

Projasus George & Grindley, 1964

PALIN Proja

Projasus George & Grindley, 1964, *Journal Royal Society Western Australia*, 47(3):87. Gender masculine.

Type Species: by original designation and monotypy: *Jasus parkeri* Stebbing, 1902.

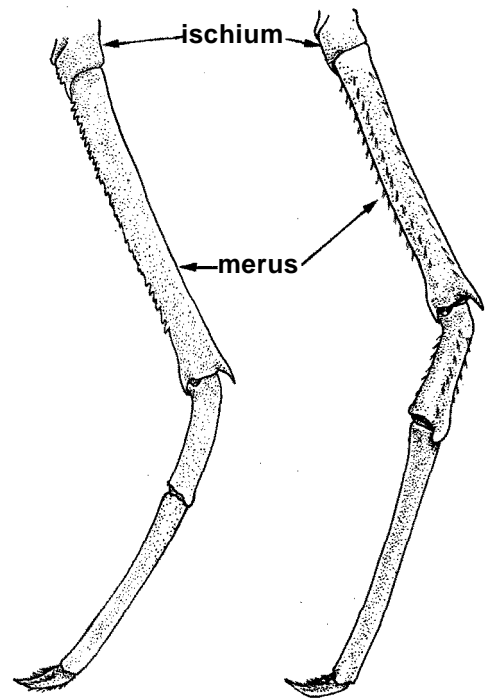
Synonyms : *Isopuerulus* Bahamonde, 1963, *Noticiario mensual Museo Nacional Historia Natural, Santiaao, Chile*, 7(81):4. Type species, by monotypy: *Jasus parkeri* Stebbing, 1902. Gender masculine. Name unavailable as it, when established, was not "accompanied by a description or definition that states in words characters that are purported to differentiate the taxon", and neither is there "a bibliographic reference to such a published statement" (Art. 13 of the International Code of Zoological Nomenclature).

Isopuerulus Bahamonde, 1965, *Noticiario mensual Museo Nacional Historia natural, Santiago, Chile*, 10(112):5. Type species by monotypy: *Jasus parkeri* Stebbing, 1902. Gender masculine. This time the name is availably established, even though barely so, as the author states that the genus is smaller than the genus *Jasus* ("de menor talla que la anterior"). However, now it is a junior objective synonym of **Projasus** George & Grindley, 1964.

At present two species are known to belong to this genus, neither is of importance to fisheries. On account of the scarcity of available material the taxonomy at the species level is not yet quite clear.

Key to Species :

- 1a Eastern Pacific. Spinules present on the ventral margin of the merus and ischium of the pereiopods (Fig. 295a) ***P. bahamondei*** (Fig. 296)
- 1b. Indo-West Pacific. No spinules on merus and ischium of the pereiopods (295b) ***P. parkeri*** (Fig. 298)



a. *P. bahamondei*
pereiopod

b. *P. parkeri*
Fig. 295

Projasus bahamondei George, 1976

Fig. 296

PALIN Proja 1

Projasus bahamondei George, 1976, *Crustaceana*, 30(1):27, text-fig. 1, pl. 1.

Synonyms : Before 1976 not distinguished from *Projasus parkeri*.

FAO Names : En - Chilean jagged lobster.

Type : Type locality: "San Ambrosio Island, south-east Pacific, 26°21'S 79°47'W, 175 m". Holotype female in WAM, no. 104-72.

Geographical Distribution : Off the Chilean Coast between Huasco (Atacama) and Constitución (Maule), roughly between 29° and 35°S; also at the Islas Desventuradas, and near Juan Fernandez (Fig. 297).

