

FAO SPECIES IDENTIFICATION SHEETS

FAMILY: PALINURIDAE

FISHING AREA 51
(W. Indian Ocean)*Justitia mauritiana* (Miers, 1882)

OTHER SCIENTIFIC NAMES STILL IN USE : None

VERNACULAR NAMES:

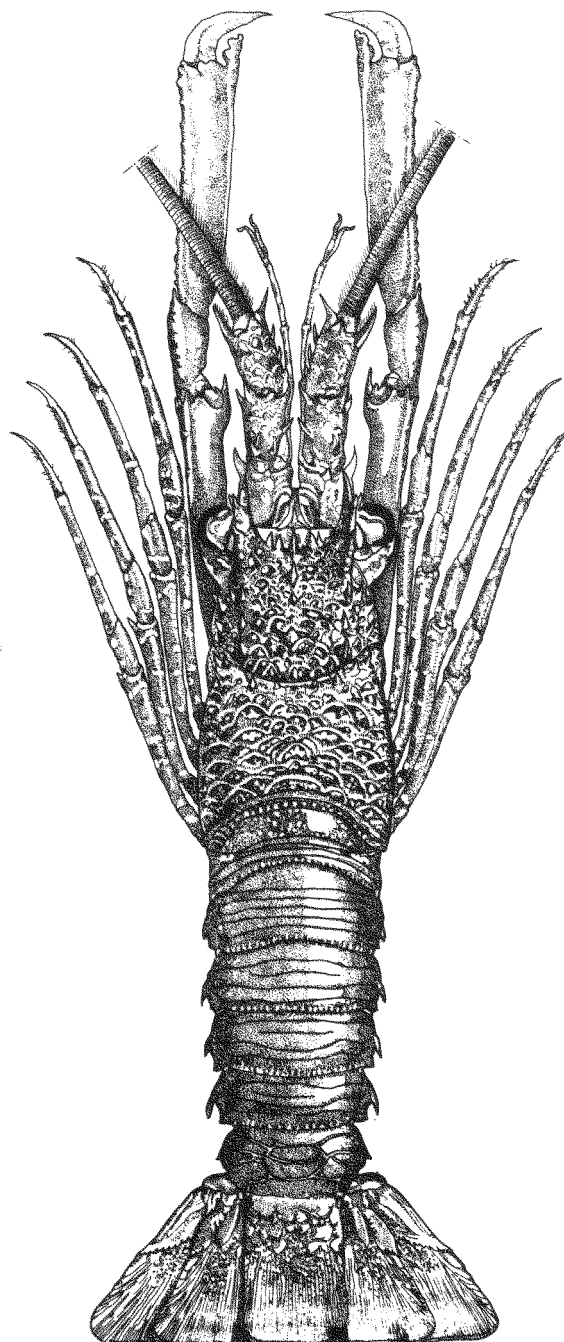
FAO : En - Longarm spiny lobster
 Fr - Langouste gibbon
 Sp - Langosta de muelas

NATIONAL:

DISTINCTIVE CHARACTERS:

Carapace cylindrical, covered with a scale-like sculpturing; several spines or, anterior half and behind the cervical groove; anterior margin with a median spine flanked at either side by 2 or 3 smaller spines; frontal horns large, with teeth on upper margin. Antennae long, stiff, flagella very short, shorter than last segment of peduncle; antennular plate spineless, forming a stridulating organ with the antennal base. Each abdominal segment with 4 or 5 conspicuous transverse grooves not interrupted on midline. First pair of legs in males greatly enlarged and ending in apparent (false) pincers (fixed finger very small).

Colour: body red; antennae and antennules banded with red; outer surface of the large legs also with red bands, their inner surface almost entirely red; other legs banded or spotted with red.



