

Phylum  
**ARTHROPODA**

*Isopods, amphipods, mysids,  
prawns, lobsters, crabs, barnacles,  
sea spiders*

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## Phylum

# ARTHROPODA

*Isopods, amphipods, mysids,  
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The **Arthropoda** (Greek *arthron*, joint, *podos*, foot) is the largest phylum of life. About 80% of all described species of animal life are arthropods — jointed-limb animals. On land, they are best represented by insects, arachnids (spiders, mites, and their relatives), myriapods (centipedes and millipedes), and some crustacean groups (woodlice and soil hoppers). In the sea, the **subphylum Crustacea** dominates, both on the seafloor and in the plankton. Marine insects are found intertidally and in shallow coastal waters but not in the deep sea. Sea spiders (Pycnogonida) are an ancient group of marine creatures that are not closely related to true spiders. Pycnogonids range from the intertidal to the deep sea.

The basic body plan of head, thorax, and abdomen is obvious in creatures like prawns and mantis shrimps. Most body segments have jointed limbs. These are primitively forked in many crustaceans but some limbs are simple (like the walking legs of crabs). Marine crustaceans vary enormously in size from microscopic parasites a tenth of a millimeter in size to giant crabs, lobsters, and sea lice (isopods) up to half a metre in length or breadth and weighing up to 20 kilograms, and the body regions can be highly modified. Calculations of the number of named living species of Crustacea range from approximately 50,000 to 67,000. Estimates of the potential number of species start from as many as ten times to one hundred times that number.

### Subphylum Crustacea

#### Classes Maxillopoda and Malacostraca

Five or six classes of the subphylum Crustacea are recognised worldwide. Only the cave-dwelling Remipedia have not been found in New Zealand waters. The New Zealand fauna currently stands at about 2,800 species, more than 500 of which have not yet been formally identified or described. The major classes likely to be represented in deep-sea bycatch include the Maxillopoda (e.g., barnacles) and Malacostraca. There are several major orders of Malacostraca found in and on the deep seafloor, including Isopoda (“same feet”, e.g., sea lice), Amphipoda (“both feet”, e.g., hoppers), and Decapoda (“ten feet”, e.g., crabs, shrimps, prawns). Much rarer are large deep-sea species of mantis shrimps (Stomatopoda). Cumacea (comma shrimps) and Tanaidacea (tanaids), though sometimes common, are quite small and likely to be overlooked.

### Subphylum Chelicerata

#### Class Pycnogonida

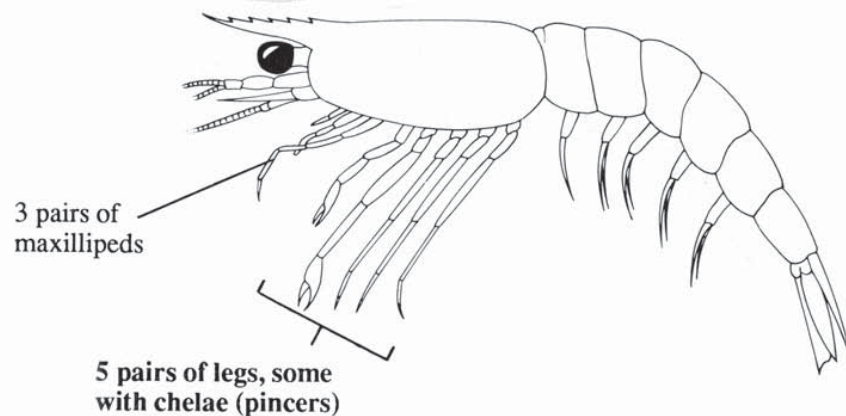
These slender creatures are all legs, with a short, thin body. Most have 8 legs; deep-sea species have 10 (one New Zealand species) or 12 legs. There are 83 species in the EEZ, associated with hydroids, sea anemones, or bryozoans, from which they suck body fluids using a tube-like proboscis.

## Shrimp and prawn species

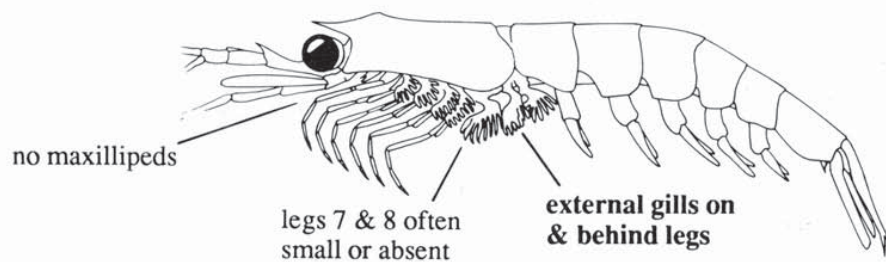
Natant decapods are similar in appearance to crustaceans in two other orders; the Euphausiacea (euphausiids) and Mysidacea (mysids). The most obvious characters unique to natant decapods, to mysids, or to euphausiids are labelled — **bold** labels indicate the most distinctive character of each.

Reproduced from: Webber, W.R.; Fenaughty, C.M.; Clark, M.R. (1990). A guide to some common offshore shrimp and prawn species of New Zealand. *New Zealand Fisheries Occasional Publication* 6. 42 p.

**Decapoda**  
natant decapods  
natants  
shrimps  
prawns

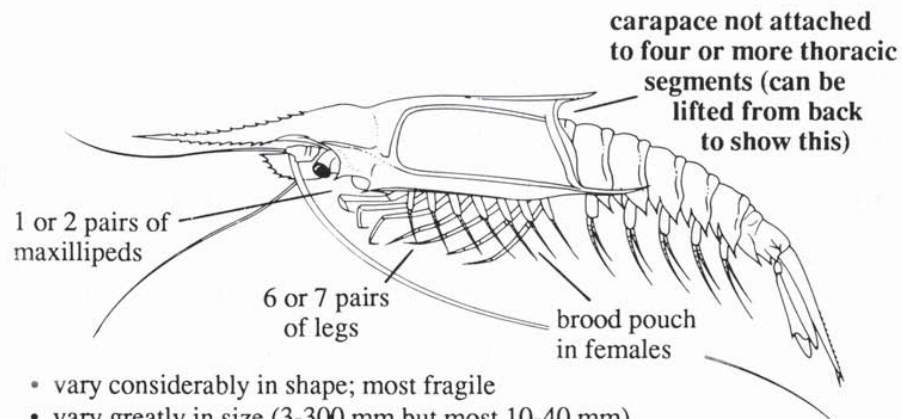


**Euphausiacea**  
euphausiids  
krill - but not 'lobster krill'



- all fairly similar looking (none uniform scarlet)
- mostly 10-25 mm (largest 50 mm, smallest 8 mm)
- typically pelagic (swimming) in surface to deep water
- often in very large numbers

**Mysidacea**  
mysids  
possum shrimps

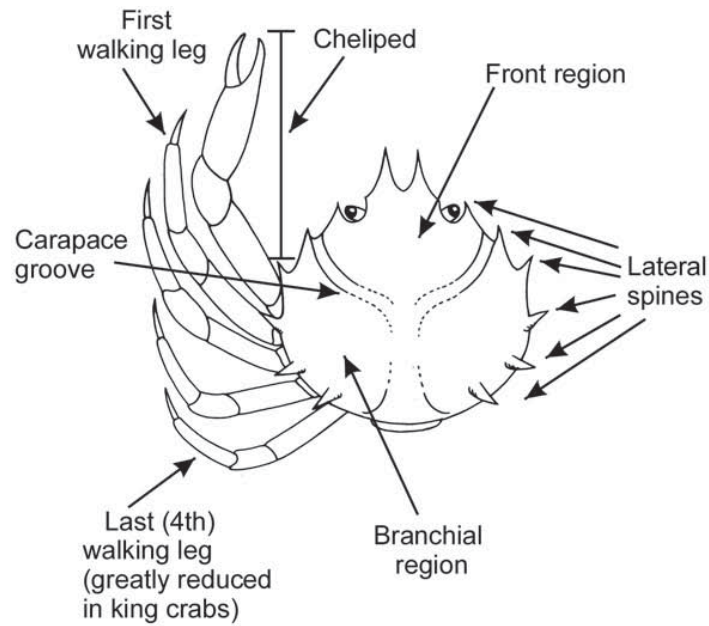


- vary considerably in shape; most fragile
- vary greatly in size (3-300 mm but most 10-40 mm)
- pelagic (swimming) or benthic (bottom living) from river mouths to very deep water
- occasionally in large numbers

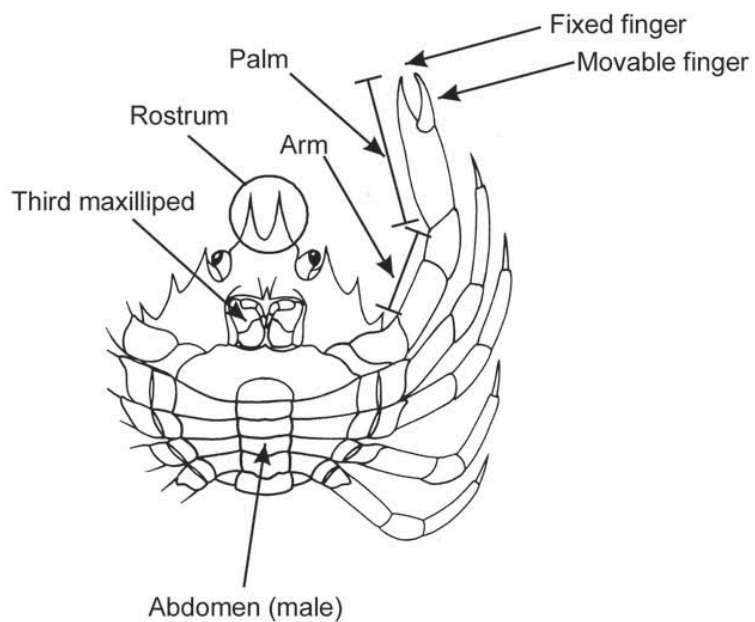
## Generalised crab diagram and terms used in this guide

Reproduced from: Naylor, J.R.; Webber, W.R.; Booth, J.D. (2005).  
A guide to common offshore crabs in New Zealand waters. New Zealand Aquatic Environment and Biodiversity Report No. 2. 47 p.

