

Interest to Fishery: Fished commercially by Spanish trawlers (from Vigo, Huelva, and Cádiz) in the area of Senegal, Guinea and especially off Congo and Angola (4° to 10°S). The shrimps are frozen on board and mainly sold on the Spanish markets (e.g., Barcelona), but also in France (Marseilles). Crosnier & Jouannic (1973:12) reported on a form which they assigned to this species as "éventuellement commercialisable" on the continental shelf of Madagascar.

FAMILY PENAEIDAE Rafinesque, 1815

Penedia - Rafinesque, 1815, *Analyse de la Nature*, 98

This is the largest of the families of Penaeidea and it contains the greatest number of commercially important species of Natantia, among which those that are economically of the greatest value.

Like in the other families, the genera and species are listed here alphabetically.

*Artemesia longinaris* Bate, 1888

PEN Art 1

*Artemesia longinaris* Bate, 1888, Rep.Voyage Challenger, (Zool.), 24:281

Synonymy: *Artemesia brevinaris* Nobili, 1901.

FAO Names: Argentine stiletto shrimp (En), Crevette stylet d'Argentine (Fr), Camarón estilete argentino (Sp).

Local Names: Camarón (Argentina, Uruguay), Camarão serrinha, Camarão de Argentina, Camarão ferrinho, Camarão barba branca (Brazil).

Literature: Boschi, 1969.

Distribution: Western Atlantic: east coast of South America from Rio de Janeiro, Brazil (23°S) to Puerto de Rawson, Argentina (43°S).

Habitat: Depth littoral to 68 m. Bottom sand and mud. Temperature 8° to 22°C, mostly between 15° and 21°C. Salinity 32.9 to 35.5‰ Cl.

Size: Maximum total length 106 mm (♂), 145 mm, exceptionally 152 mm, (♀).

Interest to Fishery: Fished for in the entire area, most intensively on the Argentina coast. The species is caught at the same time as *Pleoticus muelleri*, but due to its smaller size it is of less commercial importance than the latter species. In Argentina the annual catch of this species (in metric tons) amounted to 500 (in 1973), 400 (in 1974), 120 (in 1975) and 255 (in 1976). Aquaculture experiments with this species have been started in Argentina.

*Atypopsnaeus formosus* Dall, 1957

PEN Aty 1

*Atypopsnaeus formosus* Dall, 1957, Aust.J.Mar.Freshwat.Res., 8:199

FAO Names: Orange shrimp (En), Crevette orange (Fr), Camarón naranja (Sp).

Local Names: Orange prawn, Go-home prawn (Australia).

Distribution: Indo-West Pacific: New Guinea; Papua; northern Australia (Darwin to northern New South Wales).

Habitat: Depth 2 to 9 m. Bottom sandy mud or mud. Marine.

Size: Total length 27 to 75 mm (♂), 44 to 91 mm (♀); maximum carapace length 17 mm (♂), 21 mm (♀).

Interest to Fishery: Minor. Racek (1959:10) reported the presence of this species in commercial catches in New South Wales (very rare), and Queensland (abundant in higher strata). Munro (1968:14) listed the species among "smaller species regarded as having no commercial value".

*Atypopenaeus stenodactylus* (Stimpson, 1860)

PEN Aty 2

*Penaeus stenodactylus* Stimpson, 1860, Proc.Acad.Nat.Sci.Phila., 1860:43

Synonymy: *Penaeus podophthalmus* Stimpson, 1860; *Penaeus compressipes* Henderson, 1893; *Atypopenaeus compressipes* - Alcock, 1905; *Parapenaeopsis brevirostris* Kubo, 1936; *Miyadiella pedunculata* Kubo, 1949; *Miyadiella podophthalmus* - Holthuis, 1955.

FAO Names: Periscope shrimp (En), Crevette périscopie (Fr), Camarón periscopio (Sp).

Local Names: Maimai ebi (Japan).

