

# Inshore small-mesh trawling survey of the Cape south coast. Part 5. Crustacea, Stomatopoda, Isopoda and Decapoda

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Forty-six species of Crustacea from the shallow marine waters of the southern Cape coast are listed. Five new records for the area are dealt with, of which two are described as new species. These include a sphaeromatid isopod *Cymodoce davieae* and a dromiid crab *Cryptodromia hirsutimana*.

*S. Afr. J. Zool.* 1984, 19: 189–193

Ses-en-veertig spesies van Crustacea van die vlak mariene waters van die suidelike Kaapse kus word gegee. Vyf nuwe rekords uit die gebied word behandel, waarvan twee beskryf word as nuwe spesies, nl. een van die Isopoda *Cymodoce davieae* van die Familie Sphaeromatidae, en 'n krap *Cryptodromia hirsutimana* van die Dromiidae.

*S.-Afr. Tydskr. Dierk.* 1984, 19: 189–193

A number of incidental collections of invertebrates were made during a shallow-water trawling survey between Port Elizabeth and Mossel Bay. For a detailed account of the scope, methods and station data, as well as a species list of invertebrate groups not dealt with here, the reader is referred to Wallace, Kok, Buxton & Bennett (1984).

The present paper deals with the stomatopod, isopod, and decapod Crustacea. All species are listed systematically in Table 1 but only new species and new records for the area are dealt with in the text. Type material has been deposited in the South African Museum, Cape Town.

The following abbreviations are used throughout: TBD.PM — R.V. Thomas B. Davie station numbers; TL — total length; CL — carapace length; CW — carapace width; ovig — ovigerous; juv — juveniles; SAM — South African Museum.

**Table 1** Species of Crustacea from the shallow marine waters of the southern Cape coast

Species	TBD.PM station	♂♂		♀♀		juv
		♂	♂	♀	♀	
<b>Stomatopoda</b>						
Family Squillidae						
<i>Oratosquilla juxtaoratoria</i>	3	–	–	1	–	–
(Ward, 1942)	137	–	–	1	–	–
<b>Isopoda</b>						
Infraorder Valvifera						
Family Idoteidae						
<i>Synidotea hirtipes</i>	4	1	–	–	–	5
(H. Milne Edwards, 1840)	78	1	–	–	–	1
<i>Synidotea setifer</i>	7	–	–	1	–	–
Barnard, 1914a						
Family Astacillidae						
<i>Microarcturus similis</i>	14	–	–	–	1	–
(Barnard, 1925)						
Infraorder Anthuridea						
Family Paranthuridae						
<i>Leptanthura laevigata</i>	5	–	–	2	–	1
(Stimpson, 1855)						
<i>Leptanthura urospinosa</i>	2	–	–	1	–	–
Kensley, 1975						
Family Anthuridae						
<i>Malacanthura pseudo-</i> <i>carinata</i> (Barnard, 1920)	8	–	–	1	–	–

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Table 1 (Continued)

