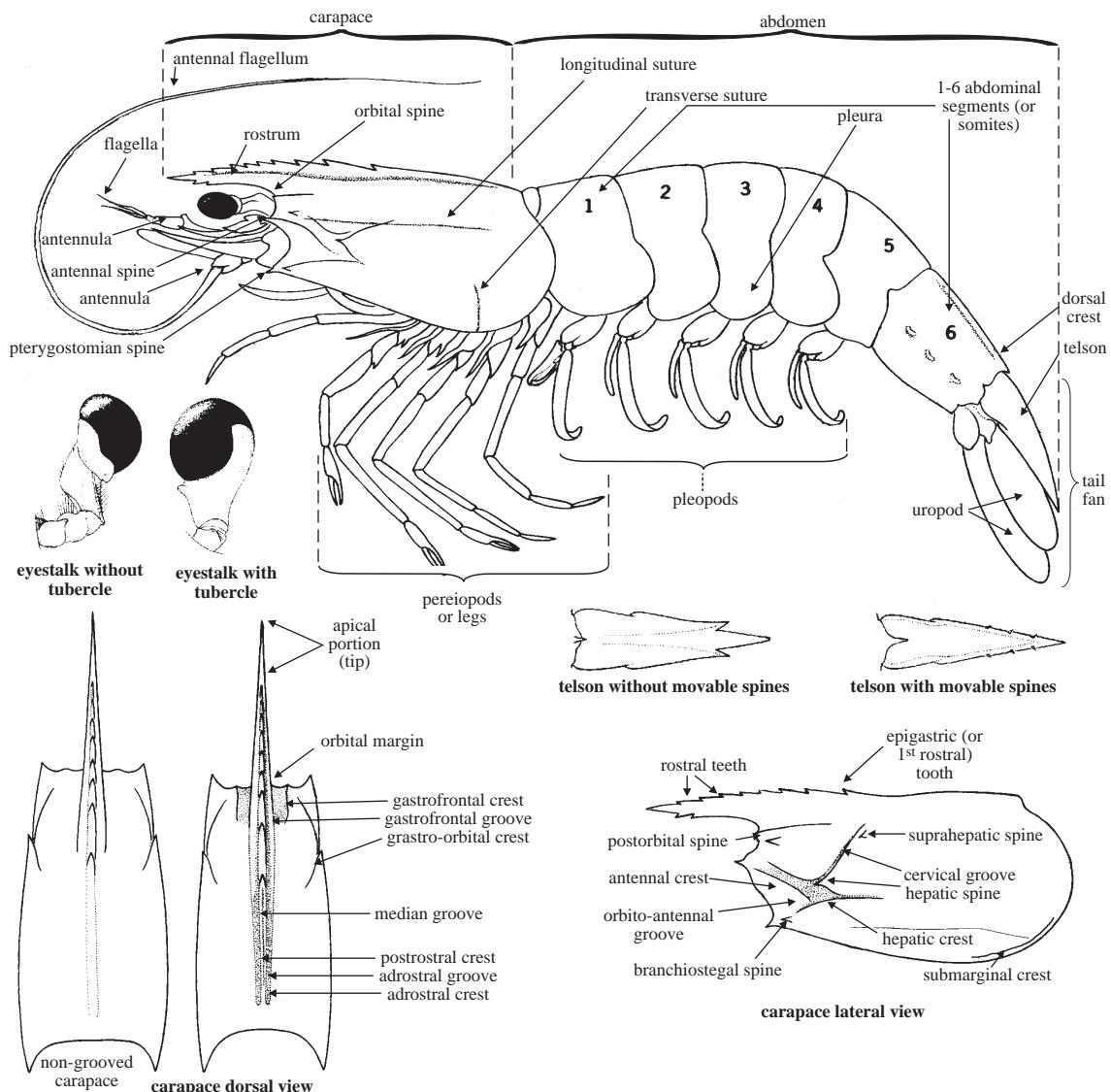


## SHRIMPS AND PRAWNS

There are many species of shrimps that occur or are likely to occur in Namibia, but only a few of these have been identified as potentially exploitable in fisheries. Macpherson (1983,1991) listed 54 species of shrimps from Namibia from intensive bottom trawl and pelagic sampling of mostly offshore waters. We include 2 additional species in this guide from littoral and nearshore sublittoral waters, but we suspect that these habitats have not yet been adequately sampled. Therefore, the total of 56 species from Namibia listed here will likely increase in the future. In the guide to "Orders and Families" we include all 15 families of shrimps known to occur in Namibia. However, in the "Guide to Species" we include only the 16 species in 9 families considered to be of current or potential use in fisheries. The "Guide to Orders and Families" is more comprehensive so interested researchers can identify, at least to family level, almost all shrimps likely to occur in Namibia.

There are often discrepancies in the literature regarding the ranks used for classification of shrimps (and all crustaceans) above the species level. For example, the shrimps we include under the Infraorder Penaeidea are sometimes listed as a Superfamily or a Suborder. There are 2 major groups that are likely to occur in Namibia, and these are easily separable by observing the extent of overlap of the pleuron of the second abdominal segment.