Distribution: Indo-West Pacific: India to the Malay Archipelago, Hong Kong and Japan.

Habitat: Depth 11 to 27 m. Bottom mud. Marine.

Size: Maximum total length 40 mm (♂), 50 mm (♀).

Interest to Fishery: The species is caught in large numbers throughout the year on the west coast of India, in small numbers on the east coast (Kunju, 1967; Kurian & Sebastian, 1976). It is also of minor economic importance in the Inland Sea of Japan (Yasuda, 1956).

*Macropetasma africana* (Balss, 1913)

PEN Macro 1

*Penaeus africanus* Balss, 1913; Denkschr.Med.-Naturwiss.Ges.Jena, 7:105

FAO Names: Swimming shrimp (En), Crevette nageuse (Fr), Camarón nadador (Sp).

Local Names: Swimming prawn (South Africa).

Distribution: South West Africa and South Africa (Kunene River to St. Lucia).

Habitat: Depth littoral zone to 28 m. Marine and estuarine.

Size: Maximum total length 67 mm (♀); mature at about 33 mm.

Interest to Fishery: At present slight, but perhaps greater in the future. Day (1969:102) stated that the species is "netted in the shallows on surf-beaches and occasionally in estuaries" between False Bay and St. Lucia. According to Longhurst (1970:299,300) abundant stocks have been revealed at the coast of S.W. Africa, but "no commercial exploitation appears to have yet occurred". The species is considered of possible future importance commercially.

*Metapenaeopsis acclivis* (M. J. Rathbun, 1902)

PEN Meta 1

*Parapenaeus acclivis* M.J. Rathbun, 1902, Proc.U.S.Natl.Mus., 26:41

Synonymy: *Metapenaeus acclivis* - Alcock, 1905; *Penaeopsis acclivis* - De Man, 1911; *Erythropenaeus acclivis* - Kishinouye, 1929.

FAO Names: Tora velvet shrimp (En), Crevette chamois tora (Fr), Camarón gamuza tora (Sp).

Local Names: Tora ebi (Japan),

Distribution: Indo-West Pacific: Japan.

Habitat: Depth 9 to 46 m. Marine.

Size: Maximum total length 90 mm.

Interest to Fishery: In several areas of the Inland Sea of Japan *M. acclivis* is an economically important species, belonging to the three most abundant species there (Yasuda, 1956:379; 1957:30).

*Metapenaeopsis andamanensis* (Wood-Mason, 1891)

PEN Meta 2

*Metapenaeus philippinensis andamanensis* Wood-Mason, 1891, Ann.Mag.Nat.Hist., (6)8:271

Synonymy: *Penaeus (Metapenaeus) coniger andamanensis* - Alcock, 1901; *Penaeopsis coniger andamanensis* - De Man, 1911.

FAO Names: Rice velvet shrimp (En), Crevette chamois des rizières (Fr), Camarón gamuza de arrozal (SP).

Distribution: Indo-West Pacific: India; Malaya; South China Sea; Japan.

Habitat: Depth 150 to 350 m. Marine.

Size: Maximum total length 135 mm.

Interest to Fishery: So far not fished commercially, but according to Crosnier & Jouannic (1973:10) "éventuellement commercialisable" on the continental shelf of Madagascar. Also Jones (1969:747) and Kurian & Sebastian (1976:96) were of the opinion that the species may be of future importance for a fishery off the west coast of India, and its economic potentialities are to be studied. Yasuda (1957: 30) listed "*Heterocarpus coniger*" among the commercially important shrimps of the Inland Sea of Japan: possibly the present species is meant.

Remarks: See also under *Metapenaeopsis philippii* (Bate, 1881).