Species	TBD.PM station	ovig				Species	TBD.PM station	ovig			
		♂♂	♀♀	♀♀	juv			♂♂	♀♀	♀♀	juv
<b>Infraorder Flabellifera</b>						<b>Decapoda Anomura</b>					
<b>Family Aegidae</b>						<b>Family Callianassidae</b>					
<i>Aega webbi</i>	51	—	1	—	—	<i>Callianassa rotundicaudata</i>	57	—	—	1	—
(Guérin-Meneville, 1836)	61	—	1	—	—	Stebbing, 1902					
<b>Family Cirolandiae</b>						<b>Family Upogebiidae</b>					
<i>Eurydice longicornis</i>	28		312 specimens			<i>Upogebia cf. assisi</i>	57	1?	—	—	—
(Studer, 1883)						Barnard, 1947 (bopyrid isopod in branchial chamber)					
<b>Family Sphaeromatidae</b>						<b>Family Diogenidae</b>					
<i>Cymodoce davieae</i> , sp. nov. (See systematic section)	18	1	—	—	—	<i>Dardanus arrosor</i>	18	2	—	—	—
<i>Cymodoce uncinata</i>	8	2	2	—	—	(Herbst, 1796)					
Stebbing, 1902						<i>Diogenes brevirostris</i>	78	1	1	—	—
<i>Cymodoce valida</i>	7	—	1	—	—	Stimpson, 1859					
(Stebbing, 1902)	85	2	2	—	—	<i>Diogenes costatus</i>	9	1	—	—	—
						Henderson, 1888					
<b>Decapoda Macrura</b>						<i>Diogenes extricatus</i>					
<b>Family Penaeidae</b>						Stebbing, 1910					
<i>Macropetasma africana</i>	1	1	—	1	—	Family Paguridae					
(Balss, 1913)	6	61	61	—	—	<i>Pylopagurus liochele</i>	96	1	—	—	—
	11	22	—	17	—	Barnard, 1947					
	56	24	63	—	—	<b>Family Galatheididae</b>					
	57	51	97	—	—	<i>Galathea dispersa</i>	7	1	—	2	—
	59	17	152	109	—	Bate, 1858	8	7	4	4	6
	65	31	43	—	—		18	—	—	2	—
	69	—	2	—	—		85	4	—	1	—
	81	21	35	11	—		95	2	—	—	—
	82	68	112	18	—	<b>Family Porcellanidae</b>					
	84	20	15	—	—	<i>Porcellana streptocheles</i>	8	—	—	1	—
	86	—	2	—	—	Stimpson, 1859					
	87	36	66	18	—	<b>Decapoda Brachyura</b>					
	88	34	60	4	—	<b>Family Dromiidae</b>					
	91	27	29	5	—	<i>Cryptodromia hirsutimana</i>					
	93	23	21	7	—	sp. nov.	7	1	—	—	—
	101	34	104	33	—	(See systematic section)					
	128	1	7	—	—	<i>Cryptodromiopsis</i>					
	129	—	8	—	—	<i>spongiosa</i>	8	3	1	1	6
	130	49	65	89	—	(Stimpson, 1859c)	95	1	—	—	—
	131	23	127	64	—	<i>Dromidia dissothrix</i>	8	1	—	—	—
	136	—	80	—	—	Barnard, 1947					
	137	34	27	25	—	<i>Pseudodromia latens</i>	85	1	1	1	—
	138	12	9	58	—	Stimpson, 1859	96	—	—	1	—
	140	14	—	—	—	<i>Pseudodromia rotunda</i>	18	1	—	—	—
	141	8	—	6	—	(Macleay, 1838)	57	1	1	—	1
<i>Penaeus indicus</i>	57	—	1	—	—		85	—	—	—	1
H. Milne Edwards, 1837	64	—	1	—	—		96	—	1	—	—
<i>Penaeus japonicus</i>	4	—	1	—	—	<i>Speodromia platyarthodes</i>	96	2	1	1	—
Bate, 1888	64	—	1	—	—	(Stebbing, 1905)					
	93	—	1	—	—	<b>Family Callapidae</b>					
<b>Family Palaemonidae</b>						<i>Mursia cristimanus</i>	7	—	—	—	1
<i>Palaemon (Palaemon)</i>						de Haan, 1837	9	1	—	—	—
<i>pacificus</i>	4	—	—	1	—		10	—	—	—	1
(Stimpson, 1860)	28	1	3	—	—		57	—	—	—	1
<b>Family Alpheidae</b>											
<i>Alpheus dissodontonotus</i>	18	—	—	1	—		85	—	1	—	—
Stebbing, 1915							86	—	—	—	1
<b>Family Processidae</b>											
<i>Processa aequimana</i>	26	—	—	1	—	<b>Family Leucosiidae</b>					
(Paulson, 1875)						<i>Philyra punctata</i>	9	2	—	2	—
<b>Family Crangonidae</b>						Bell, 1855	11	1	—	—	—
<i>Pontophilus hendersoni</i>	27	—	—	1	—		20	—	—	—	1
Kemp, 1915							57	—	4	—	—

Table 1 (Continued)