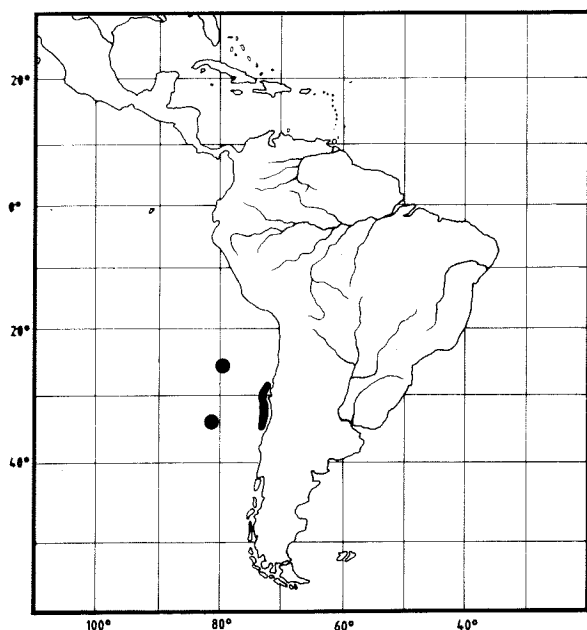


Fig. 297

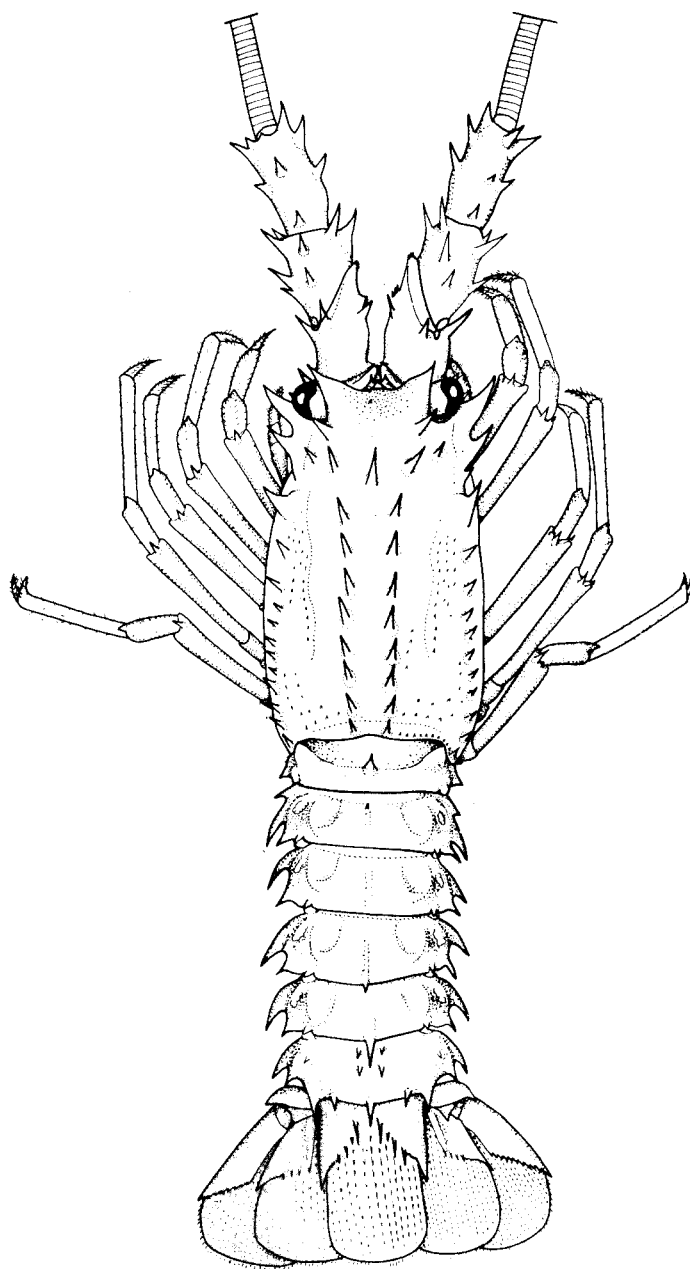
Habitat and Biology : Depth range from 175 to 300 m, on substrates of sandy mud, muddy sand and gravel.

Size : Maximum total body length about 18.5 cm; carapace length up to 7.5 cm.

Interest to Fisheries : Practically none. The species is taken as by-catch by the trawlers that fish for the shrimp *Heterocarpus reedi* Bahamonde. Báez & Ruiz (1985) suggested that the species might be sufficiently abundant near Juan Fernandez and the Islas Desventuradas to be of interest to fisheries.

Local Names : CHILE: Dalmacita, tangosta de Valparaiso, Langosta enana.

Literature : Original description; Webber & Booth, 1988:89-92, figs 6,8,9.



(from Retamal, 1981)

Fig. 296

Projasus parkeri (Stebbing, 1902)

Fig. 298

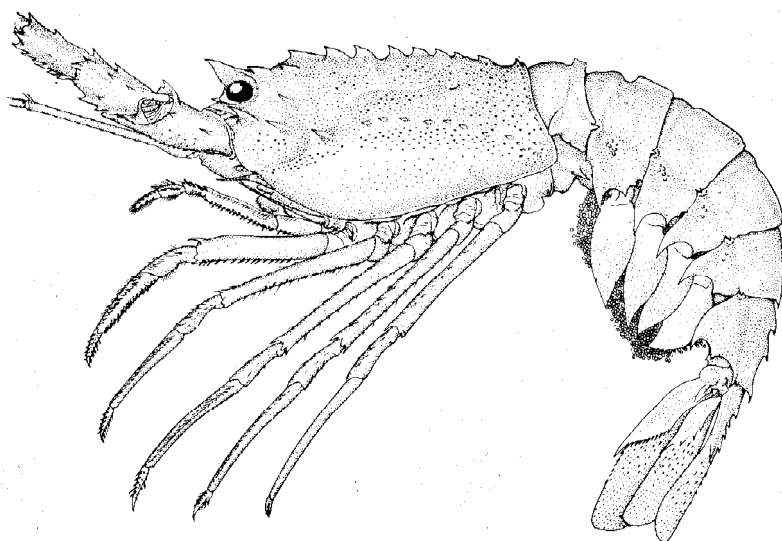
PALIN Proja 2

Lasus parkeri Stebbing, 1902, *Marine Investigations South Africa*, 2:39, pl. 7.

Synonyms : *Puerulus parkeri* - Holthuis, 1946; *Isopuerulus parkeri* - Bahamonde, 1963.

FAO Names : **En** - Cape jagged lobster.

Type : Type locality: "Buffalo River north 15 miles. Depth, 310 fathoms [= 567 m]. Bottom, coral and mud", Natal, South Africa, about 33°S 28°E. Holotype male in SAM, no. A 993 (in alcohol; condition good).



lateral view

Geographical Distribution : S.W. Africa (Valdivia Bank off Namibia); S.E. Africa (Cape Province north of East London, and Natal, South Africa); St. Paul Island; New Zealand (Fig 299). **A *Projasus* puerulus** stage taken off New South Wales, might belong here. A distribution map IS provided by Webber & Booth (1988).