*Metapenaeopsis barbata* (De Haan, 1844)

PEN Meta 3

*Penaeus barbatus* De Haan, 1844, In Von Siebold, Fauna Japonica, Crustacea, (6/7):Pl. 46, Fig. 3

Synonymy: *Parapenaeus barbatus* - Smith, 1885; *Parapenaeus akayebi* M.J. Rathbun, 1902; *Trachypeneus barbatus* - Alcock, 1905; *Penaeus (Metapenaeus) akayebi* - De Man, 1907; *Penaeopsis barbatus* - De Man, 1911; *Penaeopsis akayebi* - De Man, 1911; *Erythropeneus akayebi* - Kishinouye, 1929.

FAO Names: Whiskered velvet shrimp (En), Crevette chamois barbulée (Fr), Camarón gamuza barbudo (Sp).

Local Names: Aka ebi (Japan), Chat mai ha, Red rice prawn (Hong Kong).

Distribution: Indo-West Pacific: Japan; Hong Kong; Taiwan; Thailand; Indonesia; Malaya.

Habitat: Depth 20 to 70 m. Bottom mud, sometimes rocky. Marine.

Size: Maximum total length 108 mm.

Interest to Fishery: *Metapenaeopsis barbata* forms a rather important part of the shrimp caught in the Inland Sea of Japan. According to Longhurst (1970:290) it forms, with *Trachypeneus curvirostris* and *Pampeneopsis tenella* 45% of the catches, but is of course commercially of less value than the large species. In Thailand, Singapore and Malaya the species also forms part of the commercial shrimp catches (Longhurst, 1970:285,289).

*Metapenaeopsis borradailei* (De Man, 1911)

PEN Meta 4

*Penaeopsis borradailei* De Man, 1911, Siboga Exped.Mon., 39(a):73.

FAO Names: Reef shrimp (En), Crevette des récifs (Fr), Camarón de arrecife (Sp).

Literature: Dall, 1957:174, Fig. 13.

Distribution: Indo-West Pacific: Laccadive Archipelago; Indonesia (Sumatra, Moluccas, Lesser Sunda Islands); Australia (Torres Strait).

Habitat: Depth 1 to 3 m. Coral reefs. Marine.

Size: Total length 23.5 to 39 mm (♂), 24 to 64 (♀).

Interest to Fishery: Motoh (1977:6) listed the species as a commercially important penaeid, and referred to Munro (1968). Munro (1968:14), however, ranged the species among the "smaller species regarded as having no commercial value". The fact that *M. borradailei* is a rare species and seems to be restricted to coral reefs, makes it unlikely that it ever will become of commercial interest.

*Metapenaeopsis crassissima* Racek & Dall, 1965

PEN Meta 5

*Metapenaeopsis crassissima* Racek & Dall, 1965, Verh.K.Ned.Akad.Wet.(Natuurkd.), (2)56(3):26

FAO Names: Stout velvet shrimp (En), Crevette chamois gail (Fr), Camarón gamuza toro (Sp).

Distribution: Indo-West Pacific: Western Australia; South Australia.

Habitat: Depth 7 to 18 m. Bottom mud. Marine.

Size: Maximum total length 140 mm.

Interest to Fishery: Listed by Racek (1973:155,159) among the prawns of commercial importance, in which he included the species which, because of their size or abundance are considered to be able "to support an organized fishery".

*Metapenaeopsis dalei* (M.J. Rathbun, 1902)

PEN Meta 6

*Parapenaeus dalei* M.J. Rathbun, 1902, Proc.U.S.Natl.Mus., 26:40

Synonymy: *Metapenaeus dalei* - Alcock, 1905; *Penaeopsis dalei* - De Man, 1911 ; *Ceratopenaeus dalei*- Kishinouye, 1929.

FAO Names: Kishi velvet shrimp (En), Crevette chamois kishi (Fr), Camarón gamuza kishi (Sp).

Local Names: Kishi ebi (Japan).

Distribution: Indo-West Pacific: Japan; Korea; North China.

Habitat: Depth 33 to 132 m. Marine.

Size: Maximum total length 73 mm (♂), 76.3 mm (♀); maximum carapace length 18.9 mm (♂), 21.4 mm (♀).