Dorsal (top) view of carapace and legs



Ventral (bottom) view





**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Crustacea  
**Order** Amphipoda  
**Family** Eurytheneidae

***Eurythenes gryllus* (EUG)**



ARTHROPODA

**Distinguishing features:** Compact body, large size. Mouthparts form a quadrate bundle. The first article of the second antenna is swollen. First side plate (coxa 1) is strongly shortened and partly covered by the second side plate (coxa 2). The first leg, gnathopod 1, is short and poorly subchelate. Telson is elongated and deeply cleft.

**Colour:** Adults red, juveniles often white.

**Size:** Total length up to 100 mm.

**Distribution:** Widespread in New Zealand region.

**Depth:** 180 to 6500 m.

**Similar species:** Other species of *Eurythenes*.

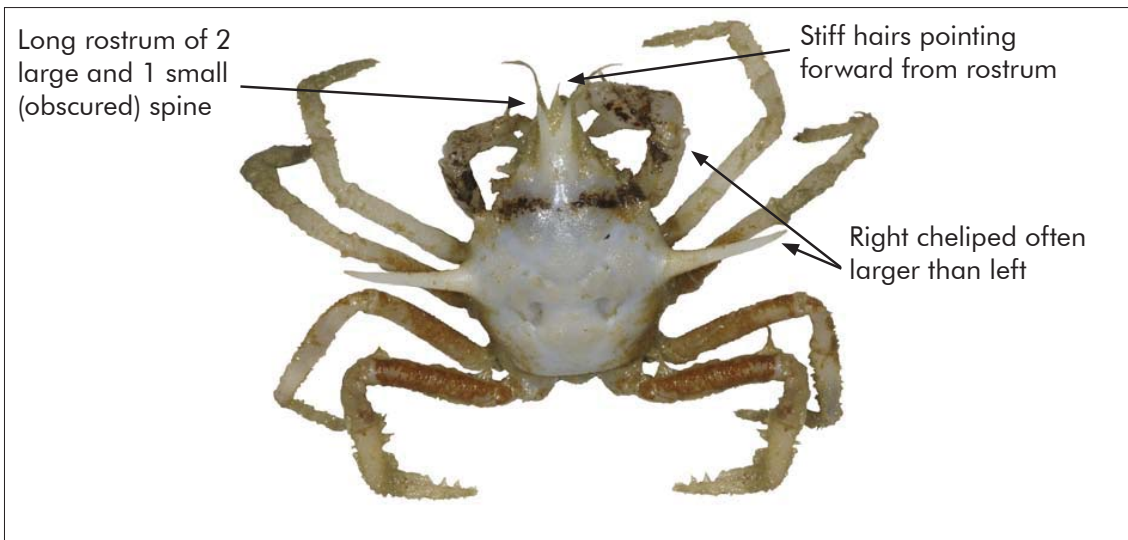
**References:** Barnard, J.L. (1961). Gammaridean amphipoda from depths of 400–6000 meters. *G alathea Reports* 5: 23–128.

Barnard, J.L., Karaman, G.S. (1991). The families and genera of marine gammaridean amphipoda (except marine gammaroids) Part 2. *Records of the Australian Museum, Supplement 13 (Part 2)*: 419–866.

Stoddart, H. and Lowry, J.K. (2004) The deep-sea lysianassoid genus *Eurythenes* (Crustacea, Amphipoda, Eurytheneidae n.fam.) *Zoosystema* 26(3): 425–468.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Atelecyclidae

***Pteropeltarion novaezelandiae* (Pteropeltarion crab) (PNO)**



**Distinguishing features:** Two long, sharp lateral spines on each side of carapace. Carapace pentagonal; surface granular. Longish parallel-sided rostrum of 2 larger lateral spines and 1 smaller middle spine.

**Colour:** Legs white, carapace and chelae white to greyish blue.

**Size:** Carapace width to about 25 mm including lateral spines, about 11 mm, excluding spines.

**Distribution:** Around New Zealand and the Campbell Plateau.

**Depth:** About 500 to 900 m.

**Similar species:** The lack of a spiny margin to the carapace distinguish this genus from *Trichopeltarion*.

**References:** Dell, R.K. (1972). A new genus and species of Atelecyclid crab from New Zealand. *Transactions of the Royal Society of New Zealand*. 2: 55–59.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin* No. 22. 463 p.



**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Atelecyclidae

***Trichopeltarion fantasticum* (Frieded crab) (TFA)**



ARTHROPODA

**Distinguishing features:** Carapace broadly oval, with a long lateral spine (bearing smaller spines) on each lateral edge. Anterior edge of carapace frilled with compound spines of 3 to 4 smaller spines. Widely spaced, rounded tubercles on surface of carapace, and raised groups of tubercles near back. Eyes red, chelae very large in adult males.

**Colour:** Legs white, carapace and chelae white to greyish blue.

**Size:** Carapace width to 60 mm (excluding spines).

**Distribution:** Around New Zealand and on the Chatham Rise.

**Depth:** Usually 70 to 730 m, occasionally as shallow as 15 m south of Cook Strait.

**Similar species:** No similar species in New Zealand waters.

**References:** McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin* No. 22. 463 p.

Richardson, L.R., Dell, R.K. (1964). A new crab of the genus *Trichopeltarion* from New Zealand. *Transactions of the Royal Society of New Zealand Zoology* 4: 145–141.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Chirostylidae

### **Gastroptychus spp. (Squat lobsters) (GTC)**



**Distinguishing features:** Greatly elongate and slender limbs, spiny carapace and limbs, very short, spiniform (not triangular) rostrum. Abdomen folded up against itself and telson (middle appendage of tail) with transverse groove (junction), see *Uroptychus* image, next page.

**Colour:** Of the two known species in New Zealand, *G. rogeri* (the 'football crab'), right image, is bright red with transverse white stripes on the carapace, *G. novaezelandiae*, left image, is light pink with red bands on limbs.

**Size:** Carapace length from 15 to 50 mm. *G. rogeri* at the larger and *G. novaezelandiae* at the smaller end of this range.

**Distribution:** Southwest Pacific

**Depth:** 264 to 1200 m.

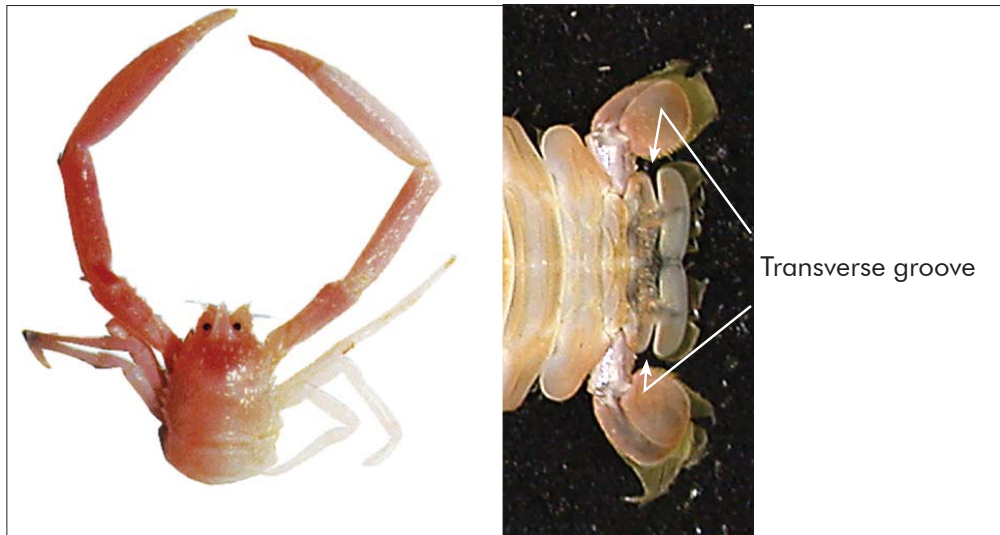
**Similar species:** Galatheids and other chirostylids.

**References:** O'Shea, S.; McKnight, D.; Clark, M. (1999). Bycatch – the common, unique and bizarre. *Seafood New Zealand* 7(5): 45–51.

Poore, G.C.B. (2004). *Marine decapod Crustacea of Southern Australia: a guide to identification*. CSIRO Publishing. 574p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Chirostylidae

### **Uroptychus spp. (Squat lobsters) (URP)**



ARTHROPODA

**Distinguishing features:** Crab-like, chelipeds greatly elongate and slender, abdomen folded up against itself. Telson (middle appendage of tail) with a transverse groove.