Species	TBD.PM station	♂♂	♀♀	ovig ♀♀	juv	Species	TBD.PM station	♂♂	♀♀	ovig ♀♀	juv
	78	—	1	—	—		65	—	1	—	—
	85	2	—	—	—		68	1	9	—	—
	96	1	—	—	—		69	—	1	—	—
Family Majidae							75	—	1	—	—
<i>Achaopsis spinulosus</i>	8	2	—	—	—		77	1	—	—	—
Stimpson, 1858	85	1	—	—	—		84	3	4	—	—
<i>Dehaanius dentatus</i>	57	—	1	—	—		87	1	1	—	—
(H. Milne Edwards, 1834)							88	4	1	—	—
<i>Inachus guentheri</i>	57	—	1	—	—		91	—	1	—	—
(Miers, 1879)	85	3	1	—	—		92	1	—	—	—
<i>Macropodia falcifera</i>	4	1	—	—	—		93	3	1	—	—
(Stimpson, 1858)	57	—	1	1	—		101	—	1	—	—
	78	2	—	—	—		108	3	2	—	—
	85	—	—	1	—		130	1	10	—	—
	96	1	—	—	—		131	1	2	—	—
Family Hymenosomatidae							134	1	—	—	—
<i>Hymenosoma orbiculare</i>	2	—	—	—	1		135	2	—	—	—
Desmarest, 1825	5	—	—	—	2		136	1	2	—	—
	7	—	—	—	1		137	3	3	—	—
Family Corystidae							138	3	9	—	—
<i>Nautilocorystes ocellata</i>	24	—	—	—	1		139	7	6	—	—
(Gray, 1831)	78	1	1	—	1		140	3	3	—	—
Family Portunidae							143	—	1	—	—
<i>Ovalipes punctatus</i>	2	9	10	—	—	Family Goneplacidae					
(de Haan, 1833)	3	4	3	—	—	<i>Goneplax angulata</i>	9	—	1	1	—
	4	1	—	—	—	(Pennant, 1777)	14	—	1	—	—
	9	14	—	—	—		17	1	—	—	—
	20	15	25	—	—		51	—	—	1	—
	21	2	—	—	—		78	3	2	1	—
	22	1	—	—	—		95	1	1	—	—
	36	—	1	—	—	Family Hexapodidae					
	43	—	1	—	—	<i>Hexapus stebbingi</i>	14	2	—	—	—
	44	—	1	—	—	Barnard, 1947					
	51	4	1	—	—	Family Grapsidae					
	61	3	3	—	—	<i>Plagusia chabrus</i>	18	—	1	—	—
	64	1	3	—	—	(Linnaeus, 1758)					

## SYSTEMATIC DISCUSSION

### Stomatopoda

#### Family Squillidae

##### *Oratosquilla juxtaoratoria* (Ward)

*Oratosquilla juxtaoratoria*: Manning, 1971:4.

*Previous records*. Mauritius, Madagascar, Europa Is.

*Material*. SAM-A18815, TBD.PM 3, 137, 2♀♀, TL 130,0 mm.

*Remarks*. This is a new record for South African waters.

### Isopoda

#### Anthuridea

##### Family Paranthuridae

##### *Leptanthura urospinosa* (Kensley)

*Previous records*. False Bay to Still Bay.

*Material*. SAM-A18816, TBD.PM 2, 1♀, TL 11,2 mm.

*Remarks*. The present material extends the range of this species east from Still Bay to Algoa Bay.