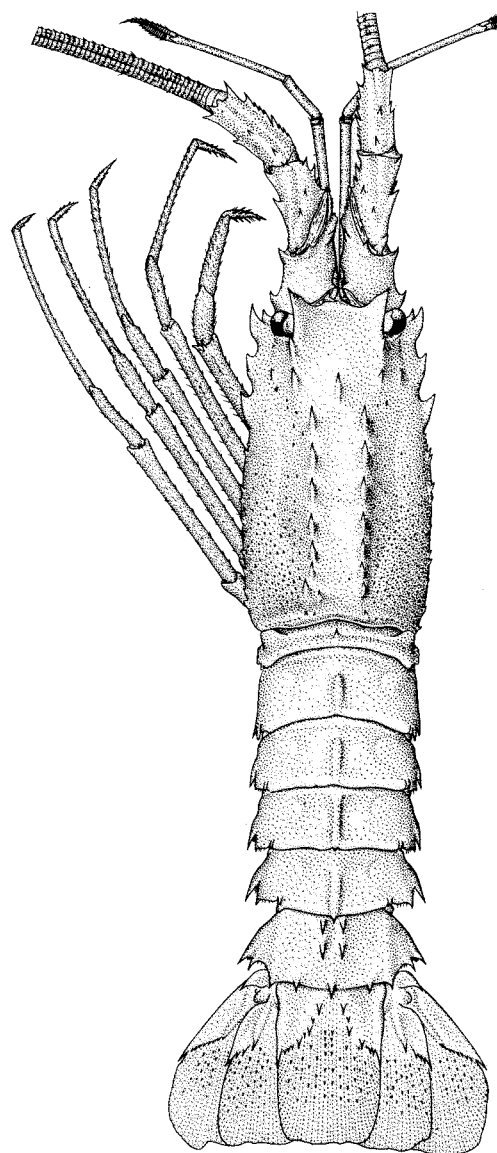
Habitat and Biology : Depth range from 370 to 841 m; bottom: mud with rocks and coral.

Size : Carapace length of S.W. African females 7.0-7.8 cm. Maximum total length for East African material: 13.4 cm (males) and 15 cm (females), maximum carapace length about 6 cm for both sexes. Specimens from St Paul Island had carapace length 7 cm (in both sexes). However, the sizes of specimens from New Zealand reported upon by Webber & Booth (1988) were distinctly larger: carapace length 6.9-8.2 cm (males) and 6.8-9.2 cm (females).

Interest to Fisheries: So far none. The species is rare, and even though lives on soft substrates, evidently is seldom caught in trawls

Local Names : SOUTH AFRICA: Parker's crayfish.

Literature : Barnard, 1950:540; Webber & Booth, 1988:81-92, figs 1-9; Melville-Smith, 1990.



dorsal view

Fig. 298

(both from Webber & Booth, 1988)

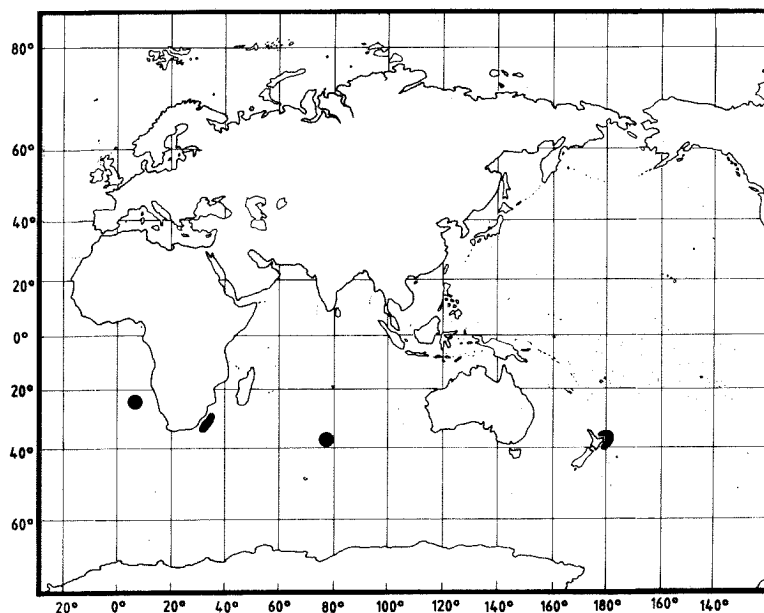


Fig. 299

Puerulus Ortmann, 1897, *American Journal Science*, (4)4:290. Replacement name for the preoccupied **Puer** Ortmann, 1891; therefore with the same type species. Gender masculine. Name placed on the Official List of Generic Names in Zoology, in Opinion 519 (published in 1958).

Type Species: *Panulirus angulatus* Bate, 1888.

Synonyms: **Puer** Ortmann, 1891, *Zoologische Jahrbücher, Systematik*, 6: 15,37. Type species, selected by Calman, 1909, *Annals Magazine Natural History*, (8)3:442: **Panulirus angulatus** Bate, 1888. Gender masculine. An invalid junior homonym of **Puer** Lefebvre, 1842 (Insecta Neuroptera).

So far 4 species have been recognized in this genus, all deepwater forms. One of them (*P. sewelli*) is the subject of a minor fishery. The others are not fished for, but are of potential interest.

Key to Species (after Berry, 1969):

1a. Postorbital spine present. No teeth, but 6 postcervical and 6 intestinal tubercles on the median keel of the carapace. Tubercles on carapace low and largely obscured by pubescence (Fig. 300a). Eyes large, much broader than long **P. velutinus** (Fig. 307)

1b. Postorbital spine absent. Median keel of carapace with 3 to 5 post-cervical and 2 to 4 intestinal teeth. Tubercles of carapace usually distinct and not obscured by the pubescence. Eyes smaller, longer than broad

2a Three or more teeth between the frontal horns and the cervical groove. Median keel of the carapace with 3 post-cervical and two intestinal teeth (Fig. 300b). Fifth pereopod of male not chelate **P. angulatus** (fig. 301)

2b. Two teeth between frontal horns and the cervical groove (Fig. 300c,d)

3a. Median keel of carapace with 3 postcervical and 2 (occasionally 3 or 4) intestinal teeth (Fig. 300c). Fifth pereopod of male chelate **P. carinatus** (Fig. 303)

3b. Median keel of carapace with 5 postcervical and 2 or 3 intestinal teeth (Fig. 300d). Fifth pereopod of male not chelate **P. sewelli** (Fig. 305)

