

*Penaeus (Penaeus) semisulcatus* De Haan, 1844

PEN Pen 27

*Penaeus semisulcatus* De Haan, In Von Siebold, Fauna Japonica, Crustacea (6/7):Pl. 46, Fig. 1

Synonymy: *Penaeus ashiaka* Kishinouye, 1900; *Penaeus semisulcatus paucidentatus* Parisi, 1919; *Penaeus monodon manillensis* Villaluz & Arriola, 1938. The name *semisulcatus* has been used incorrectly by some older authors for *Penaeus monodon*, which has caused considerable confusion.

FAO Names: Green tiger prawn (En), Crevette tigrée verte (Fr), Camarón tigre Verde (Sp).

Local Names: Green prawn (South Africa), Tiger prawn (English, Kenya), Kamba (for the larger), Kamba ndogo (for the smaller specimens) (Swahili language, Kenya; these names used for all commercial penaeids), Rebian (Arabian), Kalri (Pakistan, used also for other species of about the same size), Kuma-ebi (Japan), Fa ha, Flower prawn, Bamboo node prawn (Hong Kong), Kung kula lai (Thailand), Grooved tiger prawn, Northern tiger prawn, Green tiger prawn (Australia); Kastanie (Israel).

Distribution: Indo-West Pacific: Red Sea, E. and S.E. Africa to Japan, Korea, the Malay Archipelago and northern Australia. Eastern Atlantic: The species has reached the eastern Mediterranean through the Suez Canal; it is now found all along the coasts of Egypt, Israel, Lebanon, Syria and southern Turkey.

Habitat: Depth 2 to 130 m. Bottom mud, sand. Marine (adults) and estuarine (juveniles).

Size: Maximum total length 180 mm (♂), 228 mm (♀).

Interest to Fishery: The species is of minor to moderate importance in Madagascar, S.E. and E. Africa (Mozambique to Somalia) and the Red Sea. In the Gulf of Aden, the Persian Gulf and in Pakistan it is of major importance in the offshore fishery; in Pakistan it is exported frozen or canned, and also used for shrimp meal and paste (Tirmizi, in Litt.). In India it is more common on the east than on the west coast, but it is not as important commercially as *P. monodon* is there (Jones, 1967:1333; Kurian & Sebastian, 1976:100). It plays a role in the ricefield shrimp farming in the Ganges delta. According to Longhurst (1970:282,283) the species is likely to be of economic importance in Sri Lanka, Singapore and the Philippines. Lai-shing (1972:287) mentioned that it is caught by trawlers in the Hong Kong area. In the Inland Sea of Japan it is also commercially important (Yasuda, 1956; in table VI Yasuda evidently indicated the species by mistake with the name *P. monodon*). Yoshida (1941:10) listed the species among the shrimps of economic importance in Korea. In the eastern Mediterranean *Penaeus semisulcatus* is caught by Turkish, Israeli and Egyptian trawlers. Aquaculture experiments with this species are carried out in Taiwan and Thailand.

*Protrachypene precipua* Burkenroad, 1934

PEN Prot 1

*Protrachypene precipua* Burkenroad, 1934, Bull.Bingham Oceanogr.Collect., Yale Univ., 4(7):44

FAO Names: Titi shrimp (En), Crevette titi (Fr), Camarón titi (Sp).

Local Names: Camaroncillo (Nicaragua also used for other species), Titi (Panama, used also for *Xiphopenaeus*), Camarón pomada (Ecuador).

Distribution: Eastern Pacific: Nicaragua to Ecuador.

Habitat: Depth less than 15 m. Marine.

Size: Maximum total length 75 mm (♂), 88 mm (♀); maximum carapace length 13.8 mm (♂), 15.3 mm (♀).

Interest to Fishery: The species is of secondary commercial importance throughout its range.

*Trachypeneus anchoralis* (Bate,1881)

PEN Trachyp 3

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

Synonymy: *Parapenaeus anchoralis* - Pearson, 1905.

FAO Names: Hardback shrimp (En), Crevette os (Fr), Camarón huesudo (Sp).

Local Names: Hardback prawn, Northern rough prawn (Australia).

Literature: Schmitt, 1926:348, Pl. 62, Figs. 1-3, Pl. 68, Fig. 3; Dall, 1957:2033, 209, Fig. 24; Racek & Dall,1965:93, Pl. 7, Fig. 10, Pl. 12, Fig. 8

Distribution: Indo-West Pacific: Northern Australia from the northern part of Western Australia east to about Keppel Bay. Queensland; very rare in New South Wales.