### Family Sphaeromatidae

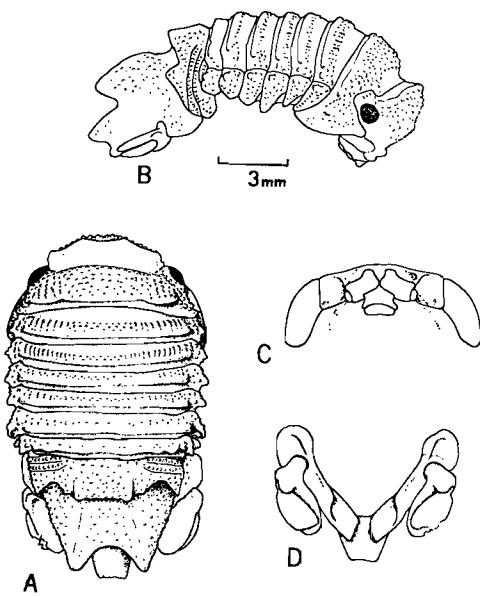
#### Subfamily Sphaeromatinae

##### *Cymodoce davieae*, sp. nov. Figures 1–3

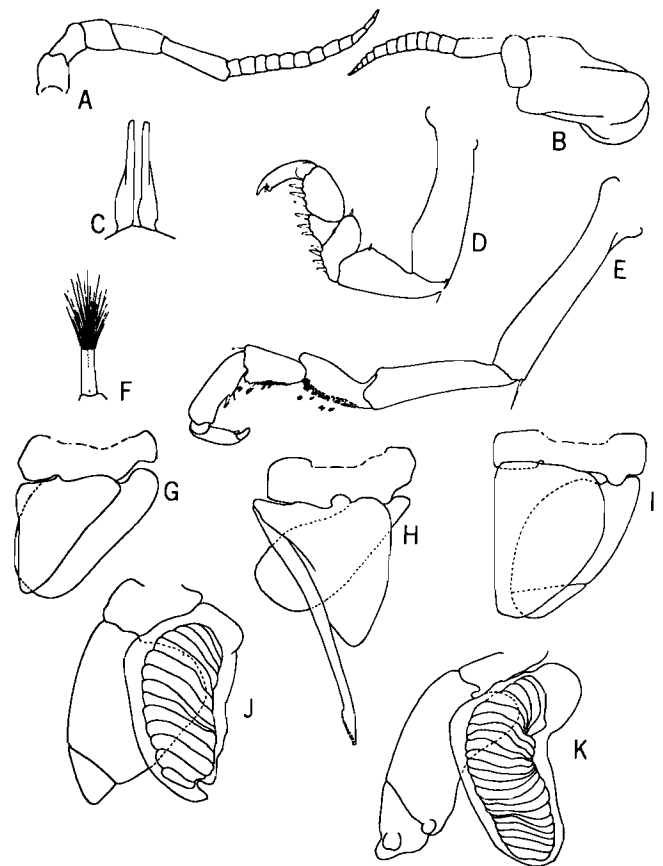
### Description

**Male**: Body dorsally strongly convex. Integument indurate, highly ornamented. Head with well-pigmented lateral eyes; frontal lamina pentagonal, posterior lobes short, divergent; anterodorsal surface bearing numerous granules; raised blunt three-sided ridge near posterior margin. Pereonite 1 dorsally granular; strong faintly tripartite ridge near posterior margin; coxa ventrally broadened, ploughshare-shaped. Pereonites 2–7 each with strong raised ridge near posterior margin, band of granules in posterior half, becoming less defined in posterior pereonites; coxae of pereonites 2–4 triangular, 5–7 ventrally rounded. Pleonites 1–4 granular; pleonite 4 with triangular posterolateral lobe and two strong rounded submedian ridges. Pleotelson posteriorly strongly trilobed, with two posteriorly rounded ridged lateral lobes, and strong truncate ventromedial lobe; in ventral view, two hollowed and fused processes present, ventral to medioventral lobe.

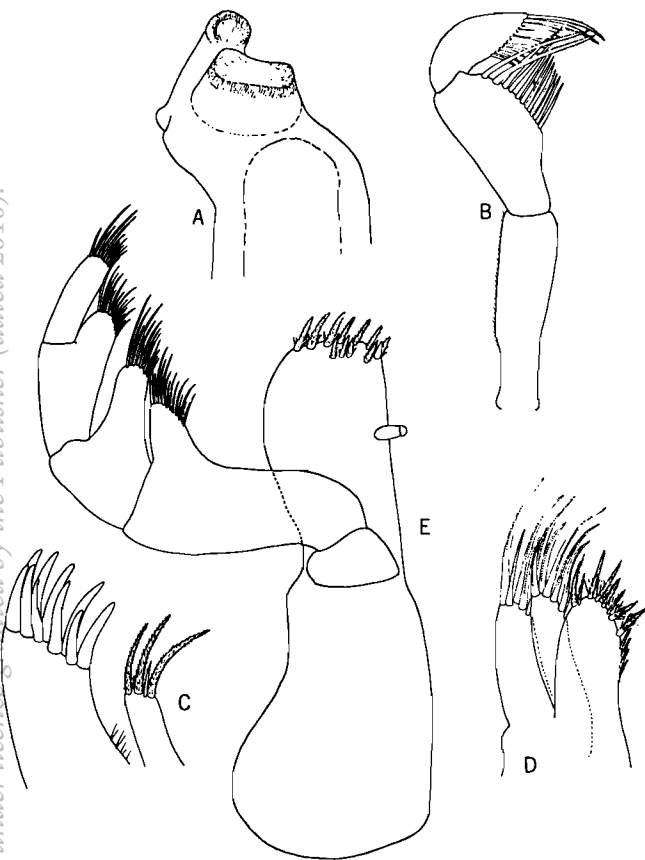
Antennule with strong bluntly lobed basal article; article 2 about one-fifth length of basal article, transversely rectangular; article 3 slender-elongate; flagellum of 13 articles. Antenna with three basal peduncular articles subequal in length; article 4 one and one-half times length of article 2; article 5 one and one-



**Figure 1** *Cymodoce davieae* sp. nov. A. male, dorsal view; B. male, lateral view; C. ventral view of head and epistome; D. uropod and posterior pleotelson, lateral view.