### TECHNICAL TERMS AND MEASUREMENTS



### Infraorder PENAEIDEA - Penaeid Shrimps

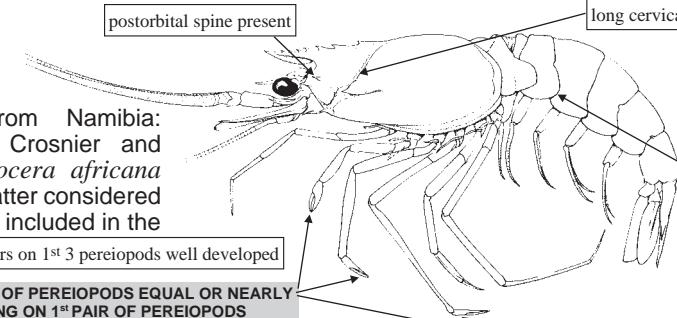
Pleuron of second abdominal segment overlapping only the third segment; pincers of first 3 pairs of thoracic legs equal or nearly equal, sometimes first pair missing; eggs shed directly into the water. Five families from Namibia, 3 of these represented in the "Guide to Species."

#### SOLENOCERIDAE

##### Solenocerid shrimps

Two species listed from Namibia: *Hymenopenaeus chacei* Crosnier and Forest, 1969 and *Solenocera africana* Stebbing, 1917, only the latter considered of interest to fisheries and included in the "Guide to Species."

PINCERS OF 1<sup>ST</sup> 3 PAIRS OF PEREIOPODS EQUAL OR NEARLY EQUAL, OR MISSING ON 1<sup>ST</sup> PAIR OF PEREIOPODS



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PLEURON OF 2<sup>ND</sup> ABDOMINAL SEGMENT OVERLAPPING ONLY THE 3<sup>RD</sup> SEGMENT



#### ARISTEIDAE

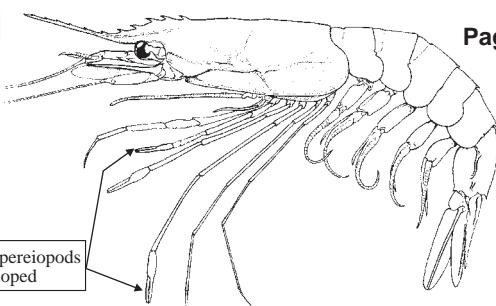
##### Aristeid shrimps

Five species listed from Namibia, 3 included in the "Guide to Species" and 2 others, *Gennadas brevirostris* Bouvier, 1905 and *G. clavicarpus* de Man, 1907, are pelagic and generally occur in water deeper than 700 m and not considered important to fisheries.

no postorbital spine

eyestalk with a tubercle

pincers on 1st 3 pereiopods well developed



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#### PENAEIDAE

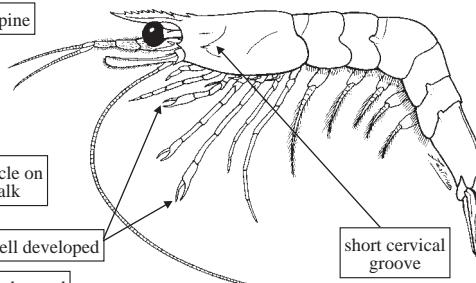
##### Penaeid shrimps

Three species included in the "Guide to Species." Two species demersal at depths down to 400 m; a third species pelagic at depths below 400m.

pincers on 1st 3 pereiopods well developed

no tubercle on eyestalk

short cervical groove



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#### SERGESTIDAE

##### Sergestid shrimps

Eight pelagic deep-water (deeper than 500 m) species listed by Macpherson (1991), none included in the "Guide to Species": *Sergestes arcticus* Krøyer, 1859, *S. armatus* Krøyer, 1855, *S. diapontius* Bate, 1881, *S. edwardsi* Krøyer, 1855, *S. pediformis* Crosnier and Forest, 1973, *Sergia grandis* (Sund, 1920), *S. potens* (Burkenroad, 1940), and *S. robusta* (Smith, 1882).

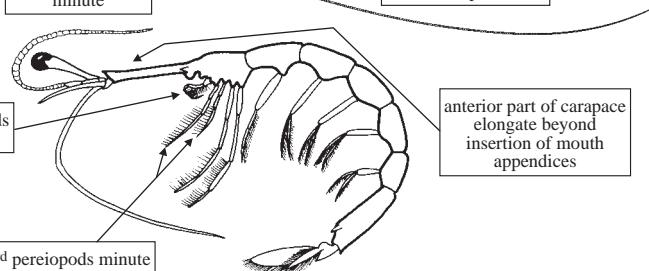
anterior part of carapace not elongate beyond insertion of mouth appendices

pincers on 2<sup>nd</sup> and 3<sup>rd</sup> pereiopods minute

1<sup>st</sup> pair of pereiopods without pincers

1<sup>st</sup> pair of pereiopods without pincers

anterior part of carapace elongate beyond insertion of mouth appendices



#### LUCIFERIDAE

##### Luciferid shrimps

One species, not included in the "Guide to Species": *Lucifer faxoni* Borradaile, 1915.

