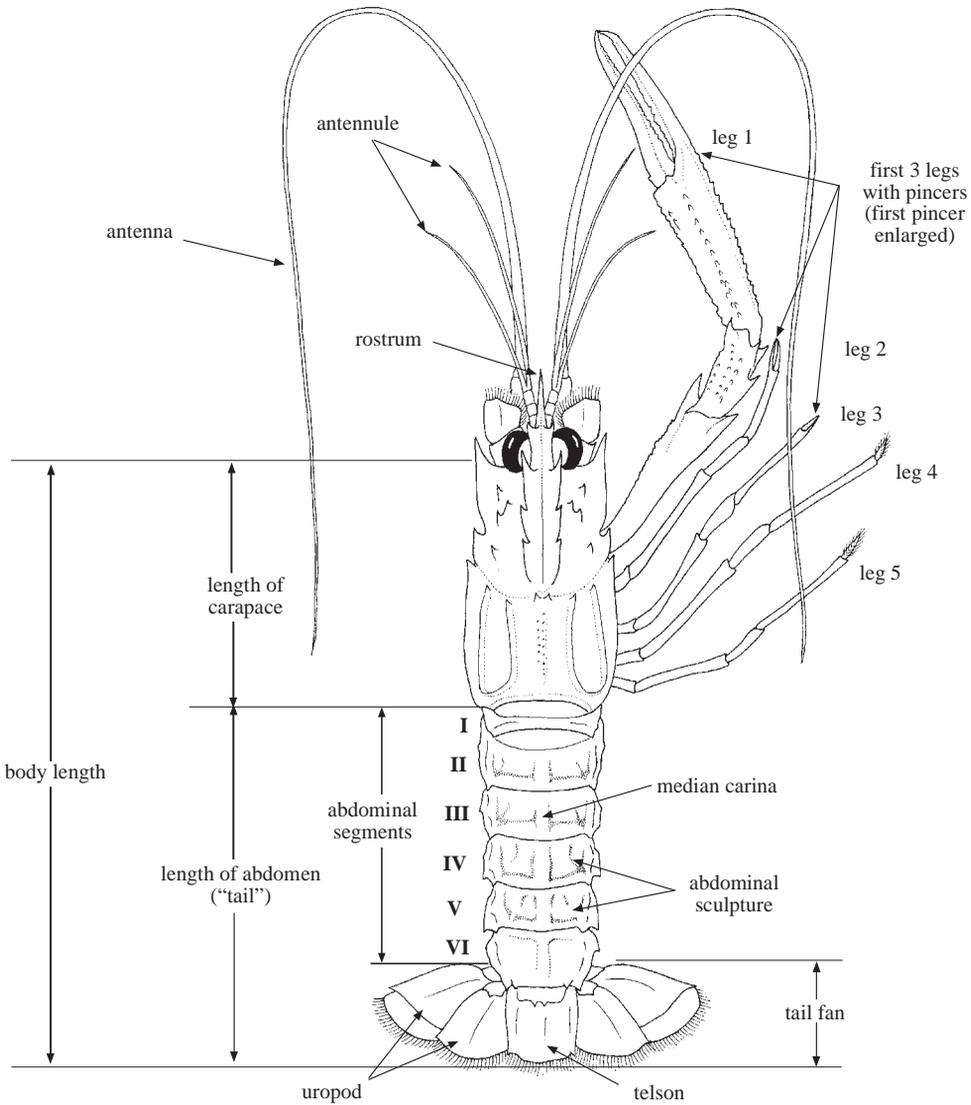


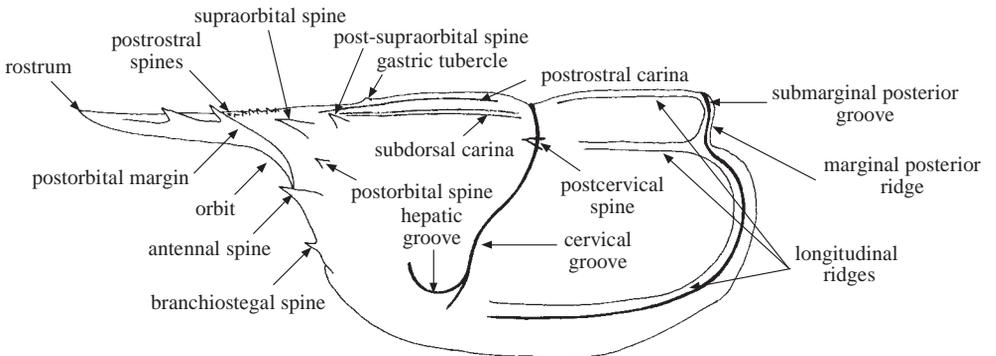
LOBSTERS

by T.Y. Chan

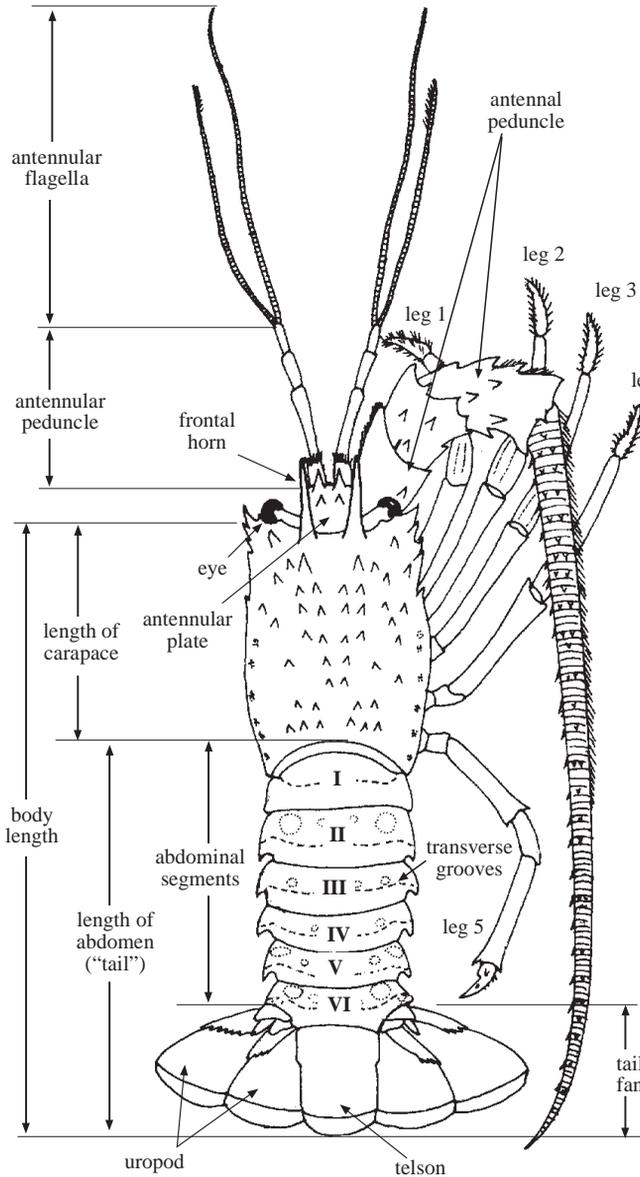
TECHNICAL TERMS AND MEASUREMENTS



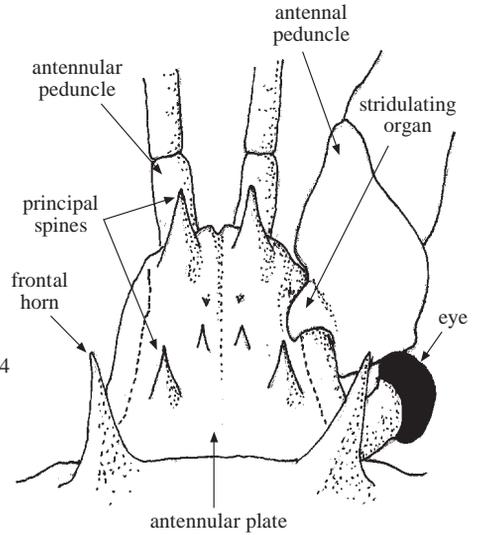
general shape (dorsal view) of a true lobster (*Metanephros* spp.)



