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THE GENUS *GENNADAS* IN THE WATERS  
AROUND SOUTHERN AFRICA

By  
BRIAN KENSLEY

Cape Town      Kaapstad

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# THE GENUS *GENNADAS* IN THE WATERS AROUND SOUTHERN AFRICA

By  
BRIAN KENSLEY

*South African Museum, Cape Town*

(With 13 figures)

[MS. accepted 26 May 1971]

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## INTRODUCTION

Since 1881, when Bate described his new genus *Gennadas* with *G. parvus* as the type species, several more species have been described. It was found that superficially the species were very similar, carapace and appendage characteristics being of little specific use. As it is also sometimes difficult to associate males and females of the same species, a great confusion and proliferation of species occurred. It has since been recognized that the male petasma of the 1st pleopods and the female thelycum formed by the last 3 thoracic sternites, provide the best diagnostic characters for the separation of the species. Burkenroad (1936) improved the knowledge of the genus by carefully describing and figuring the thelyca of several species while Tirmizi (1960) has also described and figured several species.

Barnard (1950) recorded 7 species from the South African region, while *G. bowieri* and *G. clavicularpus* (as *G. propinquus*) were later added (Kensley 1968, 1969). The present collection includes 11 species, 4 of which are new records for the region, but does not include *G. talismani* and *G. elegans*, which have been recorded from the South Atlantic. As the genus constitutes an important part of the mesopelagic fauna of the waters around South Africa, it was felt that brief descriptions and figures of all the species involved would aid future identifications. Emphasis has been placed on the petasmae and the thelyca, being the best diagnostic characters.

The material of the present collection comes from several sources: the Division of Sea Fisheries (stations denoted by 'A' followed by 4 digits); the deep sea trawls off Cape Point (stations denoted by 'A' followed by 3 digits); the South African Museum bathypelagic survey (stations denoted by 'IK'), and one sample from the University of Cape Town ecological collection.

## SYSTEMATIC DISCUSSION

## Genus GENNADAS

(See Fig. 6)

Rostrum short, unidentate. 2nd and 3rd peduncle segments of 1st antenna expanded. Vestigial arthrobranch present on 1st maxilliped. No podobranchs present behind 2nd maxilliped. Exopod of 1st maxilliped without distal segmented prolongation. Only 6th abdominal segment dorsally carinate. Telson apically truncate, with single pair of mobile lateral spines. Petasma in male with distal margin of 3 lobes, viz. external, median and internal, accessory lobe always present. (See Barnard 1950, fig. 118, for terminology.) Appendix masculina of 2nd pleopod of male bilamellate. Thoracic sternites 6 to 8 (i.e. ventral surfaces between pereopods 3 to 5) in female variously modified to form thelycum.

*List of species from southern African waters*

- Gennadas bowieri* Kemp  
 \**Gennadas brevirostris* Bouvier  
*Gennadas capensis* Calman  
*Gennadas clavicornis* De Man  
*Gennadas gilchristi* Calman  
 \**Gennadas incertus* (Balss)  
*Gennadas kemp* Stebbing  
 \**Gennadas parvus* Bate  
*Gennadas scutatus* Bouvier  
 \**Gennadas tinayrei* Bouvier  
*Gennadas valens* (Smith)

\* New record

*Key to South African species of Gennadas (adult females)*

- |   |                     |
|---|---------------------|
| 1. Posteriorly directed tongue-like process on 5th thoracic sternite . . . . .  | <i>tinayrei</i>     |
| — No tongue-like projection of 5th sternite . . . . .   | 2                   |
| 2. Shield on 8th thoracic sternite with 2 anteriorly-directed projections . . . . .   | <i>bowieri</i>      |
| — Shield on 8th thoracic sternite absent, or if present, lacking separated, anteriorly directed lateral projections . . . . . | 3                   |
| 3. Shield of 8th thoracic sternite with anterior flap reaching 6th sternite . . . . .   | <i>scutatus</i>     |
| — Shield of 8th thoracic sternite not reaching 6th sternite . . . . .   | 4                   |
| 4. 7th sternite with 2 anteriorly-directed projections . . . . .  | 5                   |
| — 7th thoracic sternite lacking 2 projections . . . . .   | 6                   |
| 5. Projections of 7th sternite apically simple . . . . .  | <i>valens</i>       |
| — Projections of 7th sternite apically notched . . . . .  | <i>gilchristi</i>   |
| 6. Leaf-like process arising in front of 4th pereopods, medially directed . . . . .   | <i>parvus</i>       |
| — No leaf-like projections in front of 4th pereopods . . . . .  | 7                   |
| 7. Shield present on 8th thoracic sternite, posteriorly notched . . . . .   | 8                   |
| — Shield absent on 8th thoracic sternite, or if present, not posteriorly notched . . . . .                                    | 10                  |
| 8. Shield on 8th thoracic sternite anteriorly rounded . . . . .   | <i>brevirostris</i> |
| — Shield on 8th thoracic sternite anteriorly emarginate or notched . . . . .  | 9                   |

- 9. Large concave depression on 6th thoracic sternite . . . . . *incertus*
- No large concave depression on 6th thoracic sternite but broadly rectangular shield on 7th thoracic sternite . . . . . *talismani*
- 10. 6th thoracic sternite with triangular/subtriangular/truncated triangular shield with anteriorly directed apex . . . . . 11
- 6th thoracic sternite lacking shield, or with subcircular shield . . . . . 12
- 11. 7th sternite with W-shaped process . . . . . *clavicarpus*
- 7th sternite with rectangular process . . . . . *kempfi*
- 12. 6th sternite with W-shaped process, no obvious shield on 8th sternite . . . . . *capensis*
- 6th sternite without W-shaped process, pentagonal shield on 8th sternite . . . . . *elegans*

*Key to the South African species of Gennadas (based on petasomal characters of adult males)*

- 1. Median lobe undivided . . . . . 2
- Median lobe divided . . . . . 5
- 2. External lobe divided, division indicated by widely separated (*elegans*) or closely approximate (*tinayrei*) blunt lobules . . . . . 3
- External lobe undivided or with small acute process on median margin . . . . . 4
- 3. Median lobe broadly convex . . . . . *tinayrei*
- Median lobe low, narrow . . . . . *elegans*
- 4. Accessory lobe bipartite . . . . . *capensis*
- Accessory lobe a single flap . . . . . *kempfi*
- 5. External lobe undivided . . . . . *brevirostris*
- External lobe divided . . . . . 6
- 6. Lobules of external lobe elongate, subequal, slender . . . . . *incertus*
- Lobules of external lobe not elongate, subequal, slender . . . . . 7
- 7. Lobules of median lobe hooked . . . . . *bowieri*
- Lobules of median lobe not hooked . . . . . 8
- 8. Accessory lobe a mere ridge . . . . . *parvus*
- Accessory lobe well developed . . . . . 9
- 9. External lobule of median lobe slender . . . . . 10
- External lobule of median lobe not slender . . . . . 11
- 10. Apex of internal lobe acute . . . . . *gilchristi*
- Apex of internal lobe rounded . . . . . 12
- 11. Inner lobule of median lobe slender . . . . . *talismans*
- Inner lobule of median lobe blunt . . . . . *valens*
- 12. Inner lobule of median lobe apically acute . . . . . *clavicarpus*
- Inner lobule of median lobe apically truncate . . . . . *scutatus*

*Gennadas bowieri* Kemp, 1909

Fig. 1

*Gennadas bowieri* Kemp, 1909: 726, pl. 74, figs 1-4, pl. 75, figs 6, 7; 1910a: 179. Burkenroad, 1936: 80. Tirmizi, 1960: 360, figs 40d, 48e, 70-75. Kensley, 1968: 302.

*Gennadas alcocki* Kemp, 1910a: 174, pl. 13, figs 5, 6.