0 3,5 cm

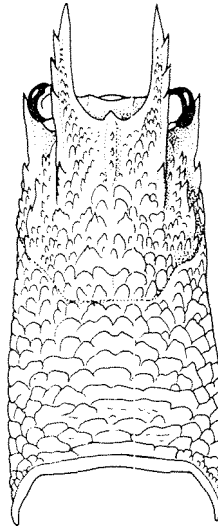
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Justitia japonica: abdominal segments with more than 5 transverse grooves, some interrupted (4 or 5 uninterrupted grooves in J. mauritiana); anterior margin of carapace between frontal horns with only a median spine; no spines on carapace behind cervical groove.

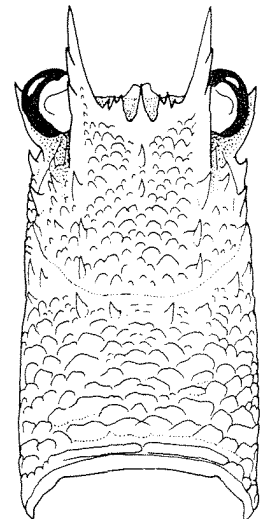
No other lobster species in the area has the characteristic sculpturing on carapace. None has more than one transverse groove on each abdominal segment.

SIZE:

Maximum: total body length 16 cm, carapace length 6 cm. Average carapace length 4 or 5 cm.



Justitia japonica



Justitia mauritiana

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

J. mauritiana occurs off Mauritius, La Réunion and the Hawaiian Islands. Larvae assigned to this form have been reported from the Philippines, the Gilbert Islands and Tahiti. Another species, J. longimanus, is known from Bermuda, the tip of Florida and most of the Antilles.

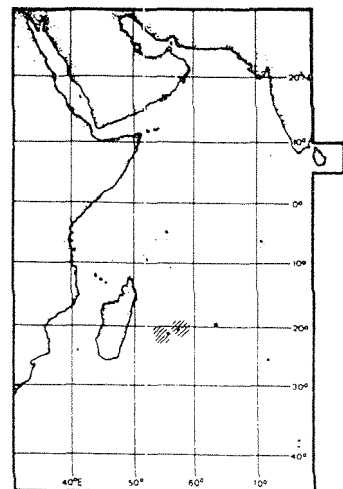
Its habits are not known, apart from the fact that it has been taken at depths between 30 and 200 m. J. longimanus has been reported from the outer parts of coral reef slopes. It seems to prefer rocky bottoms.

PRESENT FISHING GROUNDS:

Not actively fished for in the area. Experimental fishing with lobster pots and trammel nets resulted in catches of this species near La Réunion. The small size, apparent scarcity and the great depths it inhabits, makes this species highly unlikely to ever prove interesting from a commercial point of view.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.



FAO SPECIES IDENTIFICATION SHEETS

FAMILY: PALINURIDAE

FISHING AREA 51
(W. Indian Ocean)Linuparus somniosus Berry & George, 1972

OTHER SCIENTIFIC NAMES STILL IN USE:

Sometimes not distinguished from the Japanese Linuparus trigonus (Von Siebold, 1824)

VERNACULAR NAMES:

