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Brian Kensley

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A SMALL COLLECTION OF DECAPOD
CRUSTACEA FROM MOÇAMBIQUE

By

BRIAN KENSLEY

Cape Town Kaapstad

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BRIAN KENSLEY

South African Museum, Cape Town

(With 14 figures)

[MS. received 5 February 1970]

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INTRODUCTION

During July 1968 a team of biologists from the University of Cape Town, led by Professor J. H. Day, visited Inhambane, on the coast of Moçambique. The purpose of the visit was to do a second survey of the Morrumbene estuary, as part of the series of estuarine surveys carried out around southern Africa. At the same time, an opportunity was taken of collecting plant and animal specimens at Jangamo (24.06S., 35.21E.), 32 km south of Inhambane. The collecting was done along the shore and nearby reef, supplemented by diving. The decapod crustacean material was submitted to the South African Museum for identification. A list of the species, together with the catalogue numbers of the Zoology Department, University of Cape Town, is given. In many cases, duplicate material has been kept in the collection of the South African Museum, where the type material is housed.

SPECIES LIST

<i>Species</i>	<i>Male</i>	<i>Female</i>	<i>Juv.</i>	<i>Cat. No.</i>
BRACHYURA				
Family Majidae				
<i>Dehaaninus quadridentatus</i> (Krauss)	2	2	—	14T
<i>Dehaaninus scutellatus</i> (Mcleay)	1	2 ovig	—	14S
<i>Hyastenus spinosus</i> H. Milne Edwards	4	6 + 1 ovig	—	14U
<i>Menaethiops delagoae</i> Barnard	2	2	—	15V
<i>Menaethiops fascicularis</i> (Krauss)	4	1	—	15U
<i>Menaethiops natalensis</i> Barnard	—	1 + 1 ovig	—	14W
<i>Menaethiops monocerus</i> (Latreille)	—	1 ovig	—	14Y
<i>Schizophrys aspera</i> (H. Milne Edwards) ..	1	—	—	14X

Species	Male	Female	Juv.	Cat. No.
Family Hymenosomatidae				
<i>Elamena mathei</i> (Desmarest)	3	3 + 3 ovig	—	15B
Family Portunidae				
<i>Charybdis annulata</i> (Fabricius)	2	—	—	14B
<i>Charybdis orientalis</i> Dana	1	—	—	14D
<i>Thalamita admete</i> (Herbst)	1	1	—	14F
<i>Thalamita</i> sp.	—	1 + 1 ovig	—	14G
<i>Thalamita woodmasoni</i> Alcock	—	1	—	14H
Family Grapsidae				
<i>Grapsus tourmanoiri</i> Crosnier	5	1	—	14J
<i>Pachygrapsus minutus</i> (A. Milne Edwards)	2	2 + 2 ovig	—	16C
<i>Percnon planissimum</i> (Herbst)	5	4 ovig	—	14A
<i>Planes cyaneus</i> Dana	—	—	1	16F
<i>Varuna litterata</i> (Fabricius)	1	—	—	16D
Family Ocypodidae				
<i>Ocypode ceratophthalmus</i> (Pallas)	1	2	—	14X
Family Xanthidae				
<i>Actaea parvula</i> (Krauss)	1	1	—	15G
<i>Actaea polyacantha</i> (Heller)	—	1	—	15S
<i>Actaea rueppellii</i> (Krauss)	—	1 ovig	—	15J
<i>Atergatopsis signata</i> (Adams & White)	1	—	—	15C
<i>Carpilodes cinctimanus</i> (White)	—	1	—	15D
<i>Carpilodes monticulosus</i> A. Milne Edwards	1	—	—	15R
<i>Chlorodiella laevissima</i> (Dana)	2	1	—	15T
<i>Chlorodopsis areolata</i> (H. Milne Edwards)	2	2 + 2 ovig	—	15K
<i>Lybia plumosa</i> Barnard	3	3	—	15M
<i>Lybia tessellata</i> (Latreille)	—	1 ovig	—	16B
<i>Macromedaeus quinquedentatus</i> (Krauss)	—	1	—	15W
<i>Pilumnus longicornis</i> Hilgendorf	—	1 ovig	—	15H
				15P
<i>Trapezia cymodoce</i> (Herbst)	5	2 ovig	—	15A
<i>Trapezia guttata</i> Rüppell	1	3	—	16E
<i>Zosimus aeneus</i> (Linnaeus)	1	—	—	15N
<i>Zozymodes cavipes</i> (Dana)	1	—	—	15L
<i>Zozymodes xanthoides</i> (Krauss)	1	3	—	15F
Family Dromiidae				
<i>Cryptodromia bullifera</i> Alcock	1	—	—	14Q
<i>Cryptodromia canaliculata</i> Stimpson	6	2 ovig	—	14P
<i>Petalomera laevis</i> n. sp.	1	2 ovig	—	S.A.M.A. 12824-5 14N
Family Calappidae				
<i>Matuta banksi</i> Leach	2	—	—	14E
Family Leucosiidae				
<i>Philyra scabriuscula</i> (Fabricius)	1	—	—	16A
ANOMURA				
Family Hippidae				
<i>Emerita austroafricana</i> Schmitt	1	1 ovig	—	14L
<i>Hippa adactyla</i> Fabricius	2	—	—	14M
Family Paguridae				
<i>Calcinus gaimardii</i> (H. Milne Edwards)	2	4	—	13T
<i>Calcinus laevimanus</i> (Randall)	1	—	—	13V
<i>Clibanarius virescens</i> (Krauss)	5	—	3	13U
Family Porcellanidae				
<i>Pachycheles natalensis</i> (Krauss)	6	3 ovig	—	13N
	5	1 + 3 ovig	1	13R

Species	Male	Female	Juv.	Cat. No.
<i>Petrolisthes alobatus</i> Laurie	1	1 ovig	—	13J
<i>Petrolisthes coccineus</i> (Owen)	1	—	—	13K
<i>Petrolisthes lamarckii</i> (Leach)	2	3 + 1 ovig	2	13L
<i>Petrolisthes militaris</i> (Heller)	2	2 + 1 ovig	—	14Z
<i>Petrolisthes virgatus</i> Barnard	—	1 ovig	—	13M
<i>Porcellana dehaanii</i> Krauss	10	2 ovig	26	13P