Interest to Fishery: The species is of commercial interest in Korea (Yoshida, 1941:15), North China (Liu, 1955:18) and the Inland Sea of Japan (Yasuda, 1956:383; 1957:30), but evidently nowhere of major importance.

*Metapenaeopsis goodei* (Smith, 1885)

PEN Meta 7

*Parapenaeus goodei* Smith, 1885, Proc.U.S.Natl.Mus., 8:176

Synonymy: ? *Penaeus pubescens* Stimpson, 1871; *Archipenaeopsis vestitus* Bouvier, 1905; *Parapenaeopsis rathbuni* Bouvier, 1905; *Metapenaeus goodei* - Alcock, 1905; *Penaeopsis goodei* - Bouvier, 1908; *Penaeopsis vestitus* - Schmitt, 1924.

FAO Names: Caribbean velvet shrimp (En), Crevette chamois caraibe (Fr), Camarón gamuza del Caribe (Sp).

Distribution: Western Atlantic: Bermuda; North Carolina (U.S.A.) to Bahia (Brazil); West Indies.

Habitat: Depth 20 to 300 m. Bottom sand, mud. Marine.

Size: Maximum carapace length 19 mm (♂), 21 mm (♀).

Interest to Fishery: The species is fished for food off N. and N.E. Brazil (Pará, Maranhão, Ceará, Rio Grande do Norte, Alagoas and Espírito Santo). It is of secondary importance commercially and is eaten fresh or used for the preparation of regional dishes. Because of its small size and rather hard shell it is not probable that the species will be utilized, except when caught as an admixture in catches of larger species.

*Metapenaeopsis hilarula* (De Man, 1911)

PEN Meta 8

*Penaeopsis hilarulus* De Man, 1911, Siboga Exped.Mon., 39(a):8,71

FAO Names: Minstrel shrimp (En), Crevette chamois ménestrel (Fr), Camarón gamuza bardo (Sp).

Literature: De Bruin, 1965:81, Figs. 1b,d.

Distribution: Indo-West Pacific: S.E. Africa to Malaya.

Habitat: Depth 30. to 35 m. Marine.

Size: Total length 52 to 57mm (♂), 50 to 70mm (♀); carapace length 8.5 to 11 mm (♂), 10 to 15mm (♀).

Interest to Fishery: Minor. Muthu (1971:150) reported this species from commercial catches made off the east coast of India (Visakhapatnam and Kakinada).

Remarks: For the taxonomic status of this species and its relation to *M. mogiensis*, see under the latter.

*Metapenaeopsis lanellata* (De Haan, 1844)

PEN Meta 9

*Penaeus lamellatus* De Haan, 1844, In Von Siebold, Fauna Japonica, Crustacea, (6/7):Pl. 46, Fig. 4

Synonymy: *Pampenaeus lamellatus* - M.J. Rathbun, 1902; *Metapenaeus lamellatus* - Alcock, 1905; *Penaeopsis lamellatus* - De Man, 1911; *Ceratopenaeus lamellatus* - Kishinouye, 1929.

FAO Names: Humpback shrimp (En), Crevette bossue (Fr), Camarón jorobado (Sp).

Local Names: Hokkoku ebi (Japan), Hunchback prawn, Humpback prawn (Australia).

Distribution: Indo-West Pacific: Japan; Malaysia; tropical Australia.,

Habitat: Depth 31 to 200 m. Bottom coral. Marine.

Size: Maximum total length 66.3 mm (♂), 75 mm (♀); carapace length 15 mm (♂), 19 mm (♀).

Interest to Fishery: The species is fished commercially in Japan. Kubo (1949:431) mentioned it from the Tokyo fish market, while Yasuda (1957:30) listed it among the species important in the fishery in the Inland Sea of Japan. The nature of the bottom where the species is found makes that it will probably never be of very great commercial value.