**Figure 3** *Cymodoce davieae* sp. nov. A. antenna; B. antennule; C. penis; D. pereopod 1; E. pereopod 7; F. brush spine, pereopod 7; G. gleopod 1 male; H. pleopod 2 males; I. pleopod 3; J. pleopod 4; K. pleopod 5.



**Figure 2** *Cymodoce davieae* sp. nov. A. mandible; B. mandibular palp; C. maxilla 1; D. maxilla 2; E. maxilliped.

half times length of article 4; flagellum of 12 articles. Mandibular palp with basal article one and one-third length of article 2; latter distally broadened, bearing 12 progressively elongate spines; article 3 strongly curved, bearing 12 spines, two distal fringed spines longer than rest; incisor rounded and spooned, sclerotized; molar with broad oval grinding surfaces with blunt margin, strongly sclerotized. Maxilla 1, inner ramus with three elongate fringed setae; outer ramus with 10 stout

simple spines. Maxilla 2, inner ramus with several mediobasal fringed spines; both lobes of outer ramus bearing five or six serrate spines of varying lengths. Maxillipedal endite with single strong coupling hook on median edge; 12 short fringed spines on distal margin; palp with articles 2–4 lobed mediobasally, articles 2–5 each bearing distal cluster of spines. Pereopod 1 shorter than following legs; propodus, carpus, and merus bearing short stout spines on posterior margin. Pereopods 2–7 similar, basis elongate-cylindrical, about one and one-half times length of ischium; merus and carpus with posterior pad of fine dense setules and four brush-spines; propodus with single brush-spine; dactylus with short blunt unguis and accessory spine. Penial lobes on sternum of pereonite 7 slender-elongate. Pleopod 1, both rami triangular. Pleopod 2 exopod distally broadly rounded; endopod triangular, with elongate copulatory stylet articulating at base; copulatory stylet with distal row of blunt hooks. Pleopod 3 exopod with distal transverse articulation; endopod roughly triangular. Pleopod 4 exopod with distal transverse articulation; endopod pleated. Pleopod 5 exopod narrow-elongate, with distal transverse articulation; endopod pleated. Uropod with elongate-oval inner ramus and protopod fused; outer ramus shorter than inner, oval but distally somewhat truncate.

#### Material

Holotype ♂ SAM-A18480, TL 16,0 mm; TBD.PM.18, 33 m.

#### Remarks

The body sculpture and the pleotelsonic structure immediately separate *C. davieae* from any previously recorded species, either from southern African or the general Indo-West Pacific region. Even in those species possessing trilobed pleotelsons,

none have this feature developed to the degree seen in the present species.

#### Etymology

The specific name is derived from the *Thomas B. Davie*, research vessel of the University of Cape Town.

### Decapoda

#### Family Processidae

##### *Processa aequimana* (Paulson 1875)

*Previous records.* Mozambique, Vietnam, Java, Japan.

*Material.* SAM-A18817, TBD.PM 26, 1 ovig ♀, CL 5,1 mm.

*Remarks.* This would seem to be the first record of the species south of Mozambique.