pincers on 2<sup>nd</sup> and 3<sup>rd</sup> pereiopods minute

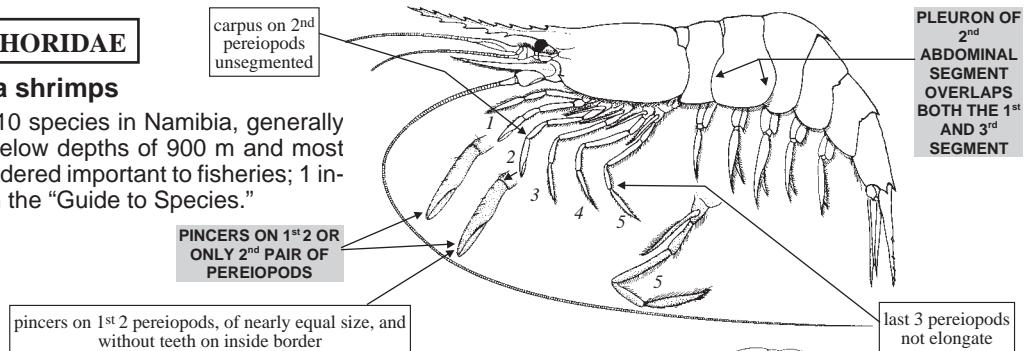
### Infraorder CARIDEA - Caridean Shrimps

Pleuron of second abdominal segment overlaps both the first and third segments; pincers on first 2 or only second pair of thoracic legs; eggs carried by the female. Ten families from Namibia, 5 of these represented in the "Guide to Species."

#### OPLOPHORIDAE

##### Deepsea shrimps

At least 10 species in Namibia, generally caught below depths of 900 m and most not considered important to fisheries; 1 included in the "Guide to Species."

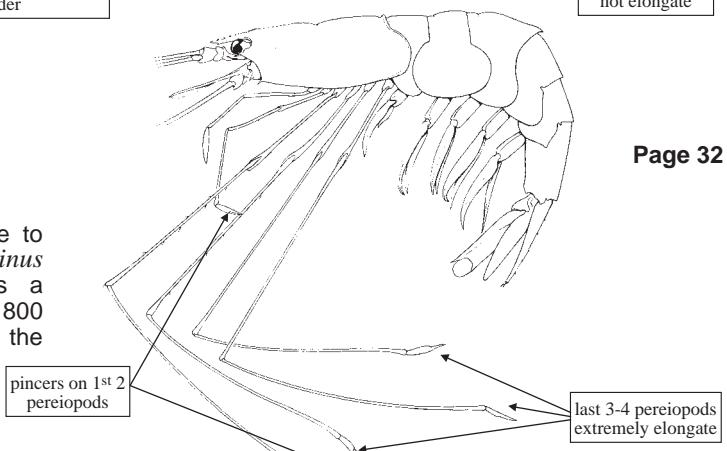


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#### NEMATOCARCINIDAE

##### Spider shrimps

One species included in the "Guide to Species" and another, *Nematocarcinus sigmoideus* Macpherson, 1984, is a deep-water (at depths greater than 800 m) benthic species, not included in the "Guide to Species."

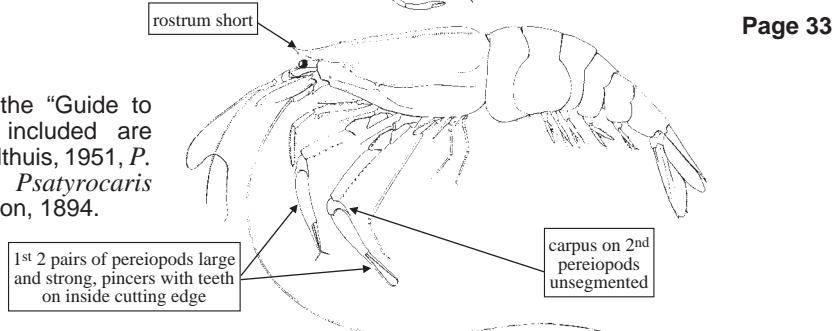


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#### PASIPHAEIDAE

##### Glass shrimps

One species included in the "Guide to Species"; 3 others not included are *Pasiphaea semispinosa* Holthuis, 1951, *P. tarda* Krøyer, 1845, and *Psathyrocaris infirma* Alcock and Anderson, 1894.