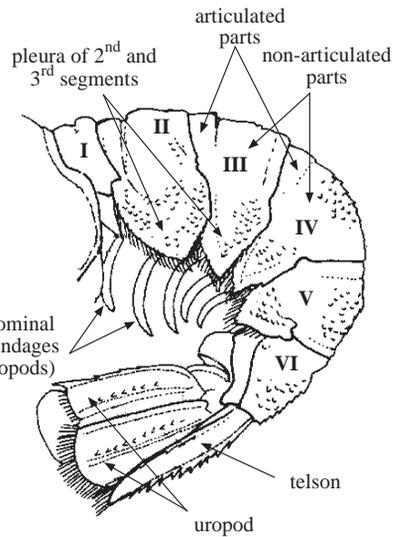
carapace of a true lobster (lateral view)



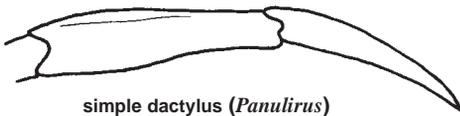
general shape (dorsal view) of a spiny lobster (*Panulirus* spp.: no rostrum, no pincers)



antennular somite of a spiny lobster (left antenna and eye omitted)



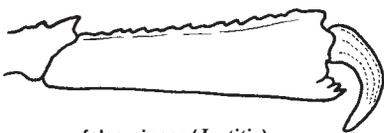
tail (abdomen) in lateral view



simple dactylus (*Panulirus*)



true pincer (*Metanephrops*)



false pincer (*Justitia*)