*Amalopenaeus bowieri*: Balss, 1927: 267.

*Amalopenaeus alcocki*: Balss, 1927: 266, fig. 30.

*Description*

Antennal angle acute, infra-antennal angle quadrate. Spine on outer scaphocerite margin reaching slightly beyond apex of scale. Thelycum of female with shield on 8th thoracic sternite bearing elongate process on anterolateral corners. 7th thoracic sternite with rounded flap opening posteriorly, attached anteriorly to shield of 6th segment, with small lateral process on either side. Petasma in male with external lobe bipartite, both lobules apically acute. Median lobe broad, with broad distal notch, two lobules thus formed

both apically acute. Internal lobe low, with numerous hooks. Accessory lobe large, leaf-shaped.

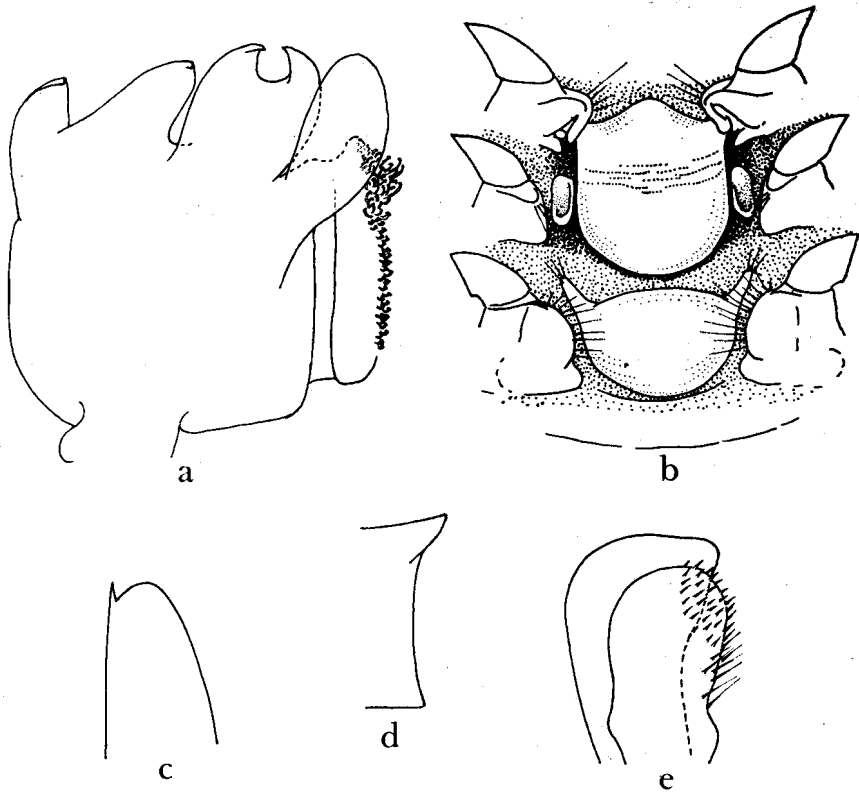


Fig. 1. *Gennadas bowieri*

a. Petasma. b. Thelycum. c. Apex of scaphocerite. d. Antennal and infra-antennal angles. e. Appendix masculina.

*Distribution*

Indo-Pacific, South Atlantic, Caribbean, Bermudas, Bahamas.

*Material*

Station	Position	Depth (metres)	C.L. ♂ (mm)	C.L. ♀ (mm)
IK34 . .	26.30 S, 42.40 E	500	7,8	7,5
			8,0	
			8,4	
IK35 . .	25.55 S, 39.30 E	500	9,0	7,0
IK45 . .	27.00 S, 43.30 E	500		6,0
IK46 . .	26.40 S, 40.00 E	500	5,4	6,5
				7,5
				7,9
				8,1

Station	Position	Depth (metres)	C.L.♂ (mm)	C.L.♀ (mm)
A321 . .	34.33 S, 16.42 E	3 200-3 400		8,1
A1892 . .	36.28 S, 41.22 E	1 000		6,6
A3616 .	31.19 S, 10.08 E	250	8,0 8,1	8,0 8,9

*Gennadas brevirostris* Bouvier, 1905

Fig. 2

*Gennadas brevirostris* Bouvier, 1905: 748. Tirmizi, 1960: 341. Crosnier & Forest, 1969: 549.

*Gennadas similis* Stephensen, 1923: 12, fig. 1.

*Gennadas chiasmifera* Stephensen, 1923: 13, figs 2, 3.

*Amalopenaeus similis*: Balss, 1927: 256, figs 8-10, pl. 6, fig. 2.

*Description*

Antennal angle acute, infra-antennal angle quadrate. Spine on outer scaphocerite margin almost reaching apex of scale. Thelycum of female with

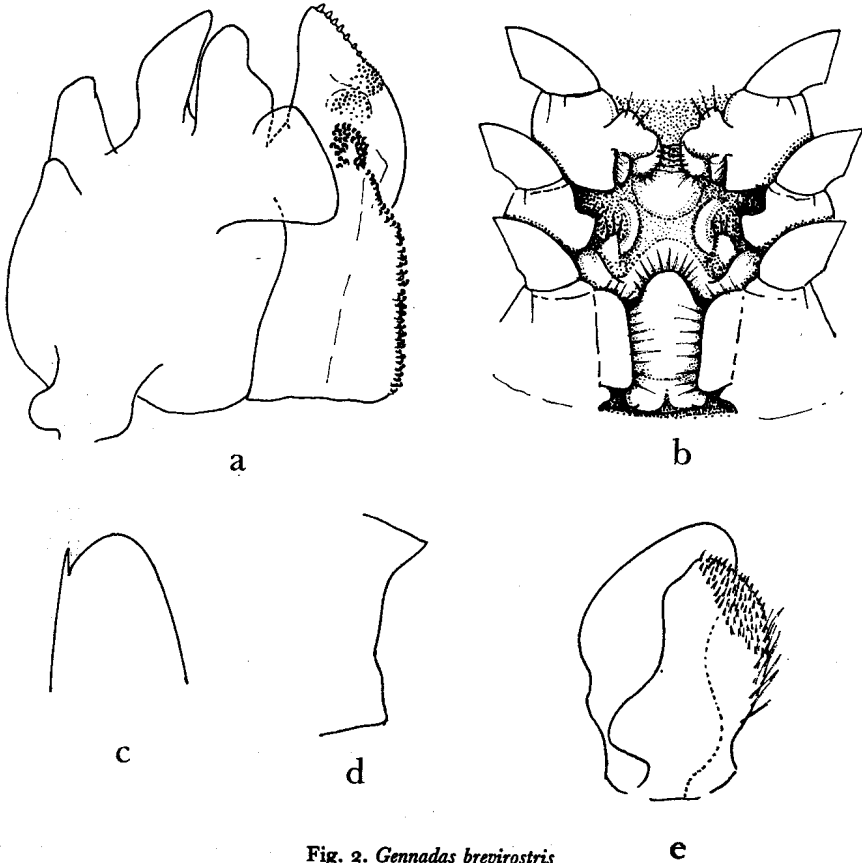


Fig. 2. *Gennadas brevirostris*  
 a. Petasma. b. Thelycum. c. Apex of scaphocerite. d. Antennal and infra-antennal angles.  
 e. Appendix masculina.

8th thoracic sternite bearing anteriorly rounded setose flap, coxa medially produced into rectangular process. 7th thoracic sternite with W-shaped raised portion posteriorly, coxa with short quadrate lobe. Coxa of 3rd pereopod produced into large lobed setose process. Petasma in male with external lobe apically blunt, with small lobe at base, median lobe of 2 irregular, somewhat elongate closely-applied lobules, internal lobe roughly triangular, bearing row of peg-like spines on disto-medial edge, and many small hooks arranged in two patches. Accessory lobe a simple flap with rounded corners.