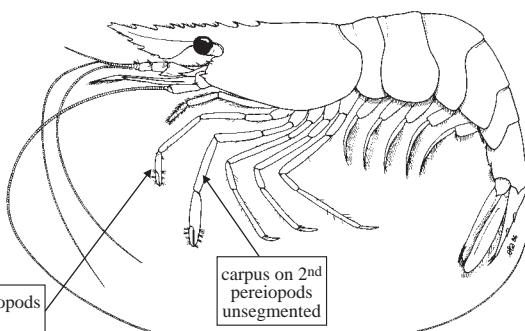


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#### PALAEOMONIDAE

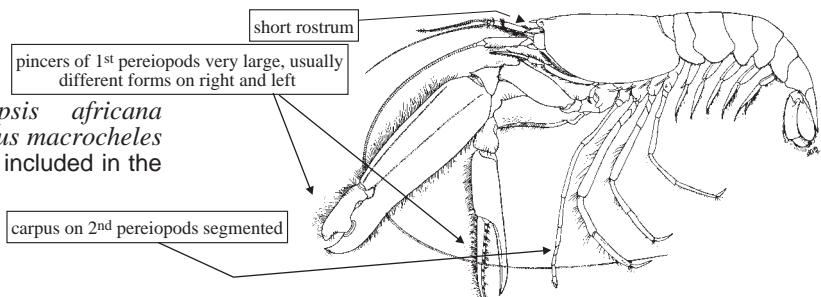
##### Palaemonid shrimps

One species included in the "Guide to Species"; not included is *Periclimenes andresi* Macpherson, 1988, a benthic species occurring at depths between 100 and 200 m.

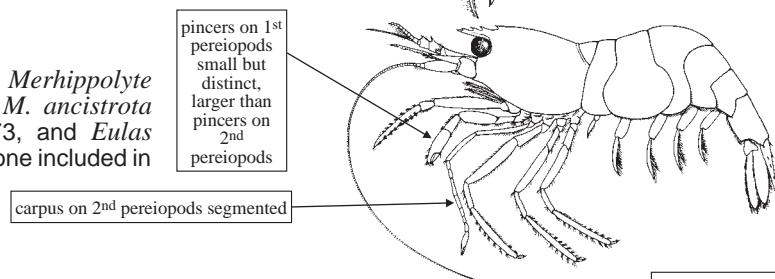


**ALPHEIDAE****Snapping shrimps**

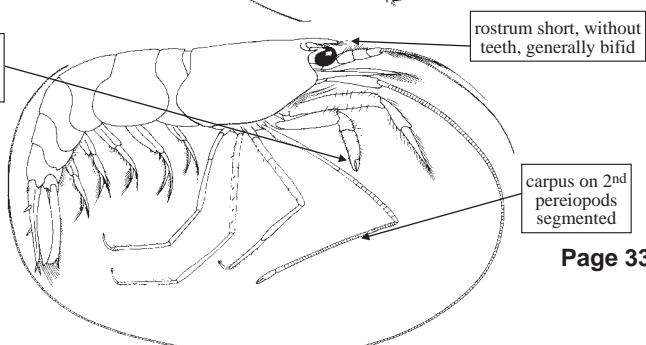
Two species, *Alpheopsis africana* Holthuis, 1952 and *Alpheus macrocheles* (Hailstone, 1835), neither included in the "Guide to Species."

**HIPPOLYTIDAE****Cock shrimps**

Three species, *Merhippolyte agulhasensis* Bate, 1888, *M. ancistrotia* Crosnier and Forest, 1973, and *Eulas ctenifer* (Barnard, 1950), none included in the "Guide to Species."

**PROCESSIDAE****Night shrimps**

A single species, *Processa namibiensis* Macpherson, 1983, not included in the "Guide to Species."



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**PANDALIDAE****Pandalid shrimps**

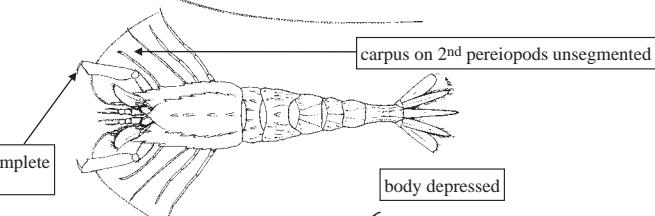
Nine species, 4 included in the "Guide to Species"; not included are: *Pandalina modesta* (Bate, 1888), *P. profunda* Holthuis, 1946, *Plesionika carinata* (Holthuis, 1951), *P. heterocarpus* (Costa, 1871), *Stylopandalus richardi* (Coutière, 1905).



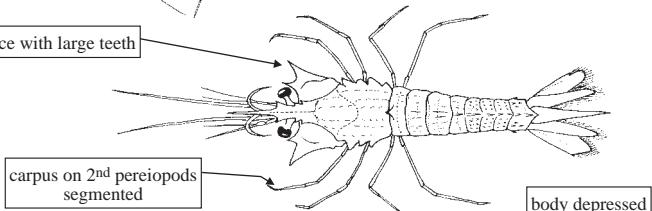
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**CRANGONIDAE****Crangonid shrimps**

One species included in the "Guide to Species"; not included are *Pontophilus gracilis* Smith, 1882 and *Metacrangon jacqueti bellmarleyi* (Stebbing, 1914).

**GLYPHOCRANGONIDAE****Armoured shrimps**

One benthic deep-water (depths greater than 900 m) species, *Glyphocrangon longirostris* (Smith, 1882), not included in the "Guide to Species."



