i>Pseudodromia cacuminis</i> sp. nov.	1 ♂ 1 ♂ 1 ♀ 1 ♀	VEM 3.2 VEM 4.2 VEM 4.4 VEM 4.6	Vema, 48 m Vema, 40 m Vema, 40 m Vema, 42 m	
Family Homolidae				
<i>Paromola alcocki</i> (Stebbing)	1 ♀		Off Lüderitz 800 m	Port Elizabeth, Mozambique, Maldives
<i>Paromola cuvleri</i> (Risso)	1 ♂ 1 ovig. ♀		Off Lüderitz, 800 m Seamount Tripp	eastern North Atlantic, Medi- terranean, west Africa

	Material	Station No.	Locality	Distribution
Family Maiidae				
<i>Macropodia cirripilus</i> sp. nov.	1 ♀	VEM 4.4	Vema, 40 m	
	1 ♂	VEM 15M	Vema, 40 m	
Family Xanthidae				
<i>Pilumnus</i> sp.	1 ♂ 4 juv.	VEM 2.3	Vema, 39 m	
	1 ♂	VEM 3.3	Vema, 50 m	
* <i>Pseudactaea corallina</i> (Alcock)			Vema	Indo-Pacific
Family Grapsidae				
<i>Plagusia chabrus</i> (Linnaeus)	1 ♂ 1 ovig. ♀		Vema	South West Africa to Natal, Chile, Juan Fernandez, Australia, New Zealand

Family Lithodidae

Lithodes murrayi Henderson

Lithodes murrayi Henderson, 1888: 43, pl. 4. Hale, 1941: 272, pl. 3 (figs 3-4). Yaldwyn & Dawson, 1970: 275, figs 1-3. Arnaud, 1971: 167; Kensley, 1977: 166, fig. 3.

Previous records

Possession Is., Prince Edward Is. 620 m; Macquarie Is. 120 m; Crozet Is., New Zealand, 764 m; Zululand to Durban, South Africa, 600-810 m.

Material

SAM-A 16206 ♂ CL 89 mm CW 90 mm off Lüderitz, 800 m

SAM-A 15358 ♂ CL 101 mm CW 102 mm off Lüderitz, 800 m

SAM-A 16211 3 ♂♂ CL 109-118 mm CW 106-120 mm off South West Africa

Remarks

These first Atlantic records of *L. murrayi* represent a considerable extension in the range of what was regarded as a southern Indian Ocean species.

Family Dromiidae

Pseudodromia cacuminis sp. nov.

Figs 6-7

Description

Female

Carapace, abdomen, and pereopods covered with short spiky hairs, becoming dense in supraorbital, rostral, and abdominal margins. Carapace wider than long, dorsally convex; front bluntly trilobed, median lobe set at lower level than lateral lobes, ventrally keeled, dorsally visible; single, rounded lateral lobe present; anterolateral and supraorbital areas bearing numerous short spines; scattering of tiny spines in rostral area. Abdomen 7-segmented, terminal segment broadly rounded; no trace of uropods. Sternal grooves ending together on broad rounded-truncate sternal plate between bases of chelipeds.

Eyestalk with scattered spinules. Antennular peduncle segments with few scattered spinules; flagellum of six articles, barely extending to distal end of

antennal peduncle. Antennal peduncle segments with scattered spinules; flagellum of about fifteen articles, extending well beyond orbit. Maxilliped 1 with triangular epipodite. Maxilliped 2 with narrow epipodite and gill. Maxilliped 3 segments 3 to 6 with tiny spinules on outer surface, slender epipodite and gill present. Chelipeds equal; palm of chela longer than finger and thumb; dactylus with cutting edge of seven rounded cusps; terminal teeth fitting between two terminal teeth of propodal finger; outer surface of propodus, carpus, merus, and ischium bearing scattered spinules. Pereopods 2 and 3