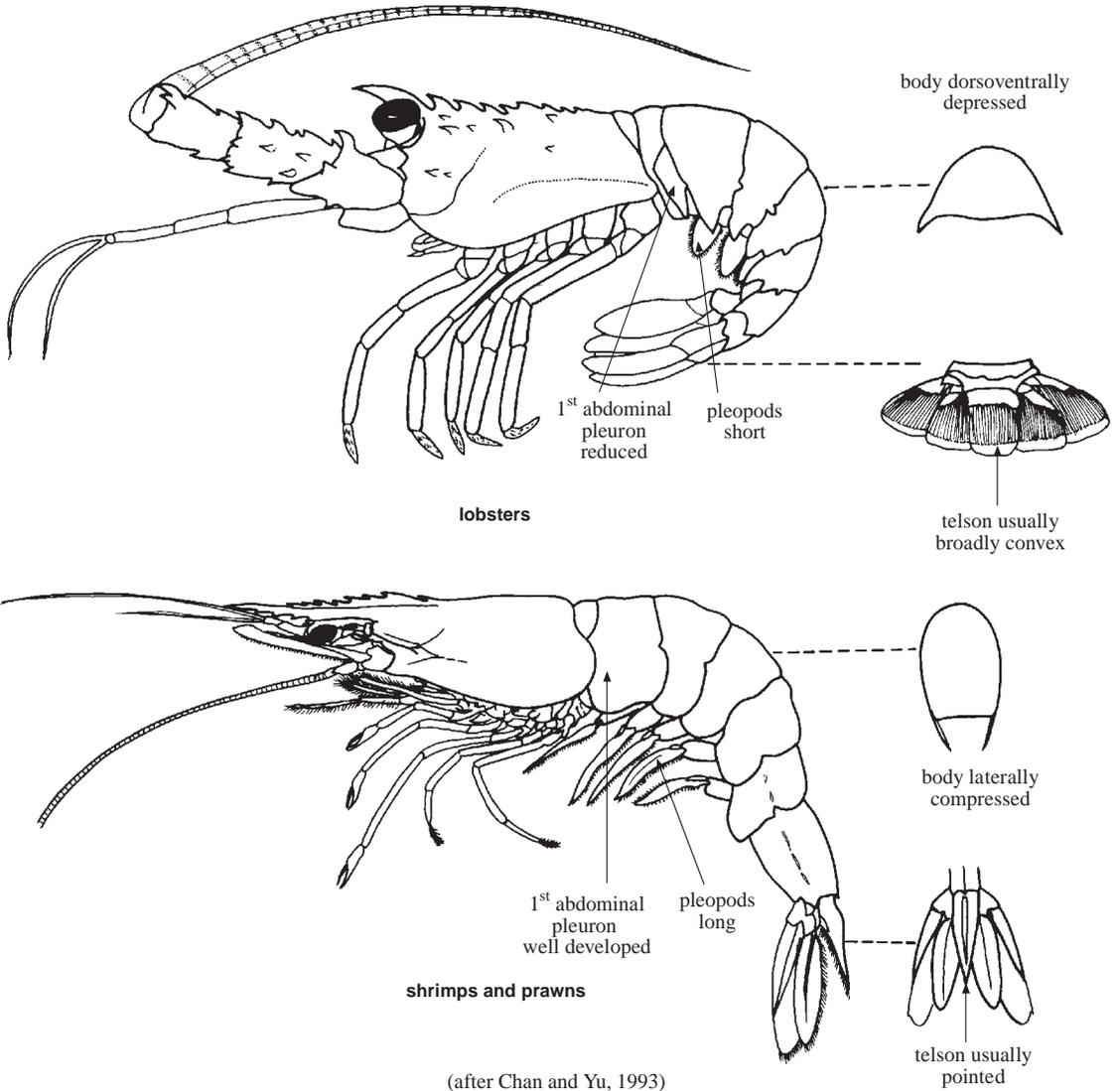


false pincer (*Enoplometopus*)

types of terminal segments of legs

GENERAL REMARKS

Lobsters are generally large-sized crustaceans with a body length (measured dorsally from the orbital margin to the end of the tail, excluding the rostrum and any of the appendages) from a few to more than 60 cm. Like shrimps and prawns, lobsters have a well-developed and extended abdomen or "tail". In addition to their usually thicker shell, lobsters generally differ from shrimps and prawns by having the body more dorsoventrally depressed (particularly at posterior abdominal segments), the pleopods (i.e. legs of the abdomen) less developed, the thoracic sternum wide and distinct, the first abdominal pleuron considerably more reduced than the posterior pleura, and the posterior margin of the telson usually broadly convex or truncate. Certain other lobster-like crustaceans, such as the "squat lobsters" (Galatheoidea), "mud lobsters" (Thalassinidea: Thalassinidae), "mud shrimps" (Thalassinidea: Upogebiidae), and "ghost shrimps" (Thalassinidea: Callinassidae) are taxonomically not "true" lobsters. These groups are of no or only very minor importance to fisheries in the Western Central Pacific and therefore not included in this field guide.



conspicuous morphological differences between lobsters and shrimps

In the Western Central Pacific, the lobsters are represented by 8 families, 22 genera and about 89 species. Although the production of most of the species is not very large, many of them are of moderate importance to fisheries because of their large size and high market value.

Most spiny and slipper lobsters (Palinuridae and Scyllaridae, respectively), and the families Synaxidae and Enoplometopidae, inhabit shallow waters of rocky and reef bottoms or bottoms with coarse sediments. Among these, the genera *Panulirus*, *Scyllarides* and *Parribacus* are actively fished throughout the area because of their large size. On the other hand, juveniles of *Panulirus* species and the rare Enoplometopidae and Synaxidae are often highly valued in the aquarium trade. These shallow-water lobsters are mainly taken by hand while diving or by spears during night fishing, but sometimes also taken by tangle nets, lobster pots, or traps.

Most Nephropidae, Thaumastochelidae, Glypheidae, Polychelidae, a few Palinuridae, and Scyllaridae are found in deeper waters on soft bottoms with sand and/or mud. They are usually caught by trawlers. At present, only the two shallow-water genera *Ibacus* and *Thenus* (both belonging to the family Scyllaridae) are landed in larger amounts and are of moderate commercial importance. However, exploratory fishing indicates that several deep-water species of the genera *Metanephrops*, *Nephropsis*, *Acanthacaris*, *Linuparus* and *Puerulus* (the first 3 genera belonging to the family Nephropidae, while the latter 2 belong to the family Palinuridae) are large and occasionally abundant and may eventually be of commercial interest. Species of the other 3 families (Thaumastochelidae, Glypheidae, and Polychelidae) are generally rare and of no interest to fisheries in the area, and are not treated here in separate family or species accounts.

Lobsters in the Western Central Pacific are generally locally consumed and marketed fresh or live. In certain countries, such as the Philippines and Indonesia, a fair amount of lobsters are exported (live, fresh, cooked whole, or tailed).