***Solenocera africana* Stebbing, 1917**

(plate I, 1)

**FAO names:** En - African mud shrimp; Fr - Solenocère d'Afrique; Sp - Gamba de fango.

**Local names:**

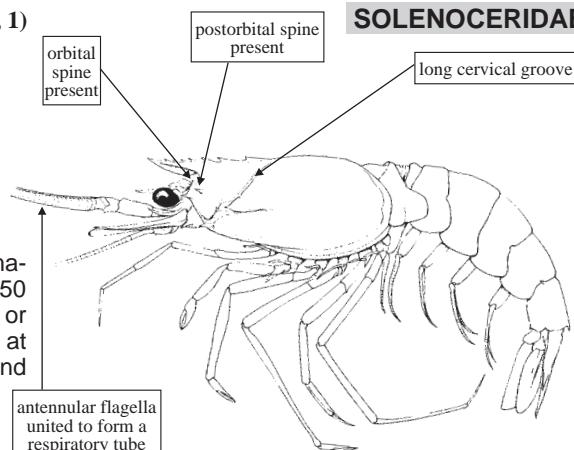
**Size:** To 14 cm total length.

**Fisheries:** One of the most abundant species caught with bottom trawls.

**Habitat and biology:** A demersal species, the immature individuals are found mainly between depths of 50 and 100 m while adults occur at depths of 300 m or more, on sand and mud bottoms. Mainly active at night; feeds on polychaetes, small crustaceans and molluscs.



cross section of antennular tube

**SOLENOCERIDAE*****Aristeomorpha foliacea* (Risso, 1827)**

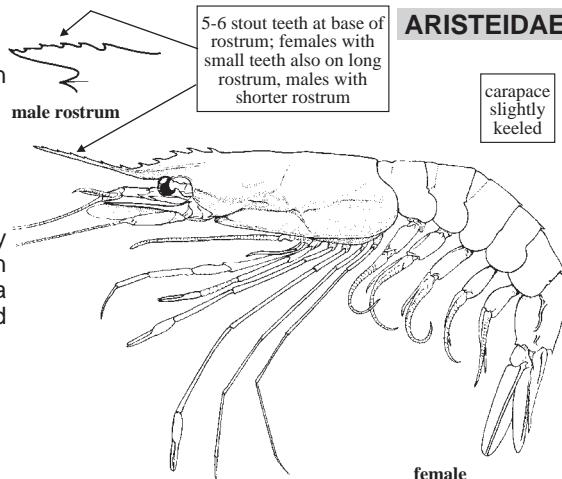
**FAO names:** En - Giant red shrimp; Fr - Gambon rouge; Sp - Gamba española.

**Local names:**

**Size:** To 22 cm total length.

**Fisheries:** Caught with bottom trawls.

**Habitat and biology:** A demersal species, on sandy and muddy bottoms and according to Macpherson (1991) found in the extreme southern part of Namibia on the continental slope between depths of 300 and 500 m.



female

**ARISTEIDAE*****Aristeus varidens* Holthuis, 1952**

(plate I, 2)

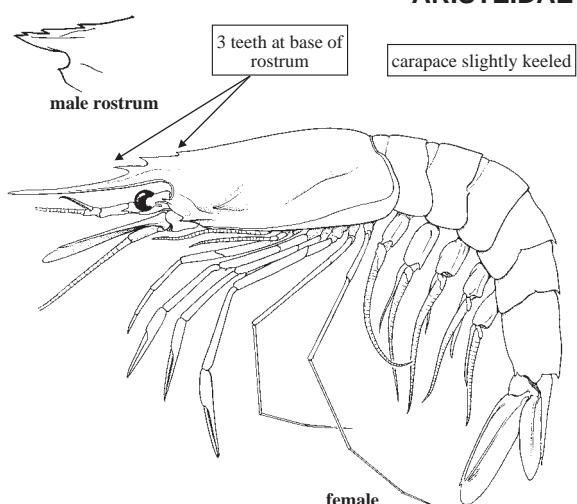
**FAO names:** En - Striped red shrimp; Fr - Gambon rayé; Sp - Alistado.

**Local names:** Tiefseegarnele (Gr).

**Size:** To 20 cm (females) and 12 cm (males) total length.

**Fisheries:** Caught with bottom trawls.

**Habitat and biology:** Adults occur between 400 and 824 m, young individuals at depths of 300 m, on muddy bottoms. Best trawl yields are obtained at night suggesting that this species burrows in the substrate by day. Life span is about 2 years. Found in the northern part of Namibia down to 24°S.