*Metapenaeopsis lata* Kubo, 1949

PEN Meta 10

*Metapenaeopsis latus* Kubo, 1949, J.Tokyo Coll.Fish., 36(1):434

FAO Names: Broad velvet shrimp (En), Crevette chamois trappue (Fr), Camarón gamuza espaldudo (Sp).

Distribution: Indo-West Pacific: Japan.

Habitat: Depth 350 m. Marine.

Size: Total length 59 mm (♂); carapace length 15.2 mm (♀).

Interest to Fishery: The species is only included here because it was listed as "important in fishery" in the Inland Sea of Japan by Yasuda (1957:30,36).

*Metapenaeopsis mogiensis* (M.J. Rathbun, 1902)

PEN Meta 11

*Parapenaeus mogiensis* M.J. Rathbun, 1902, Proc.U.S.Natl.Mus., 26:39

Synonymy: *Metapenaeus mogiensis* - M.J. Rathbun, 1906; *Ceratopenaeus mogiensis* - Kishinouye, 1929.

FAO Names: Mogi velvet shrimp (En), Crevette chamois mogi (Fr), Camarón gamuza mogi (Sp).

Literature: De Bruin, 1965:81-84, Figs. 1,2.

Distribution: Indo-West Pacific: Red Sea and India to Japan and N.E. Australia.

Habitat: Depth 11 to 30 m. Marine.

Size: Maximum total length 69 mm (♂), 90mm (♀); carapace length 10 to 14.5mm (♂), 8 to 19 mm (♀).

Interest to Fishery: Minor. The species is listed by Kurian & Sebastian (1976:96) among commercially important prawns of India, but they refer only to stray catches, probably obtained during exploratory trawling. Muthu (1971:148) listed the species from commercial catches taken off the east coast of India (Visakhapatnam and Kakinada).

Remarks: The present knowledge of the taxonomic status of *M. mogiensis* and related species is rather confused. Older authors synonymized *M. mogiensis* and *M. hilarula* (De Man, 1911). De Bruin (1965:82-84, Fig. 1) showed that the two species are distinct. Recently Starobogatov (1972:376,405-406, Pl. 10,Figs. 128,129, Pl. 11, Figs. 158,159) considered the Ceylon material, which De Bruin assigned to *M. mogiensis* and *M. hilarula*, different from either species and made it the types of two new species, *M. bruini* and *M. ceylonensis* respectively.

*Metapenaeopsis novaeguineae* (Haswell, 1879)

PEN Meta 12

*Penaeus novae-guineae* Haswell, 1879, Proc.Linn.Soc.N.S.W., 4:43

Synonymy: *Penaeopsis novae-guineae* - Gee, 1925.

FAO Names: Northern velvet shrimp (En), Crevette chamois nordique (Fr), Camarón gamuza norteño (Sp).

Local Names: Northern, velvet, prawn (Australia).

Distribution: Indo-West Pacific: tropical Australian waters; New Guinea.

Habitat: Marine.

Size: Maximum total length 101 mm.

Interest to Fishery: Cited by Racek (1959:10) under the name *Penaeopsis* (*Metapenaeopsis*) *barbata* as abundant in commercial catches in Queensland, rare in New South Wales.

Remarks: In older literature numerous species have been confused under the name *M. novaeguineae*.

*Metapenaeopsis palmensis* (Haswell, 1879)

PEN Meta 13

*Penaeus palmensis* Haswell, 1879, Proc.Linn.Soc.N.S.W., 4:43

Synonymy: *Metapenaeus palmensis* - Alcock, 1905; *Penaeopsis palmensis* - De Man, 1911; *Metapenaeopsis barbeensis* Hall, 1962.

FAO Names: Southern velvet shrimp (En), Crevette chamois méridionale (Fr), Camarón gamuza sureño (Sp).

Local Names: Southern velvet prawn (Australia).

Distribution: Indo-West Pacific: Malay Archipelago and northern Australia (from Shark Bay, Western Australia, to Sydney, New South Wales).