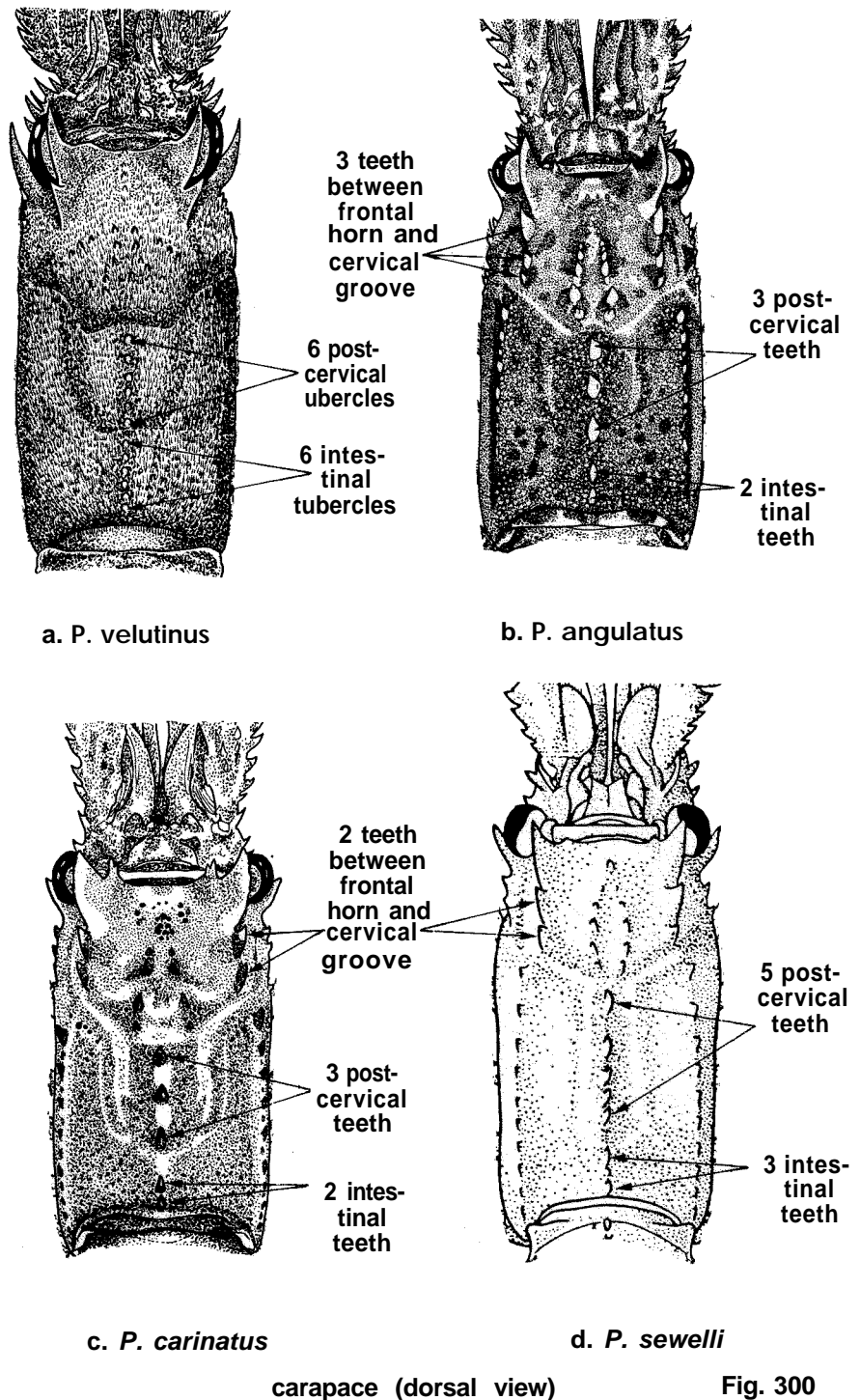


Fig. 300

Puerulus angulatus (Bate, 1888)

Fig. 301

PALIN Puer 2

Panulirus angulatus Bate, 1888, Report Voyage Challenger, Zool., 24:81, pl. 11 figs 2-4. Name placed on the Official List of Specific Names in Zoology, in Opinion 519 (published in 1958).

Synonyms: **Puer angulatus** - Ortmann, 189 1; **Puerulus gracilis** Kubo, 1939.