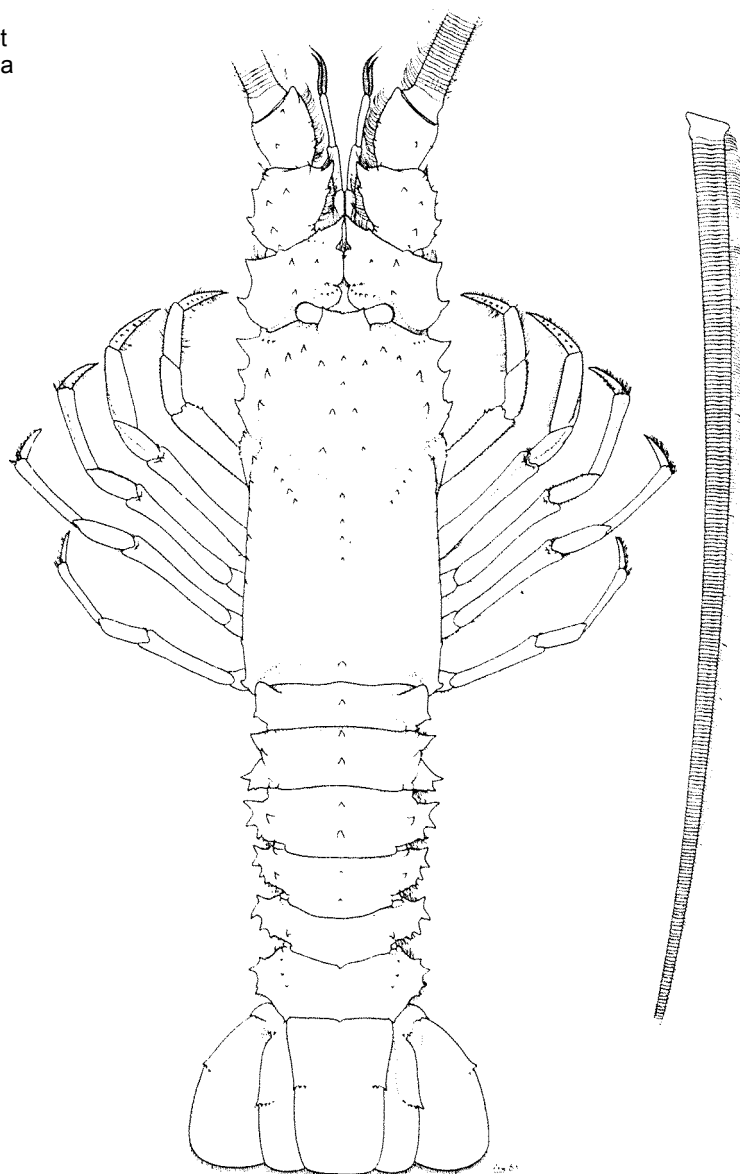
FAO : En - Spear lobster
Fr - Langouste javelot
Sp - Langosta jabalina

NATIONAL:

DISTINCTIVE CHARACTERS:

Carapace angular dorsally, with one median and 2 lateral longitudinal crests behind the cervical groove, each crest provided with tubercles; posterior groove of carapace wide in the middle, narrow laterally; the 2 frontal horns are moved to the central part of the anterior margin and fused to a single broad 2- or 4-pointed lobe between the eyes; surface of carapace with numerous small granules and larger tubercles. Antennules slightly over-reaching antennal peduncle, flagella short, slightly longer than last segment of antennular peduncle; antennae long, flagella long and stiff, slightly flattened and rigid; bases of antennae touching each other, antennular plate very small, covered by a stridulating organ. Tail powerful; each abdominal segment with at most 1 transverse groove; and, on each side, a longitudinal, tuberculate crest over the bases of the pleura; first 5 segments with a median crest bearing 1 or 2 larger and sometimes some smaller tubercles, crest of 6th segment double. Legs 1 to 4 without pincers.

Colour: reddish brown dorsally; laterally and ventrally mostly whitish; antennal flagella dirty white.



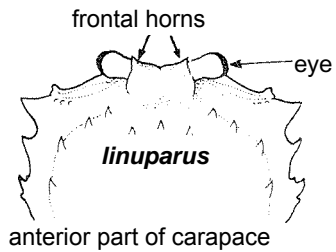
0 8 cm

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

All other species of Palinuridae: frontal horns widely separated, not fused; abdomen cylindrical, without a longitudinal crest over bases of pleura.

SIZE:

Maximum: total body length about 35 cm, carapace length 14 cm; average carapace length about 10 cm.



GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Off the coast of East Africa between Kenya and Natal in depths between 216 and 375 m or, rough bottoms of sand and mud.