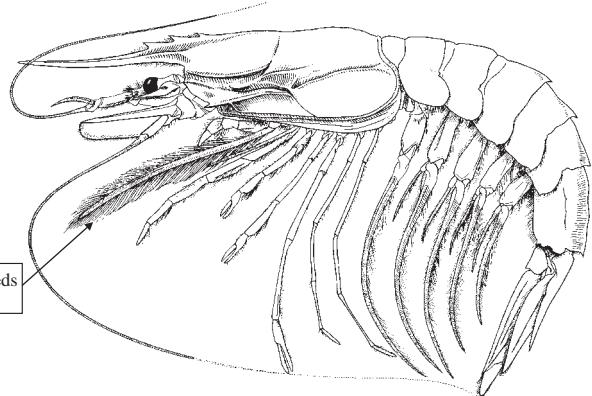


female

**ARISTEIDAE**

***Plesiopenaeus edwardsianus* (Johnson, 1867)**

carapace strongly keeled, with numerous conspicuous ridges

**ARISTEIDAE****FAO names:** En - Scarlet shrimp; Fr - Gambon écarlate; Sp - Gamba carabinero.**Local names:** Atlantische rote Riesengarnele (Gr).**Size:** To 33 cm (females) and 19 cm (males) total length.**Fisheries:** Caught with bottom trawls.**Habitat and biology:** Found on muddy bottoms of the continental slope, mostly between depths of 400 and 900 m, preferring temperatures between 5° and 8°C.exopods of 2<sup>nd</sup> maxillipeds feathery

female (rostrum shorter in males)

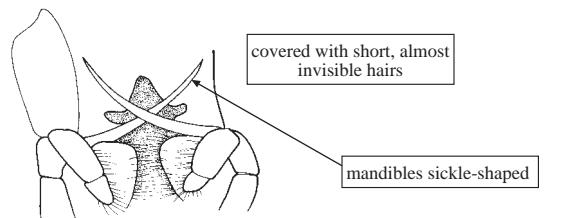
***Funchalia woodwardi* Johnson, 1867**

(plate IX, 65)

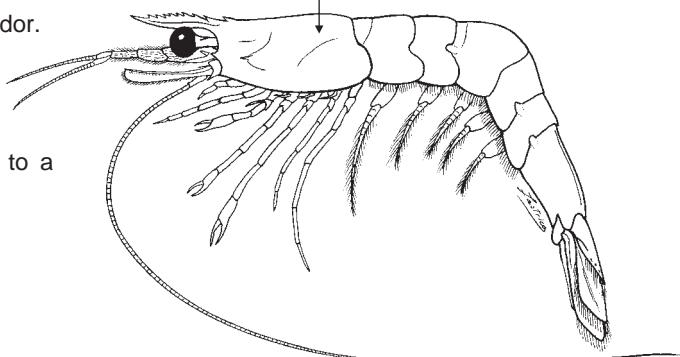
carapace with lateral keels

**PENAEIDAE****FAO names:** En - Woodward's pelagic shrimp.**Local names:****Size:** To around 16 cm total length.**Fisheries:** A medium-sized shrimp sometimes captured in fairly dense concentrations in midwater trawls. Probably the target of a previous shrimp fishery in southern Namibia and potentially important commercially.**Habitat and biology:** A night active pelagic species typically occurring at depths below 500 m but can be found between the depths of 50 and 3 000 m; also captured by bottom trawls.

colour pinkish white with reddish margin of abdominal segments and reddish brown upper anterior portion of carapace

***Macropetasma africana* (Balss, 1913)****PENAEIDAE****FAO names:** En - Swimming shrimp; Fr - Crevette nageuse; Sp - Camarón nadador.**Local names:** Surf shrimp.**Size:** To 6.7 cm total length.**Fisheries:** None at present.**Habitat and biology:** A littoral species, to a depth of 30 m. Also in estuaries.

longitudinal suture on carapace absent



***Parapenaeus longirostris* (Lucas, 1846)**

(plate I, 3)

**FAO names:** En - Deepwater rose shrimp; Fr - Crevette rose du large; Sp - Camarón de altura.

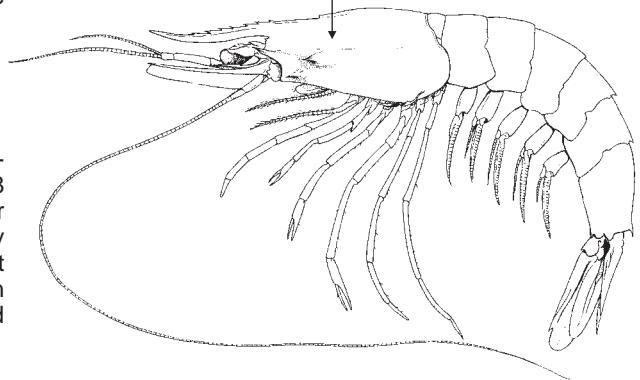
**Local names:** Rosa Geißelgarnele (Gr).