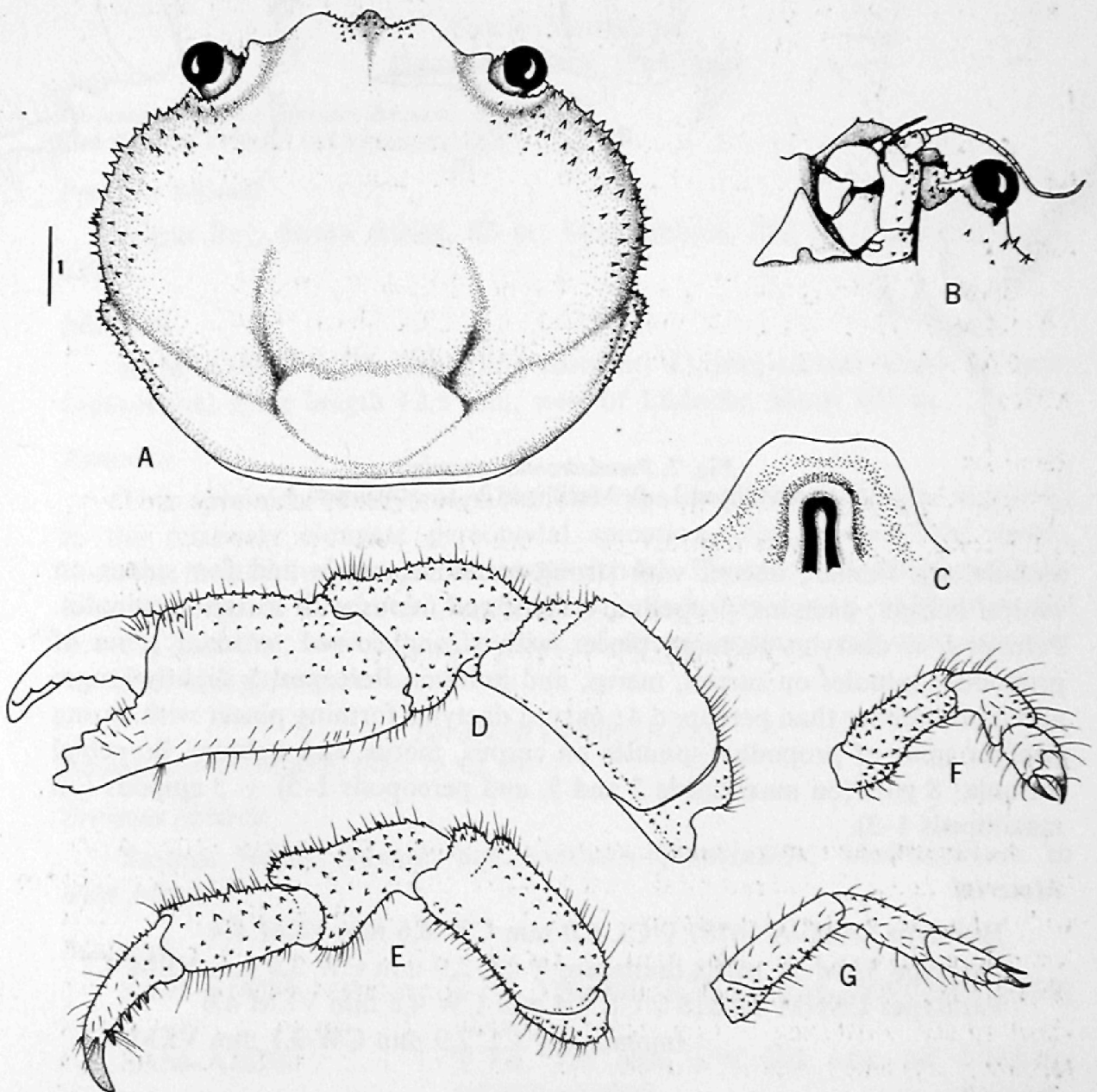


Fig. 6. *Pseudodromia cacuminis*.

A. Holotype carapace in dorsal view. B. Ventral view of orbit and antennae. C. Sternum ♀. D. Cheliped. E. Pereopod 2. F. Pereopod 4. G. Pereopod 5.