PRESENT FISHING GROUNDS:

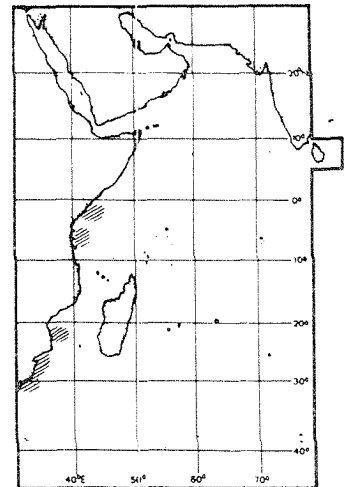
Not fished commercially in most of its range, but according to Ivanov & Krylov (1980, *Crustaceana*, 38:286) the species supports a commercial fishery off Tanzania, and off southern Zanzibar, where catches of over 10 kg/h were taken.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken with bottom trawls.

Marketed mostly fresh.



Jasus paulensis: abdomen with squamiform sculpturation; antennal bases contiguous, antennular plate and stridulating organ absent.

Justitia species: abdomen with 4 or more transverse grooves on each segment; carapace with squamiform sculpturation; frontal horns dorsally with teeth.

Linuparus somniosus: abdomen with a longitudinal tuberculate crest running above the bases of the pleura; frontal horns close together, fused at their bases.

Palinustus species: abdominal pleura ending posteriorly in 2 almost equal spines, no additional spinules on posterior margin; anterior spinules present on second pleura; frontal horns truncated, their distal margin crenulate.

Panulirus species: abdomen either without grooves at all (P. ornatus, P. polyphagus) or with the anterior margin of the groove crenelated (P. homarus), or with the groove uninterrupted, or if interrupted, then not by a sharp median longitudinal ridge (P. longipes, P. penicillatus). Antennal flagella longer than the peduncle; frontal horns sharp, without denticles on either margin.

Puerulus species: median crest of first 5 abdominal segments high and interrupted, that of sixth segment double (in Palinurus delagoae median crest low, hardly protruding above the level of the segment, absent from sixth segment); frontal horns with a single tooth on inner margin, no denticles on anterior margin of carapace; posterior half of carapace with 3 longitudinal ridges.

SIZE:

Maximum: total body length about 35 cm, carapace length 17 cm; average carapace length about 10 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the southeast African coast, between Mozambique (south of 17°S) and Natal (north of 30°S); also off southeast Madagascar.

Reported from depths between 0 and 400 m; usually found between 180 and 324 m. Off southeast Africa it occurs on mud with sand or coral fragments, while off Madagascar it is taken on rocky bottoms. The species is gregarious and seems to migrate, and then can sometimes be caught in enormous numbers (Berry, 1971).

PRESENT FISHING GROUNDS :