**Colour:** Light pink to red.

**Size:** Carapace length up to 20 mm. Size varies between species.

**Distribution:** Worldwide.

**Depth:** 100 to 5000 m.

**Similar species:** Galatheids and other chirostylids.

**References:** O'Shea, S.; McKnight, D.; Clark, M. (1999). Bycatch - the common, unique and bizarre. *Seafood New Zealand* 7 (5): 45-51.

Poore, G.C.B. (2004). *Marine decapod Crustacea of Southern Australia: a guide to identification*. CSIRO Publishing. 574 p.



**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Galatheidae

### ***Munida* spp. (Squat lobster) (MNI)**



**Distinguishing features:** Crab-like, chelipeds greatly elongate and slender, abdomen folded up against itself. Telson (middle appendage of tail) without transverse groove (squat lobsters have a transverse groove), without sutures i.e. un-notched, and is made of multiple scaly plates. Image above of the endemic *Munida gracilis* (MGA).

**Colour:** Red to brown. Also orange, pink, sometimes striped.

**Size:** Carapace length up to 50 mm depending on species.

**Distribution:** Worldwide. *Munida gracilis* around New Zealand, Challenger Plateau and Chatham Rise.

**Depth:** 0 to 2000 m. Similar species: Chirostylids and other galatheid species.

**References:** O'Shea, S.; McKnight, D.; Clark, M. (1999). Bycatch – the common, unique and bizarre. *Seafood New Zealand* 7(5): 45–51.

Poore, G.C.B. (2004). *Marine decapod Crustacea of Southern Australia: a guide to identification*. CSIRO Publishing. 574 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Geryonidae

### **Chaceon bicolor (Red crab) (CHC)**



ARTHROPODA

**Distinguishing features:** Large. Distinctive carapace shape with 3 to 5 spines on each lateral edge of carapace. Tips of walking legs laterally flattened. Two-tone red-purple and tan colouring in most specimens.

**Colour:** Apart from the branchial regions which are yellowy tan, carapace red-purple to yellowy tan. Legs coloured similarly to carapace.

**Size:** Carapace width in males up to 200 mm, 125 mm in females.

**Distribution:** Japan to Australia and New Zealand. Off northern North Island, south to Chatham Rise.

**Depth:** 800 to 1100 m.

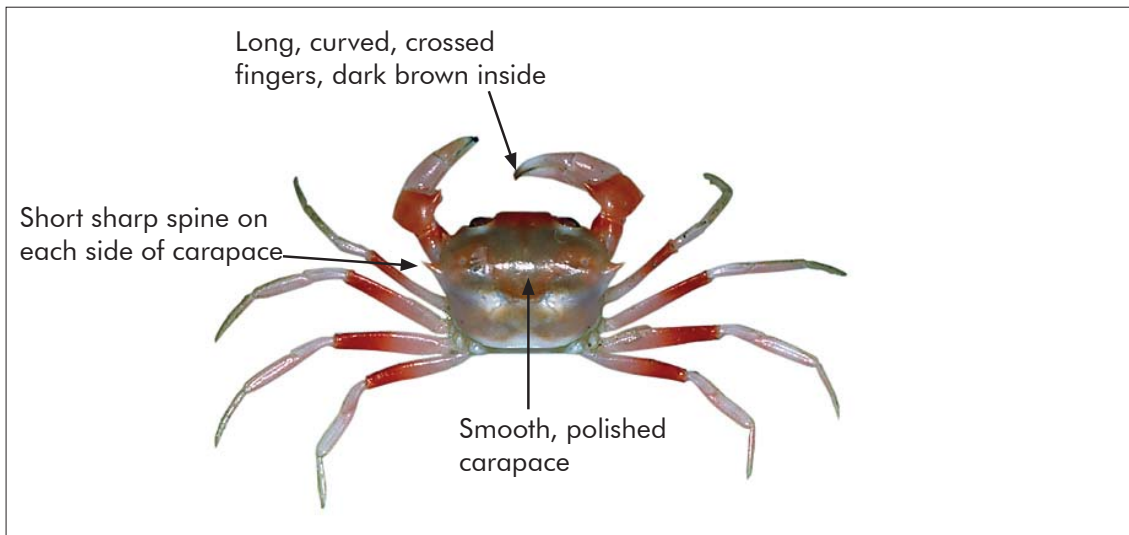
**Similar species:** *Chaceon yaldwyni* is almost indistinguishable, but is a rarely caught species from the eastern Chatham Rise. If in doubt, call it *Chaceon* sp., *Carcinoplax* species look similar, but much smaller (< 40 mm carapace width), tips of palms are black.

**References:** Dawson, E.W.; Webber, W.R. (1991). Guide to information about the deep-sea red crab *Chaceon* ("Geryon"), including a list of species of the family Geryonidae. *National Museum of New Zealand, Miscellaneous Series No 24*. 83 p.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin No. 22*. 463 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Goneplacidae

### ***Carcinoplax victoriensis* (Two-spined crab) (CVI)**



**Distinguishing features:** Smooth polished carapace, wider than long. Front of carapace between eyes flattish. Long, thin legs. Short, sharp lateral spines on edge of carapace. Large inner and smaller outer spine on inflated carpus. Long, curved, crossed fingers, dark brown inside.

**Colour:** Carapace and chelipeds pale pinkish white with dark yellow edge on front of carapace, and lighter yellow on anterior surface and carpi. Walking legs pale pink with wide dark red bands near the middle.

**Size:** Carapace width to nearly 40 mm in males, nearly 30 mm in females.

**Distribution:** Around New Zealand and on the Chatham Rise; also Australia.

**Depth:** 125 to 765 m.

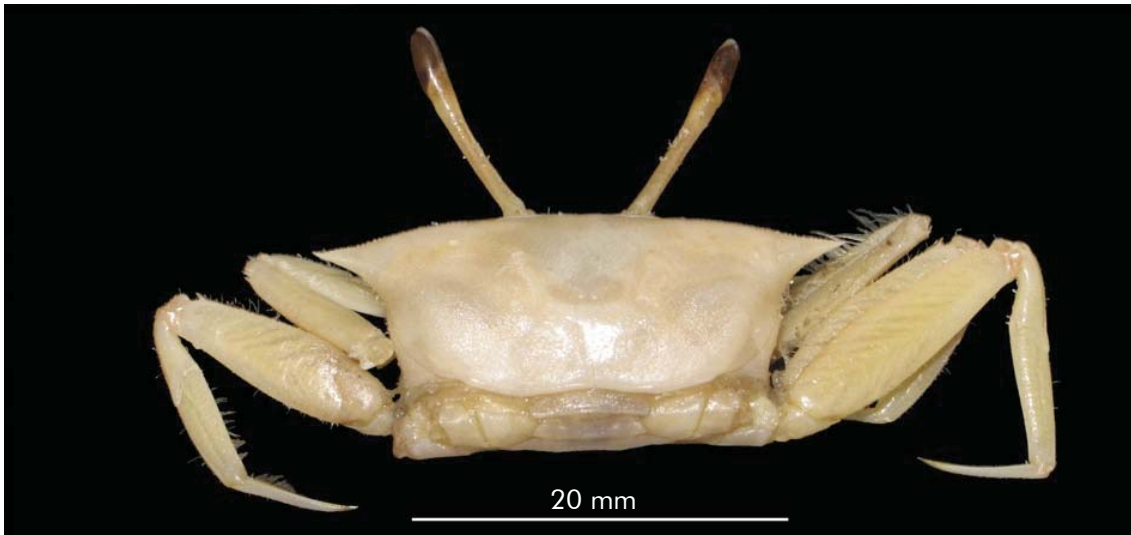
**Similar species:** *Carcinoplax meridionalis* is similar but has two large spines behind the eye on the edge of carapace, shorter, thinner, and black fingers, no spines on edge of carpus and shorter and thicker fingers.

**References:** McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin* No. 22. 463 p.

Rathbun, M.J. (1923). Report on the crabs obtained by the F.I.S. "Endeavour" on the coasts of Queensland, New South Wales, Victoria, South Australia and Tasmania. *Biological results of the fishing experiments carried out by the F.I.S. "Endeavour" 1909-14*. 5 (3), 93-156.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Goneplacidae

***Neommatocarcinus huttoni* (Policeman crab) (NHU)**



ARTHROPODA

**Distinguishing features:** Very long eyestalks. Carapace wider at the front than back, and wider than long. A strong lateral spine on each side at the front of the carapace. Chelipeds long in mature specimens.

**Colour:** Carapace a yellowish reddish orange, gastric region darker. Chelipeds and legs mainly creamy white, but red, orange, yellow, and purple in places.