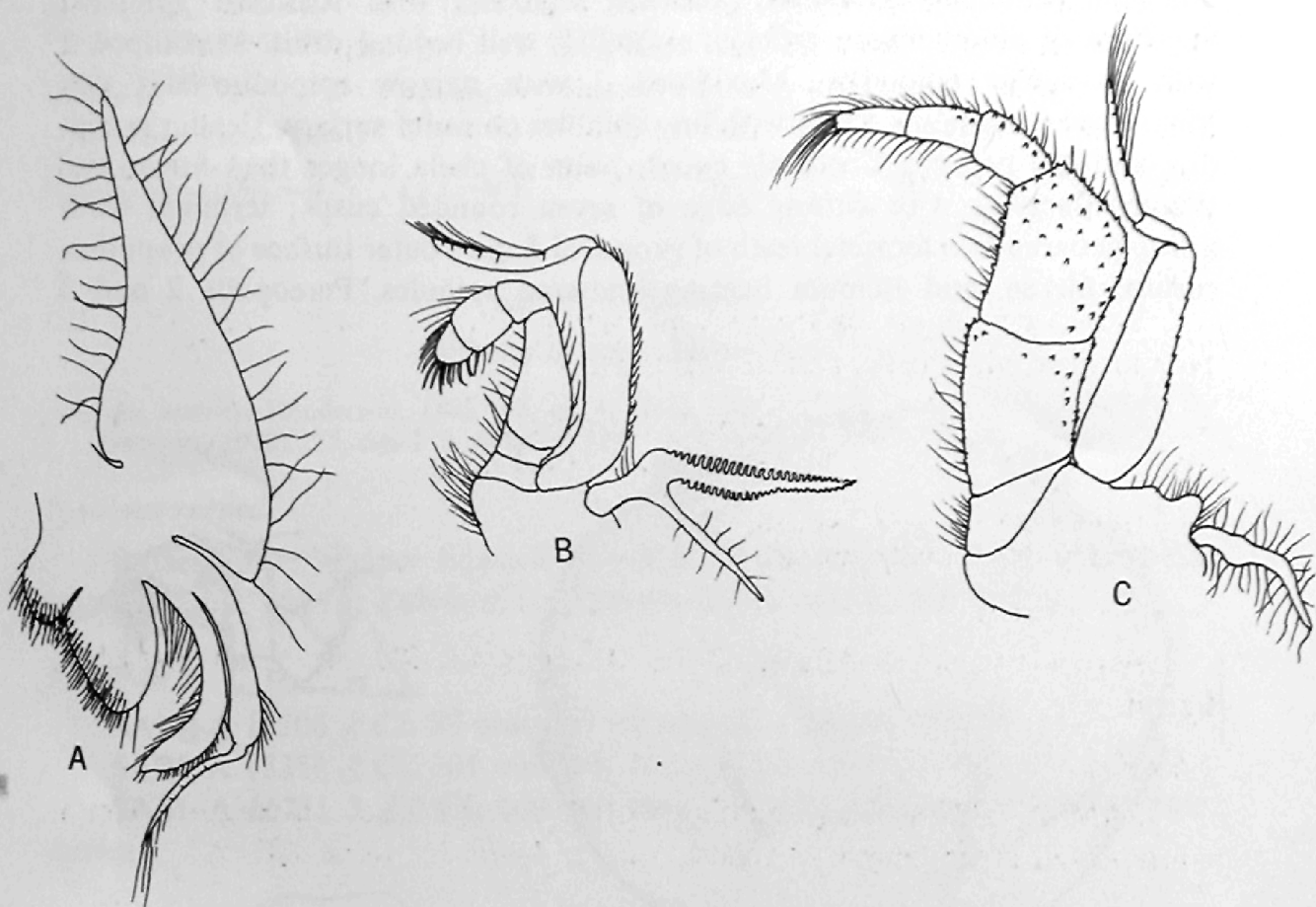


Fig. 7. *Pseudodromia cacuminis*.
A. Maxilliped 1. B. Maxilliped 2. C. Maxilliped 3.

ambulatory, similar; dactyli with strong corneous unguis and five spines on ventral margin; dactylus, propodus, carpus, and merus with scattered spinules. Pereopod 4, dactylus forming pincer with strong curved terminal spine of propodus; spinules on carpus, merus, and ischium. Pereopod 5 slightly longer and more slender than pereopod 4; curved dactylus forming pincer with strong straight spine of propodus; spinules on carpus, merus, and ischium. Branchial formula: 8 gills (on maxillipeds 2 and 3, and pereopods 1-5) + 3 epipods (on maxillipeds 1-3).

Material

Holotype SAM-A 16787 ♀ CL 6,0 mm CW 6,6 mm VEM 4.4

Paratype SAM-A 16788 immature ♂ CL 2,9 mm CW 3,0 mm VEM 4.2

Paratypes USNM 173518 ♀ CL 4,4 mm CW 4,8 mm VEM 4.6

immature ♂ CL 2,9 mm CW 3,1 mm VEM 3.2

Remarks

The lack of epipodites on the pereopods, the tridentate rostral area of the carapace, and a fifth pereopod longer than the fourth, place this material in the genus *Pseudodromia* Stimpson.