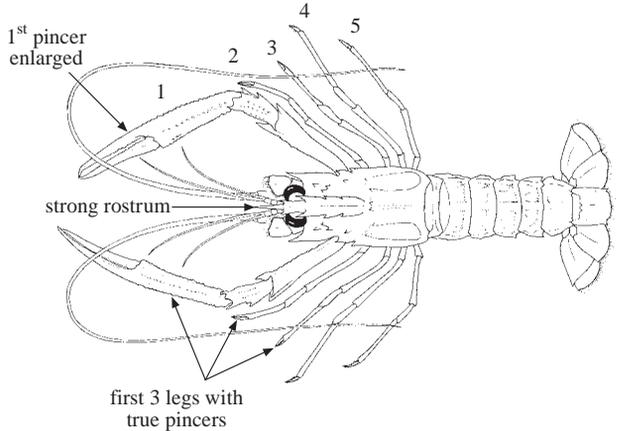
GUIDE TO FAMILIES OCCURRING IN THE AREA

NEPHROPIDAE

Page 982

True lobsters and lobsterettes

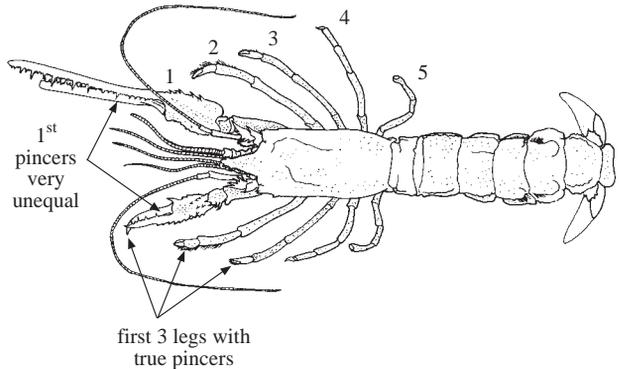
Body tubular, surfaces almost naked or covered with thick fur; rostrum well developed; antennae long and thread-like; antennal scale, if present, with inner margin unarmed and curved; first 3 pairs of legs with true pincers, first pair much larger than others; abdominal pleura ending in acute ventral tooth; tail fan entirely hardened, telson armed with fixed spines and with posterior margin broadly convex.



THAUMASTOCHELIDAE

Pincer lobsters

Body slightly depressed dorsoventrally; eyes strongly reduced, cornea lacking pigmentation; rostrum well developed; antennae long and thread-like, antennal scale bearing several large teeth along inner margin; first 3 pairs of legs (occasionally also fifth legs) with true pincers, first pair large but very unequal; abdominal pleura short, quadrangular and without large ventral tooth; tail fan entirely hardened, telson quadrangular and unarmed. Only 2 deep-water species known from the area, very rare and of no interest to fisheries.