**Size:** Carapace width to about 40 mm.

**Distribution:** Around New Zealand and the Chatham Islands.

**Depth:** As shallow as about 20 m, more commonly between about 300 and 600 m.

**Similar species:** No other species of this genus known from New Zealand waters.

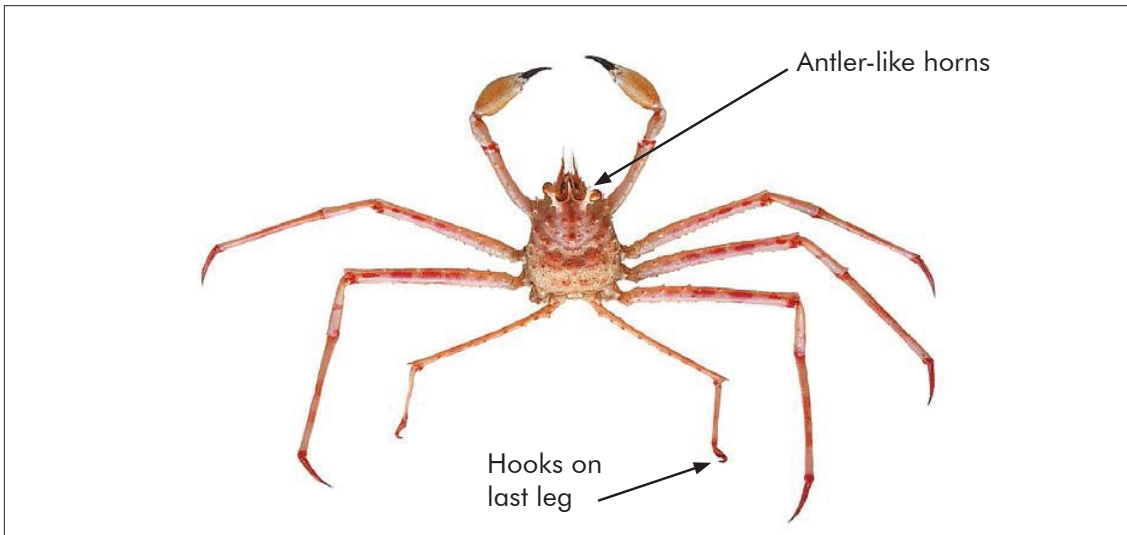
**References:** Bennett, E.W. (1964). The marine fauna of New Zealand: Crustacea Brachyura. New Zealand Department of Scientific and Industrial Research Bulletin 153. (*New Zealand Oceanographic Institute Memoir* 22). 120 pp.

Dell, R.K. (1963). Nature in New Zealand: Native crabs. Reed, Wellington. 64 p.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin* No. 22. 463 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Homolidae

***Dagnaudus petterdi* (Antlered crab) (DAP)**



**Distinguishing features:** Antler-like horns to either side above eyes. Sharp, simple rostrum is a single spine. Fingers with black tips. Palms bulbous in adult males. Long, thin walking legs. Last pair of legs with hooks, normally held above carapace.

**Colour:** Carapace and legs pale yellowish white, mottled with red. Red around joints, and elsewhere on legs.

**Size:** Carapace width to 75 mm.

**Distribution:** East coast, Northland to Fiordland and Snares Islands. Locally common (e.g., off Banks Peninsula); also Australia and New Caledonia.

**Depth:** 180 to 540 m.

**Similar species:** *Homola orientalis* and *Yaldwynopsis spinimana* are similar in overall appearance, but lack antlers.

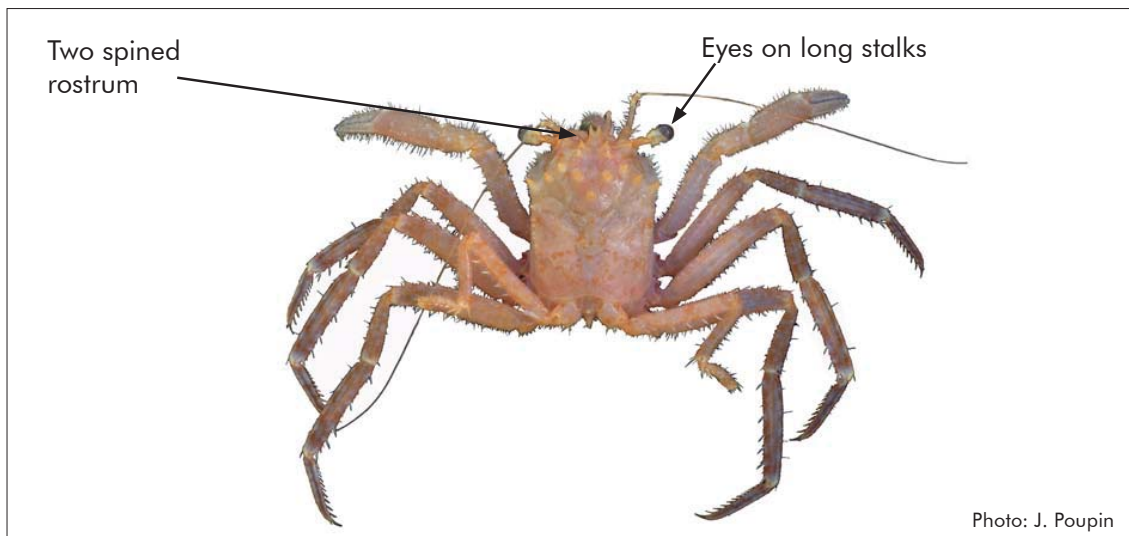
**References:** Bennett, E.W. (1964). The marine fauna of New Zealand: Crustacea Brachyura. New Zealand Department of Scientific and Industrial Research Bulletin 153. (New Zealand Oceanographic Institute Memoir 22). 120 pp.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin* No. 22. 463 p.



**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Homolidae

### ***Homola orientalis* (Carrier crab) (HOO)**



ARTHROPODA

**Distinguishing features:** Carapace rectangular. Eyes on long thin stalks. Short rostrum of two spines. Long antennae. Long thin walking legs. Last pair of legs with hooked pinchers.

**Colour:** Carapace and legs pale yellowish white, mottled with red.

**Size:** Carapace width to 30 mm.

**Distribution:** Indo-West Pacific. One specimen recorded from the Bay of Plenty.

**Depth:** About 40 to 550 m.

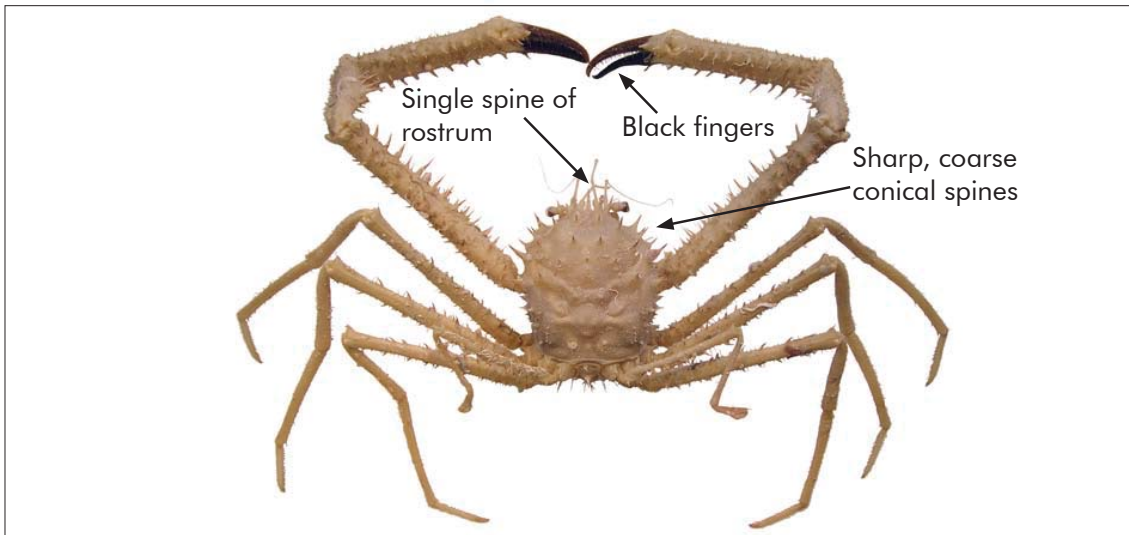
**Similar species:** Antlered crab (*Dagnaudus petterdi*) is similar, but has antler-like horns to either side above eyes. *Yaldwynopsis spinimana* is similar, but has rostrum of only 1 spine and sharp, coarse, conical spines at front and sides of carapace.

**References:** McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin* No. 22. 463 p.

Yaldwin, J.C.; Dawson, E.W. (1976). First records of the crab genera *Homola*, *Randallia*, and *Rochinia* from New Zealand (crustacea: Decapoda: Brachyura). *National Museum of New Zealand Records*. 1 (6). 91–103.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Homolidae

