**Diagnostic characters:** Moderate- to small-sized crustaceans. Body cylindrical, distributed with tufts of long stiff hairs. Carapace (or “head”) with a well-developed rostrum. Eyes well developed and black. Antennae long and thread-like, antennal scale with inner margin unarmed and curved. First pair of legs greatly enlarged and forming true pincers; second to fifth legs slender and ending in false pincers (less distinct in posterior legs). Abdomen well developed and powerful, pleura more or less rounded and sometimes bearing strong spines. Tail fan entirely hardened; telson bearing movable spines, its posterior margin broadly convex. **Colour:** brilliant and attractive - orange-red, red, purple and/or white, with conspicuous spots on body, sometimes also with stripes.

**Habitat, biology, and fisheries:** Reef lobsters usually live in coral and rocky reefs or in deeper parts of reef slopes at depths of 30 cm to 300 m. As in nephropids, the sexes can be determined by the position of the gonopores at the bases of legs. In addition, the first pleopods ("legs" of the abdomen) of males are large and leaf-like (thin but rigid), while they are small and thread-like in females. A large sperm receptacle process is present on the thoracic sternum between the last 3 legs in females. The eggs are small (about 0.5 mm in diameter) and numerous. They hatch within a short time (about 6 days for *Enoplometopus debelius*) but the larvae are very difficult to rear. Since reef lobsters are nocturnal and shy, they are very difficult to catch. However, they are often highly valued in the aquarium trade for their attractive coloration. Reef lobsters presumably originating from Indonesia or the Philippines can be found in aquarium shops of other Asian countries, Europe, and the USA. Therefore, species accounts are provided here for the more common species.
Similar families occurring in the area

Nephropidae: body almost naked or covered with thick fur; first 3 pairs of legs ending in true pincers, with the first pair much larger than the others; telson only bearing immovable spines.

Thaumastocheilidae: body slightly depressed dorsoventrally; eyes strongly reduced, cornea lacking pigmentation; antennal scale bearing several large teeth along inner margin; first 3 pairs of legs (occasionally also fifth legs) ending in true pincers, first pair large but very unequal; abdominal pleura short, quadrangular and without large ventral tooth; telson unarmed.

Polychelidae: eyes small, cornea lacking pigmentation; carapace box-like, rostrum absent or rudimentary; first 4 or all legs ending in true pincers, first pair long and slender; telson pointed.

Glyphidae: body somewhat flattened dorsoventrally; eyes inserted on a median elevation of cephalon; first 2 legs forming false pincers with first pair very strong, third leg simple.

Synaxidae: body somewhat flattened dorsoventrally and uniformly hairy; legs simple and without pincers, first pair much more robust than others; antennae rather thick and whip-like, shorter than carapace; posterior half of tail fan soft and flexible.
Palinuridae: body tubular or slightly flattened dorsoventrally; rostrum absent or reduced to a small spine; carapace spiny and with a pair of large frontal horns above eyes; antennal flagella rather thick and very long, whip-like or spear-like; legs without true pincers and first pair generally not enlarged (except in Justitia); posterior half of tail fan soft and flexible.

Scyllaridae: body strongly flattened dorsoventrally; rostrum absent or minute; eyes enclosed by distinct orbits; legs without true pincers and none of them enlarged; antennae plate-like; posterior half of tail fan soft and flexible.

Key to the species of Enoplometopidae occurring in the area

Note: since reef lobsters generally have particular colour patterns, live specimens of the various species are easily distinguished by their coloration.

1a. Carapace with or without 1 postcervical spine (Fig. 1a, b); abdominal pleura broadly convex, with a blunt posterolateral angle (Fig. 2a); lateral margins of telson armed with 1 pair of median spines (Fig. 3a) → 2

1b. Carapace with 2 postcervical spines (Fig. 1c); abdominal pleura bearing a strong tooth (Fig. 2b); lateral margins of telson armed with 2 pairs of median spines (Fig. 3b) → 5

2a. Rostrum bearing 2 pairs of lateral teeth; body orange-red and with colour markings mainly limited to lower carapace and posterior margins of abdominal segments...

2b. Rostrum bearing 3 or more pairs of lateral teeth; colour spots and/or stripes present on whole body...