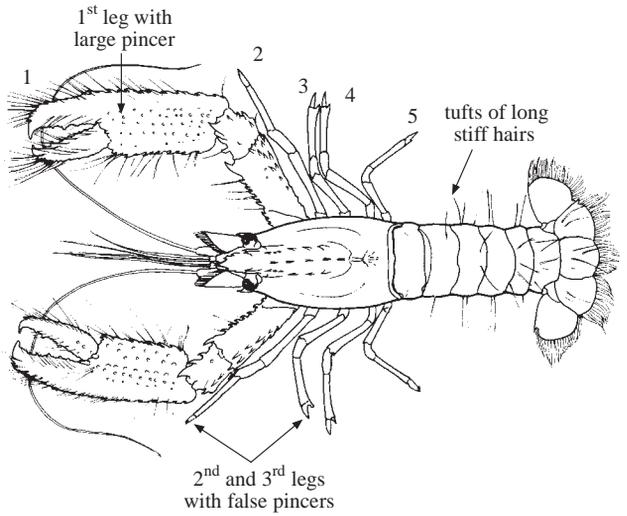


ENOPLOMETOPIDAE

Page 995

Reef lobsters

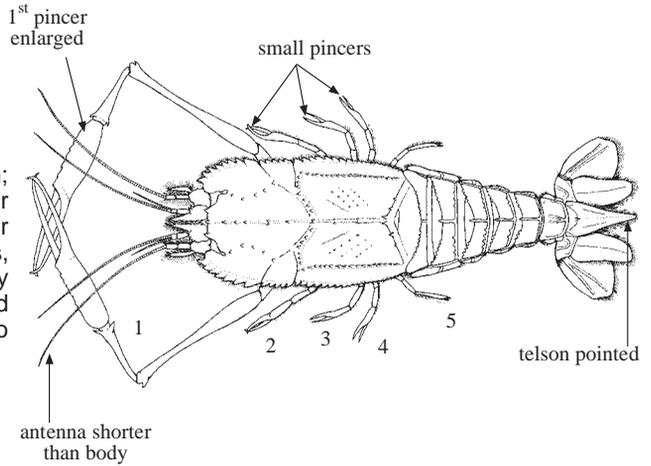
Body tubular and distributed with tufts of long stiff hairs; carapace with a well-developed rostrum; antennae long and thread-like, antennal scale with inner margin unarmed and curved; first pair of legs as large pincer, second and third legs slender and forming false pincers; abdominal pleura more or less rounded and sometimes ending in a strong ventral tooth; tail fan entirely hardened, telson bearing movable spines and with posterior margin broadly convex.



POLYCHELIDAE

Blind lobsters

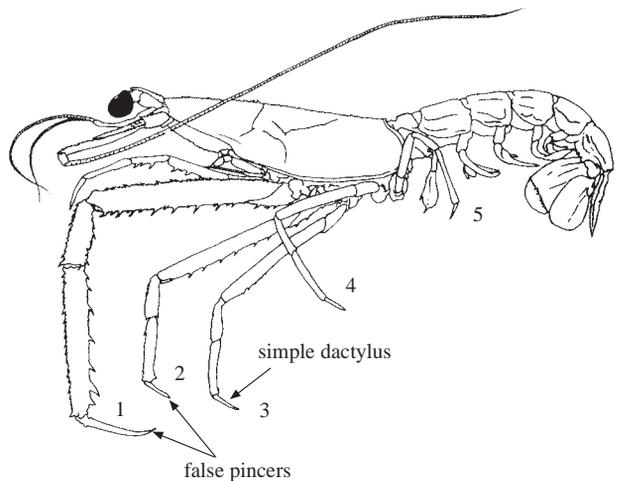
Eyes small, cornea lacking pigmentation; carapace box-like, rostrum absent or rudimentary; antennae thread-like, shorter than body; first 4 or all legs with true pincers, first pair long and slender; tail fan entirely hardened, telson pointed. All species found in very deep waters and of no interest to fisheries in the area.



GLYPHEIDAE

Fenix lobsters

Body somewhat flattened dorsoventrally; eyes large and black, inserted on a median elevation of cephalon; carapace with a well-developed rostrum; antennae long and thread-like; first 2 legs forming false pincers, first 2 legs very strong; uropods of tail fan entirely hardened. A single deep-water species, rare and of no commercial importance.

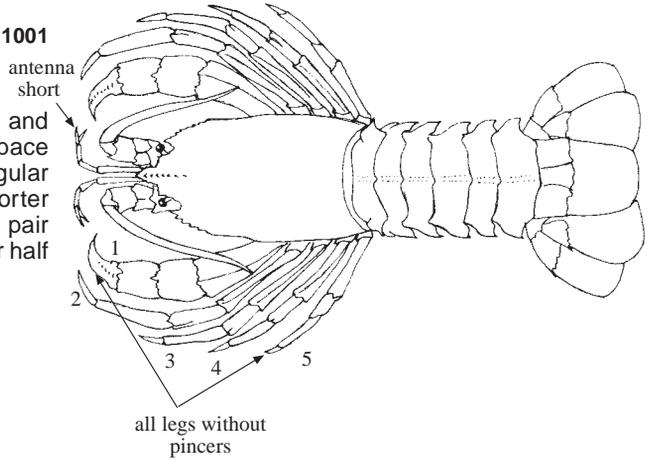


SYNAXIDAE

Page 1001

Furry lobsters

Body somewhat flattened dorsoventrally and very hairy, without enlarged spines; carapace laterally angular, with a broad and flat triangular or rounded rostrum; antennae whip-like, shorter than carapace; legs without pincers, first pair much more robust than the others; posterior half of tail fan soft and flexible.