FAO Names : En - Banded whip lobster

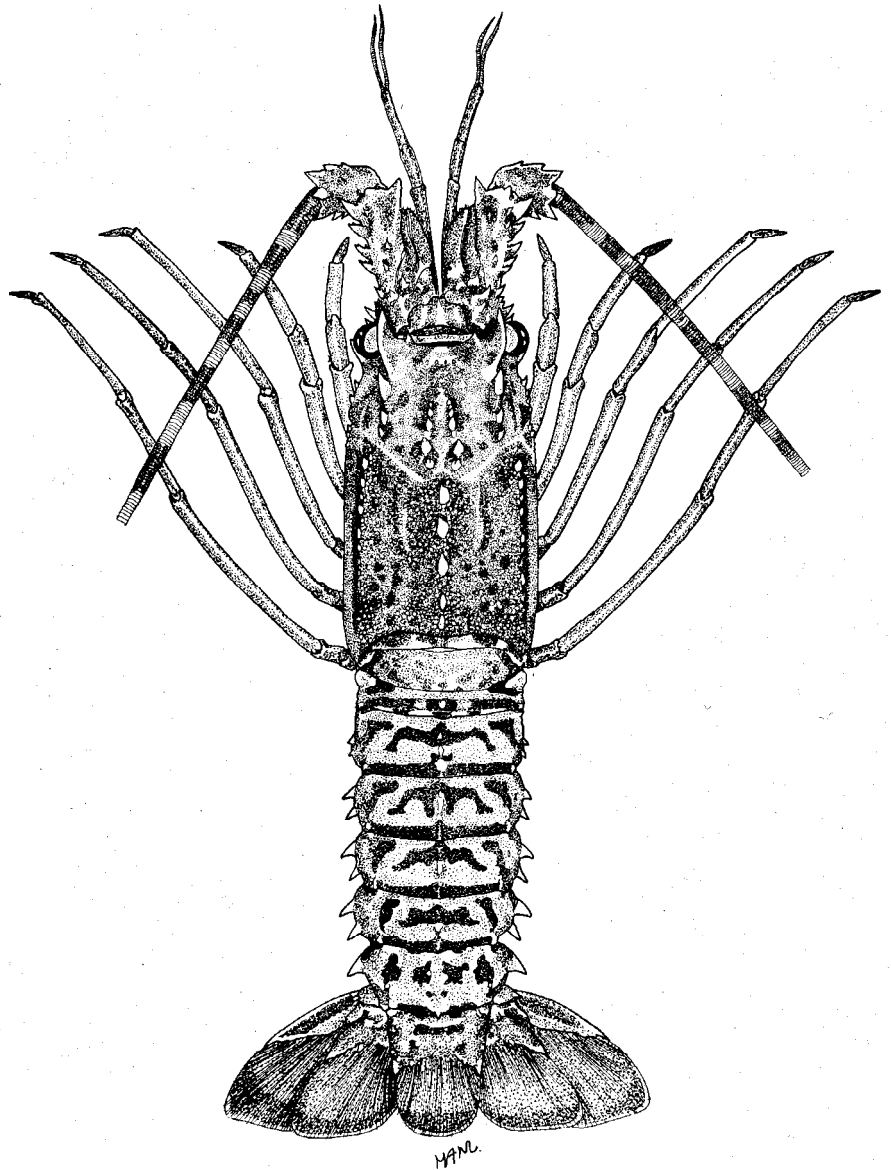
Type : Type locality of **P. angulatus**: "Challenger" Station 219, "lat. 1°54'S. long. 146°39'40" E; Eastern [read: Western] Pacific, north of New Guinea; depth, 150 fathoms [= 274 m]; bottom, coral mud". Holotype male in BM, no. 88.22 (in alcohol, condition fair).

Type locality of **Puerulus gracilis**: "off Kominato, Prov. Bōsyū [Honshu, Japan] at at depth of about 170 fathoms [= 310 m]". Depository of types unknown.

Geographical Distribution: Indo-West Pacific region, from the east and south-east coast of Africa (Zanzibar, Mozambique, Natal) and the western Indian Ocean, to Japan, the Philippines, Indonesia, New Guinea and Western Australia (Fig. 302).

Habitat and Biology : Depth range from 274 to 536 m, on soft substrates (mud or sand).

Size : Maximum carapace length is 7.3 cm, corresponding to a total body length of about 21 cm.



(after Berry, 1969)

Fig. 301

Interest to Fisheries : At present the species is accidentally caught by fishermen, as is the case for the type of **Puerulus gracilis**, which was taken in a gill net ("naname-ami") intended for flatfishes; specimens from Natal and Mozambique were taken by commercial trawlers, but in very small numbers. Crosnier & Jouannic (1973:13) report that experimental fishing near Madagascar produced only very few specimens. George (1983: 16) observed that off Port Hedland, Western Australia, "the commercial prospects [of 4 species of **Metanephrops** and of] the whip lobster **Puerulus angulatus** are probably the most encouraging". Experimental fishing with different types of gear, and better knowledge of habitat and biology of this species are required in order to assess its real potential as a fisheries resource.

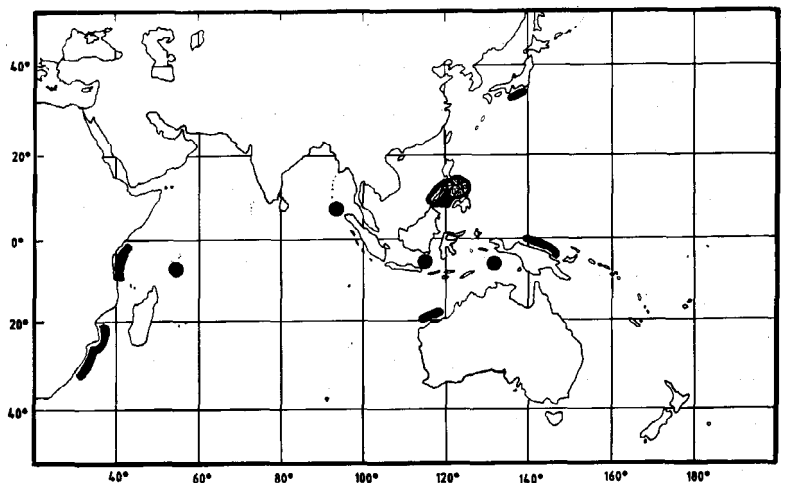


Fig. 302

Local Names : AUSTRALIA: Whip lobster; JAPAN: Gusoku-ebi; MOZAMBIQUE: Lagosta listrada

Literature : Holthuis, 1966:267; Berry, 1969:247, pl. 1 fig. 2, pl. 2 fig. 2, pl. 3 fig. 2.

Puerulus carinatus Borradaile, 1910

Fig. 303

PALIN Puer 3

Puerulus carinatus Borradaile, 1910, *Transactions Linnean Society London*, (Zool.), (2)13: 261.