PALINURA

Family **Palinuridae**

<i>Panulirus penicillatus</i> (Olivier)	1	—	—	15B
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NATANTIA

Family **Palaemonidae**

<i>Palaemon (Palaemon) pacificus</i> Stimpson	1	—	1	13G
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Family **Hippolytidae**

<i>Alope orientalis</i> (De Man)	6	2 + 7 ovig	5	13D
<i>Hippolysmata kukenthali</i> (De Man)	1	1	—	13E
<i>Hippolyte ventricosa</i> H. Milne Edwards	—	1 ovig	—	13Y
<i>Saron marmoratus</i> (Olivier)	3	—	—	13S
<i>Thor amboinensis</i> (De Man)	1	—	—	13F

Family **Alpheidae**

<i>Alpheus lottini</i> Guérin	1	2 ovig	—	13A
<i>Alpheus luciae</i> Barnard	1	1 ovig	—	13C
<i>Alpheus paragracilis</i> Coutière	—	1 ovig	—	13H
<i>Athanas minikoensis</i> Coutière	1	—	—	13Z

SYSTEMATIC DISCUSSION

BRACHYURA

Family **Grapsidae**

Pachygrapsus minutus A. Milne Edwards

Figs 1a-d

Pachygrapsus minutus A. Milne Edwards, Tesch, 1918: 77. Gordon, 1934: 7. Sakai, 1939: 656; 1965: 194. Crosnier, 1965: 26.

Description: Carapace wider than long, lateral margins strongly convergent posteriorly, no spine behind outer orbital tooth. Carapace dorsally striate throughout, striae continuous across carapace, not setose. Chelae smooth, carpus with strong spine on inner margin, merus with inner margin bearing three flattened spines. Pereiopods with scattered stiff hairs, meri with two spines on postero-distal edge. Last pair of pereiopods with additional pair of short blunt spines on posterior margin, at about proximal third of merus. Pleopod one of male with numerous setae, concealing curved terminal apically rounded lobe.

Previous records: Most of the Indo-Pacific region.

Material:

	Carapace length	Carapace breadth
Male	5.4 mm	7.7 mm
Male	4.9 mm	6.6 mm
Male	4.3 mm	6.0 mm
Female	4.8 mm	6.1 mm
Ovigerous female	5.5 mm	8.0 mm

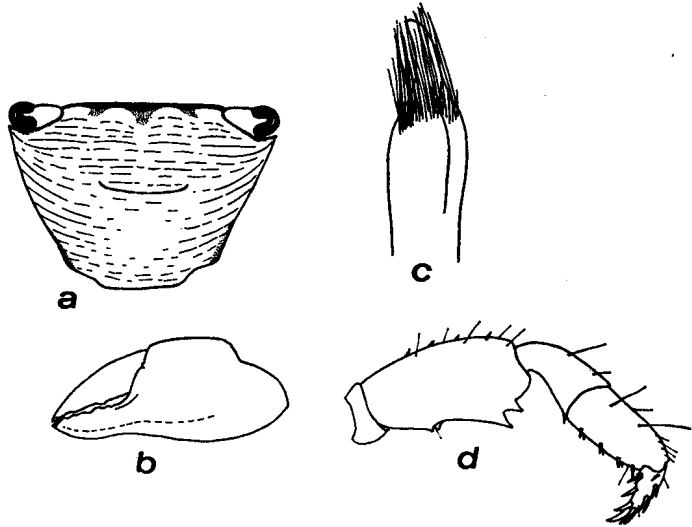


FIG. 1. *Pachygrapsus minutus* A. Milne Edwards

a. Carapace in dorsal view; b. External view of left chela; c. Apex of pleopod one, male; d. Fifth pereiopod.

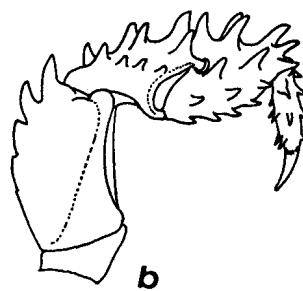
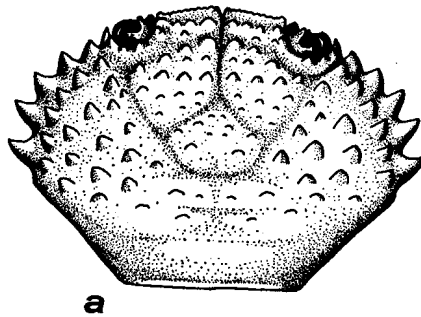


FIG. 2. *Actaea polyacantha* (Heller)

a. Carapace in dorsal view; b. Fourth pereiopod.

Remarks: Although this species has been widely recorded from the Indo-Pacific region, including the East African coast, it has hitherto not been taken so far south.

Family **XANTHIDAE**

Actaea polyacantha (Heller)

Figs 2a-b

Actaea polyacantha (Heller), Rathbun, 1911: 222. Odhner, 1925: 57. Sakai, 1939: 486; 1965: 146.

Description: Carapace broader than long, areoles other than 2M and 3M not well defined, covered with flattened tubercles, those of antero-lateral regions being better defined than posterior ones. Antero-lateral margin with six conical tubercles (including external orbital angle). Supra-orbital margin and eyestalks also bearing tubercles. Chela with conical pointed tubercles on palm, upper margin of hand, and base of movable finger. Carpus armed with numerous tubercles. Finger-tips slightly spooned. Walking legs armed with strong conical acute tubercles, those of upper margins being strongest.

Previous records: Indo-Pacific region from Japan to Zanzibar.

Material: One male, carapace length 5.9 mm, carapace breadth 8.1 mm.

Chlorodiella laevissima (Dana)

Figs 3a-d

Chlorodiella laevissima (Dana), Sakai, 1939: 508; 1965: 151. Forest & Guinot, 1961: 95.

Description: Carapace wider than long, smooth, regions not demarked. Antero-lateral border with four teeth, inner two being short and blunt, outer two spinose. Chela stout, smooth, fingers darkened, tips spooned. Walking legs with dactyls equal in length to propodus, apex sharply downcurved, bearing four or five strong spines. Dorsal surface of carpi and meri spinose. Pleopod one of male slightly curved, apex bearing several backwardly directed stout setae, and short spines.