*Distribution*

North Atlantic, Gulf of Guinea, off Congo and Angola, Cape Basin off west coast of South Africa.

*Material*

<i>Station</i>	<i>Position</i>	<i>Depth (metres)</i>	<i>C.L.♂ (mm)</i>	<i>C.L.♀ (mm)</i>
IK6 . . .	34 S, 17 E	200	10,0	11,1
			10,8	11,0
			10,0	11,5
			8,9	11,2
			8,0	10,6
			10,2	10,0
			11,0	9,3
				11,0
				10,6
				9,9
				11,0
				10,9
				12,5
				11,0
	10,8			
	8,7			
	8,8			
	8,6			
	9,0			
	9,1			
A3541 . . .	37.00 S, 08.40 E	S	9,5	

*Remarks*

From previous records and from the present stations, it would seem that this species is limited to the Atlantic Ocean.

An interesting specimen from station IK6 deserves comment. Although possessing a perfect, matured thelycum and having eggs visible in the ovaries, the first pleopods bear a petasma, which although smaller than that of a mature male, is nevertheless unmistakably that of *G. brevirostris*.



*Gennadas capensis* Calman, 1925

## Fig. 3

*Gennadas capensis* Calman, 1925: 5, pl. 1, figs 1, 2. Burkenroad, 1936: 67, figs 51, 53. Barnard, 1950: 630, fig. 118e, f.

*Description*

Antennal angle acute, infra-antennal angle quadrate. Spine on outer margin of scaphocerite some distance from apex. Thelycum of female with 7th sternite bearing W-shaped process, median apex of which formed by rounded concave process. Coxa of 5th pereiopod medially expanded, bilobed. Coxa of 4th pereiopod with slender, elongate process. Coxa of 3rd pereiopod bluntly lobed, coxa of 2nd bearing concave spoon-shaped process, posteriorly directed. Petasma of male with external lobe bearing small acute lobe on median margin, median lobe truncate, internal lobe consisting of 2 hook-covered blunt lobules. Accessory lobe bipartite, consisting of inner club-shaped process and outer broad truncate process.

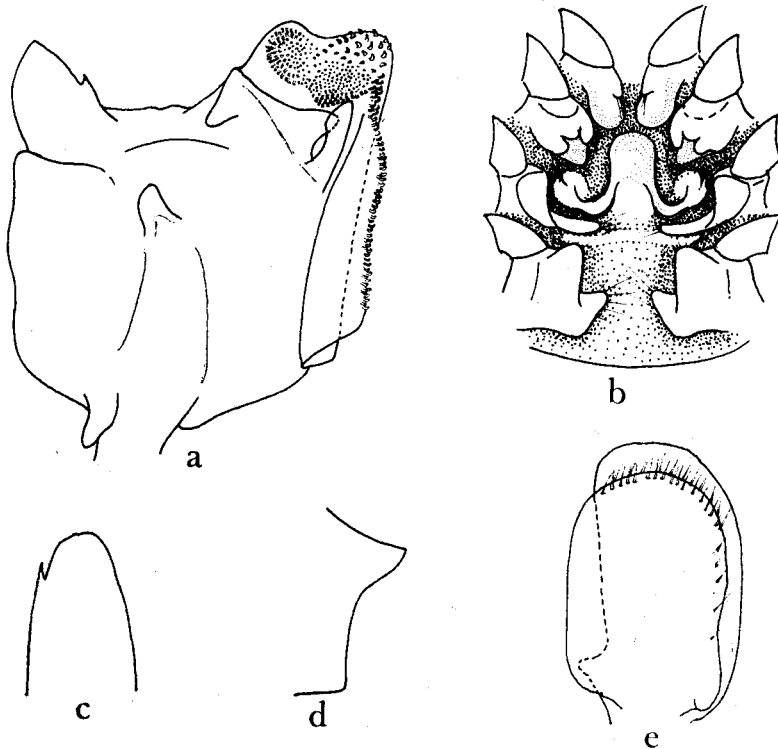


Fig. 3. *Gennadas capensis*  
 a. Petasma. b. Thelycum. c. Apex of scaphocerite. d. Antennal and infra-antennal angles.  
 e. Appendix masculina.

*Distribution*

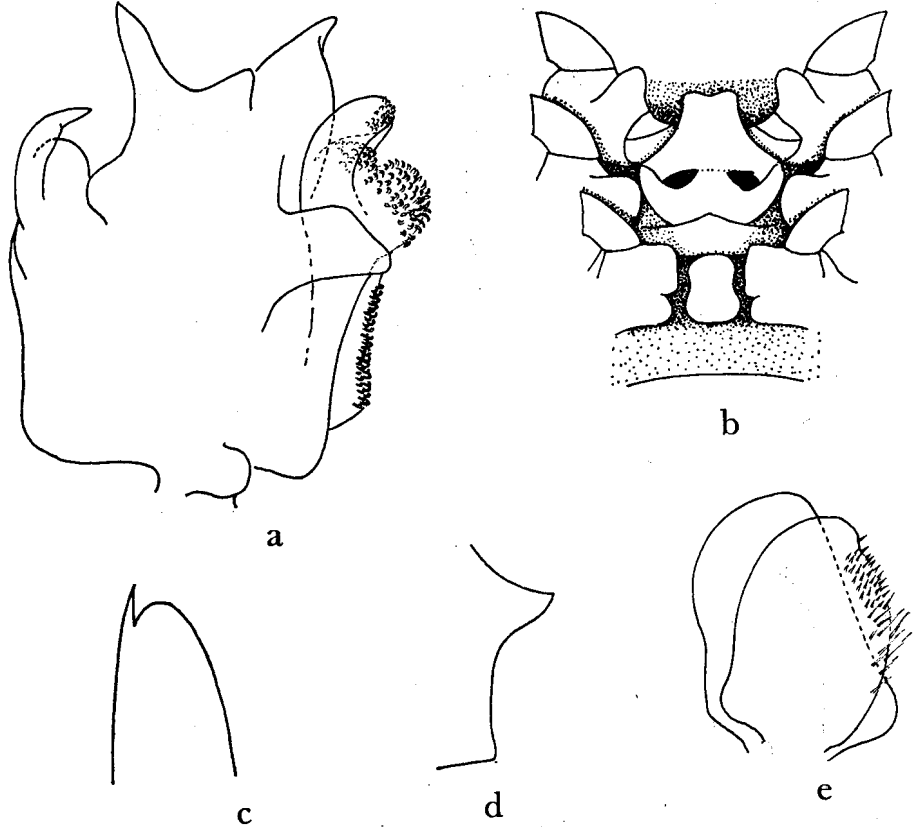
Off Cape Point, Bahamas, Bermudas, Gulf of Mexico.

*Material*

Station	Position	Depth (metres)	C.L. ♂ (mm)	C.L. ♀ (mm)
A1896 . .	34.12 S, 28.24 E	1 000		9,6
A3616 . .	31.19 S, 10.08 E	250	7,9	
			10,6	
			11,0	
			12,5	

*Gennadas clavicularis* De Man, 1907

## Fig. 4

*Gennadas clavicularis* De Man, 1907: 144. Tirmizi, 1960: 358, figs 40c, 48e, 58-66.*Amalopenaeus clavicularis*: Balss, 1927: 267.*Gennadas propinquus* (non Rathbun) Burkenroad, 1936: 66, 83-85. Kensley, 1969: 167, fig. 9.*Gennadas scutatus* (non Bouvier) Kemp, 1910a: 178, pl. 13, figs 9, 10.*Gennadas scutatus indicus* Balss, 1927: 259, fig. 13.Fig. 4. *Gennadas clavicularis*

a. Petasma. b. Thelycum. c. Apex of scaphocerite. d. Antennal and infra-antennal angles.  
e. Appendix masculina.