### ***Yaldwynopsis spinimana* (Yaldwyn's crab) (YSP)**



**Distinguishing features:** Carapace urn shaped; sharp, coarse, conical spines at front and sides.

**Colour:** Carapace and legs uniform bright orange, tips of chelipeds black. (Specimen in photo preserved and faded.)

**Size:** Carapace width to about 40 mm.

**Distribution:** Off Three Kings Islands. Only two specimens caught in New Zealand waters.

**Depth:** 90 to 100 m.

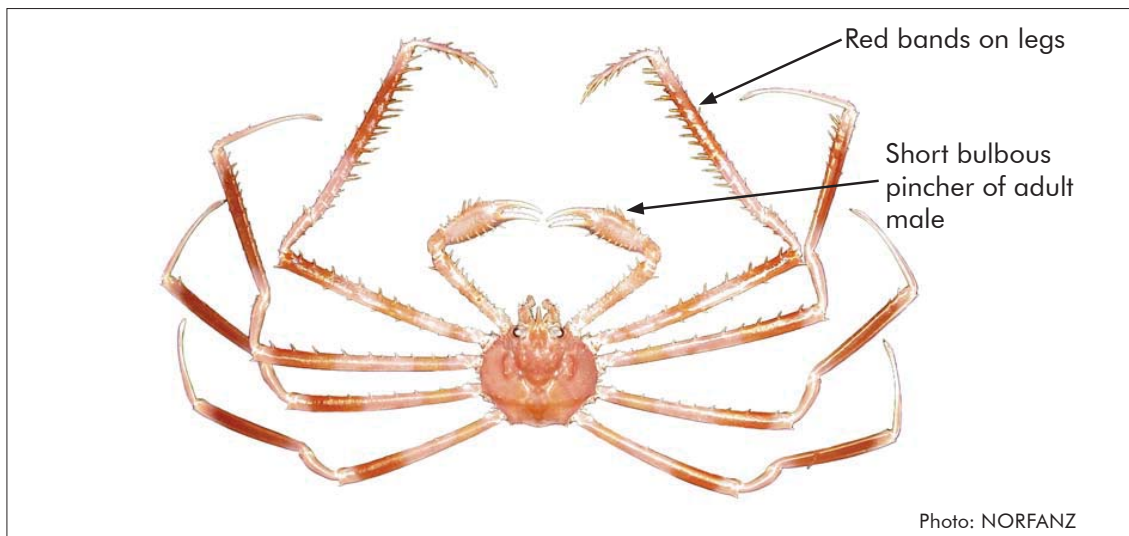
**Similar species:** Antlered crab (*Dagnaudus petterdi*) is similar, but has antler-like horns to either side above the eyes. *Homola orientalis* is similar, but has a two-spined rostrum lacks narrow sharp spines on chelipeds and front half of carapace.

**References:** Griffin, D.J.G. (1965). A new species of *Paramola* (Crustacea), Decapoda, Thelxiopidae from New Zealand. *Transactions of the Royal Society of New Zealand*. 7. 85–91. (as *Paramola spinimana*).

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. Leigh Laboratory Bulletin No. 22. 463 p. (as *Paramola spinimana*).

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Inachidae

### ***Platymaia maoria* (Dell's spider crab) (PTM)**



**Distinguishing features:** Deep water. Carapace nearly round from above. Rostrum of 3 short, strong spines. A few stubby spines on carapace. Palms short and bulbous in adult males. Walking legs flattened with rows of sharp spines along front edges of front 3 pairs. Legs with red bands on peach-white.

**Colour:** Peach coloured, red bands on legs.

**Size:** Carapace width to 60 mm.

**Distribution:** North of Cape Brett to northeast of Poor Knights Islands; Challenger Plateau; also eastern Australia.

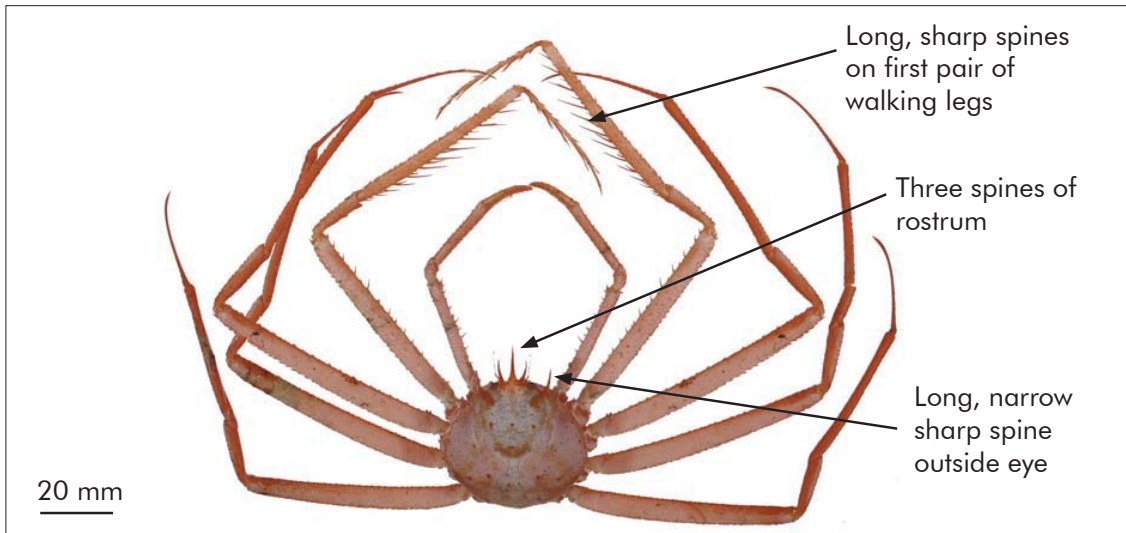
**Depth:** 270 to 950 m.

**Similar species:** *Vitjazmaia latidactyla* is similar, but carapace more oval in profile, 3 spines of rostrum and spine outside eye much longer, narrower, and sharper. Carapace and legs with many tiny, sharp spines red-orange spines and less colour on carapace and legs.

**References:** Dell, R.K. (1963). Nature in New Zealand: Native crabs. Reed, Wellington. 64 p.  
McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin* No. 22.463 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Inachidae

### ***Vitjazmaia latidactyla* (Deep-sea spider crab) (VIT)**



**Distinguishing features:** Very deep water. Carapace nearly round from above, oval in profile. Trident-like rostrum with strong, sharp middle spine (see below). A long, narrow, sharp spine outside each eye. Walking legs very long and flat, covered with tiny, sharp, curved spines. Long, sharp spines on second pair of legs. Numerous, small sharp spines on carapace. Palms heavier and tapered in male.

**Colour:** Juveniles almost unpigmented. Spines on rostrum and carapace bright red-orange. Abdomen and ends of palms light red-orange in males. Fresh specimens often blue-grey due to fine deposits of bottom sediment on small setae of carapace and legs.

**Size:** Carapace width to 80 mm in males, 75 mm in females.

**Distribution:** Western Indian Ocean to New Zealand. Wanganella Bank, east and west of North Island, Challenger Plateau, Chatham Rise, and Chatham Islands.

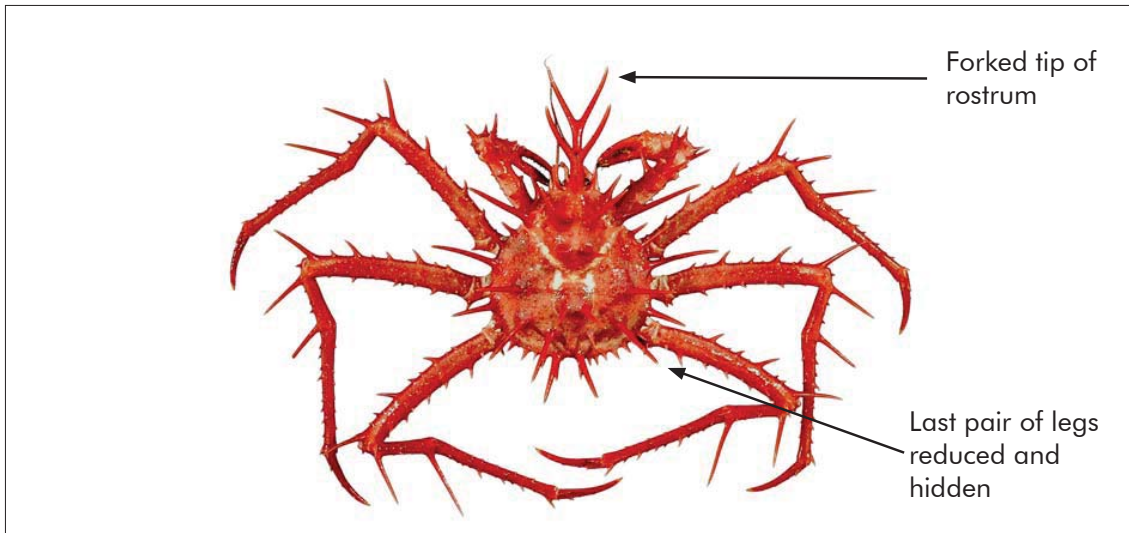
**Depth:** 500 to 1300 m.

**Similar species:** *Platymaia maoria* is similar, but with red and white bands on legs and eyes relatively larger. 3 spines of rostrum shorter and stouter and spine outside eye stubby. Palms short and bulbous in adult males and carapace less oval in profile without covering of tiny sharp spines on carapace and legs.

**References:** Webber, W.R.; Richer de Forges. (1995). Deep sea Majidae (Decapoda: Brachyura) new to New Zealand with a description of *Oxypleurodon wanganella* sp. nov. *Journal of the Royal Society of New Zealand* 25 (4): 501–516.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Lithodidae

***Lithodes cf. longispinus* (Long-spined king crab) (LLT)**



ARTHROPODA

**Distinguishing features:** Rostrum directed strongly upwards from base, directed more horizontally from lateral spines to tip. Tip of rostrum divided into 2 long, sharp spines. Very long, sharp spines on carapace and legs (longest in juveniles). Last pair of legs reduced and hidden.

**Colour:** Uniformly deep red.

**Size:** Male carapace width to 100 mm, females less.

**Distribution:** Japan to New Zealand. Wairarapa to East Cape.

**Depth:** 600 to 900 m.

**Similar species:** The king crab *Lithodes murrayi* is similar, but has shorter spines of rostrum, and of carapace and legs, and rostrum not directed upwards as sharply from base. The king crab *Neolithodes brodiei* is similar, but has rostrum of 3 spines and many more small sharper spines on carapace and legs.