Synonyms: The species was synonymized with **P. angulatus** by Holthuis (1966:267) but incorrectly so, as shown by Berry (1969)

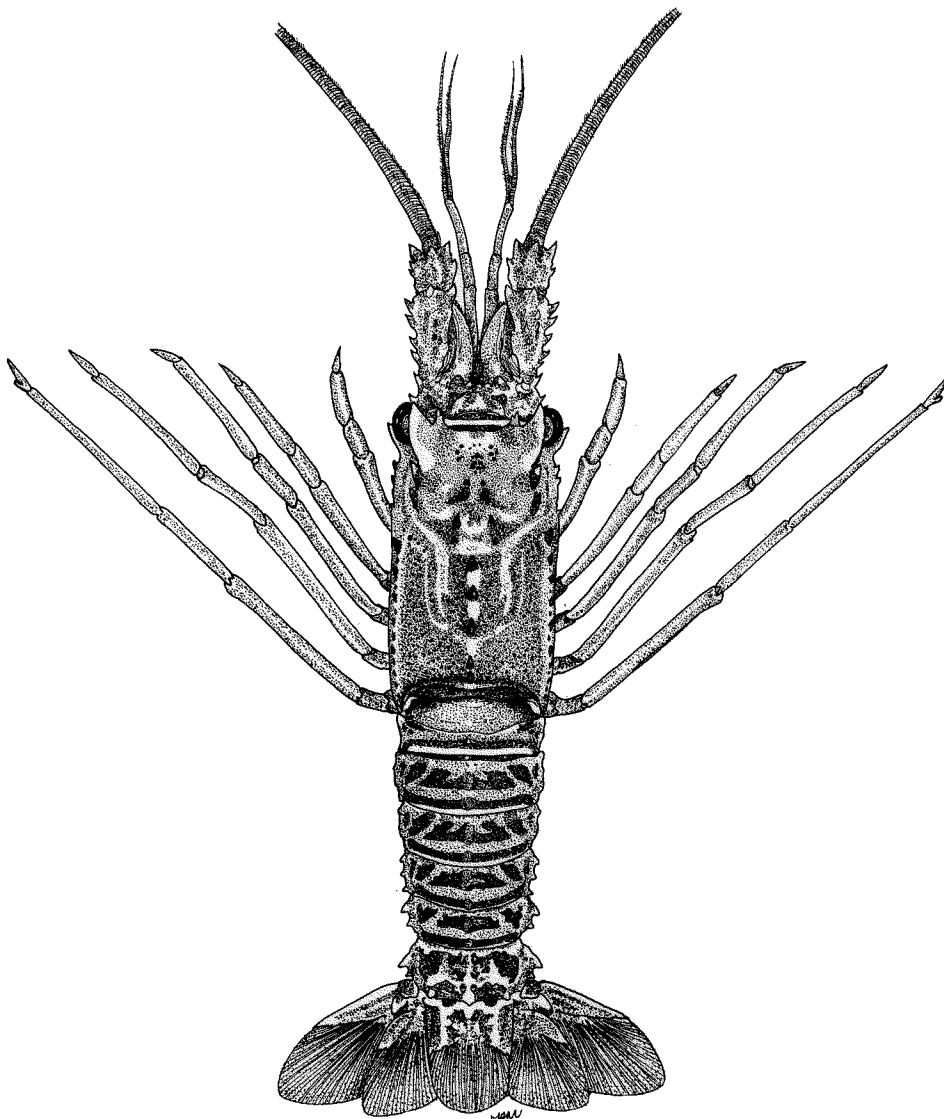
FAO Names : En - Red whip lobster.

Type : Type locality: "Dredged in 125 fathoms off Saya de Malha bank", western Indian Ocean. Holotype in ZMC, lost. Neotype locality: "N.E. of Ouro Point, southern Mozambique, approx. 26°50'S 33°00'E, depth 320 metres". Neotype male, selected by Berry (1969:240), in RMNH no. D. 25535.

Geographical Distribution: Western Indian Ocean: Zanzibar, Mozambique, Natal (South Africa), Madagascar, Saya de Malha Bank (Fig. 304).

Habitat and Biology : Known from depths between 228 and 450 m; on soft substrates (sandy mud, or sand).

Size : Maximum total body length: 18 cm (males), and 20 cm (females); maximum carapace length: 6.4 cm (males), and 7.4 cm (females); average total body length about 15 to 16 cm.



(after Berry, 1969)

Fig. 303

Interest to Fisheries : Very slight at present. Although evidently occurring on trawlable bottoms, very few specimens have been accidentally taken by trawlers.

Local Names : MOZAMBIQUE: Lagosta carinada.

Literature : Berry, 1969:240, text-fig. 1a,b, pl. 1 fig.1, pl. 2fig. 1, pl. 3fig. 1.

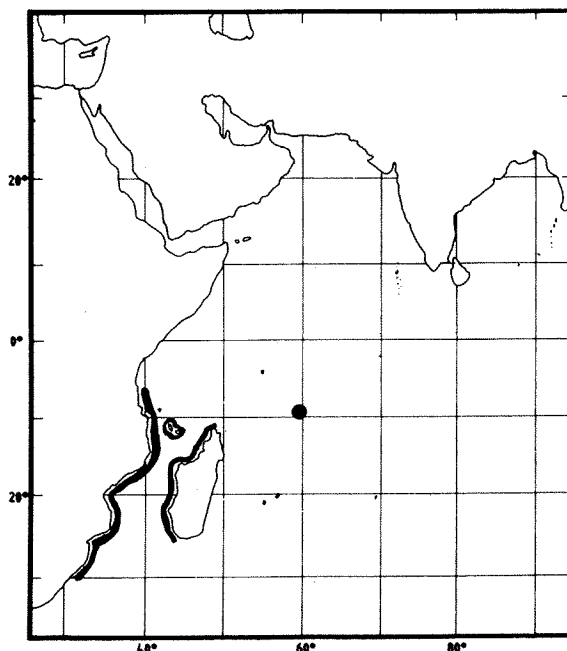


Fig. 304.