*Description*

Antennal angle acute, infra-antennal angle quadrate. Spine on outer margin of scaphocerite reaching beyond apex of scale. Thelycum of female with 8-shaped shield on 8th thoracic sternite, coxa with large lobe. 7th thoracic sternite with W-shaped process, closely connected to triangular shield of 6th thoracic sternite. Openings of seminal receptacles at base of triangular shield. Coxa of 3rd pereopod with large lobed process. Petasma of male, external lobe bipartite, outer lobule acute, slender, inner lobule rounded. Median lobe large, bipartite, both lobules apically acute. Internal lobe bipartite, both rounded, bearing hooks. Accessory lobe a simple flap.

*Distribution*

Widespread throughout the Indo-Pacific region.

*Material*

Station	Position	Depth (metres)	C.L.♂ (mm)	C.L.♀ (mm)
IK6	34 S, 17 E	200	7,1	6,9
IK35	25.55 S, 39.30 E	500	7,5 6,2	7,9 6,5 6,3
IK36	26.30 S, 33.40 E	500		7,3
A321	34.33 S, 16.42 E	3 200-3 400		7,8 7,9
A2387	37.36 S, 19.34 E	800	6,9	
A2945	36.11 S, 14.14 E	700	6,3	6,8
A2958	41.40 S, 17.17 E	600		7,1
A3616	31.19 S, 10.08 E	250		7,9 7,2
A3641	37.00 S, 08.40 E	S	7,8 7,5	6,4
A3643	36.51 S, 12.43 E	250		7,9

*Remarks*

Of the present records, 3 stations are in the area of the Cape Basin, i.e. off the west coast of South Africa, and seem to be the first record of the species from the Atlantic Ocean.

*Gennadas elegans* (Smith, 1882)

## Fig. 5

*Amalopenaeus elegans* Smith, 1882: 87, pl. 14, figs 8-14, pl. 15, figs 1-5. Kemp, 1910b: 14, pl. 1.

Lenz & Strunck, 1914: 310. Balss, 1927: 253, fig. 3.

*Gennadas elegans*: Burkenroad, 1936: 71, fig. 55. Barnard, 1950: 631, fig. 118m, n.

*Description*

Antennal angle acute, infra-antennal angle blunt. Thelycum of female with pentagonal shield on 8th thoracic sternite. 7th sternite with roughly oval

shield posteriorly; anterior portion with dumb-bell-shaped shield bearing seminal receptacles at ends. Petasma in male with small rounded lobe at base of external lobe. Latter broad, divided, division indicated by blunt projection at each end. Median lobe lower than external lobe, narrow, rounded. Internal lobe large, apically evenly convex. Accessory lobe a leaf-like flap.

*Distribution*

Mediterranean, North and South Atlantic, not as yet known from southern African waters.

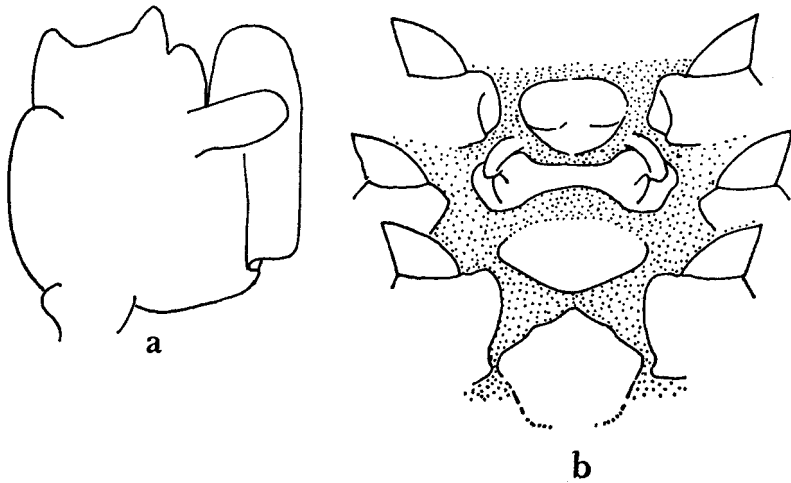


Fig. 5. *Gennadas elegans*  
a. Petasma (after Smith, 1882). b. Thelycum (after Burkenroad, 1936).

*Gennadas gilchristi* Calman, 1925

Fig. 6

*Gennadas gilchristi* Calman, 1925: 6, pl. 1, figs 3, 4. Burkenroad, 1936: 66, fig. 58. Barnard, 1950: 633, fig. 118 g, h. Kensley, 1968: 301.

*Amalopenaeus gilchristi*: Balss, 1927: 261, figs. 16, 17.

*Amalopenaeus elegans* (non Smith) Stebbing 1917: 31.

*Description*

Antennal and infra-antennal angles produced, but apically rounded. Spine on outer margin of scaphocerite hardly reaching apex. Coxa of 3rd pereopod expanded, more noticeably prominent and bilobed in female than in male. Thelycum of female easily distinguished by bilobed sternal process of 7th thoracic sternite. Petasma of male with external lobe acute, with smaller lobe at its base, median lobe of 2 diverging slender lobules, internal lobe acute, accessory lobe broadly rounded, not extending beyond internal lobe.

*Distribution*

Off Cape Peninsula, off west coast of South Africa, Agulhas Basin, southern Indian Ocean.

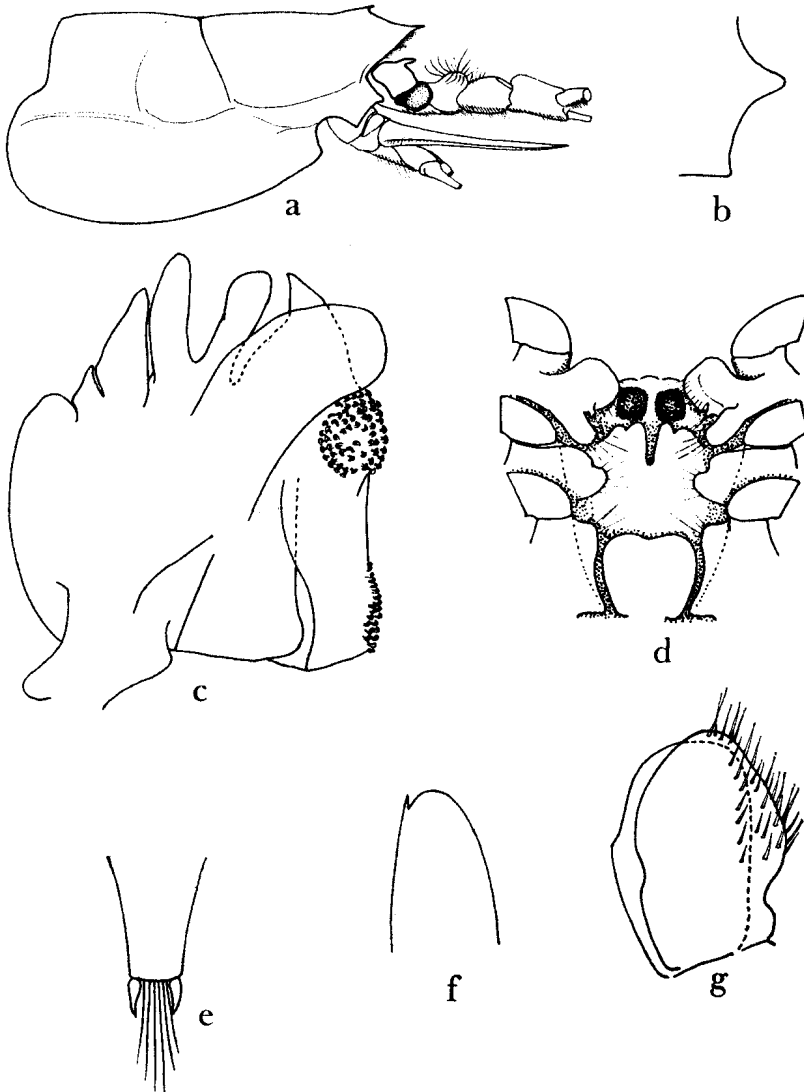


Fig. 6. *Gennadas gilchristi*

a. Carapace in lateral view. b. Antennal and infra-antennal angle. c. Petasma. d. Thelycum.  
 e. Apex of telson. f. Apex of scaphocerite. g. Appendix masculina.