Habitat: Depth 12.5 to 52 m. Marine.

Size: Total length 38 to 104 mm.

Interest to Fishery: Very limited; possibly of economic importance in the future. Tham (1968: 212) and Domantay (1954:363) listed the species as occurring in commercial catches in Australia and the Philippines. The latter record obviously is erroneous as the species does not occur in the Philippines. Harrison, Kesteven & Setter (1965:8) cited *T. anchoralis* among the non-commercial species of the Gulf of Carpentaria.

*Trachypenaeus byrdi* Burkenroad, 1934

PEN Trachyp 4

*Trachypenaeus (Trachysalambria) byrdi* Burkenroad, 1934, Bull.Bingham Oceanogr.Collect., Yale Univ., 4(7):51

FAO Names: Carabali shrimp (En), Crevette carabali (Fr), Camarón carabalí (Sp).

Local Names: Tigre (Panama, Colombia, Ecuador), Cebra, Indio, Carabali (Panama, Ecuador), Camaroncillo (Nicaragua, a name used for this and similar species alike).

Literature: Burkenroad, 1934; Loesch & Avila, 1964.

Distribution: Eastern Pacific: from Mexico to N. Peru.

Habitat: Depth 3.5 to 20 m. Bottom soft mud. Marine or brackish.

Size: Maximum total length 189 mm; maximum length abdomen 110 mm.

Interest to Fishery: Minor. According to Lindner (1957:145) the species is caught together with commercial species in Peru, but is discarded because of its small size. In Ecuador and Colombia the species is of minor importance and the tails are used only locally, sold fresh, frozen or cooked, whole or peeled, sometimes canned.

*Trachypenaeus constrictus* (Stimpson, 1874)

PEN Trachyp 1

*Penaeus constrictus* Stimpson, 1874, Ann.Lyc.Nat.Hist.New York, 10:135

Synonymy: *Parapenaeus constrictus* - Smith, 1585; *penaeopsis agassizii* Bouvier, 1905; *Trachypenaeus (Trachysalambria) constrictus* - Anderson & Lindner, 1945.

FAO Names: Roughneck shrimp (En), Crevette gambri (Fr), Camarón fijador (Sp).

Local Names: Camarão branco (N.E. Brazil; a name also used for *Penaeus* species), Camarão ferrinho (S.E. Brazil, near Santos), Roughneck shrimp (U.S.A.).

Literature: Williams, 1965:31, Fig. 21; Neiva & Mistakidis, 1966.

Distribution: Western Atlantic: from Virginia (U.S.A.) and Bermuda to Estado do Santa Catarina, Brazil.

Habitat: Depth, shallow water to 71 m. Bottom sand or mud and shells. Marine.

Size: Maximum total length 92 mm; length usually between 60 and 80 mm.

Interest to Fishery: The commercial value of this species is insignificant in N.E. Brazil (Fausto Filho, 1968:27). In Florida it is used as bait, and "commercial production is more accidental than intentional" but in the future it "may become commercially important for canning" (Joyce & Eldred, 1966:25). In S.E. Brazil it is found in small numbers in commercial catches of other species (FAO, 1964:9,11).

*Trachypenaeus curvirostris* (Stimpson, 1860)

PEN Trachyp 5

*Penaeus curvirostris* Stimpson, 1860, Proc.Acad.Nat.Sci.Phila., 1860:44

Synonymy: *Penaeus longipes* Paulson, 1875; *Parapenaeus curvirostris* - M.J. Rathbun, 1902; *Trachypeneus asper* Alcock, 1905; *Metapenaeus curvirostris* Nobili, 1906; *Metapenaeus palaestinensis* Steinitz, 1932; *Trachypenaeus curvirostris malaiana* Balss, 1933; *Trachypeneus (Trachysalambria) curvirostris* - Burkenroad, 1934; *Trachypeneus (Trachysalambria) curvirostris malaiana* - Burkenroad, 1959; *Trachypeneus (Trachysalambria) curvirostris palaestinensis* - Burkenroad, 1950.

FAO Names: Southern rough shrimp (En), Crevette gambri archée (Fr), Camarón fijador arquero (SP).

Local Names: Saru ebi (Japan), Sui lim har (Hong Kong; also used for other species of the genus), Hardback prawn, Southern rough prawn (Australia).

Literature: Kubo, 1949:393, Figures; Dall, 1957:203; Burkenroad, 1959:90, Fig. 17; Hall, 1961:98; Racek & Dall, 1965:89.