#### Family Dromiidae

##### *Cryptodromia hirsutimana*, sp. nov. Figure 4

#### Description

Male: Carapace wider than long, strongly and densely granular; rostrum trilobed, dorsolateral lobes broad, ventrally slightly hollowed, anteriorly narrowly rounded, extending well beyond short triangular medioventral lobe. Lateral carapace margin with three small anterolateral acute teeth, followed by large rounded lobe and small triangular posterolateral lobe. Gastric area with bipartite granular protogastric areole, subspherical mesogastric areole; branchial area with flattened mesobranchial areole; cardiac area poorly defined; distinct dorsal hollow posterior to eye and lateral to protogastric areole; posterior margin between branchial areas almost straight.

mesial surface with fairly dense pile of short setae; dense pad of long plumose setae on mesial surface around articulation of dactylus; distodorsal propodus with two rounded knobs; carpus two-thirds length of merus; latter with two low rounded dorsodistal knobs. Pereopods 2 and 3 with corneous unguis and five posterior spines on dactylus; propodus with granular dorsodistal and two posterior setose knobs; carpus distally expanded into rounded granular knobs; merus with two dorsodistal knobs and strong proximal patch of setae. Pereopod 4 shorter than pereopod 3, with curved corneous unguis of dactylus meeting corneous distal spine of propodus; latter with rounded dorsodistal knob; carpus with three granular knobs on dorsal surface. Fifth pereopods missing. Margins of pleon segments setose, free margin of terminal pleon segment semi-circular; rounded setose middorsal ridge on all pleon segments.

#### Material

Holotype ♂ SAM-A 18481, CL (to tip of lateral rostral lobe) 12,0 mm, CW 15,0 mm; TBD.PM.7, 27 m.

#### Remarks

The more or less globose carapace, combined with the lack of epipods on the chelipeds and the knobbed pereopods, place the present specimen in *Cryptodromia*. None of the five species of *Cryptodromia* recorded from southern Africa (see Kensley 1981:36) possess a well defined areolate and granular carapace. The present species bears some resemblance to *C. areolata* Ihle, from Japan and Timor, especially in the overall granulation and the trilobed rostrum. The Japanese species, however, possesses more carapace areolations than does *C. hirsutimana*. The latter is very similar to *Petalomera nodosa* Sakai from Japan, but lacks the epipods characteristic of this genus. *Cryptodromia sculpta* Haswell from New South Wales, Australia, possesses much stronger granulations and areolations on the carapace, and numerous strong tubercles on the pereopods.

*Cryptodromia hirsutimana* raises the number of endemic dromiids from the broad Agulhas Bank area to 12, supporting the idea of a stenothermic radiation in this area (Kensley 1981:10).

#### Etymology

The specific name refers to the pad of thick setae on the inner surface of the chelae (see Figure 4D).

### Acknowledgements

We would like to thank Dr Raymond Manning of the Smithsonian Institution for identifying the stomatopod and Andrew Cockcroft and Hein du Preez both of the University of Port Elizabeth who provided information on *Macropetasma africana* and *Ovalipes punctatus* respectively.

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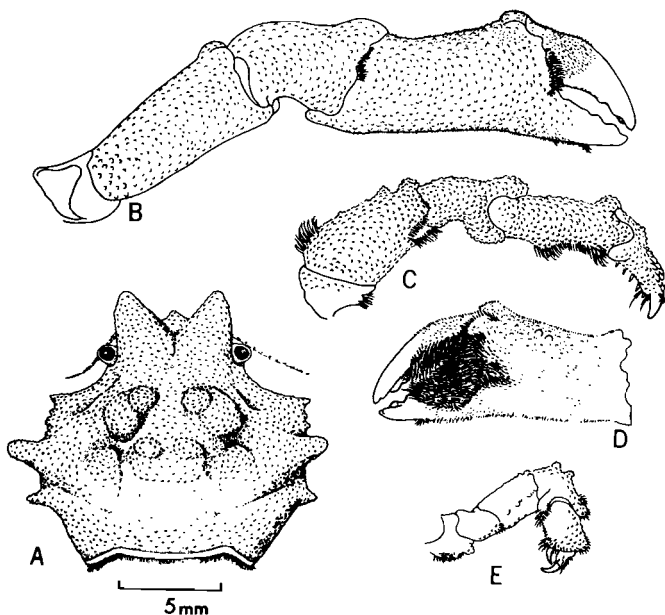


Figure 4 *Cryptodromia hirsutimana* sp. nov. A. male, dorsal view; B. cheliped lateral view; C. pereopod 2; D. chela, mesial view; E. pereopod 4.

Eye retractable into socket. Exposed surfaces of maxilliped 3 smooth. Chelipeds equal, strongly granular; dactylus with four rounded distal teeth and four or five faint rounded cusps on cutting edge, distally smooth, white, proximally with pile of very short setae; fixed finger of propodus with five distal rounded cusps; palm of propodus about twice length of fingers,