*Material*

Station	Position	Depth (metres)	C.L. ♂ (mm)	C.L. ♀ (mm)
IK6	34 S, 17 E	200		6.6
				5.3

Station	Position	Depth (metres)	C.L.♂ (mm)	C.L.♀ (mm)
IK35	25.55 S, 39.30 E	500	4,8	5,0
			5,2	5,5
			4,9	
			DD	
			6,9	
			5,6	
			6,0	
			5,8	
			5,8	
			6,0	
IK40	38.50 S, 33.08 E	500	6,0	
IK39	37.40 S, 22.59 E		5,8	5,8
			6,2	6,0
			6,2	8,6
			6,2	7,0
			6,9	6,0
			6,9	5,8
				7,0
				6,8
	7,7			
	8,0			
A321	34.33 S, 16.42 E	3 200-3 400		6,5
A1877	40.44 S, 33.36 E	500	7,0	6,1
A1879	43.29 S, 35.14 E	500	7,4	
A1892	36.28 S, 41.22 E	1 000	5,6	6,0
			7,0	6,3
				6,1
				5,0
				5,0
	4,5			
A1894	36.02 S, 35.38 E	500	D	D
A1896	34.12 S, 28.24 E	1 000	4,8	
			4,8	
A2387	37.36 S, 19.34 E	800		5,0
				4,2
A2389	39.40 S, 20.00 E	800	D	D
A2394	44.40 S, 26.05 E	S	5,9	8,0
				7,0
				6,1
				5,4
				7,5
A2945	36.11 S, 14.14 E	700	5,1	6,1
A2958	41.40 S, 17.17 E	600	6,4	5,8
			6,8	

Station	Position	Depth (metres)	C.L.♂ (mm)	C.L.♀ (mm)
A2961	40.12 S, 14.41 E	700		6,0 5,9 5,6 4,3
A2962	39.06 S, 13.34 E	600	7,1	8,1 8,0 7,3 7,0 6,1
A2963	38.00 S, 15.00 E	600	6,5 7,0 6,0 5,6	5,0
A2966	38.09 S, 19.50 E	600	7,2 4,9	6,8 6,8
A2968	36.38 S, 16.28 E	600	4,9	5,0
A3616	31.19 S, 10.08 E	250	6,9 7,0 7,1 6,6 7,9 7,5 6,6 7,0 7,6 6,5 7,0	8,2 6,3 7,2
A3634	33.23 S, 09.31 E	250	6,8 6,2 6,9	6,8
A3641	37.00 S, 08.40 E	S	5,6 6,9 7,5 7,0 6,9 6,9	7,0 7,0 7,0 7,0 7,0 7,2 6,7
A3643	36.51 S, 12.43 E	250		8,9 5,0
A4218	29.13 S, 10.03 E	100	7,2 6,0 5,4 5,8	8,0 7,9 7,9 7,5

*Gennadas incertus* (Balss, 1927)

## Fig. 7

*Amalopenaeus incertus* Balss, 1927: 265, figs 24-29.

*Gennadas incertus*: Burkenroad, 1936: 66. Tirmizi, 1960: 364, figs 76-80.

*Gennadas gardineri* Balss, 1927: 267, fig. 31.

*Description*

Antennal and infra-antennal angles acute. Spine on outer scaphocerite margin reaching beyond apex of scale. Thelycum in female with large plate on 8th thoracic sternite, anteriorly and posteriorly notched. Plate on 7th thoracic sternite with antero-lateral corners acute, postero-lateral corners produced anteriorly. 6th thoracic sternite with large concave shield. Petasma in male with external lobe of 2 large divergent tapering 'horns'. Median lobe of 2 lobules, outer slender, inner broadly rounded. Internal lobe simple, with hooks on median face. Accessory lobe truncate, reaching same level as median and internal lobes. Inner scale of appendix masculina of male distally cut away at angle.

*Distribution*

Indian Ocean.

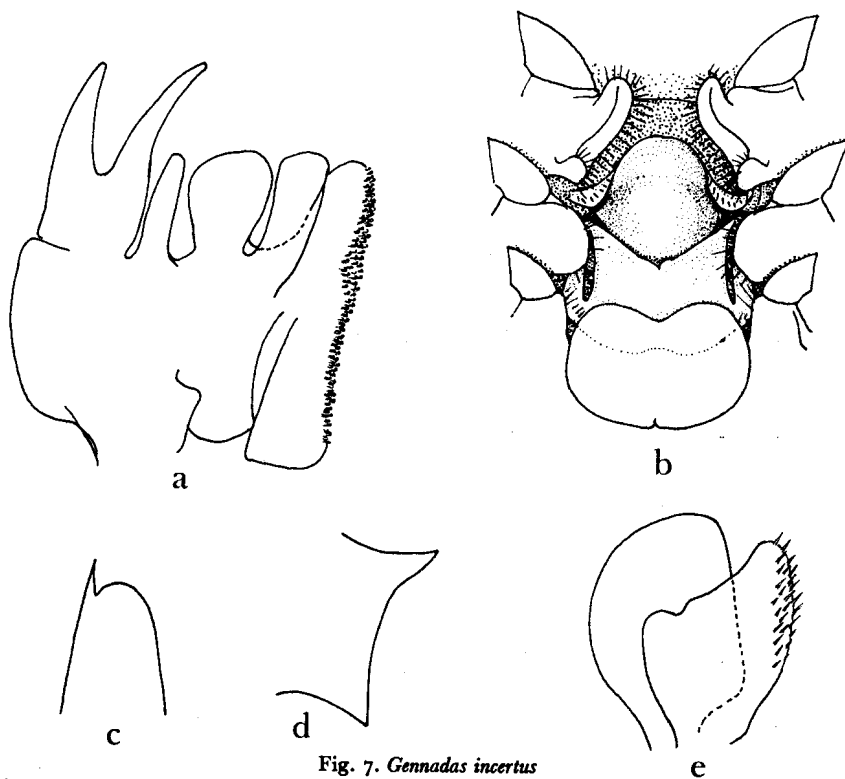


Fig. 7. *Gennadas incertus*

a. Petasma. b. Thelycum. c. Apex of scaphocerite. d. Antennal and infra-antennal angles. e. Appendix masculina.



*Material*

Station	Position	Depth (metres)	C.L. ♂ (mm)	C.L. ♀ (mm)
IK6	34 S, 17 E	200	7,2	6,6 6,8
IK35	25.55 S, 39.30 E	500	6,3	
IK41	36.47 S, 34.40 E	500	7,0	
IK42	35.42 S, 24.40 E	500	7,0	6,9 7,5
IK48	29.52 S, 31.36 E	500	5,0 5,2	7,6
IK51	33.10 S, 17.20 E	120	5,4	6,2
A2945	36.11 S, 14.14 E	700	7,4	
A2963	38.00 S, 15.00 E	600	6,6	
A2965	40.17 S, 19.54 E	600	7,5	6,9
A3643	36.51 S, 12.43 E	250		5,6

*Gennadas kempfi* Stebbing, 1914

## Fig. 8

*Gennadas kempfi* Stebbing, 1914a: 283, pl. 27; 1914b: 12. Calman, 1925: 4. Burkenroad, 1936: 64, figs 52, 54. Barnard, 1950: 630, fig. 118a-d. Kensley, 1968: 302.

*Amalopenaeus kempfi*: Balss, 1927: 260, figs 14, 15.