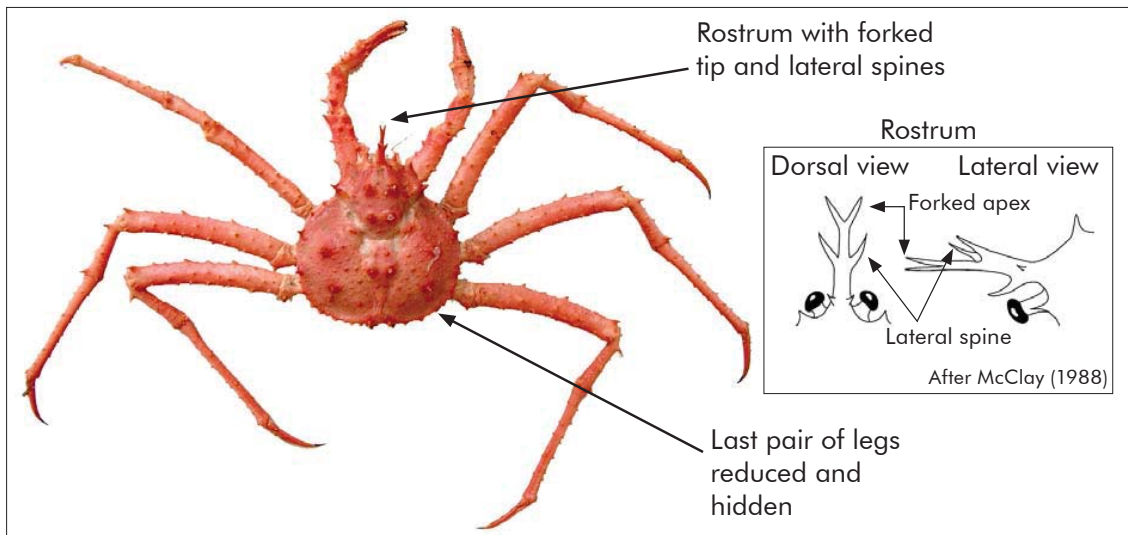
**References:** McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin No. 22* . 463 p.

Webber, W.R. (1997). The Royal Family—King crabs at home and abroad. *Seafood New Zealand* 5 (4): 81–84.

Webber, R.; Naylor, R. (2004). King crabs 1 – The three big reds. *Seafood New Zealand* 12 (9): 78–79.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Lithodidae

***Lithodes murrayi* (Murray's king crab) (LMU)**



**Distinguishing features:** Large. Distinctive rostrum, with 2 strong lateral spines before the forked tip. Carapace pear-shaped. Short, stubby spines on carapace and legs, longer in juveniles. Last pair of legs reduced and hidden.

**Colour:** Dark wine red to brick red with paler patches.

**Size:** Carapace width to 200+ mm in males, less in females.

**Distribution:** Southern Ocean, around New Zealand, more commonly off Kaikoura Peninsula, west coast of Stewart Island, Solander Island, and in Foveaux Strait.

**Depth:** 120 to 700 m.

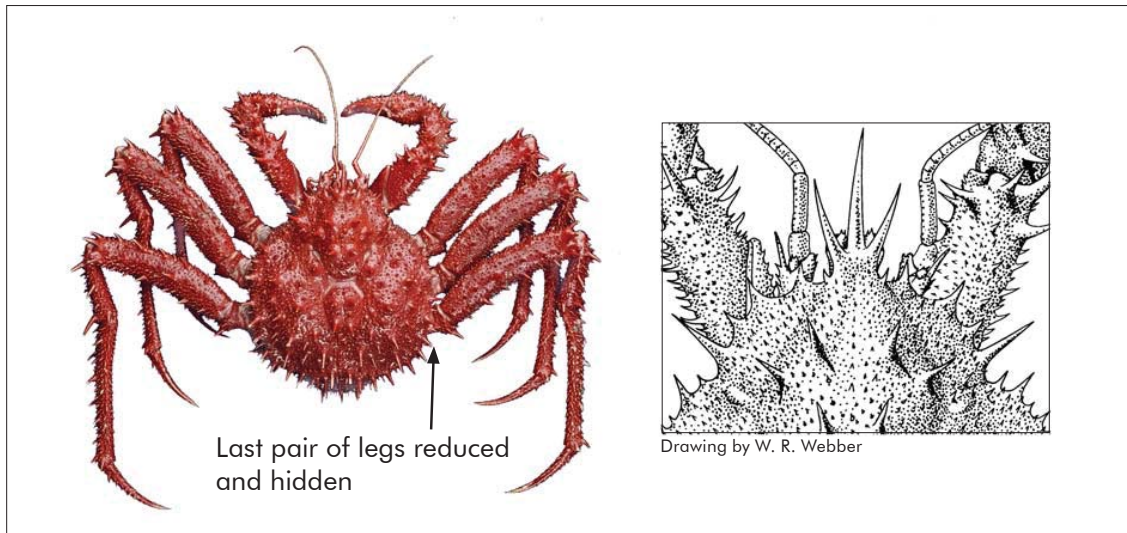
**Similar species:** The king crab *Lithodes* cf. *longispinus* is similar, but has much longer spines of rostrum, carapace, and legs, and rostrum directed upwards more steeply from base. The king crab *Neolithodes brodiei* is similar, but has rostrum of 3 spines, not a single spine with forked tip and many more small sharper spines on carapace, abdomen, and legs.

**References:** Dawson, E.W., Yaldwyn, J.C. (1970). Diagnosis of a new species of *Neolithodes* (Crustacea: Anomura: Lithodidae) from New Zealand. *New Zealand Journal of Marine and Freshwater Research* 4: 227–228.

McClay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin* No. 22. 463 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Lithodidae

### ***Neolithodes brodiei* (Brodie's king crab) (NEB)**



**Distinguishing features:** Carapace pear-shaped. Front of carapace bearing 3 forward-pointed spines. Carapace and legs very spiny, spines much longer in juveniles (as in photo above). Last pair of legs reduced and hidden.

**Colour:** Typically uniform brick to bright red.

**Size:** Carapace width to 180 mm.

**Distribution:** Widely distributed from north of Three Kings Islands to Campbell Plateau; Australia and Vanuatu.

**Depth:** 800 to 1100 m.

**Similar species:** The king crabs *Lithodes murrayi* and *Lithodes cf. longispinus* are similar, but have a single rostrum with forked tip and 2 lateral spines on rostrum before tip.

**References:** Griffin, D.J.G. (1966). The marine fauna of New Zealand: spider crabs, family Majidae (Crustacea, Brachyura). *New Zealand Oceanographic Institute Memoir No. 35*. 112 p.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin No. 22*. 463 p.

Webber, W.R. (1997). The Royal Family—King crabs at home and abroad. *Seafood New Zealand 5* (4): 81–84.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Lithodidae

### ***Paralomis dawsoni* (Warty king crab) (PDA)**

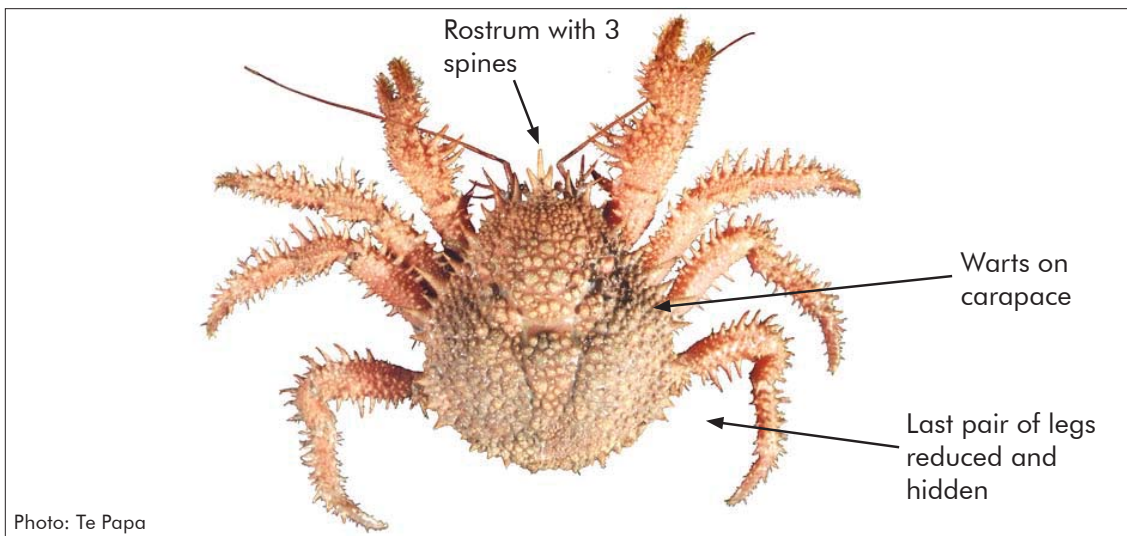


Photo: Te Papa

**Distinguishing features:** Carapace broadly pear-shaped to hexagonal; surface warty. Short rostrum of 3 spines. Last pair of legs reduced and hidden.

**Colour:** Pinky red.

**Size:** Carapace width to 140 mm.

**Distribution:** North, east, and west of North Island, particularly Bay of Plenty; also New Caledonia.

**Depth:** About 1000 m.

**Similar species:** The king crab *Paralomis zealandica* is similar in shape, but has uniform covering of short, strong, sharp spines, not warts.