Puerulus sewelli Ramadan, 1938

Puerulus sewelli Ramadan, 1938, *Scientific Reports John Murray Expedition*, 5(5): 128, figs 3-5.

Synonyms: ? **Phyllamphion santuccii** Belloc, 1959.

FAO Names: **En** - Arabian whip lobster; **Fr** - Langouste fouet arabe; **Sp** - Langosta de fusta arábica.

Type: Type locality of **P. sewelli**: "Gulf of Aden", "Gulf of Manaar and the Arabian Sea", through the lectotype selection by Holthuis (1966:271) restricted to Gulf of Aden, 13°16'00"N, 46°20'24"E - 13°16'36" N 46°14'00" E, 220 m deep, bottom green mud. Lectotype male in. BM, no. 1969:61-64 (in alcohol, condition good); paralectotypes in BM, ZSI, USNM.

Type locality of **Phyllamphion santuccii**: "dans le sud-est de Perim", Gulf of Aden; depository of type unknown, possibly in MOM, but not yet located there.

Geographical Distribution: Western Indian Ocean: Somalia, Gulf of Aden, off Pakistan, southwest and south India, Gulf of Mannar (Fig. 306).

Habitat and Biology: Known from depths between 180 and 1 300 m, most common between 180 and 300 m; on a substrate of coarse sand, hard mud and shells.

Size: Maximum total body length about 20 cm, maximum carapace length about 8 cm. Average total length about 15 cm.

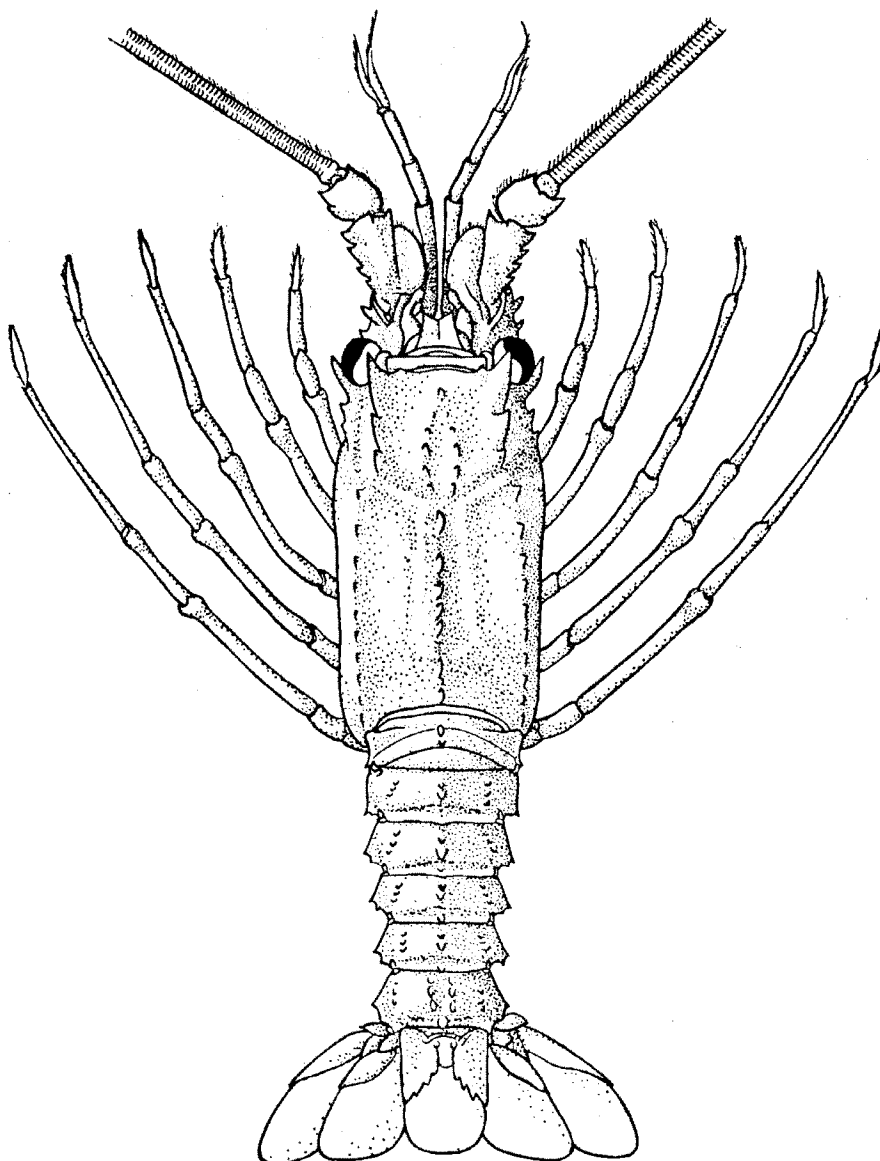
Interest to Fisheries: Between 1974 and 1977, the species was commercially fished off the east coast of Somalia. In the Gulf of Aden, experimental trawling was carried out with average catches of 10 to 129 kg/hour. Off SW. India, rich grounds were found, where the fishery for this species might become commercially rewarding. The annual sustainable yield in that area was estimated at 6 700 tons. The operations were carried out by deep-sea trawlers. The lobster tails were sold deep-frozen.

Local Names: PAKISTAN: Khada kikka (Baluchi), Kikat (Sindhi).

Literature: Fischer & Bianchi (eds), 1984:vol. 5.