*Description*

Antennal angle produced but bluntly rounded, infra-antennal angle rounded. Spine on outer margin of scaphocerite set well behind apex of scale. Thelycum of female consisting of 3 sternal plates, that on 6th thoracic sternite triangular, 7th thoracic sternite rectangular, 8th thoracic sternite hexagonal. Petasma of male with single acute external lobe, median lobe broad, truncated, internal lobe also truncate, with rounded hook-bearing process. Both lamellae of appendix masculina of 2nd pleopod of male somewhat elongate.

*Distribution*

Off west coast of South Africa, off Cape Peninsula, Agulhas Basin, southern Indian Ocean.

*Material*

Station	Position	Depth (metres)	C.L. ♂ (mm)	C.L. ♀ (mm)
A190	32.26 S, 16.33 E	2 200	8,2 D	
A321	34.33 S, 16.42 E	3 200-3 400	D	D 9,8
A1877	40.44 S, 33.36 E	500		10,0

Station	Position	Depth (metres)	C.L. ♂ (mm)	C.L. ♀ (mm)
A1879 . .	43.29 S, 35.14 E	500	10,2 9,9 9,9	10,8 12,0 12,0
A2393 . .	43.50 S, 25.00 E	800		10,9
A2953 . .	44.24 S, 20.16 E	600		7,5
A2958 . .	41.40 S, 17.17 E	600	8,9 8,0	10,0 10,9 9,9 10,7 7,3 10,8 9,0 11,0 D 8,1 8,0
A3643 . .	36.51 S, 12.43 E	250		

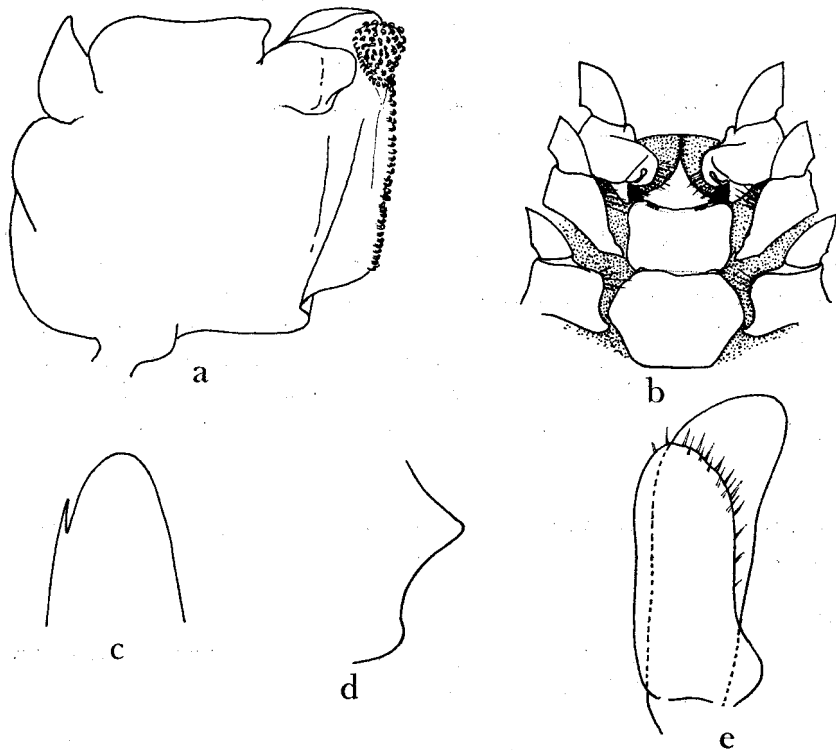


Fig. 8. *Gennadas kempii*  
 a. Petasma. b. Thelycum. c. Apex of scaphocerite. d. Antennal and infra-antennal angles.  
 e. Appendix masculina.

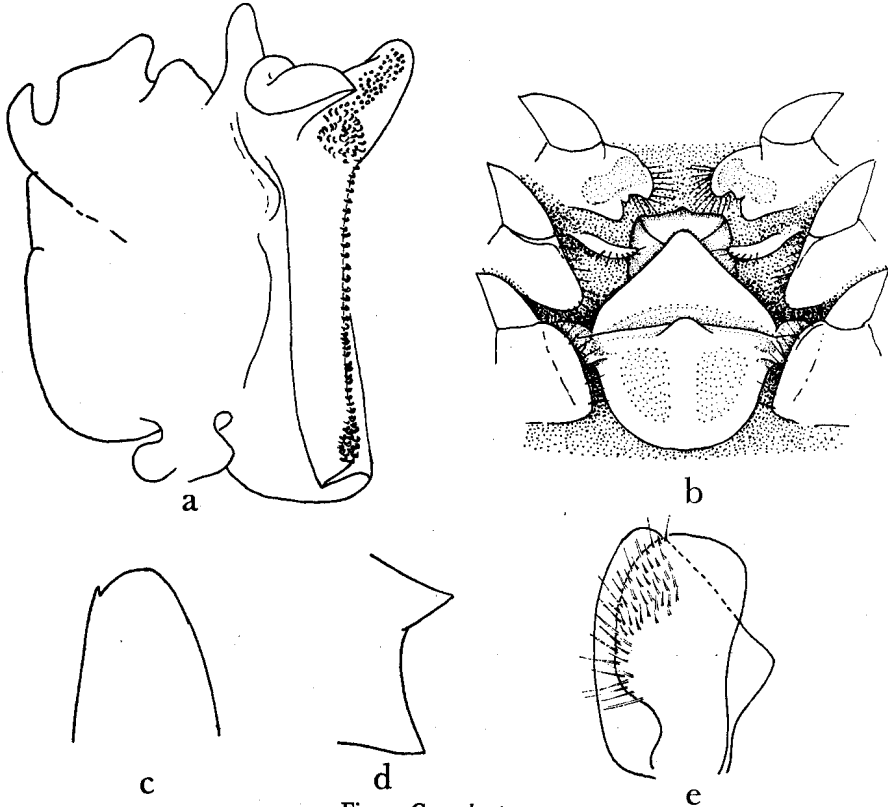
*Gennadas parvus* Bate, 1881

## Fig. 9

*Gennadas parvus* Bate, 1881: 192; 1888: 340, pl. 59. Kemp, 1909: 721, pl. 73, figs 1-6, pl. 75, fig. 1; 1913: 60, pl. 7, fig. 6. Burkenroad, 1936: 65. Tirmizi, 1960: 346, figs 49, 50.  
*Amalopenaeus parvus*: Bals, 1927: 263, figs 20-23.

*Description*

Antennal and infra-antennal angles acute. Spine on outer scaphocerite margin small, below apex of scale. Thelycum of female with broad shield on 8th thoracic sternite with 2 depressions on either side of slight median ridge. 7th sternite with broad-based triangular shield. Rectangular structure beneath apex of triangle made up of 3 plates. Leaf-like process between bases of 3rd and 4th pereiopods. Petasma of male with bipartite external lobe, outer lobule hook-like, inner lobule broad, truncate. Median lobe bipartite, with elongate outer lobule, and broader inner lobule at right angles to former. Short blunt process between external and median lobes. Internal lobe distally elongate, rounded, with numerous hooks. Accessory lobe a mere ridge beneath median lobe.

Fig. 9. *Gennadas parvus*

a. Petasma. b. Thelycum. c. Apex of scaphocerite. d. Antennal and infra-antennal angles. e. Appendix masculina.

*Distribution*

Indo-Pacific, off Cape of Good Hope.