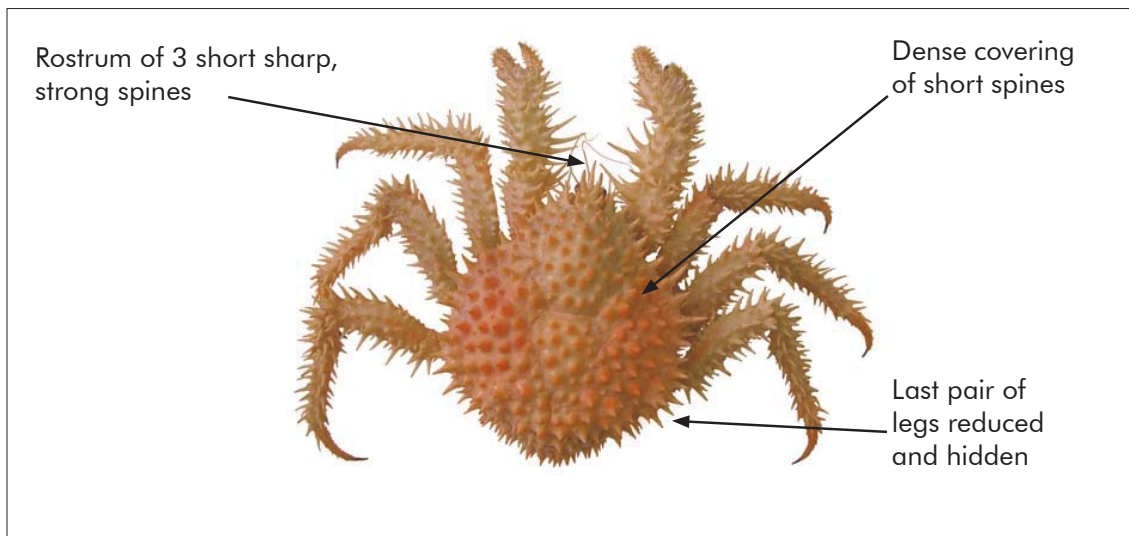
**References:** MacPherson, E. (2001). New species and records of lithodid crabs (Crustacea, Decapoda) from the southwestern and central Pacific Ocean. *Zoosystema* 24 (4): 797–805.

Webber, R.; Naylor, R. (2004). King crabs 2 – *Paralomis* warts and all. *Seafood New Zealand* 12 (10): 78–79.



**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Lithodidae

***Paralomis zealandica* (Prickly king crab) (PZE)**



ARTHROPODA

**Distinguishing features:** Carapace pear-shaped. Rostrum of 3 short, strong, sharp spines. Juveniles with longer curved spines; adult covered with short upright, strong spines (including abdomen). Last of legs reduced and hidden.

**Colour:** Red on creamy white.

**Size:** Carapace width to 130 mm.

**Distribution:** Eastern central and southern New Zealand and Campbell Plateau.

**Depth:** 550 to 650 m.

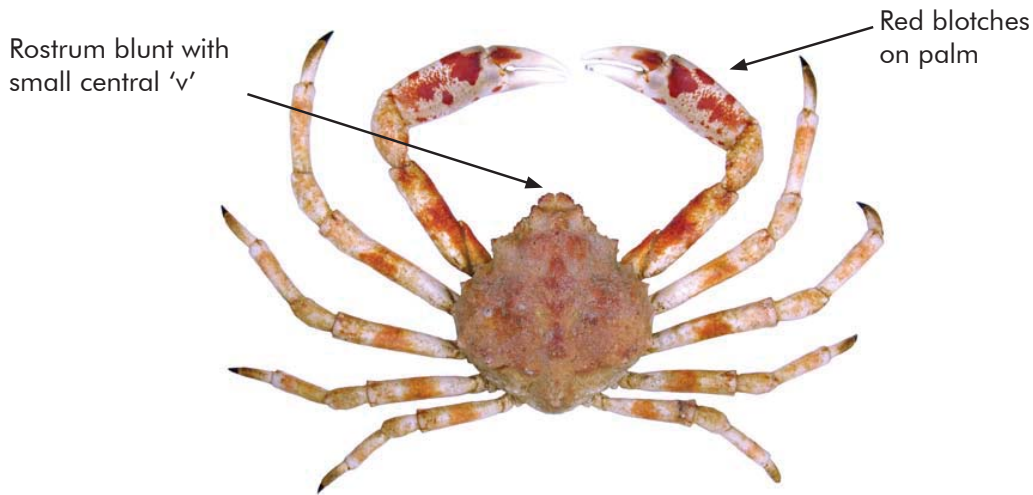
**Similar species:** The king crab *Paralomis dawsoni* is similar, but has warts, not spines on carapace.

**References:** McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin No. 22*. 463 p.

Webber, R.; Naylor, R. (2004). King crabs 2 – *Paralomis* warts and all. *Seafood New Zealand* 12 (10): 78–79.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Majidae

***Jacquinitia edwardsii* (Giant spider crab) (GSC)**



**Distinguishing features:** Large. Rostrum blunt with a small, central 'v'. Long, stout legs.

**Colour:** Carapace brick red to yellowish brown, often covered by white or mauve-pink, paint-like coralline algae. Palms yellowish white with bright red blotches. Colour lighter or darker depending on moult stage.

**Size:** Carapace width up to 200 mm in males, 140 mm in females.

**Distribution:** Offshore, southern coast of New Zealand as far north as Kaikoura, around Chatham and Stewart Islands, and on the Pukaki Rise. Shallower around Auckland, Campbell, Bounty, and Snares Islands.

**Depth:** Intertidal to 550 m.

**Similar species:** Long-legged masking crab (*Leptomithrax longipes*) is similar, but adults smaller and have maxillipeds with porcelain-like knobs and thinner legs.

**References:** Griffin, D.J.G. (1966). The marine fauna of New Zealand: spider crabs, family Majidae (Crustacea, Brachyura). *New Zealand Oceanographic Institute Memoir No. 35*. 112 p.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin No. 22*. 463 p.

Ritchie, L.D. (1970). Southern spider crab (*Jacquinitia edwardsii* (Jacquinot, 1853)) survey—Auckland Islands and Campbell Island. *Fisheries Technical Report No 52*.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Majidae

***Leptomithrax australis* (Giant masking crab) (SSC)**



ARTHROPODA

**Distinguishing features:** Large. Carapace pear-shaped. Shallow carapace groove. Six equally spaced and prominent conical spines on lateral margins of carapace. Numerous small, blunt spines/knobs on carapace. Very long chelipeds in adult males with blunt spines on arms. Long, thin walking legs.

**Colour:** Carapace and legs orange-red to deep red. Teeth on fixed finger of palm and tips of legs white. Shallow-water specimens often masked with seaweed, deepwater specimens frequently covered with sessile animals (e.g., anemones, sponges).

**Size:** Carapace width to 90 mm in males, 60 mm in females.

**Distribution:** Offshore from Cook Strait to Stewart Island, around the Chatham Islands, and on the Pukaki Rise. Shallower around the Snares, Auckland, Bounty, and Campbell Islands

**Depth:** Intertidal to about 100 m.

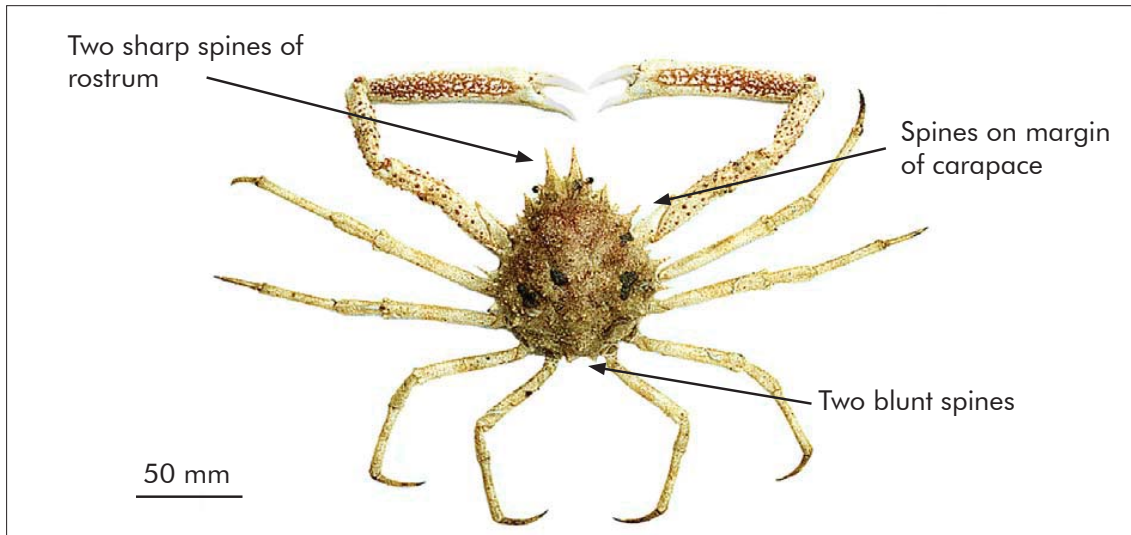
**Similar species:** Long-handed masking crab (*Leptomithrax longimanus*) very similar, but more pear-shaped, less oval; carapace groove deeper, more obvious. Palms longer and with tubercles. Legs thicker in adult males. Garrick's masking crab (*L. garricki*) very similar, but longer, sharper rostral spines and found in deeper water (180 to 800 m). Long-legged masking crab (*L. longipes*) similar, but has shiny porcelain-like knobs on third maxillipeds.