Of the five species of *Pseudodromia* described, the Vema material most closely resembles *P. spinosissima* Kensley, 1977, from deep water off the east coast of South Africa. However, the overall carapace shape of the two species differs, as does the carapace ornamentation (uniformly scattered spinules and long hairs in *P. spinosissima*, patchy spinules and short spiky hairs in *P. cacuminis*).

Etymology

The specific name 'cacuminis', meaning pointed as in a peak, refers to the type locality, viz. the summit of Seamount Vema.

Family Homolidae *Paromola alcocki* (Stebbing)

Thelxiope (Moloha) alcocki: Barnard, 1950: 341.
(See Gordon 1950 for full synonymy.)

Previous records

Algoa Bay, South Africa, 80 m; Mozambique, 312 m; Maldive Islands, 229 m.

Material

SAM-A16207 ♀ CL (excluding rostrum) 42 mm, rostral length 8,5 mm, supraorbital spine length 12,5 mm, west of Lüderitz, about 800 m.

Remarks

This specimen closely resembles the type from South Africa, especially in the relatively elongate pereopodal spination. The supra-orbital spines, however, are relatively longer and more slender. The specimen differs markedly from the type of *P. alcocki faughni* Serene & Lohavanijaya, 1973, from the South China Sea, especially in its lack of strong setation, and in its stronger carapace and pereopodal spination.

Paromola cuvieri (Risso)

Paromola cuvieri: Monod, 1956: 79, fig. 89.

Previous records

Eastern North Atlantic and southern Scandinavia; Mediterranean to west Africa.

Material

SAM-A16789 ovigerous ♀ CL 105 mm, CW 83 mm, Seamount Tripp, 150 m.

SAM-A16790 ♂ CL 120 mm, CW 102 mm, off Lüderitz, 19°55'S 11°43'E.

Remarks

Although not previously recorded from southern Africa. *P. cuvieri* is being commercially fished in the Lüderitz area.

Family *Majidae**Macropodia cirripilus* sp. nov.

Figs 8-9

*Description**Male*

Carapace piriform, dorsally convex. Scattered curved hairs over entire carapace and abdomen. Rostrum of two relatively short parallel spines, reaching distal end of third antennal peduncle segment. Supra-orbital eaves with four or five short spines; strong nuchal spine present; hepatic region with few scattered spine-tubercles; strong dorsolateral spine on protogastric region; metagastric region convex with medial tubercle; convex bulbous branchial region with several scattered tubercles; cardiac region convex, lacking tubercles. Abdomen 6-segmented; third segment widest, with convex lateral areas; distal margin of terminal segment evenly convex; all segments with weakly-raised middorsal longitudinal ridge.

Eyestalk with curved anterior margin, produced into rounded papilla, posterior margin straight; cornea oval, as wide as eyestalk base. Outer margin of antennular fossa spinose; interantennular spine situated at end of acutely triangular grooved process; basal peduncular segment of antennule inflated, with row of four or five small spines. Basal antennal peduncular segment narrow, with few small proximal spines and two more elongate spines distally; second segment with single small distal spine; third segment longer than second, unarmed. Epistome broader than long, flattened. Maxilliped 3 ischium wider than merus, medial margin with several small tubercle-spines, exterior surface with scattered tubercles; outer distal margin of merus with five spines, few tubercles on external surface. Chelipeds subequal, only slightly longer than middorsal carapace length (including rostrum); finger and thumb shorter than palm; both cutting edges shallowly serrate, single spine at dactylar base; upper surface of palm with few scattered tubercles; lower margin with row of seven small spines; carpus shorter than palm, with few strong dorsal spines and strong proximal tubercle on outer surface; merus one and one-half times length of carpus, with row of spines on upper and lower margins; ischium about one-third length of merus, with row of spines on ventral margin. Ambulatory pereopods decreasing in length posteriorly; pereopod 2 dactylus almost straight, unarmed ventrally, almost as long as propodus. Dactylus of pereopod 3 with subapical secondary spine. Pereopods 4 and 5, dactyli curved, with strong subapical secondary spine plus row of smaller spines. Pleopod 1 ♂ basally broad, tapering distally to curved rounded apex.

Female as in male, except for abdomen.