*Material*

<i>Station</i>	<i>Position</i>	<i>Depth (metres)</i>	<i>C.L. ♂ (mm)</i>	<i>C.L. ♀ (mm)</i>
A1892 . .	36.28 S, 41.22 E	1 000	5,4	5,8
A1896 . .	34.12 S, 28.24 E	1 000		5,9
A2394 . .	44.40 S, 26,05 E	S	6,2 6,5 5,8	6,4
A2961 . .	40.12 S, 14.41 E	700	6,2 6,9	
A2965 . .	40.17 S, 19.54 E	600	6,8	
A2966 . .	38.09 S, 19.50 E	600	6,8	
A3616 . .	31.19 S, 10.08 E	250	5,2	
A3634 . .	33.23 S, 09.31 E	250	6,4 6,6	
A3643 . .	36.51 S, 12.43 E	250		5,0

*Gennadas scutatus* Bouvier, 1906

Fig. 10

*Gennadas scutatus* Bouvier, 1906: 748; 1908: 42, pl. 8. Kemp, 1909: 727, pl. 75, fig. 2; 1910a: 178, pl. 13, figs 9, 10; 1913: 61. Calman, 1925: 4. Burkenroad, 1936: 83, fig. 59. Barnard, 1950: 634, fig. 1180, p. Tirmizi, 1960: 358, fig. 40c, 48d, 67-69. Crosnier & Forest, 1969: 549.

*Amalopenaeus scutatus*: Balss, 1927: 258, figs 11, 12.

*Description*

Antennal and infra-antennal angles acute. Spine on outer scaphocerite margin reaching beyond apex of scale. Thelycum of female with elongate flap on 8th thoracic sternite, stretching forward to cover 7th and 6th sternites. 7th sternite a flattened triangle. 6th sternite triangular with seminal receptacles visible under flap of 5th sternite. Petasma of male with external lobe of 2 short rounded lobules. Median lobe broad, consisting of slender outer lobule, and inner broadly rounded lobule with tiny lobe on outer margin. Internal lobe of 2 low rounded hook-covered portions. Accessory lobe a simple triangular flap.

*Distribution*

North and South Atlantic, Caribbean, entire Indo-Pacific region.

*Material*

<i>Station</i>	<i>Position</i>	<i>Depth (metres)</i>	<i>C.L. ♂ (mm)</i>	<i>C.L. ♀ (mm)</i>
IK6 . .	34 S, 17 E	200	5,4 5,1 5,4 5,4	5,0 4,9 5,3

Station	Position	Depth (metres)	C.L.♂ (mm)	C.L.♀ (mm)
A321	34.33 S, 16.42 E	3 200-3 400		5,8
A2953	44.24 S, 20.16 E	600	5,1	

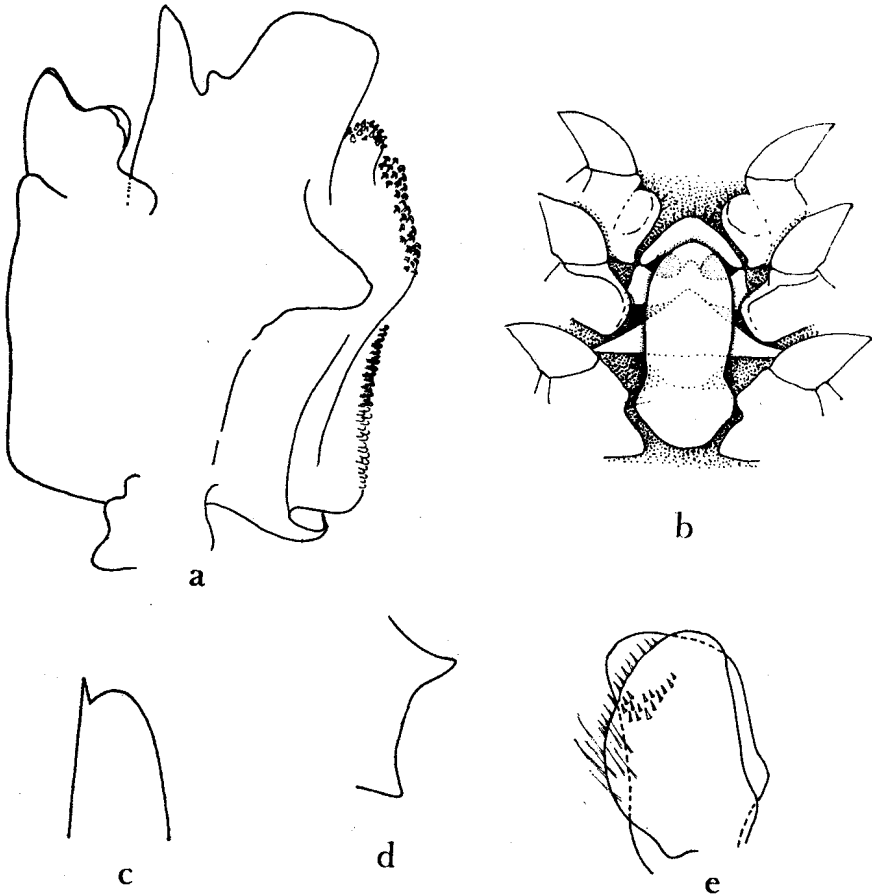


Fig. 10. *Gennadas scutatus*  
 a. Petasma. b. Thelycum. c. Apex of scaphocerite. d. Antennal and infra-antennal angles.  
 e. Appendix masculina.

*Gennadas talismani* Bouvier, 1906

Fig. 11

*Gennadas talismani* Bouvier, 1906: 10, fig. 15; 1908: 28. Lenz & Strunck, 1914: 311, pl. 18, figs 1-14. Burkenroad, 1936: 66, 85, fig. 60. Barnard, 1950: 633, fig. 118i, j. Crosnier & Forest, 1969: 549.

*Amalopenaeus talismani*: Balss, 1927: 254, figs 5-7.

**Description**

Antennal and infra-antennal angles acute. Thelycum in female with shield on 8th thoracic sternite notched anteriorly and posteriorly. 7th sternite with

broadly rectangular plate, with anterior ridge marking position of seminal receptacles. Petasma in male with external lobe consisting of 2 low apically acute lobules. Median lobe bipartite, outer lobule broad, inner lobule slender. Interior lobe rounded. Accessory lobe a broad flap.

*Distribution*

North and South Atlantic, not as yet known from southern African waters.

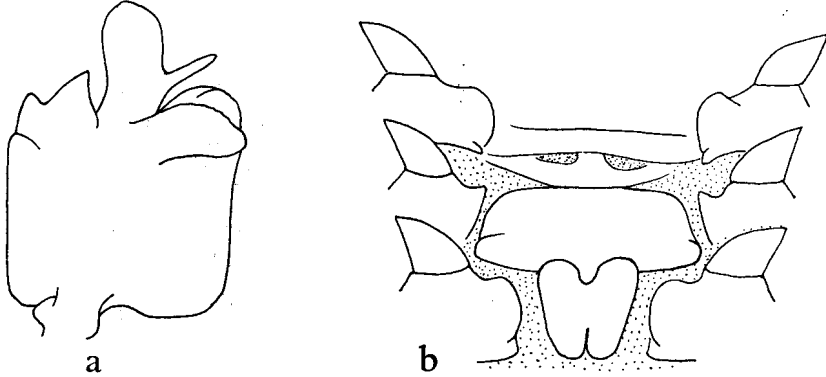


Fig. 11. *Gennadas talismani*

a. Petasma (after Balss, 1927, and Bouvier, 1906). b. Thelycum (after Balss, 1927, and Burkenroad, 1936).

*Gennadas tinayrei* Bouvier, 1906

Fig. 12

*Gennadas tinayrei* Bouvier, 1906: 10, figs 2-4, 14; 1908, 48, pl. 1, fig. 4, pl. 10. Stephensen, 1923: 11. Burkenroad, 1936: 73, fig. 56. Tirmizi, 1960: 367, figs 40f, 81-83. *Amalopenaeus tinayrei*: Sund, 1920: 29. Balss, 1927: 252, fig. 2, pl. 6, fig. 1.