Distribution: Indo-West Pacific: Red Sea, East Africa and Madagascar to China, Japan and Australia. Eastern Atlantic: the species entered the eastern Mediterranean through the Suez Canal and has been reported from Egypt, Israel and Turkey.

Habitat: Depth 13 to 150 m. Marine.

Size: Maximum total length 81 mm (♂), 98 mm (♀); maximum carapace length 22 mm (♂), 30 mm (♀).

Interest to Fishery: Because of the small size of the animals, the commercial importance of this species is usually minor. Longhurst (1970:280) reported a fishery for this and other species in the Red Sea, the Gulf of Aden and the Arabian Sea. In Madagascar it is caught in small quantities. Kurian & Sebastian (1976:101), although listing the species among the Indian prawns of commercial importance, remarked that in India it is "not found in large numbers to contribute to a fishery". Liu (1955:14) listed it among the economic shrimps of N. China. In Japan the species is offered at the fish markets (Balss, 1914:11; Kubo, 1949:394). Yasuda (1949:180) cited it as "an important, commercial as well as bait shrimp" in the Ise and Mikawa Bay areas of Japan. In Australia the species, although abundant in New South Wales, Queensland and Western Australia, is rendered commercially unimportant by its small size (Racek, 1957:12).

*Trachypenaeus faoe* Obarrio, 1954

PEN Trachyp 6

*Trachypenaeus faoe* Obarrio, 1954, In Segundo Centro Latinoamericano de Capacitación Pesquera (= II CLACP), 41:3 [a]

Synonymy: *Trachypeneus (Trachysalambria) faoe* - Eldred & Hutton, 1960; *Trachypeneus faoea* - Loesch & Avila, 1964.

FAO Names: Indio shrimp (En), Crevette gambri indienne (Fr), Camarón fijador indio (Sp).

Local Names: Chacalin (El Salvador), Indio (Panama), Cebra (Panama, Colombia, Ecuador), Tigre, Carabali (Panama, Ecuador). These names are also used for other, similar species.

Literature: Loesch & Avila, 1964; Perez-Farfante, 1971:642, Figs. 3B,4G,5B.

Distribution: Eastern Pacific: Panama to Ecuador. Possibly from Mexico to northern Peru, but records of this species from west of Panama and from northern Peru may pertain to *T. fuscina* (see there).

Habitat: Depth 9 to 24 m. Marine.

Size: Total length of neotype (♀), 100 mm, carapace length 28 mm.

Interest to Fishery: The species is, because of its relatively small size, of minor commercial importance. Lindner (1957:145) stated that in N. Peru specimens are "caught by the fishermen but discarded because of their small size". In most of the rest of its area this species, together with other similarly small species, is sold locally, fresh, cooked, frozen or salted, peeled or whole.

Remarks: Dr. Martin D. Burkenroad, when working with FAO in Panama, discovered the present species to be new and provisionally named it *Trachypenaeus faoae*, but did not publish the name or a description of the species. As a manuscript name it gained acceptance among fishery workers, who even used it in print, be it in a variety of spellings (like *faoe*, *faoea*, etc.). The first publication that made the name available is the one by Obarrio (1954), who, in a mimeographed publication, not only cited the name (as *Trachypenaeus faoe*) but also gave a short description: "Se distingue por tener 3 espinitas, sensibles al tacto, una en cada parte posterior de cada uno de los tres últimos segmentos del abdomen. En el telson no tiene espinas. El telico no se encuentra cubierto y su parte anterior termina en forma puntiaguda". Obarrio first cited the name as *Trachypenaeus face*; that *face* is an error for *faoe*, is clear from his statement: "Especie nueva y que el técnico nombró *faoe* en honor de la FAO". It is clear therefore that the specific name has to be spelled *faoe* and that Obarrio (1954) is its author. Before the rediscovery of Obarrio's paper it was thought that Loesch & Avila (1964) were the first to have validly published the species.

Some of the records of *T. faoe* may pertain to *T. fuscina* Pérez-Farfante (see there).

*Trachypenaeus fulvus* Dall, 1957

PEN Trachyp 7

*Trachypenaeus fulvus* Dall, 1957, Aust.J.Mar.Freshwat.Res., 8:203,206

Synonymy: *Tachypenaeus unicus* Hall, 1961.

FAO Names: Brown rough shrimp (En), Crevette gambri brune (Fr), Camarón fijador marrón (Sp).

Local Names: Brown rough prawn (Australia):

Literature: Dall, 1957:203,206, Fig. 23; Hall, 1962:29, Fig. 112; Racek & Dall, 1965:93.