**Size:** To 19 cm total length.

**Fisheries:** Caught with bottom trawls.

**Habitat and biology:** On sandy and muddy bottoms from 100 to 400 m and temperatures of 8 to 15°C; largest individuals are found in deeper waters. This species carries out lengthy daily and seasonal vertical migrations. Largest catches are taken during daytime. Feeds on clams, mysids, and small crangonids. Reported only from the extreme northern part of Namibia.

longitudinal suture along entire length of carapace

**PENAEIDAE*****Acanthephyra acanthitelsonis* Bate, 1888**

**FAO names:** En - Spinytailed deepsea pelagic shrimp.

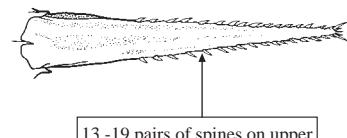
**Local names:**

**Size:** To about 10 cm total length and 2.2 cm carapace length.

**Fisheries:** A somewhat common species with potential for increased commercial exploitation.

**Habitat and biology:** Pelagic, but also caught with bottom gear, usually at depths greater than 400 m; maximum depth reported to 3 383 m; commonly between 400 and 800 m in Namibia. Breeding most likely occurs around January.

rostrum slender and elongate

**OPLOPHORIDAE**

13 -19 pairs of spines on upper sides of telson

***Nematocarcinus africanus* Crosnier and Forest, 1973****NEMATOCARCINIDAE**

**FAO names:** En - African spider shrimp; Fr - Crevette araignée; Sp - Camarón araña africano.

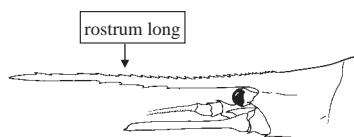
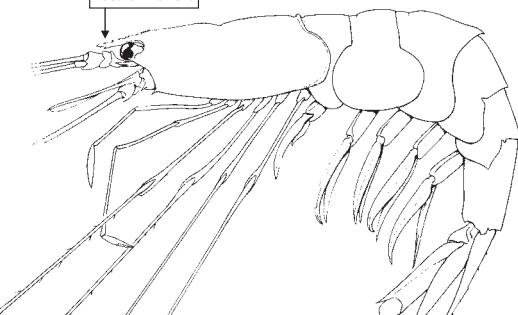
**Local names:**

**Size:** To 10.4 cm total length.

**Fisheries:** Caught with bottom trawls.

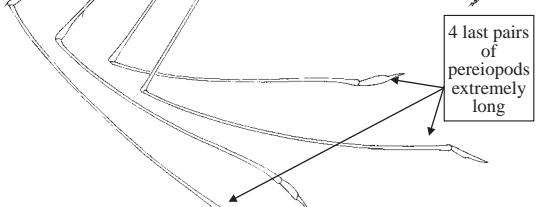
**Habitat and biology:** Demersal on muddy bottoms of the continental slope at depths from 200 to 700 m, but usually from 400 to 600 m. Northern Namibia.

rostrum short



*N. sigmaeus* Macpherson, 1984

4 last pairs of pereiopods extremely long



***Glypus marsupialis* Filhol, 1884**

(plate I, 4)

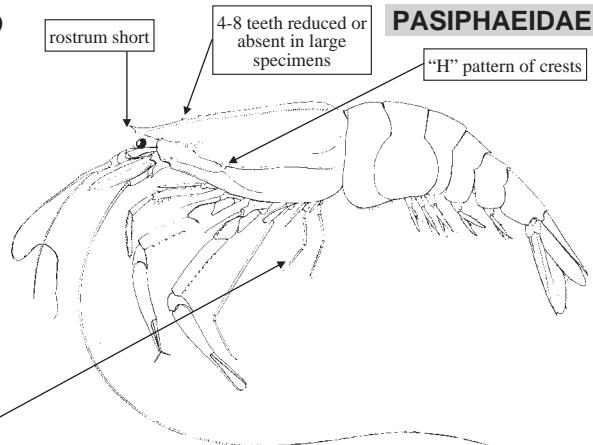
**FAO names:** En - Kangaroo shrimp; Fr - Sivade kangourou; Sp - Camarón canguro.

**Local names:**

**Size:** To 16.7 cm total length.

**Fisheries:** Not usually abundant but can be an important element in the bycatch of trawl fisheries.

**Habitat and biology:** Demersal on muddy sand bottoms, at depths between 400 and 826 m.

***Palaemon elegans* Rathke, 1837**

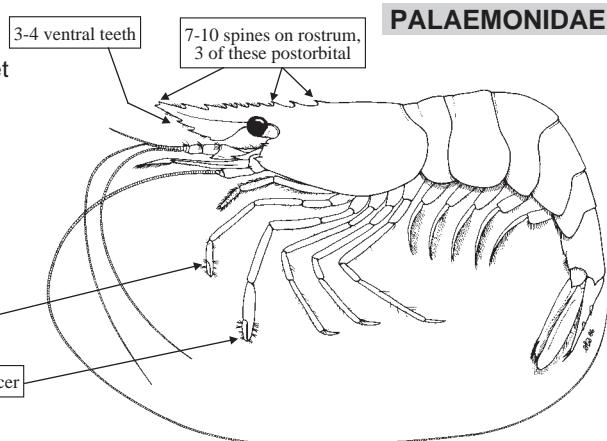
**FAO names:** En - Rockpool prawn; Fr - Bouquet flâque; Sp - Camarón de poza.