*Description*

Antennal angle subacute, infra-antennal angle acute. Spine on outer scaphocerite margin just reaching apex of scale. Thelycum of female with small rectangular shield on 8th thoracic sternite. 7th sternite with broad-based triangular shield, with 2 rounded processes on either side of apex. 5th thoracic sternite with tongue-like median process, posteriorly directed. Petasma in male with external lobe apically divided into 2 low subapical lobules, bearing several small blunt hooks, and with small lobe at base. Median lobe broad evenly convex. Internal lobe consisting of 2 rounded hook-covered portions. Accessory lobe broadly rounded.

*Distribution*

Indian Ocean, North and South Atlantic.

*Material*

Station	Position	Depth (metres)	C.L. ♂ (mm)	C.L. ♀ (mm)
A2953 . .	44.24 S, 20.16 E	600	6,0	
A4218 . .	29.13 S, 10.03 E	100	6,9	6,9
			7,0	

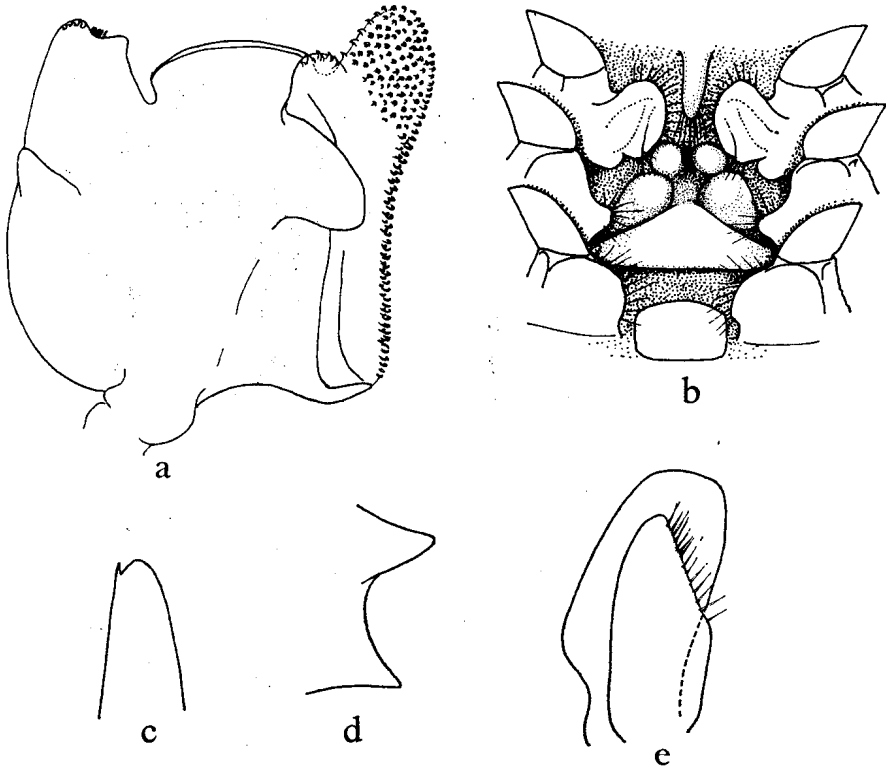


Fig. 12. *Gennadas tinayrei*  
 a. Petasma. b. Thelycum. c. Apex of scaphocerite. d. Antennal and infra-antennal angles.  
 e. Appendix masculina.

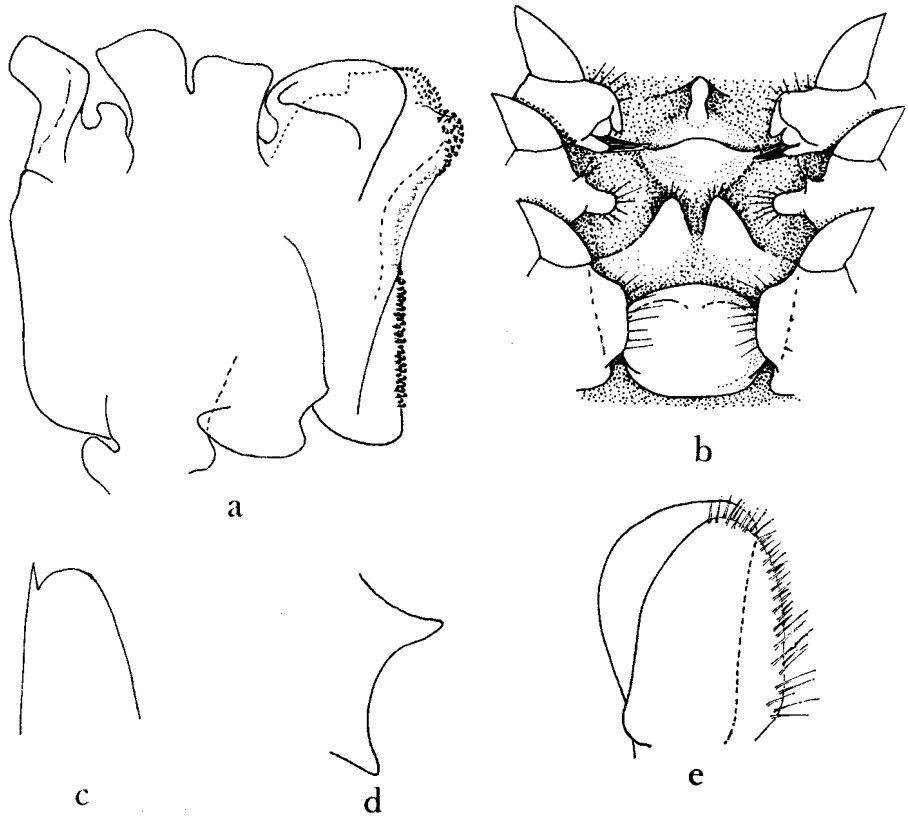
*Gennadas valens* (Smith, 1884)

Fig. 13

*Amalopenaeus valens* Smith, 1884: 402, pl. 10, fig. 2. Balss, 1927: 253, fig. 4.  
*Gennadas valens*: Bouvier, 1908: 34, pl. 1, fig. 3, pl. 9. Stephensen, 1923: 12. Burkenroad, 1936:  
 75, fig. 57. Barnard, 1950: 631, fig. 118k, l.

*Description*

Antennal and infra-antennal angles acute. Spine on outer scaphocerite margin reaching slightly beyond apex of scale. Thelycum in female with almost circular shield on 8th thoracic sternite. 7th thoracic sternite with 2 anteriorly-directed triangular processes, anterior end of same sternite with semi-circular raised area. Seminal receptacles just posterior to similar raised area on 6th sternite. Coxa of 4th pereopod with medially-directed lobe, bearing smaller tooth-like process on anterior margin. Petasma in male with external lobe bipartite, inner lobule smaller than outer. Median lobe consisting of 3 blunt sub-equal lobules. Internal lobe of 2 rounded hook-covered portions. Accessory lobe large, rounded.

Fig. 13. *Gennadas valens*

a. Petasma. b. Thelycum. c. Apex of scaphocerite. d. Antennal and infra-antennal angles. e. Appendix masculina.

#### Distribution

North and South Atlantic, Caribbean.

#### Material

Station	Position	Depth (metres)	C.L. ♂ (mm)	C.L. ♀ (mm)
A3634 . . .	33.23 S, 09.31 E	S	7,9	9,8
A3641 . . .	37.00 S, 08.40 E	S	11,2	10,0
A4218 . . .	29.13 S, 10.03 E	100	7,9	10,0
			10,1	9,2
			10,0	8,0

#### SUMMARY

The South African representatives of the penaeid genus *Gennadas* are discussed. Thirteen species have been recorded from the area, eleven of which



(including four new records) are represented in the present collection. The species are figured, and brief descriptions are given, to assist with their identification.

#### ACKNOWLEDGEMENTS

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*Examples* (note capitalization and punctuation)

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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.