→ 3

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Fig. 1 carapace (dorsal view)

a) Enoplometopus daumi
b) Enoplometopus occidentalis
c) Enoplometopus holthuisi

Fig. 2 abdomen (lateral view)

a) Enoplometopus occidentalis
b) Enoplometopus holthuisi

c) Enoplometopus holthuisi
3a. Carapace with 5 median spines; rostrum reaching to or beyond antennular peduncle (Fig. 1b); colour orange-red with some conspicuous white spots on abdomen, fewer on carapace. *Enoplometopus occidentalis*

3b. Carapace with 4 median spines; rostrum reaching to about middle of distal segment of antennular peduncle (Fig. 1a); colour mainly purplish. → 4

4a. Postcervical tooth distinct; body whitish, almost uniformly covered with small purple dots (Fig. 4a). *Enoplometopus debelius*

4b. Postcervical tooth rather indistinct; carapace with vertical reddish brown stripes; abdomen provided with many white spots (Fig. 4b). *Enoplometopus daumi*

5a. Body pale pink and almost uniformly covered with small non-circular red spots (Fig. 4c). *Enoplometopus gracilipes*

5b. Body reddish; lateral carapace with a large ocelled spot and some vertical white stripes (Fig. 4d); abdomen provided with many white spots. *Enoplometopus holthuisi*

**List of species occurring in the area**
The symbol °/c is given when species accounts are included.

- Enoplometopus chacei Kensley and Child, 1986
- Enoplometopus daumi Holthuis, 1983
- Enoplometopus debelius Holthuis, 1983
- Enoplometopus gracilipes (De Saint Laurent, 1988)
- Enoplometopus holthuisi Gordon, 1968
- Enoplometopus occidentalis (Randall, 1840)

**Reference**
**Enoplometopus daumi** Holthuis, 1983

**En** - Striped reef lobster.

Carapace length of adults between 1.3 and 2.6 cm, body length between 4 and 6 cm. Shallow coral reef areas. Shy, generally hide in rock cavities, often with only the pincers visible. Territorial and extremely aggressive against members of the same species except during mating. Collected by rotenone and probably also by divers. Not common, but a favourite for the aquarium trade because of its small size and special coloration. Live specimens are probably regularly exported from the Philippines and Indonesia. With certainty only known from Indonesia and the Philippines.

**Enoplometopus debelius** Holthuis, 1983

**En** - Violet-spotted reef lobster.

Carapace length of adults between 2.2 and 2.4 cm, body length reaching 5 cm or more. On reef slopes in depths from 15 to 25 m. Collected by hand net during night diving. Appears to be slightly less aggressive than other species of the genus. An uncommon species that is sold at high prices in the aquarium trade for its attractive coloration. Specimens are mostly exported from Indonesia. Western Pacific from Indonesia to Hawaii and possibly Japan.
**Enoplometopus holthuisi** Gordon, 1968

*En* - Bullseye reef lobster.

Maximum body length about 12 cm. Lives on rocky reef slopes and deeper parts of reefs at depths of about 20 m to 80 m. Less shy and more aggressive than other species of the genus. Occasionally found in the aquarium trade and sold at a high price. Probably caught by night diving. Western Pacific from the Philippines, Indonesia, Eniwetok Atoll (Marshall Islands), Austral Islands, and Hawaii.

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**Enoplometopus occidentalis** (Randall, 1840)

*En* - Red reef lobster.

Body length between 4 and 14 cm. Inhabits coral or rocky reefs and often found in deeper areas at the fringe of reefs, at depths of a few meters to about 100 m. Nocturnal and shy, usually found hiding in crevices and rocks. Very aggressive against members of the same species except during mating. Probably the most common species of the genus but still rather rare and only occasionally caught by divers collecting spiny lobsters or aquarium fishes. Small specimens are occasionally found in the aquarium trade and sold at a high price. Indo-West Pacific from eastern Africa to Japan, eastern Australia, and Hawaii.
**Diagnostic characters**: Moderate- to small-sized crustaceans. Body somewhat flattened dorsoventrally and covered with a dense fur of short hair. Carapace long and laterally angular, covered with small rounded granules only, without enlarged spines; rostrum broad and flat triangular or rounded. Eyes small but distinct. Antennae rather thick and whip-like, but shorter than carapace; antennulae with flagella shorter than peduncle; stridulating organ sometimes present between bases of antennae and antennular plate. Legs without pincers but first pair much heavier than others. Both abdominal and tail fan well developed and powerful, posterior half of tail fan soft and flexible; abdomen hairy, with a low smooth keel along dorsal midline, but without transverse grooves. **Colour**: uniformly orange to bright orange or orange-red. Eyes black.