**Local names:** Felsengarnele, Süßwassergarnele (Gr).

**Size:** To 6 cm total length.

**Fisheries:** Caught by handnet.

**Habitat and biology:** Inhabits the shallow sublittoral zone.

***Chlorotocus crassicornis* (Costa, 1871)**

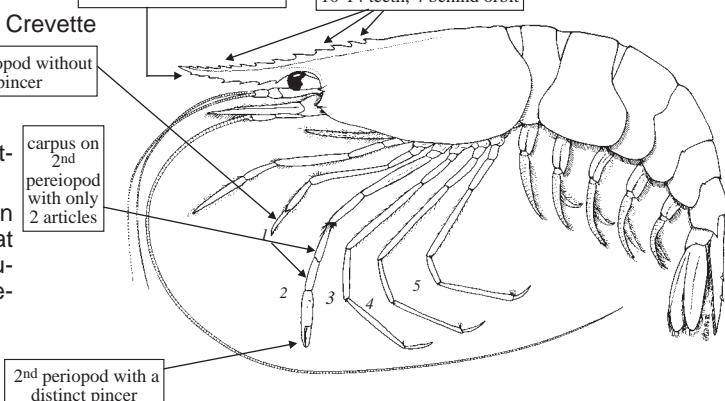
**FAO names:** En - Green shrimp; Fr - Crevette verte; Sp - Camarón verde.

**Local names:**

**Size:** To 7.8 cm total length.

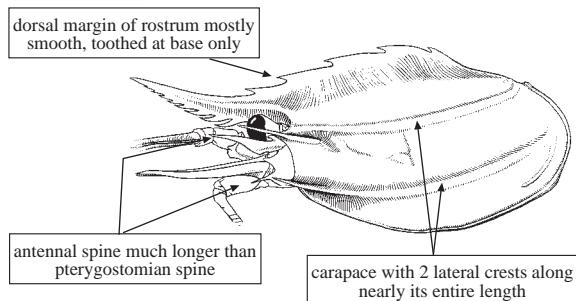
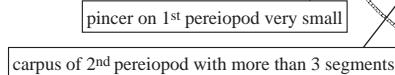
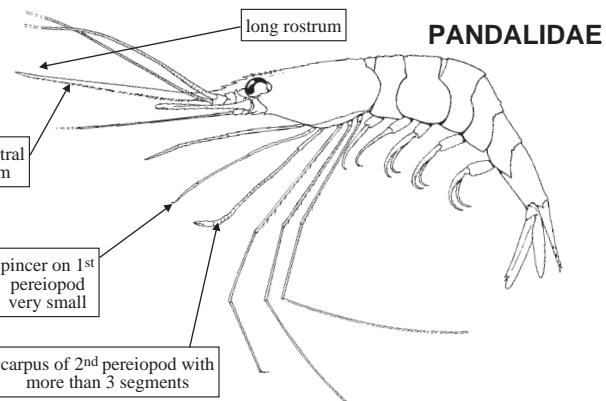
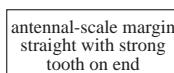
**Fisheries:** Caught incidentally in bottom trawls.

**Habitat and biology:** Demersal on muddy and sandy mud bottoms at depths between 75 and 600 m but usually found between 300 and 400 m. Recorded only from northern Namibia.



***Heterocarpus grimaldi* A. Milne Edwards and Bouvier, 1900**

(plate IX, 66)

**PANDALIDAE****FAO names:** En - Grimald's nylon shrimp.**Local names:****Size:** To about 17 cm.**Fisheries:** Fairly abundant in deep-water trawls and of potential interest for expanded commercial exploitation.**Habitat and biology:** Demersal at depths between 500 and 1 473 m, most commonly between 500 and 1 000 m. Males in analyzed samples typically measured between 20 and 25 mm carapace length while females measured between 21 and 40 mm, indicating a sexual size dimorphism or potential protandrous hermaphroditism.***Plesionika acanthonotus* (S.I. Smith, 1882)****FAO names:** En - Lesser striped shrimp; Fr - Crevette naine rayée; Sp - Camarón rayado menor.**Local names:** Tiefseegarnele (Gr).**Size:** To 8.5 cm total length.**Fisheries:** Caught incidentally in bottom trawls.**Habitat and biology:** Found at depths of 190 to 1 350 m, on muddy bottoms. Recorded off northern Namibia.**PANDALIDAE*****Plesionika marthae* (A. Milne Edwards, 1883)****FAO names:** En - Golden shrimp; Fr - Crevette dorée; Sp - Camarón de oro.**Local names:** Tiefseegarnele (Gr).**Size:** To 17 cm total length.**Fisheries:** Caught mainly with bottom and pelagic trawls.**Habitat and biology:** A primarily demersal species, inhabiting muddy bottoms between depths of 300 and 700 m. Off the northern part of the country. Feeds mainly on crustaceans and carion.***Pontocaris lacazei* (Gourret, 1887)****FAO names:** En - Hardshell shrimp; Fr - Crevette crâne; Sp - Camarón de casco.**Local names:****Size:** To 4.9 cm total length.**Fisheries:** Caught with bottom trawls.**Habitat and biology:** Found on the continental shelf and upper slope, at depths between 50 and almost 700 m. Off northern Namibia.**CRANGONIDAE**