Previous records: Japan, Tahiti, Gilbert and Marianne Islands, Queensland, Ceylon, Andamans, Mauritius.

Material:

		<i>Carapace length</i>	<i>Carapace breadth</i>
Male	.. ..	3.5 mm	5.0 mm (chelae missing)
Male	.. ..	3.5 mm	5.2 mm (left chela missing)
Female	.. ..	4.7 mm	7.6 mm (chelae missing)

Family **Dromiidae**

Cryptodromia bullifera Alcock

Figs 4a-c

Cryptodromia bullifera Alcock, 1899: 143; 1901: 51. Borradaile, 1903a: 577. Ihle, 1913: 40. Sakai, 1936: 23.

Description: Carapace and appendages covered with pile of short hairs. Frontal region of three acute teeth, lateral teeth slightly divergent, and at

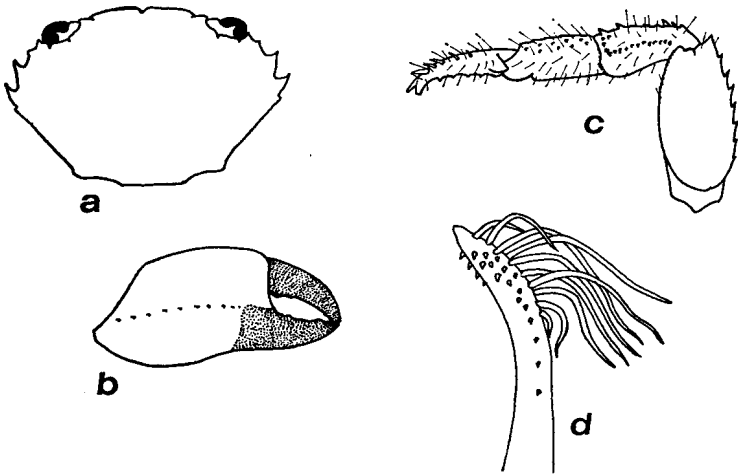


FIG. 3. *Chlorodiella laevissima* (Dana)

a. Carapace in dorsal view; *b.* Right chela; *c.* Fourth pereopod; *d.* Apex of pleopod one, male.

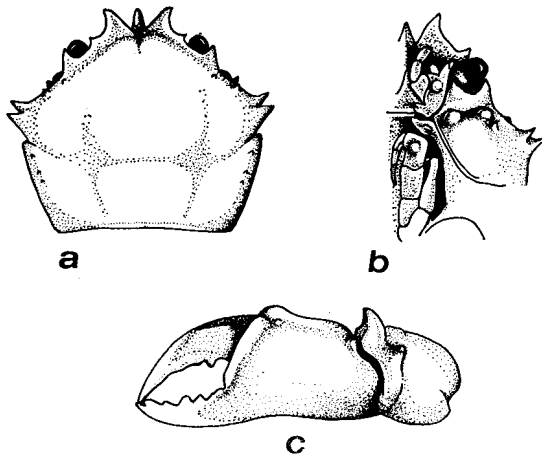


FIG. 4. *Cryptodromia bullifera* Alcock

a. Carapace in dorsal view, setae omitted; *b.* Anterior region in ventral view; *c.* Left chela.

higher level than median tooth. Small acute supra-orbital spine, extra-orbital tooth acute. Lateral margin bearing three teeth, anterior two being prominent, acute. Two tiny tubercles between extra-orbital tooth and first lateral tooth, slightly dorsal to antero-lateral margin. Three tiny tubercles in line dorsal and parallel to postero-lateral margin. Acute sub-orbital and hepatic spine present. Rounded pearl-like knob below sub-orbital spine, dorsal to hepatic spine, on merus of maxilliped three, and on second antennal peduncle segment. Chelae equal, lacking epipods, wide gap between fingers, six or seven teeth on cutting edges. Upper distal portion of hand nodose. Carpus with two prominent tubercles on outer distal margin. Fifth pereopods longer than fourth.

Previous records: Maldive and Laccadive Islands, Andamans, Ceylon.

Material:

	<i>Carapace length</i>	<i>Carapace breadth</i>	<i>Chela length</i>
Male	7.4 mm	8.9 mm	5.2 mm

Remarks: Except for the presence of the tiny dorsal tubercles on the carapace, the specimen agrees exactly with Alcock's description of the species. This is the southernmost record of this typically Indian Ocean species.

Cryptodromia canaliculata Stimpson

Figs 5a-c

Cryptodromia canaliculata Stimpson, Alcock, 1899: 142; 1901: 50. Ihle, 1913: 41. Sakai, 1936: 24.

Cryptodromia hirsuta Borradaile, 1903a: 577.

Dromia (*Cryptodromia*) *pentagonalis* Hilgendorf, 1878: 814.

Dromia (*Cryptodromia*) *tomentosa* Heller, Hilgendorf, 1878: 813.

Description: Carapace smooth, wider than long, covered with short tomentum of plumose hairs, regions moderately well indicated. Gastric region evenly convex. Front tridentate, median tooth longer and sharper than, and set at lower level to lateral teeth. Small supra-orbital spine and triangular post-orbital tooth separated by wide gap from large antero-lateral tooth. Posterior to latter, two smaller spines, anterior one blunter than posterior one. One large blunt subhepatic spine, one smaller supra-sutural blunt spine, broad infra-orbital lobe. Chelae lacking epipods, completely covered by short hairs, except for distal portion of fingers. Fixed finger with about eight or nine sharp teeth on cutting edge. Dactyl similarly armed. Hand nodulose at base of dactyl. External surface of carpus strongly nodulose. Merus triangular in cross-section. Distal ends of propodi and carpi of walking legs and proximal ends of dactyls nodulose. Latter with strong curved claw, and five smaller spines proximally. Fifth pereopod longer than fourth.

Previous records: Japan, India, Maldive and Laccadive Islands, Mauritius, Red Sea, Ibo (Moçambique).