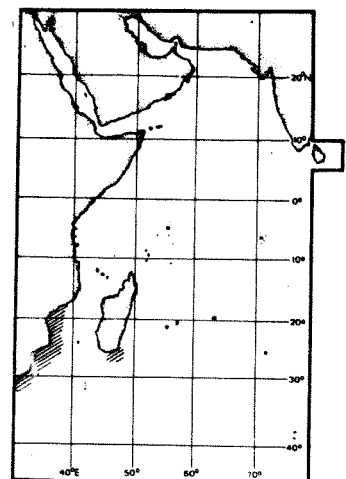
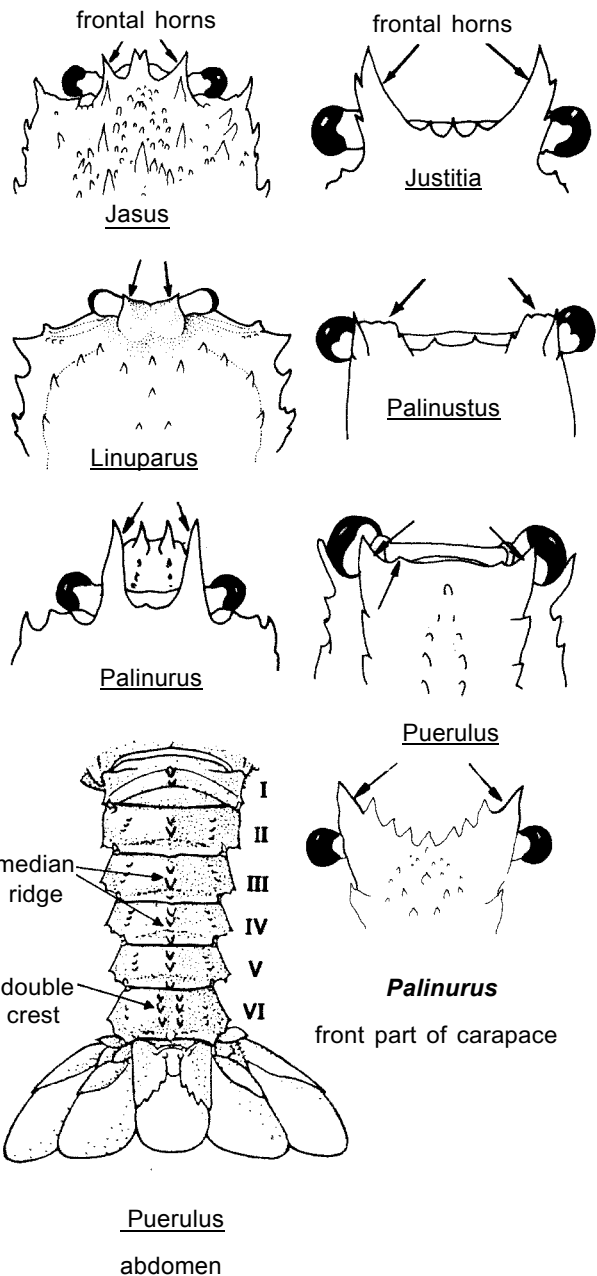
Southeast Africa.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

In South Africa the annual catch in metric tons was 100 (both in 1972 and 1973), 86 (in 1974), 53 (in 1975), 61 (in 1976), 19 (in 1977), 71 (in 1978), 106 (in 1979), 156 (in 1980) and 143 (in 1981).

Off Southeast Africa it is caught by trawlers, while off Madagascar it was taken in lobster pots during experimental fishing.

The species is marketed frozen.



FAO SPECIES IDENTIFICATION SHEETS

FAMILY: PALINURIDAE

FISHING AREA 51
(W. Indian Ocean)Panulirus homarus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE:

Panulirus dasyopus (H. Milne Edwards, 1837)Panulirus burgeri (De Haan, 1841)

VERNACULAR NAMES:

FAO : En - Scalloped spiny lobster
Fr - Langouste festonnée
So - Langosta festoneada