Distribution: Indo-West Pacific: The Philippines; Malaysia; Indonesia; Australia.

Habitat: Depth about 60 m. Marine.

Size: Total length 47 to 63 mm (♂), 32 to 103 mm (♀); carapace length 12.5 mm (♂), 23 mm (♀).

Interest to Fishery: Slight Dall (1957:208) remarked that this species was "approaching commercial abundance in Moreton Bay", Queensland. Tham (1968:212) reported that the species occurred in commercial catches in Malaysia. Harrison, Kesteven, & Setter (1965:8) listed it among the non-commercial species of the Gulf of Carpentaria.

*Trachypenaeus fuscina* Pérez-Farfante, 1971

PEN Trachyp 8

*Trachypenaeus fuscina* Pérez-Farfante, 1971, Fish.Bull.USFWS, 69(3):637

FAO Names: Pinto shrimp (En), Crevette pinto (Fr), Camarón pinto (Sp).

Local Names: Pinto, Cebra; Tigre (Mexico, also used for other, similar species).

Distribution: Eastern Pacific: Mexico to northern Peru.

Habitat: Depth 7 to 70 m. Marine.

Size: Maximum total length 108 mm (♂), 150 mm (♀); maximum carapace length 26 mm (♂), 40.5 mm (♀).

Interest to Fishery: As until 1971 the present species has not been distinguished from *T. faoe*, the records under the latter name may partly or entirely pertain to the present species (see Pérez-Farfante, 1971).

*Trachypenaeus gonospinifer* Racek & Dall, 1965

PEN Trachyp 9

*Trachypenaeus gonospinifer* Racek & Dall, 1965, Verh.K.Ned.Akad.Wet.(Natuurkd.), (2)56(3):89

FAO Names: Northern rough shrimp (En), Crevette gambri nordique (Fr), Camarón fijador norteño (SP).

Local Names: Hardback prawn, Rough prawn (Australia; both names also used for other species of the genus).

Distribution: Indo-West Pacific: Indonesia; New Guinea; N. Australia.

Habitat: Depth 13 to 52 m. Bottom mud. Marine.

Size: Total length 45 mm (♂), 34 to 74 mm (♀); carapace length 12 to 13 mm (♂), 15 to 16 mm (♀).

Interest to Fishery: Probably nil. Motosh (1977:1,7) listed this species among the "penaeid shrimps with commercial value" and referred to Munro (1968:14), who, however, ranged it among the "smaller species regarded as having no commercial value".

*Trachypenaeus granulosis* (Haswell, 1879)

PEN Trachyp 10

*Penaeus granulosis* Haswell, 1879, Proc.Linn.Soc.N.S.W., 4:41

Synonymy: *Trachypeneus salaco* De Man, 1907; *Trachypeneus pescadoreensis* Schmitt, 1931; *Trachypeneus furcilla* Hall, 1961.

FAO Names: Coarse shrimp (En), Crevette gambri grenue (Fr), Camarón fijador de granos (Sp).

Local Names: Hardback prawn, Haswell's rough prawn (Australia); Sui lim har (Hong Kong; name used also for other species of the genus).

Literature: De Man, 1911:90-92, Pls. 8,9, Fig. 28 (as *T. salaco*); Hall, 1961:102, Pl.20, Figs. 16,17 (as *T. furcilla*); Racek & Dall, 1965:94, Pl.3, Fig. 4, Pl. 7, Fig. 9, Pl. 13, Fig. 1.

Distribution: Indo-West Pacific: Kuwait; Sri Lanka; Malaya; Indonesia; Taiwan; Australia.

Habitat: Depth 9 to 81 m. Bottom mud. Marine.

Size: Total length 36 to 51 mm (♂), 53 to 90 mm (♀); carapace length 12 to 14.5mm (♂), 18 to 22mm (♀).

Interest to Fishery: Practically nil. Racek & Dall (1965:94) reported the "first discovery in commercial trawl" in Princesse Charlotte Bay, Queensland. Harrison, Kesteven & Setter (1965:8) range the species among the non-commercial species of the Gulf of Carpentaria (N. Australia). Longhurst (1970:282,283) indicated the species (under the name *T. salaco*) as abundant in Sri Lanka waters, and thus possibly as of some potential commercial importance. Kurian & Sebastian (1976:101; under *T. pescadoreensis*) listed it among the Indian prawns of commercial importance, indicating, however, that it is taken "in stray catches only". Muthu (1971:148) found the species in commercial shrimp catches off the east coast of India (Kakinada).