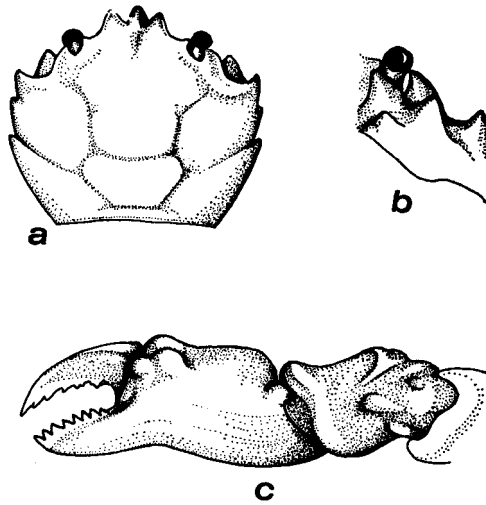


FIG. 5. *Cryptodromia canaliculata* Stimpson
 a. Carapace in dorsal view, setae omitted; b. Anterior region in ventral view; c. Left chela.

Material:

			Carapace length	Carapace breadth	Chela length
Male	..	..	10.5 mm	12.0 mm	8.0 mm
Male	..	..	10.0 mm	11.3 mm	6.5 mm
Male	..	..	9.0 mm	9.9 mm	—
Male	..	..	8.3 mm	10.0 mm	—
Male	..	..	8.0 mm	9.0 mm	5.1 mm
Male	..	..	7.4 mm	8.1 mm	4.0 mm
Ovigerous female			9.8 mm	10.9 mm	5.2 mm
Ovigerous female			8.9 mm	9.2 mm	5.0 mm

Remarks: Barnard (1950: 328) suggests that *Cryptodromia oktahedros* Stebbing might be synonymous with *C. tomentosa* Heller and *C. hirsuta* Borradaile. The latter two species, however, are synonymous with *C. canaliculata* Stimpson, which more closely resembles *C. pentagonalis*. In fact, if as Ihle (1913) states, *C. canaliculata* is fairly variable, then judging from Hilgendorf's figures (1878, Tafel II, figs 1-4) there is no difference between this species and *C. pentagonalis*.

Genus PETALOMERA

Borradaile, 1903b: 300. Ihle, 1913: 48. Rathbun, 1923: 153. Sakai, 1936: 28; 1965: 9. Barnard, 1950: 312.

Petalomera laevis n. sp.

Figs 6a-h

Description: Carapace smooth, with scattering of very fine hairs, regions not defined. Front with acute but not very strong or prominent rostral point. Flanking lobes low, rounded. Eyes just visible dorsally, supra-orbital ridge very slightly emarginate. Antero-lateral margins hardly interrupted by five small blunt bumps, most posterior of which the largest. Posterior margin straight.

Chelipeds equal, bearing epipods, except for fingers almost covered with very short pile of fine hairs. Tip of dactyl ending in tooth, fitting between two terminal teeth of fixed finger (this character more noticeable in male). Cutting edges with about seven rounded teeth. Inner dorsal surface of palm bearing six small granules. Carpus with three rounded nodules, inner surface flattened, defined by dorsal ridge. Merus with inner surface broad, flattened, defined dorsally by a sharp ridge, triangular in cross-section, ventral edge bearing a row of about eight tiny granules.

Dactyl of second pereiopod with two small spines behind the terminal claw, rounded node at articulation with propodus. Latter with two dorso-distal nodes. Inner surface of carpus flattened, dorsally defined by ridge, two rounded nodes in region of articulation with propodus. Merus with flattened inner surface, triangular in cross-section, dorsal ridge sharp. Third pereiopod similar to second. Fourth pereiopod shorter than fifth. Sternal grooves of female ending on small knob near base of second pereiopods. Terminal abdominal segment of male rounded.

Material:

	<i>Carapace length</i>	<i>Carapace breadth</i>	<i>Chela length</i>
Holotype, ovigerous female (S.A.M.A12824)	14.2 mm	16.5 mm	8.0 mm
Paratype, ovigerous female (14N)	11.8 mm	13.0 mm	6.3 mm
Paratype, male (S.A.M.A12825)	13.0 mm	14.6 mm	8.3 mm

Remarks: Borradaile (1903: 300) defined the genus *Petalomera* as 'Dromiidae with an epipodite on the cheliped, the walking legs bearing sharp ridges, the carapace varying in the relation of its length to its breadth, but usually broader than long, the regions clearly or indistinctly marked, the efferent branchial channels well made, the sternal grooves of the female ending apart behind the cheliped segment, the fifth leg shorter than the third and without a thorn on the outer side of its last joint'. *Petalomera laevis* differs from none of the above criteria.

The most striking character of this species is the smooth finely pubescent carapace, with its barely noticeable lateral knobs. This immediately separates it from *P. wilsoni* the only other species of this genus known from this region. *P. wilsoni* characteristically has a dense almost shaggy pubescence, which 'accentuates instead of obliterating the underlying regions' (Barnard, 1950: 313). A smooth carapace is characteristic of several species of *Petalomera*, viz. *fukuui*,