Material

Holotype SAM-A 16791 ♂ CL 5,0 mm CW 3,1 mm (across branchial areas)
VEM 15M

Allotype USNM 173519 ♀ CL 6,0 mm CW 3.9 mm VEM 4.4

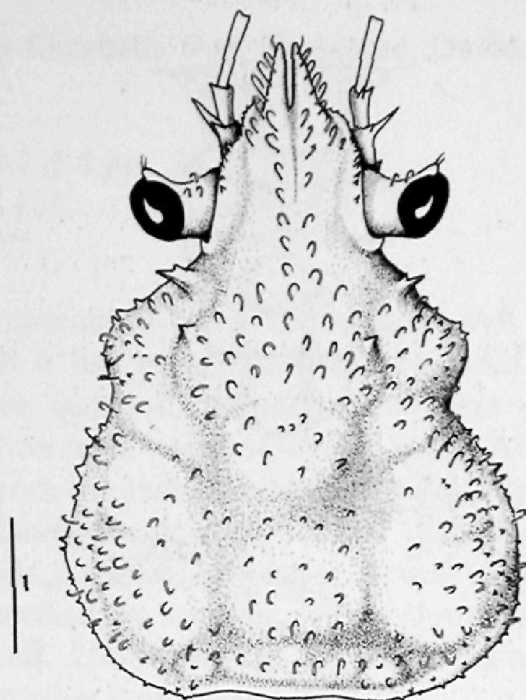


Fig. 8. *Macropodia cirripilus*.
Holotype in dorsal view.

Remarks

Of the seven species of *Macropodia* mentioned by Monod (1956), the present species resembles *M. rostrata* (Linnaeus), and that only to a limited extent. This similarity lies in the shape of the male abdomen and pleopod 1, and to a lesser degree, in the maxilliped 3. The carapace of *M. rostrata*, however, is much more strongly spinose, while the ambulatory pereopods do not become as strongly armed as in *M. cirripilus*. Further, the basal antennal segment is unarmed. None of the five species from the Mediterranean (Forest & Zariquiey Alvarez 1964) bears any close resemblance to *M. cirripilus*. The species referred to by Barnard (1950: 15, fig 2j) as *Macropodia formosa* var., from off the Natal coast, shows a similarity in the antennal and antennular spination and in the rostrum, but the carapace is less spinose and the proportions are quite different. The dactyli of the fourth and fifth pereopods, although possessing ventral spines, lack the strong subterminal spine seen in *M. cirripilus*.

Etymology

The specific name is derived from the two Latin words 'cirrus', a curl, and 'pilus' a hair, and refers to the characteristic curled hairs of the integument of this species.

Family Xanthidae

Pilumnus sp.

Pilumnus hirsutus non Stimpson, Barnard, 1950: 263, fig. 49 (d-g).