**Habitat, biology, and fisheries**: This family contains only 2 genera and a total of 2 species in the Western Central Pacific. The shallow water genus *Palinurellus* is smaller (maximum total length about 20 cm) than the slightly larger deep-water genus *Palibythus* (maximum total length 27 cm). Both genera live on hard bottom and are difficult to catch. Furry lobsters generally occur in few numbers and have therefore a very limited commercial potential. However, the “exotic” appearance and bright coloration of *Palinurellus* species has caught the attention of the tropical marine aquarium trade. Specimens presumably originating from the Philippines and Indonesia are occasionally sold for high prices in aquarium shops of other Asian countries, Europe, and the USA. The sexes of furry lobsters can be determined by the position of the gonopores as in the other families of lobsters. Furthermore, the first pair of pleopods (“legs” of the abdomen) is absent in males but present in females.

**Similar families occurring in the area**

*Nephropidae*: body tubular, almost naked or covered with thick fur; antennae very long and thread-like; first 3 pairs of legs ending in pincers, first pair greatly enlarged; tail fan entirely hardened.

*Thaumastochelidae*: eyes strongly reduced, cornea lacking pigmentation; antennae very long and thread-like, scale with several large teeth along inner margin; first 3 pairs of legs (occasionally also fifth legs) ending in pincers, first pair large but very unequal; tail fan entirely hardened.
Enoplometopidae: body tubular, distributed with tufts of long stiff hairs; antennae very long and thread-like; first pair of legs enlarged and forming true pincer, second and third legs slender and ending in false pincers; tail fan entirely hardened.

Polychelidae: eyes small, cornea lacking pigmentation; rostrum absent or rudimentary; antennae thread-like and shorter than body; first 4 or all legs with pincers, first pair long and slender; tail fan entirely hardened, with telson pointed.

Glypheidae: eyes inserted on a median elevation of cephalon; antennae very long and thread-like; first 2 legs forming false pincers, with first pair very strong, third legs simple; uropods of tail fan entirely hardened.

Palinuridae: body naked or with few and scattered hairs; carapace spiny and with a pair of large frontal horns over eyes, but lacking a median rostrum or with rostrum greatly reduced; antennae very long and whip-like or spear-like; legs without pincers and first pair generally not enlarged (except in one species of *Justitia*).

Scyllaridae: body strongly flattened dorsoventrally; rostrum absent or minute; antennae plate-like; legs without pincers and none of them enlarged.
Key to the species of Synaxidae occurring in the area

1a. Antennular plate with stridulating organ (Fig. 1a); rostrum transversely oval, wider than long; lateral margin of carapace with distinct teeth behind anterolateral tooth (Fig. 2a) ............................................ Palibythus magnificus

1b. Antennular plate without stridulating organ (Fig. 1b); rostrum triangular, longer than wide; lateral margin of carapace without teeth behind anterolateral tooth (Fig. 2b) ............................................ Palinurellus wieneckii

List of species occurring in the area

The symbol /c/ is given when species accounts are included.

/c/ Palibythus magnificus Davie, 1990
/c/ Palinurellus wieneckii (De Man, 1881)

Reference

**Palibythus magnificus** Davie, 1990

En - Musical furry lobster.

Maximum body length about 27 cm. On rocky bottoms at depths between 90 and 300 m. Although this furry lobster is of a fair size, it is rare and so far only caught by experimental trapping. Only known from Western Samoa and Tuamotu Archipelago.

**Palinurellus wieneckii** (De Man, 1881)

En - Indo-Pacific furry lobster; Fr - Cacahuète indopacifique; Sp - Langosta del Indo-Pacifico.

Maximum body length about 20 cm, commonly between 7 and 14 cm. In shallow waters on coral reefs at depths from 9 to 27 m. Probably nocturnal and often found in deep caves. Occasionally caught by divers (using hand) or gill nets. Too rare and small to be of significant importance as food, but highly valued in the aquarium trade for its bright colour and rarity. Specimens in the aquarium trade are presumably originated from the Philippines and Indonesia. Widely distributed in the Indo-West Pacific from the eastern coast of Africa to the Red Sea, southern Japan, New Caledonia, French Polynesia, and Hawaii.