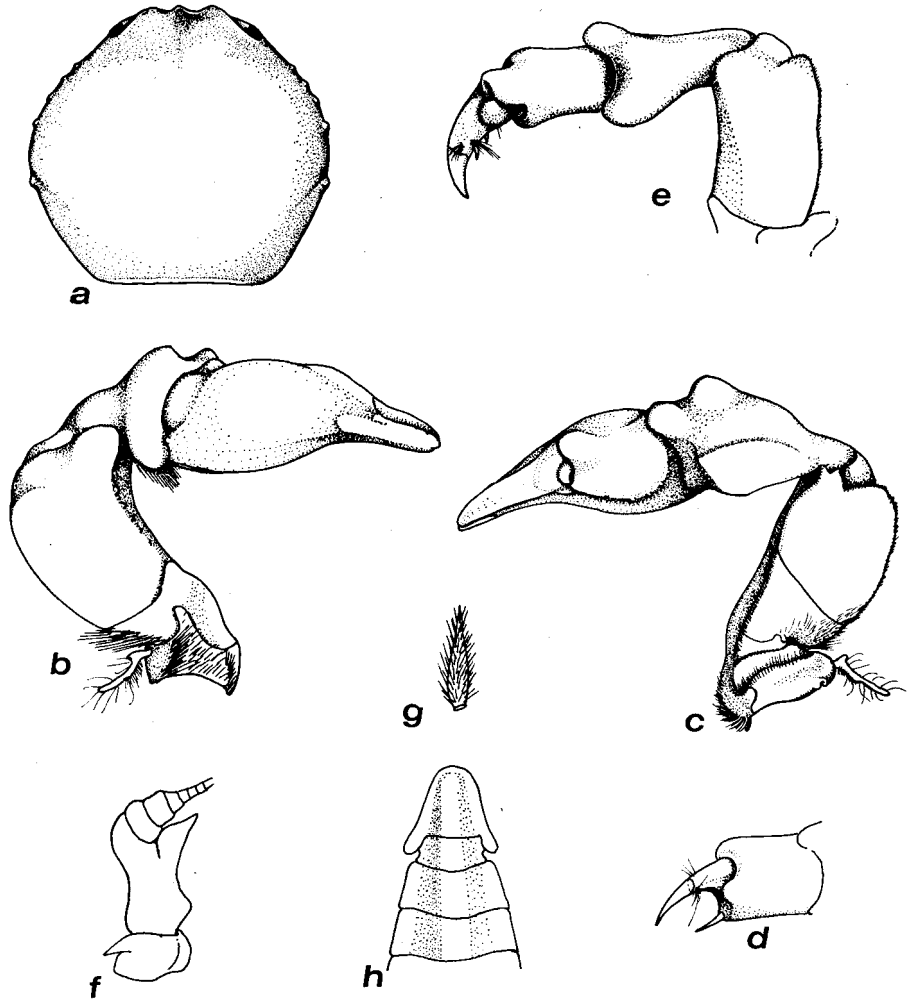


FIG. 6. *Petalomena laevis* n. sp.

a. Carapace in dorsal view; b. Right chela in ventral view; c. Right chela in dorsal view; d. Dactyl and propodus of fourth pereiopod; e. Second pereiopod; f. Left antenna; g. Carapace seta enlarged; h. Abdomen of male.

atypica, *pulchra*, *lateralis*, *lamellata* and *depressa*. The present species differs from *P. fukuii* Sakai and *P. depressa* (Baker) in having the pereiopods less granular; from *P. lateralis* (Gray), *P. lamellata* (Ortmann) and *P. atypica* Sakai, which have well-developed antero-lateral carapace spines; from *P. pulchra* Miers which has the carapace regions well defined. There is a superficial resemblance between this species and *Cryptodromia monodous* Stebbing, but differences in the frontal region, the chelae, and the carapace soon separate them.

ANOMURA

Family **Porcellanidae**

Petrolisthes alobatus Laurie

Figs 7a-c

Petrolisthes alobatus Laurie, 1925: 144. Haig, 1965: 46.

Description: Carapace longer than wide, with numerous transverse rugae. Cervical groove broad. Gastric region convex, bearing pair of transverse ridges anteriorly. Supra-orbital margin deeply excavate. Supra-orbital lobe without spine. No post-orbital spine but well-developed lobe. Strong epibranchial spine present, branchial region with a blunt raised tubercle in anterior part. Posterior margin with slight raised rim, medially concave. Maxilliped three with ischium very broad, rugose, merus with expanded rugose lobe on inner margin; dactyl, propodus, carpus with very elongate branched setae. Anterior margin of carpus of pereopod one finely denticulate, almost smooth. Posterior margin irregular due to rugae. Ventral surface of hand with keel formed by rugae, upper edge of dactyl similar. No gap between fingers. Dactyls of pereopods two to five with small spine proximal to the subterminal one. Propodi cylindrical, smooth, bearing strong articulated spine at postero-distal angle. Carpus and merus fairly rugose.

Previous records: Cargados Carajos.

Material:

	<i>Carapace length</i>	<i>Carapace breadth</i>
Male	10.0 mm	8.4 mm
Ovigerous female ..	12.4 mm	11.0 mm

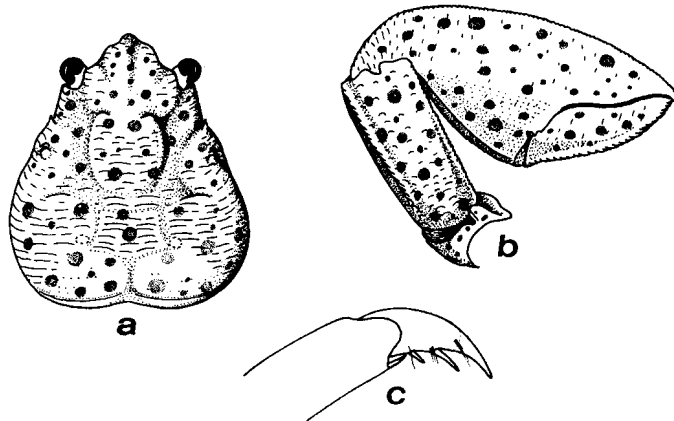


FIG. 7. *Petrolisthes alobatus* Laurie
 a. Carapace in dorsal view; b. Left cheliped; c. Dactyl of second pereopod.

Remarks: The specimens were taken from the actinopharynx of a large sea anemone, found in about 0.9 m of water. Commensalism with sea anemones has not previously been reported for *P. alobatus*, but is known for *P. maculatus* (= *P. ohshimai*) which has been found in a species of *Stoichactis* (Haig, 1965; Macnae, 1968).

Petrolisthes coccineus (Owen)

Figs 8a-f

Petrolisthes coccineus (Owen), Laurie, 1925: 143. Miyake, 1943: 54. Haig, 1965: 46.

Petrolisthes barbatus Heller, De Man, 1893: 296.

Description: Carapace only slightly wider than long, covered with transverse rugae, especially in anterior region. Rugae bearing short fringe of setae. Rostral margin finely denticulate. Strong supra-orbital spine present. Carapace margin between outer orbital angle and strong epibranchial spine also finely denticulate. Abdomen with bands of short stiff setae and scattered longer stiff setae. Entire cheliped surface rugose. Merus with toothed lobe at antero-distal angle, two strong spines on dorsal surface of distal margin. Carpus with anterior margin bearing four broad rugose spines. Distal margin of each spine bearing numerous plumed setae, posterior margin rugose, bearing three spines distally. Postero-distal angle lobe bispinose. Outer margin of hand denticulate, proximally some of denticles stronger than others. Entire under surface of cheliped rugose; upper surface bearing short setae. Pereiopods two to four with meri bearing about nine strong spines and dense fringe of plumose setae on anterior margin. Dorsal surface of meri bearing setose rugae. Postero-distal angle with two spines. Carpi with spine on antero-distal lobe, numerous scattered stiff setae, rows of plumose setae. Propodus cylindrical, with long scattered setae, ventral surface of distal portion with three or four strong spines, posterior surface with single spine at about midpoint. Dactyl with three spines on inner margin. Antenna with basal peduncular segment bearing denticulate lobe; second segment with several denticles on anterior margin. Basal antennular segment with four spines on anterior margin. Merus of maxilliped three with triangular lobe on inner margin bearing spine at the apex. Much colour lost in preservative, but anteriorly, some brilliant crimson remains.