Habitat: Depth 18 to 22 m. Bottom mud. Marine.

Size: Maximum total length 105 mm.

Interest to Fishery: Cited by Racek (1959:10), under the name *Penaeopsis* (*Metapenaeopsis*) *novae-guineae*, as a species abundant in commercial prawn catches off New South Wales and Queensland. But their small size "renders them commercially unimportant" (Racek, 1957:12).

*Metapenaeopsis philippii* (Bate, 1881)

PEN Meta 14

*Penaeus philippii* Bate, 1881, Ann.Mag.Nat.Hist., (5)8:181

Synonymy: *Penaeus philippinensis* Bate, 1888; *Penaeopsis philippii* - De Man, 1911; *Penaeopsis philippinensis* - De Man, 1911; *Leptopenaeus philippinensis* - Kishinouye, 1929; *Penaeopsis* (*Metapenaeus*) *philippii* - Ramadan, 1938.

FAO Names: Philip velvet shrimp (En), Crevette chamois Philippe (Fr), Camarón gamuza Felipe (Sp).

Literature: Champion, 1973:187-195.

Distribution: Indo-West Pacific: East Africa to the Philippines.

Habitat: Depth 150 to 894 m. Marine.

Size: Maximum total length 130 mm.

Interest to Fishery: Of potential commercial importance off S.W. India; caught in good numbers off the Kerala coast during exploratory trawling (Kurian & Sebastian, 1976:96).

Remarks: Due to the confusion that has existed concerning the identity or distinctness of this species, *M. coniger* (Wood-Mason, 1891), *M. andamanensis* (Wood-Mason, 1891) and other related species, previous records have to be considered with some reserve.

*Metapenaeopsis rosea* Racek & Dall, 1965

PEN Meta 15

*Metapenaeopsis rosea* Racek & Dall, 1965, Verh.K.Ned.Akad.Wet.(Natuurkd.), (2)56(3):29

FAO Names: Pink velvet shrimp (En), Crevette chamois rosée (Fr), Camarón gamuza rosado (Sp)

Distribution: Indo-West Pacific: northern and northeastern Australia.

Habitat: Depth 7 to 29 m. Marine.

Size: Maximum total length 120 mm.

Interest to Fishery: Listed by Racek (1973:155,159) among the species of commercial importance.

*Metapenaeopsis stridulans* (Alcock, 1905)

PEN Meta 16

*Metapenaeus stridulans* Alcock, 1905, Ann.Mag.Nat.Hist., (7)16:518,526

Synonymy: *Penaeopsis stridulans* - De Man, 1911.

FAO Names: Fiddler shrimp (En), Crevette violoneux (Fr), Camarón violinista (Sp).

Distribution: Indo-West Pacific: Arabian Sea to the Malay. Archipelago, New Guinea and New Britain.

Habitat: Depth 9 to 90 m. Marine.

Size: Maximum total length 100 mm.

Interest to Fishery: In the northern Arabian Sea the fishery for this species is of minor importance (Tirmizi, in Litt.). Near Bombay it is caught in fairly large numbers (in "dol" nets) especially in October and November (Kurian & Sebastian, 1976 :96). It is likewise fished for in Sri Lanka (Longhurst, 1970:283) and Malaya (Tham, 1968:212).

*Metapenaeopsis toloensis* Hall, 1962

PEN Meta 17

*Metapenaeopsis toloensis* Hall, 1962, Fish.Publ.Colon.Off.(U.K.), 17:33

FAO Names: Tolo velvet shrimp (En), Crevette chamois tolo (Fr), Camarón gamuza tolo (Sp).

Distribution: Indo-West Pacific: Sri Lanka; Malaya.

Habitat: Depth 69 to 73 m. Marine.

Size: Maximum carapace length 24 mm.

Interest to Fishery: Cited by Longhurst (1970:283) as abundant in shrimp catches along the east coast of Sri Lanka, but of less importance than some *Penaeus* species.