Fig. 305

PALIN Puer 1



(from Ramadan 1938)

Fig. 305

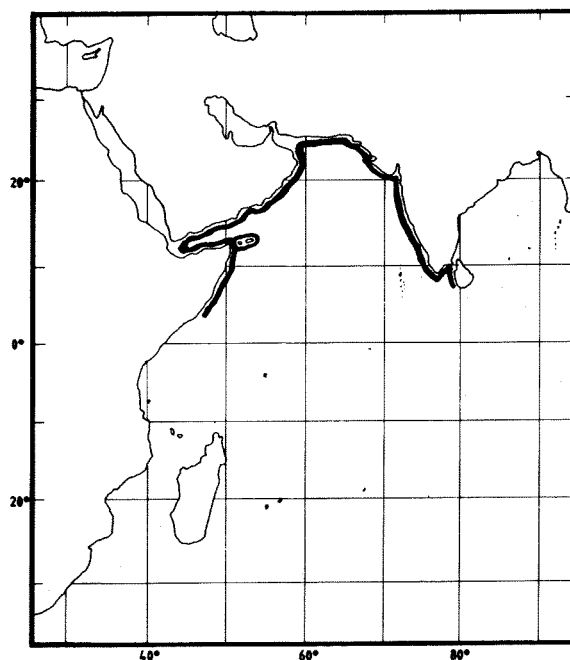


Fig. 306

Puerulus velutinus Holthuis, 1963

Fig. 307

PALIN Puer 4

Puerulus velutinus Holthuis, 1963, Proceedings Koninklijke Nederlandse Akademie Wetenschappen, (C)66: 55.

FAO Names : En - Velvet whip lobster.

Type : Type locality: "Siboga" Expedition Station 297 "between Roti and Timor, Lesser Sunda Islands, 10°39'S 123°40'E", depth 520 m, soft grey mud with brown upper layer. Holotype male in ZMA, no. De. 101.823, condition fair; paratypes in ZMA no De. 101.823 + 101.824.

Geographical Distribution : Indo-West Pacific region: Malay Archipelago: Philippines and Indonesia (Fig. 308).

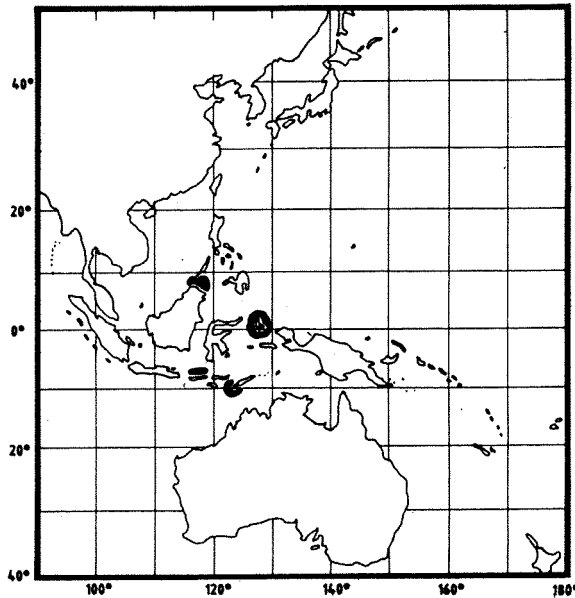


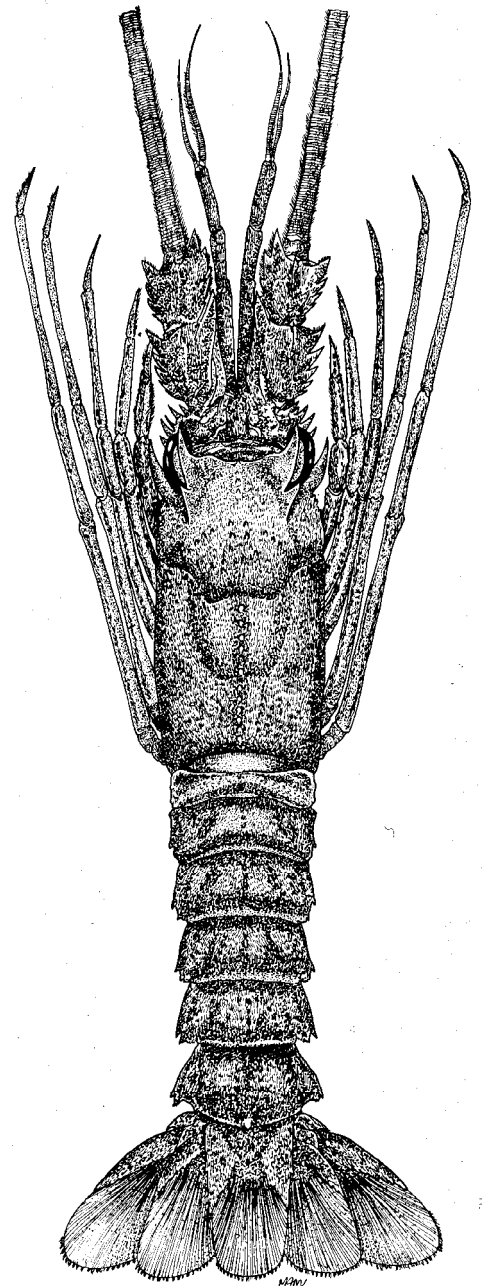
Fig. 308

Habitat and Biology : Depth range from 520 to 683 m; bottom: soft substrate of mud, sand or coral. Ovigerous females have been found in April.

Size : Maximum carapace length: 6.5 cm (males), and 6.2 cm (females), corresponding with a total length of about 19 cm (males) and 18 cm (females). Ovigerous females have a carapace length of 4.7 to 6.1 cm.

Interest to Fisheries : So far none. The fact that the species occurs on soft bottoms and is sometimes collected in relatively great numbers (at "Siboga" Sta. 38 no less than 23 specimens were taken in one haul) indicates that the species might be of commercial interest.

Literature : De Man, 1916:36-42, pl. 2 fig. 5 (as *P. angulatus*); Holthuis, 1966:273-274.



(after De Man, 1916)

Fig. 307