Previous records: Seychelles, Flores Sea, Nicobar Islands.

Material:

	<i>Carapace length</i>	<i>Carapace breadth</i>
Male	17.2 mm	18.0 mm
Left cheliped missing, right cheliped—dactyl 12.0 mm, propodus 29.9 mm, carpus 15.6 mm.		

Remarks: This specimen agrees exactly with Laurie's specimen from the Seychelles. De Man's description of *P. barbatus* mentions eight to ten teeth on the outer margin of the hand; these may be the enlarged rugae mentioned above. This specimen lacks the fringe of long hairs mentioned in *P. barbatus*, but it does have short plumose setae.

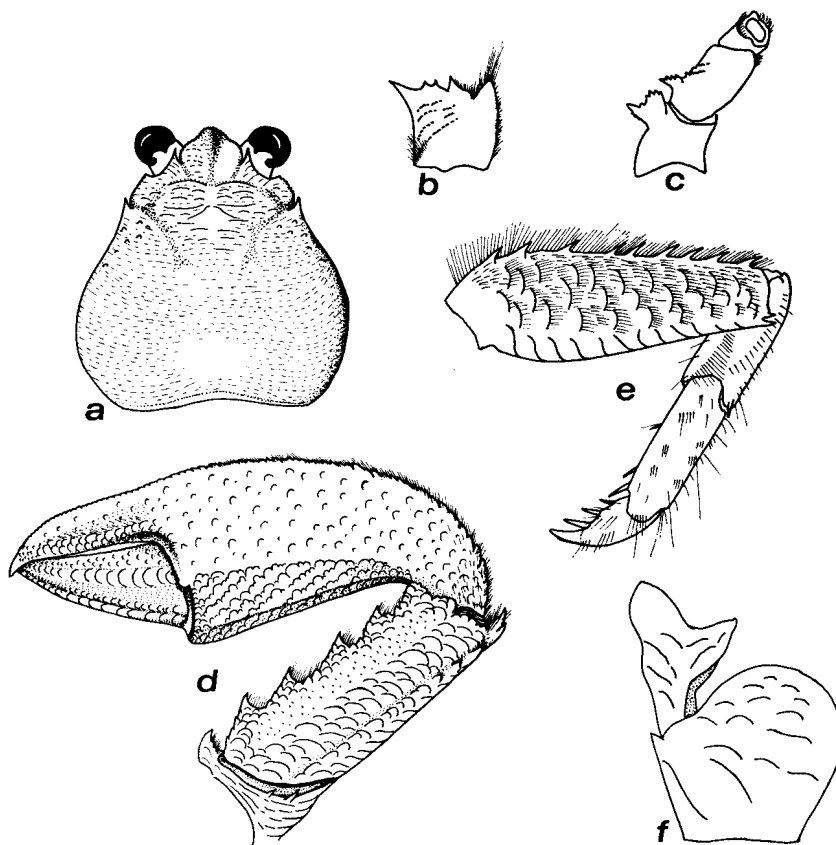


FIG. 8. *Petrolisthes coccineus* (Owen)

a. Carapace in dorsal view; b. Antennule; c. Antenna; d. Right cheliped; e. Second pereopod; f. Merus and ischium of maxilliped three.

NATANTIA

Family Hippolytidae

Hippolyte ventricosa H. Milne Edwards

Figs 9a-c

Hippolyte ventricosa H. Milne Edwards, Holthuis, 1947: 55 (complete synonymy). Barnard, 1950: 704.

Description: Rostrum two-thirds length of carapace, apically acute, two dorsal teeth, three ventral teeth. Suborbital margin slightly produced and rounded above antennal spine. Third carpal segment of second pereopod as long as first. Dactyl of pereopod three with eleven spines.

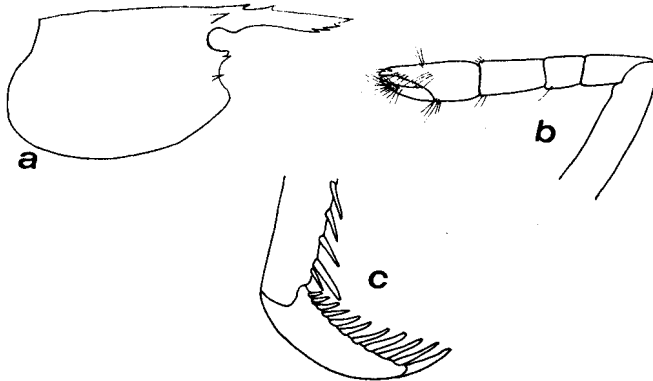


FIG. 9. *Hippolyte ventricosa* H. Milne Edwards

a. Carapace in lateral view; b. Chela and carpus of second pereiopod;
c. Dactyl of third pereiopod.

Previous records: Most of the Indian Ocean region, South Australia and on the East African coast where the southernmost record is the mouth of the Zambesi River.

Material: One ovigerous female, carapace length (excluding rostrum) 2.9 mm, total length 16.0 mm.

Thor amboinensis (De Man)

Figs 10, 11a-c

Thor amboinensis (De Man), Holthuis, 1947: 50.

Thor discosomatis Kemp, 1916: 388; 1925: 330.

Hippolyte amboinensis De Man, 1888: 535.