*Trachypenaeus pacificus* Burkenroad, 1934

PEN Trachyp 11

*Trachypenaeus (Trachysalambria) similis pacificus* Burkenroad, 1934, Bull.Bingham Oceanogr. Collect. Yale Univ., 4(7):50

FAO Names; Zebra shrimp (En), Crevette zèbre (Fr), Camarón cebra (Sp).

Local Names: Coloradito (Mexico), Tigre, Cebra, Carabali (Ecuador, also used for other similar species).

Literature: Loesch & Avila, 1964:5,7,25,26, Fig. 8C.

Distribution: Eastern Pacific: Mexico to N. Peru.

Habitat: Depth 22 to 43 m. Marine.

Size: Total length 27 to 50 mm (♂), 36 to 99 mm (♀); carapace length 6 to 11 mm (♂), 8 to 25 mm (♀).

Interest to Fishery: Not very great. Cobo & Loesch (1966:4) ranged the species among the commercially exploited shrimps of Ecuador, but remark that they are landed in small quantities. They are used locally and are sold peeled and deveined. Longhurst (1970:293) also listed the species (as *T. similis*) among the prawn resources of the American west coast.

*Trachypenaeus sedili* Hall, 1961

PEN Trachyp 12

*Trachypeneus sedili* Hall, 1961, Bull.Raffles Mus., 26:100

FAO Names: Malayan rough shrimp (En), Crevette gambri malaise (Fr), Camarón fijador malayo (SP).

Literature: Thomas, 1971:192, Fig. 1 E-K.

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

Habitat: Depth 2 to 44 m. Bottom mud. Marine.

Size: Maximum total length 60 mm; carapace length 8.5 to 12.5 mm (♂), 11 to 19 mm (♀).

Interest to Fishery: Minor if any. Kurian & Sebastian (1976:101) listed the species among the Indian prawns of commercial importance, but indicated that it is obtained only in stray catches from the Bay of Bengal (e.g., from off Visakhapatnam).

*Trachypenaeus similis* (Smith, 1885)

PEN Trachyp 2

*Parapenaeus constrictus similis* Smith, 1885, Proc.U.S.Natl.Mus., 8:175

Synonymy: *Parapenaeus constrictus similis* M.J. Rathbun, 1902; *Trachypeneus (Trachysalambria) similis* Burkenroad, 1934.

FAO Names: Yellow roughneck shrimp (En), Crevette gambri jaune (Fr), Camarón fijador amarillo (SP).

Local Names: Camarón fijador (Cuba).

Literature: Burkenroad, 1934:96, Figs. 10,11; Davant, 1963:25,40;81,96, Figs. 25,26.

Distribution: Western Atlantic: Florida to N. Brazil.

Habitat: Depth 2 to 99 m. Bottom mud and sand. Marine.

Size: Maximum total length 101 mm.

Interest to Fishery: Very minor. It is sometimes found mixed in with the catches of larger species like *Penaeus duorarum* and sold with these. Joyce & Eldred (1966:25) state that "only the largest individuals of *T. similis* occasionally enter the commercial catch in the Tortuga area", and "current commercial production is more accidental than intentional", "because of their small size they are usually discarded". But in the future it may become more important commercially for canning. In N. Brazil the species is fished for in the area of the mouth of the Amazon River, but is of secondary importance and only used locally (P. Alves Coelho, in Litt.).

*Xiphopenaeus kroyeri* (Heller, 1862)

PEN Xiphop 1

*Penaeus kroyeri* Heller, 1862, S.B.Akad.Wiss.Wien, 45(1):425

Synonymy: *Xiphopeneus hartii* Smith, 1869.

FAO Names: Atlantic seabob (En), Crevette seabob (de l'Atlantique) (Fr), Camarón siete barbas (SP).

Local Names: Seabob (U.S.A.), Camarón blanco (Venezuela), Coarse shrimp, Large prawn (Guyana), Redi Sara-Sara, Bigi Sara-Sara (Surinam), Camarão chifrudo (N. Brazil), Camarão sete barbas (Brazil).

Literature: Williamson, 1965:30, Figs. 18-20; Chace & Hobbs, 1969:55, Figs. 6,7e.

Distribution: Western Atlantic: North Carolina (U.S.A.) to Estado de Santa Catarina (Brazil).

Habitat: Depth 1 to 70 m, usually less than 27 m. Bottom mud or sand. Marine, brackish, exceptionally fresh; most plentiful in areas near river estuaries.

Size: Total length of adult specimens 70 to 140 mm; maximum total length of males 115 mm.