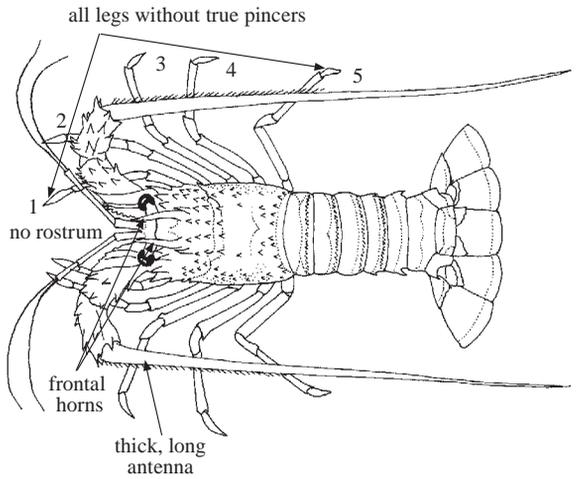


PALINURIDAE

Page 1005

Spiny lobsters, langoustes

Body tubular or slightly flattened dorsoventrally; hairs, if present, few and scattered; rostrum absent or reduced to a small spine; carapace subcylindrical or prismatic, laterally rounded or straight, surface spiny and with a pair of large frontal horns above eyes; antennae very long and rather thick, whip-like or spear-like; legs without true pincers and first pair (except in *Justitia*) not or only slightly longer than the following legs, but often somewhat more robust; posterior half of tail fan soft and flexible.

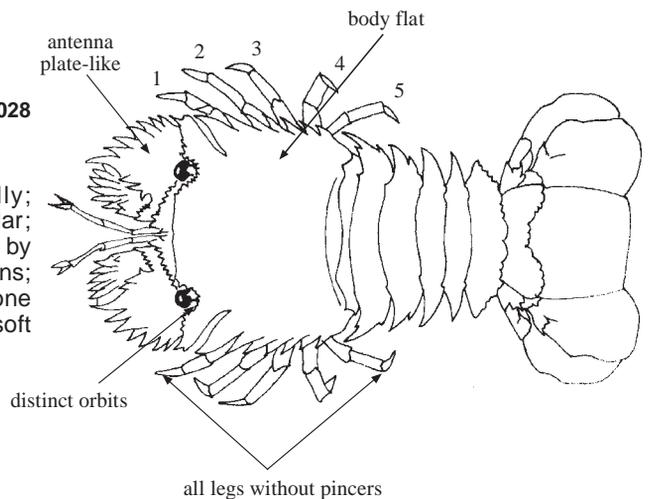


SCYLLARIDAE

Page 1028

Slipper lobsters

Body strongly flattened dorsoventrally; carapace depressed and laterally angular; rostrum absent or minute; eyes enclosed by distinct orbits and without large frontal horns; antennae plate-like; legs without pincers, none of them enlarged; posterior half of tail fan soft and flexible.



LIST OF FAMILIES AND SPECIES OCCURRING IN THE AREA

The symbol 🦞 is given when species accounts are included.

NEPHROPIDAE

- 🦞 *Acanthacaris tenuimana* Bate, 1888
- 🦞 *Metanephrops andamanicus* (Wood-Mason, 1891)
- 🦞 *Metanephrops arafurensis* ((De Man, 1905)
- 🦞 *Metanephrops australiensis* (Bruce, 1966)
- 🦞 *Metanephrops neptunus* (Bruce, 1965)
- 🦞 *Metanephrops sibogae* (De Man, 1916)
- 🦞 *Metanephrops sinensis* (Bruce, 1966)
- 🦞 *Metanephrops thomsoni* (Bate, 1888)
- 🦞 *Metanephrops velutinus* Chan and Yu, 1991
- Nephropsis acanthura* Macpherson, 1990
- Nephropsis ensirostris* Alcock, 1901
- Nephropsis holthuisi* Macpherson, 1993
- Nephropsis serrata* Macpherson, 1993
- 🦞 *Nephropsis stewarti* Wood-Mason, 1873
- Nephropsis suhmi* Bate, 1888
- Nephropsis sulcata* Macpherson, 1990

THAUMASTOCHELIDAE

- Thaumastocheles japonicus* Calman, 1913
- Thaumastochelopsis wardi* Bruce, 1988

ENOPLOMETOPIDAE

- 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)