Description: Carapace moderately inflated, rostrum reaching to middle of antennular peduncle, apically acute, bearing two dorsal spines. Small acute antennal spine, no pterygostomial spine. Stylocerite of basal segment of antennule reaching almost to end of peduncle. Small spine on outer proximal edge of stylocerite, more easily visible in lateral view than in dorsal view. Second segment with outer spine at distal end, third segment with broad movable scale. Antennal scaphocerite twice length of antennular peduncle. Pereiopod one stout, reaching almost to same level as scaphocerite. Second pereiopod reaching to end of third maxilliped, carpus six jointed, proximal two segments short, less obvious than rest of segments. Third pereiopod longest, extending beyond end of maxilliped three, merus with single disto-ventral spine. Dactyls of pereiopods three to five with stout apical and subapical claw, and three spines. Basal segment of pleopods, especially two and three with posterior foliaceous extension. Telson with four pairs of dorso-lateral spines, four pairs of terminal spines of which outermost are shortest.

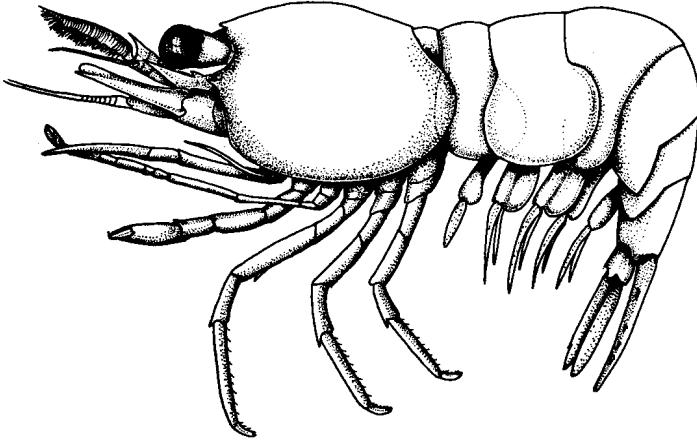


FIG. 10. *Thor amboinensis* (De Man)
Entire animal in lateral view.

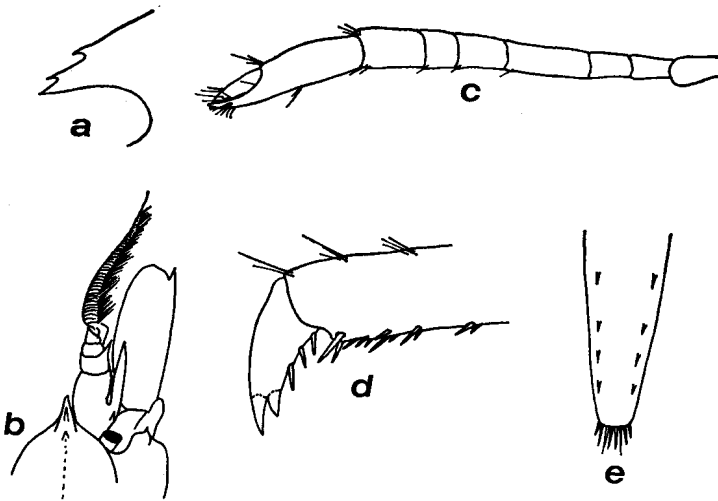


FIG. 11. *Thor amboinensis* (De Man)
a. Rostrum in lateral view; b. Anterior region in dorsal view; c. Second pereiopod; d. Apex of third pereiopod; e. Telson.

Previous records: Bay of Bengal, Malay Archipelago, Andaman and Nicobar Islands.

Material: One male, carapace length (including rostrum) 4.0 mm.

Remarks: The genus *Thor* is characterized by a lack of arthrobranchs on the pereopods, a mandible possessing an incisor process but lacking a palp, a second pereopod with a six-jointed carpus, no epipods on the pereopods, and the third antennular peduncle segment with a movable plate at the upper anterior margin. The present specimen agrees well with both Kemp's and Holthuis's descriptions. The only differences exist in the antennular scale, being broader in the present specimen than in Kemp's figure (1916, fig. 1) and in the length of the terminal telson spines.

Family **Alpheidae**

Athanas minikoensis Coutière

Figs 12a-e

Athanas minikoensis Coutière, 1905: 858. De Man, 1911: 149. Barnard, 1950: 731.

Previous records: New Guinea, Maldives and Laccadive Islands, Umtwalumi (Natal).

Material: One male, carapace length (including rostrum) 4.7 mm.

Remarks: The present specimen agrees well with Coutière's and De Man's descriptions and figures, with some slight differences. The larger chela of the male is said to bear one or two teeth on the immobile finger. In the present specimen, this margin is smooth except for two slight bumps. This specimen differs from the male mentioned by Barnard (1950: 731) which has a far more robust right chela, also the teeth of the fingers are more pronounced. These differences may be due to the immaturity of the specimen.

Alpheus luciae Barnard

Figs 13a-b

Alpheus luciae Barnard, 1947: 389; 1950: 755.

Previous record: St. Lucia Bay, Natal.

Material:

	<i>Carapace length</i> (including rostrum)
One ovigerous female	14.7 mm
One male	11.7 mm
Holotype (S.A.M. A8423) ..	11.8 mm

Remarks: The holotype of this species, on re-examination, proved to be a male, the second pleopod bearing an appendix masculina and an appendix interna. This is the first record of the species since it was recorded in 1947.

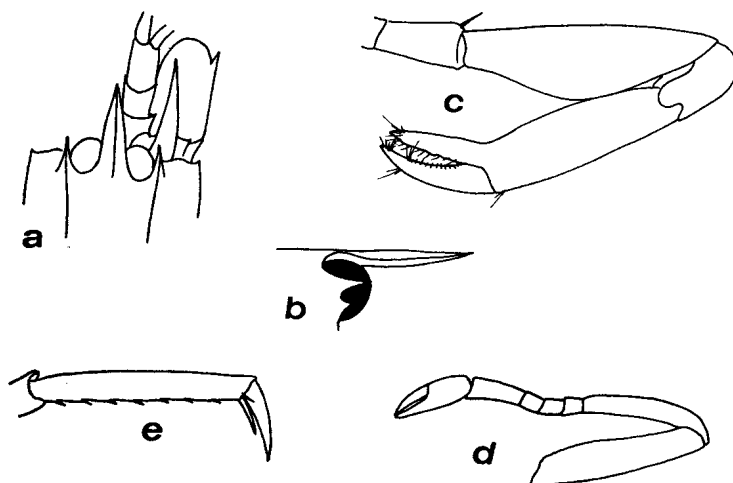


FIG. 12. *Athanas minikoensis* Coutière

a. Anterior region in dorsal view; b. Rostrum in lateral view; c. Cheliped; d. Second pereiopod; e. Third pereiopod.