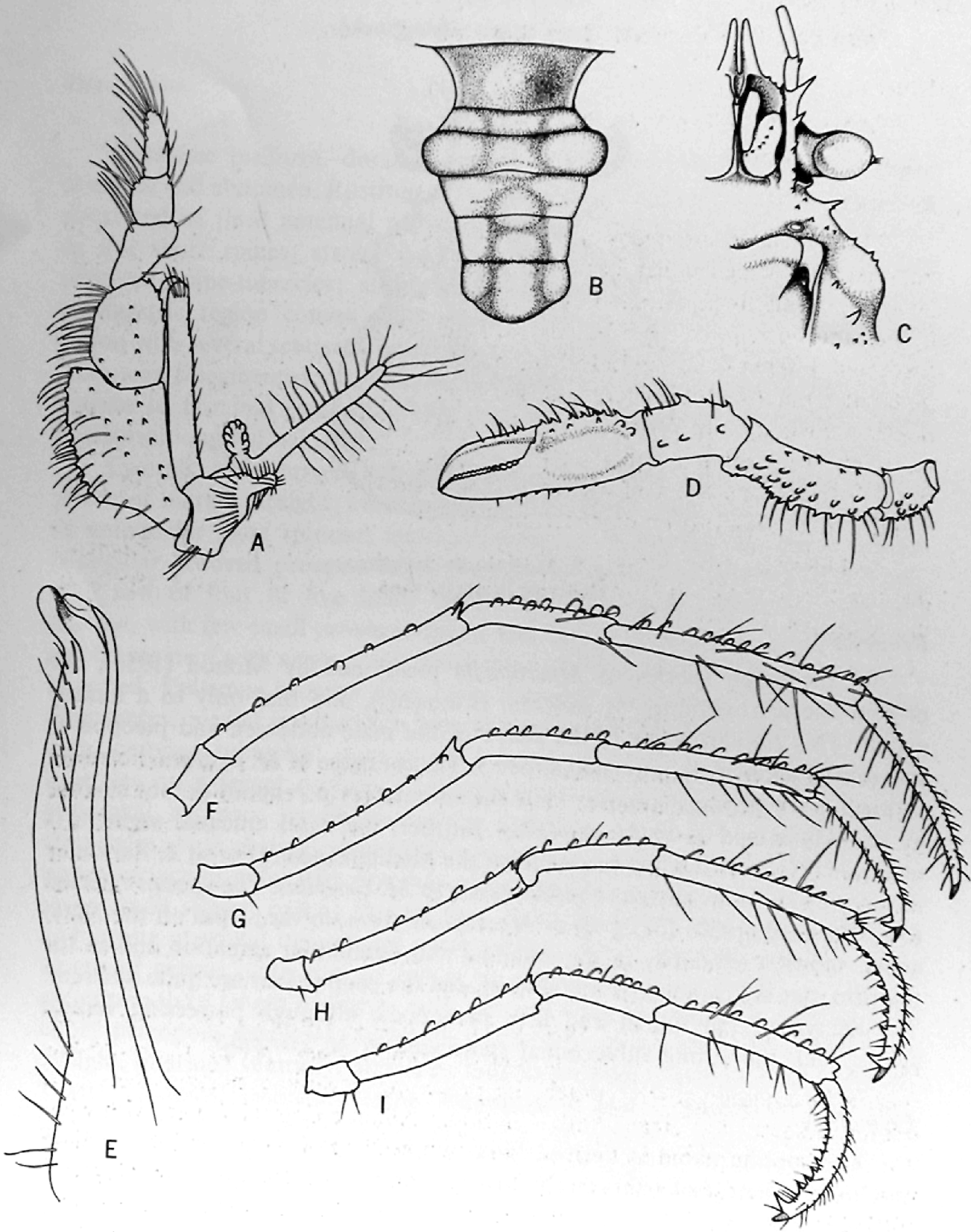


Fig. 9. *Macropodia cirripilus*.
 A. Maxilliped 3. B. Abdomen ♂. C. Ventral view of orbit and antennae. D. Cheliped.
 E. Pleopod 1 ♂. F. Pereopod 2. G. Pereopod 3. H. Pereopod 4. I. Pereopod 5.

Previous records

False Bay, Port Elizabeth, Port Shepstone, Durban.

Material

SAM-A 16792 1 ♂ 4 juv. 39 m Vem 2.3

SAM-A 16793 1 ♂ 50 m Vem 3.3

Remarks

The six small specimens from Vema agree well with the South African material with which it has been compared. The true identity of this species, however, is an open question. Barnard (1950) was careful to note that his figures and description were based solely on South African material, which he suspected differed from the Indo-Pacific *P. hirsutus* Stimpson. Comparison with material from the Indo-Pacific shows some distinct differences. The Vema/South African species possesses stiff hairs as well as longer flexible hairs. The larger chela is proportionally squatter, with a shorter fixed finger in the Vema/South African species. Unfortunately, the latter material is dry and in poor condition, making further comparison difficult.

Comparison with the most closely related west African form, *Pilumnus inermis* A. Milne Edwards & Bouvier, also reveals several differences, especially in the carapace hairs.

ZOOGEOGRAPHIC DISCUSSION

Although the summit plateau of Seamount Vema is of somewhat limited area (about 8 km in diameter), it supports a relatively rich fauna dominated by encrusting and cryptic forms. Berrisford (1969, table 1) summarized the affinities of the 105 species of invertebrates identified. Of these, 25 per cent were South African species, 27 per cent had a scattered (cosmopolitan) distribution, 28 per cent were endemic, and 10 per cent had Indo-Pacific affinities. Millar (1968) found the ascidian fauna of Vema to have strong affinities with South Africa and no components in common with Tristan da Cunha.

Vema is about 11×10^6 years old (Simpson & Heydorn 1965), and older than Tristan. Apart from the fish and the spiny lobster species, there are few species in common, even though the prevailing oceanic conditions need not reinforce isolation. Vema is bathed in South Atlantic Central Water, with what was initially interpreted as local subsurface upwelling of Antarctic Intermediate water having a strong northerly-flowing component (Simpson & Heydorn 1965: 251). Welsh & Visser (1970), however, suggest that this apparent upwelling, which also occurs further south away from any topographical features such as seamounts, is really cyclonic upwelling caused by a 'dying' eddy moving northward. These eddies are formed in the area where the Agulhas Current meets the West Wind Drift.