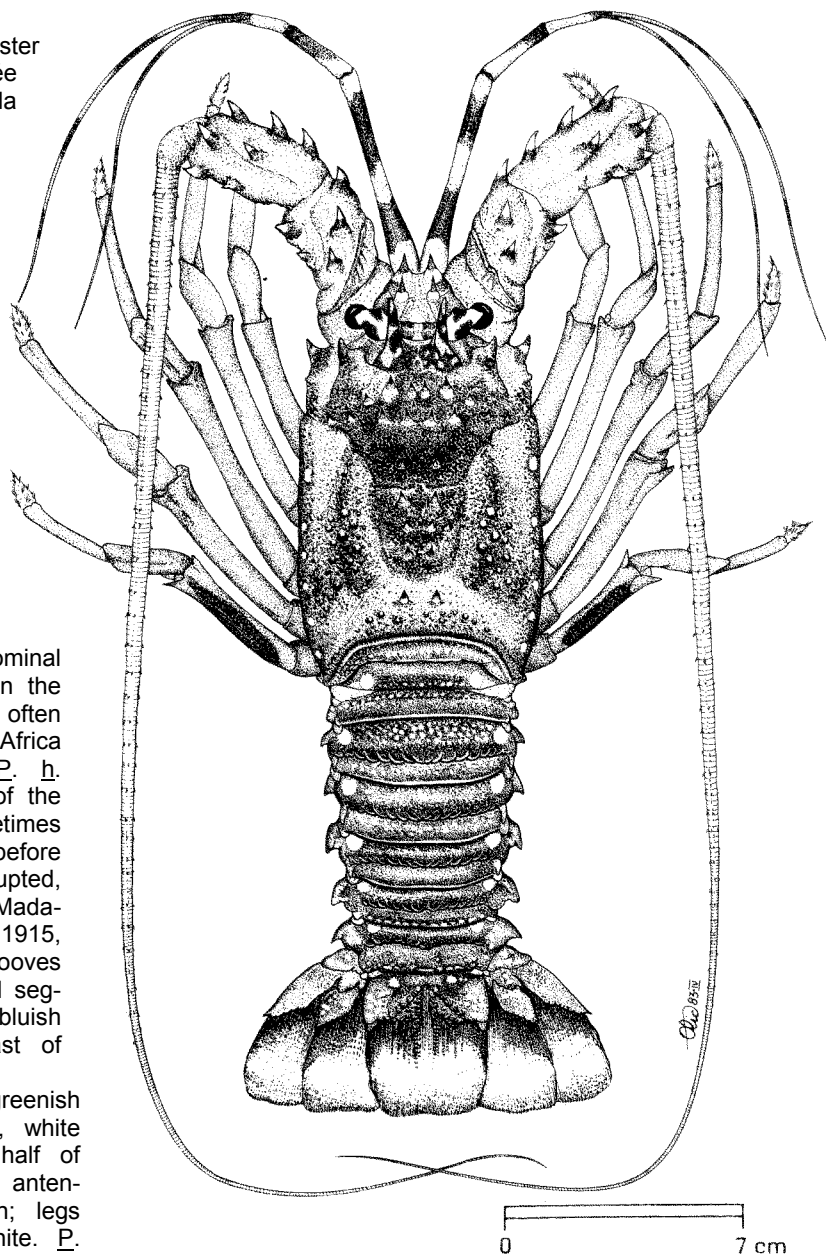
NATIONAL:

DISTINCTIVE CHARACTERS:

Carapace rounded, covered with numerous spines of varying size. Flagella of antennules longer than peduncle, rostrum absent; bases of antennae separated by a broad antennular plate bearing 2 equal, well separated pairs of principal spines and scattered smaller spines in between. Each abdominal segment with a transverse groove, sometimes interrupted in the middle, its anterior margins formed into shallow scallops. Legs 1 to 4 without pincers. In the Western Indian Ocean 3 forms are recognized: P. h. homarus (Linnaeus, 1758) with the scallops of the abdominal grooves small and indistinct, especially in the median part of the groove, which is often interrupted there, colour greenish (East Africa to Japan, Indonesia and Australia); P. h. rubellus Berry, 1974, with the scallops of the abdominal grooves deep and large (sometimes with traces of a second row of scallops before the first), abdominal grooves uninterrupted, colour brick red (South East Africa, Madagascar) and P. h. megasculptus Pesta, 1915, with the scallops of the abdominal grooves large and deep, surface of the abdominal segments coarsely pitted, colour dark bluish brown (Socotra Island and South coast of Arabian Peninsula).

Colour: P. h. homarus is dark greenish to blackish with numerous, very small, white spots (especially distinct on posterior half of abdomen), without transverse bands; antennules banded with white and greenish; legs with indistinct spots and stripes of white. P. h. rubellus is brick red with the same arrangement of white small spots as in the previous form; white bands, spots and stripes of anten-

nules and legs as in P. h. homarus. P. h. megasculptus is dark bluish brown or bluish red, with the white spots on the abdomen more distinct than in the 2 other forms, a white transverse band along the posterior margin of abdominal segments 1 to 4, tips of scallops also with distinct white spots; antennules banded with white, legs with indistinct white spots and stripes.



DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

The scalloped anterior margin of the transverse groove of the abdominal segments distinguishes P. homarus from all other species of the family Palinuridae. In this feature it comes closest to Jasus paulensis, in which, however, several rows of squamae are found on the anterior half of the segments; furthermore, Jasus paulensis lacks an antennular plate and is restricted to the St. Paul and Amsterdam Islands.

Panulirus longipes and P. polyphagus have only 2 large spines on the antennular plate, in P. penicillatus the 4 spines touch each other at the base and in P. ornatus and P. versicolor the posterior pair of 4 spines are smaller than the anterior.

All other lobster genera in the area have the antennular flagella shorter than the distal segment of the antennular peduncle.

SIZE:

Maximum: body length 30 cm; carapace length 12 cm; average body length 20 to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

P. h. homarus: East Africa to Japan, Indonesia and Australia, possibly Tahiti. P. h. rubellus: southeast Africa, southeast Madagascar. P. h. megasculptus: south coast of the Arabian Peninsula, Socotra and perhaps the west coast of India.

Found in waters down to 90 m depth but its optimal depth ranges from 1 to 5 m. Gregarious and nocturnal, inhabiting shallow coastal, sometimes turbid waters; it shelters in and among rocks, often in the surf zone.

PRESENT FISHING GROUNDS:

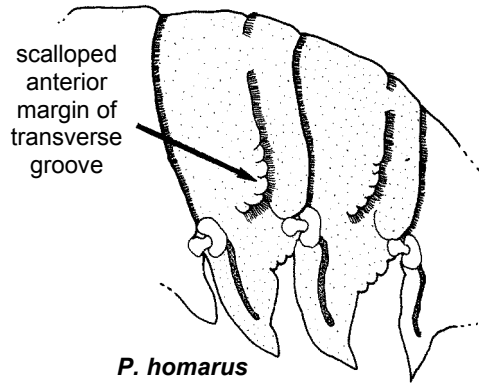
In South Africa, until 1965 the exploitation was "restricted to the efforts of Bantu children in the intertidal zone, and of divers in somewhat deeper waters; in 1969 a company was formed for the exploitation of this species on a commercial basis" (Heydorn, 1969). The exploitation of the species resulted in the necessity for conservation. Although off the southeast African coast (Natal) P. homarus is the most frequent of the Panulirus species, on the East African coast (Zanzibar, Kenya) it belongs to the less common lobsters. Off Somalia, the annual catch is about 120 metric tons (Druzhinin, 1973). It is the most important contributing species to the lobster fishery of the southwest coast of Madras and Kerala, India (Jhingran, 1982)

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

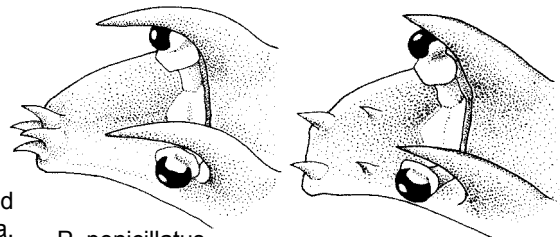
Caught by hand (often with a dead Octopus as a lure, S.E. Africa), with traps (Madagascar), with castnets or arrowhead traps (South Yemen) with anchor hooks, lobster traps and gillnets (India).

Marketed fresh, and in some areas exported frozen.



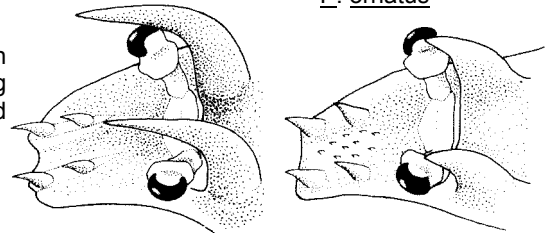
P. homarus

abdomen



P. penicillatus

P. ornatus



P. ornatus

P. homarus

antennular plate (dorsolateral view)