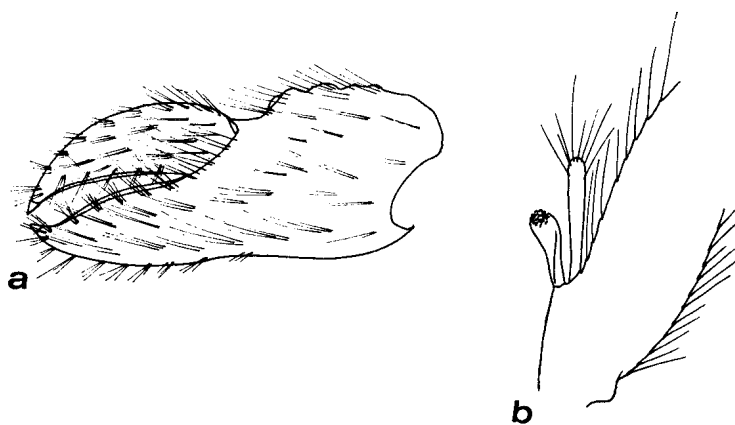


FIG. 13. *Alpheus luciae* Barnard

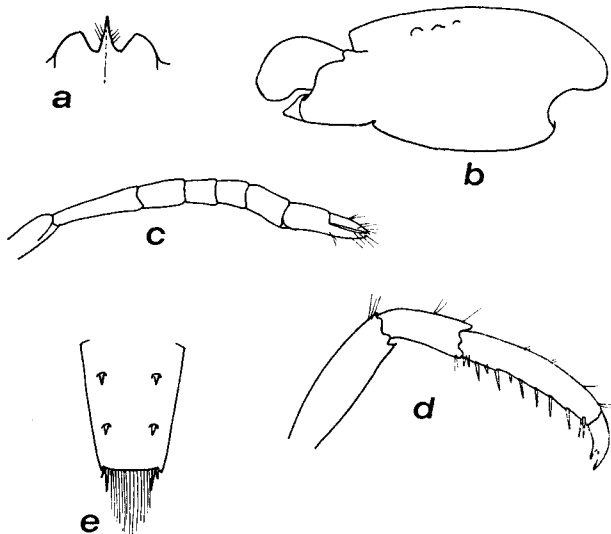
a. Upper surface of small chela; b. Endopod of pleopod two, male, showing appendix masculina and appendix interna.

Alpheus paragracilis Coutière

Figs 14a-e

Alpheus paragracilis Coutière, 1897: 303; 1905: 883. De Man, 1911: 310. Chace, 1966: 627.*Previous records*: Tahiti, Djibouti, Maldive and Laccadive Islands, Nosy Bé (Madagascar), Hawaii, St. Helena Island.*Material*: One ovigerous female, carapace length 4.9 mm.

Remarks: The presence of an acute tooth on the ventro-distal extremity of the meri of the third and fourth pereiopods, biunguiculate dactyls of the last three pairs of pereiopods, together with the absence of supra-orbital spines, seem to place this specimen in the species *paragracilis* Coutière, which belongs to the *Macrochirus* group of species. The present specimen agrees well in several respects with Coutière's figures (1905, fig. 22) especially in the telson, uropods and third pereiopods. Slight differences exist in the second pereiopods and in the large chela. In Coutière's figure the first segment of the carpus of the second pereiopod is about two-and-a-half times the length of the second, while in the present specimen it is just twice the length. The larger chela agrees in the possession of a notch on the ventral surface. Coutière's figure, however, does not show any dorsal granulation as found in the present specimen. Unfortunately the smaller chela is missing.

FIG. 14. *Alpheus paragracilis* Coutière

a. Rostrum in dorsal view; b. Large chela; c. Second pereiopod; d. Third pereiopod; e. Telson.

GENERAL DISCUSSION

The coastal areas of Moçambique have as yet been relatively poorly collected, especially with regard to invertebrate animals. Hilgendorf in 1878 dealt with a small collection of Crustacea collected by Professor W. Peters, while more recently, the late Dr. K. H. Barnard, and the Zoology Departments of the University of the Witwatersrand and the University of Cape Town have also added to our knowledge of the area. Being well within the semi-tropical/tropical region (but nevertheless within the South African region as defined by Barnard (1950: 2)), the Jangamo fauna is rich and varied, and new records and undescribed species are to be expected.

Of the 65 species of decapods collected, all except three are typical of the Indian Ocean region. These are *Porcellana dehaanii*, which has only been recorded from Natal and southern Moçambique; *Alpheus luciae*, which previously was known only from St. Lucia Bay, Zululand; and *Lybia plumosa* previously known only from northern Natal. Only one species in the collection is known from both the east and west coasts of southern Africa. This is *Palaemon pacificus*, which is found in the whole of the Indo-Pacific region and round to northern South West Africa. Twelve species are new records for this part of the African coast, one being a previously undescribed species.

SUMMARY

A collection of 65 species of decapod Crustacea from Jangamo, Moçambique is discussed. Twelve records are of species new to the area; one species is hitherto undescribed.

ACKNOWLEDGEMENTS

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Style manual for biological journals. Washington: American Institute of Biological Sciences.

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ILLUSTRATIONS

To be reducible to 12 cm × 18 cm (19 cm including caption). A metric scale to appear with all photographs.

REFERENCES

Harvard system (name and year) to be used: author's name and year of publication given in text; full references at the end of the article, arranged alphabetically by names, chronologically within each name, with suffixes *a*, *b*, etc. to the year for more than one paper by the same author in that year.

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Examples (note capitalization and punctuation)

BULLOUGH, W. S. 1960. *Practical invertebrate anatomy*. 2nd ed. London: Macmillan.

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ZOOLOGICAL NOMENCLATURE

To be governed by the rulings of the latest *International code of zoological nomenclature* issued by the International Trust for Zoological Nomenclature (particularly articles 22 and 51). The Harvard system of reference to be used in the synonymy lists, with the full references incorporated in the list at the end of the article, and not given in contracted form in the synonymy list.

Example

Scalaria coronata Lamarck, 1816: pl. 451, figs 5 *a*, *b*; Liste: 11. Turton, 1932: 80.