POLYCHELIDAE

- Polycheles baccatus* Bate, 1878
- Polycheles carpenteri* (Alcock, 1894)
- Polycheles enthrix* (Bate, 1878)
- Polycheles gracilis* (Bate, 1888)
- Polycheles laevis* (Bate, 1878)
- Polycheles obscurus* (Bate, 1878)
- Polycheles typhlops* Heller, 1862
- Stereomastis andamanensis* (Alcock, 1894)
- Stereomastis auriculata* (Bate, 1878)
- Stereomastis helleri* (Bate, 1878)
- Stereomastis phosphoreus* (Alcock, 1894)
- Stereomastis sculpta* (S.I. Smith, 1880)
- Stereomastis trispinosa* (De Man, 1905)

GLYPHEIDAE

- Neoglyphea inopinata* Forest and De Saint Laurent, 1975

SYNTAXIDAE

- 🦞 *Palibythus magnificus* Davie, 1990
- 🦞 *Palinurellus wieneckii* (De Man, 1881)

PALINURIDAE

- ✚ *Justitia chani* Poupin, 1994
- ✚ *Justitia japonica* (Kubo, 1955)
- ✚ *Justitia longimanus* (H. Milne Edwards, 1837)
- ✚ *Justitia vericeli* Poupin, 1994
- ✚ *Linuparus sordidus* Bruce, 1965
- ✚ *Linuparus trigonus* (Von Siebold, 1824)
- ✚ *Palinustus unicornutus* Berry, 1963
- ✚ *Palinustus waguensis* Kubo, 1963
- ✚ *Panulirus albiflagellum* Chan and Chu, 1996
- ✚ *Panulirus homarus* (Linnaeus, 1758)
- ✚ *Panulirus longipes* (A. Milne Edwards, 1868)
- ✚ *Panulirus ornatus* (Fabricius, 1798)
- ✚ *Panulirus pascuensis* Reed, 1954
- ✚ *Panulirus penicillatus* (Olivier, 1791)
- ✚ *Panulirus polyphagus* ((Herbst, 1793)
- ✚ *Panulirus stimpsoni* Holthuis, 1963
- ✚ *Panulirus versicolor* (Latreille, 1804)
- ✚ *Puerulus angulatus* (Bate, 1888)
- ✚ *Puerulus velutinus* Holthuis, 1963

SCYLLARIDAE

- ✚ *Arctides regalis* Holthuis, 1963
 - Ibacus brevipes* Bate, 1888
 - Ibacus brucei* Holthuis, 1977
- ✚ *Ibacus ciliatus* (Von Siebold, 1824)
- ✚ *Ibacus novemdentatus* Gibbes, 1850
 - Ibacus peronii* Leach, 1815
- ✚ *Ibacus pubescens* Holthuis, 1960
- ✚ *Parribacus antarcticus* (Lund, 1793)
- ✚ *Parribacus caledonicus* Holthuis, 1960
- ✚ *Parribacus holthuisi* Forest, 1954
- ✚ *Parribacus scarlatinus* Holthuis, 1960
- ✚ *Scyllarides haanii* (De Haan, 1841)
- ✚ *Scyllarides squammosus* (H. Milne Edwards, 1837)
 - Scyllarus aesopius* Holthuis, 1960
 - Scyllarus aureus* Holthuis, 1963
 - Scyllarus aurora* Holthuis, 1982
 - Scyllarus batei* Holthuis, 1946
- ✚ *Scyllarus bertholdii* Paulson, 1875
 - Scyllarus bicuspidatus* (De Man, 1905)
 - Scyllarus cultrifer* (Ortmann, 1897)
 - Scyllarus demani* Holthuis, 1946
 - Scyllarus gibberosus* (De Man, 1905)
 - Scyllarus martensii* Pfeffer, 1881
 - Scyllarus rapanus* Holthuis, 1993
- ✚ *Scyllarus rugosus* H. Milne Edwards, 1837
 - Scyllarus sordidus* (Stimpson, 1860)
 - Scyllarus timidus* Holthuis, 1960
 - Scyllarus umbilicatus* Holthuis, 1963
 - Scyllarus vitiensis* (Dana, 1852)
- ✚ *Thenus orientalis* (Lund, 1793)