**References:** Griffin, D.J.G. (1966). The marine fauna of New Zealand: spider crabs, family Majidae (Crustacea, Brachyura). *New Zealand Oceanographic Institute Memoir No. 35*. 112 p.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin No. 22*. 463 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Majidae

### ***Leptomithrax garricki* (Garrick's masking crab) (GMC)**



**Distinguishing features:** Carapace pear-shaped. Deep groove separating front and expanded branchial regions of carapace. Six equally spaced, short conical spines on margin of each side of carapace. Very long chelipeds in adult males. Tubercles, not spines, on arms of chelipeds. Long, thin walking legs.

**Colour:** Carapace and legs a dull yellowish brown. Chelipeds in adult males dark brown with yellowish markings on inside of palm. Females lighter colour. Often with encrusting polychaete worms and sponges on carapace and legs.

**Size:** Carapace width to 50 mm in males, 35 mm in females.

**Distribution:** Uncommon. From Three Kings Islands to Stewart Island.

**Depth:** Most often 20 to 220 m, rarely intertidal, and occasionally to 550 m.

**Similar species:** Giant masking crab (*Leptomithrax australis*) similar, but less pear-shaped, more oval; carapace groove less obvious less expanded branchial regions and shorter palms. Thinner legs in adult males. Garrick's masking crab (*L. garricki*) similar, but longer rostral spines; less pear-shaped, more oval; carapace groove less obvious and less obvious branchial regions. Small spines, not tubercles, on cheliped arms. Long-legged masking crab (*L. longipes*) similar, but has shiny porcelain-like knob on third maxillipeds.

**References:** Bennett, E.W. (1964). The marine fauna of New Zealand: Crustacea Brachyura. New Zealand Department of Scientific and Industrial Research Bulletin 153. (*New Zealand Oceanographic Institute Memoir* 22). 120 pp.

Griffin, D.J.G. (1966). The marine fauna of New Zealand: spider crabs, family Majidae (Crustacea, Brachyura). *New Zealand Oceanographic Institute Memoir* No. 35. 112 p.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin* No. 22. 463 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Majidae

**Leptomithrax longimanus (Long-handed masking crab) (LHC)**



ARTHROPODA

**Distinguishing features:** Carapace pear-shaped. Deep groove separating front and expanded branchial regions of carapace. Six equally spaced, short conical spines on margin of each side of carapace. Very long chelipeds in adult males. Tubercles, not spines, on arms of chelipeds. Long, thin walking legs.

**Colour:** Carapace and legs a dull yellowish brown. Chelipeds in adult males dark brown with yellowish markings on inside of palm. Females lighter colour. Often with encrusting polychaete worms and sponges on carapace and legs.

**Size:** Carapace width to 50 mm in males, 35 mm in females.

**Distribution:** Uncommon. From Three Kings Islands to Stewart Island.

**Depth:** Most often 20 to 220 m, rarely intertidal, and occasionally to 550 m.

**Similar species:** Giant masking crab (*L. australis*) similar, but less pear-shaped, more oval; carapace groove less obvious; less expanded branchial regions and shorter palms, thinner legs in adult males.

Garrick's masking crab (*L. garricki*) similar, but longer rostral spines; less pear-shaped, more oval; carapace groove less obvious and less obvious branchial regions. Small spines, not tubercles, on cheliped arms.

Long-legged masking crab (*L. longipes*) similar, but has shiny porcelain-like knob on third maxillipeds.

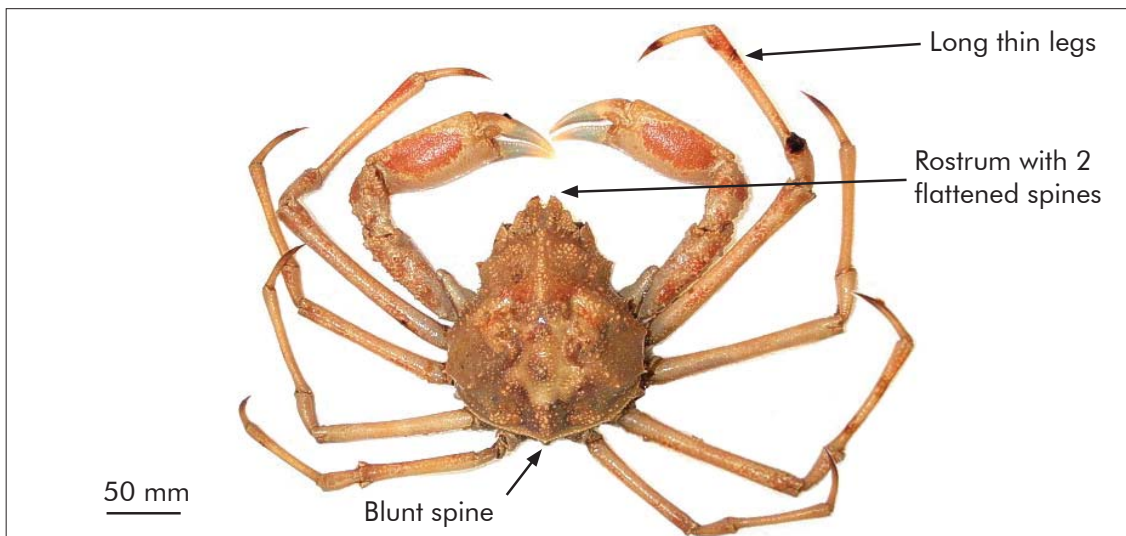
**References:** Bennett, E.W. (1964). The marine fauna of New Zealand: Crustacea Brachyura. New Zealand Department of Scientific and Industrial Research Bulletin 153. (*New Zealand Oceanographic Institute Memoir* 22). 120 pp.

Griffin, D.J.G. (1966). The marine fauna of New Zealand: spider crabs, family Majidae (Crustacea, Brachyura). *New Zealand Oceanographic Institute Memoir* No. 35. 112 p.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin* No. 22. 463 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Majidae

### **Leptomithrax longipes (Long-legged masking crab) (LLC)**



**Distinguishing features:** Shiny, porcelain-like knobs on third maxillipeds. Long, thin walking legs. Rostrum of 2 short flattened spines. Short, blunt spine at back of carapace.

**Colour:** Carapace pale yellowish white; red speckling and blotches on legs. Often covered with invertebrates such as sponges and anemones.

**Size:** Carapace width to 70 mm in males, 30 mm in females.

**Distribution:** Cook Strait to Foveaux Strait, Chatham Islands, and Macquarie Island.

**Depth:** 20 to 380 m.

**Similar species:** Giant spider crab (*Jacquintia edwardsii*) similar, but lacks shiny, porcelain-like knob on third maxillipeds (N.B., small *Jaquinotia* will be very difficult to distinguish from *L. longipes* except for the porcelain knobs). Also has stouter walking legs.

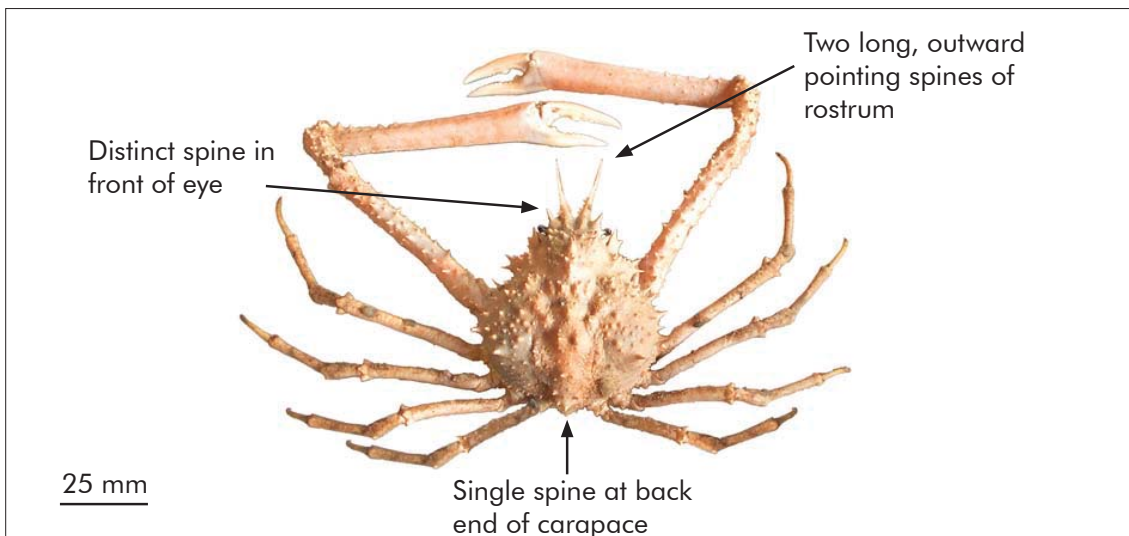
Giant (*L. australis*) and long-handed (*L. longimanus*) masking crabs similar, but they lack shiny, porcelain-like knob on third maxillipeds.

**References:** Griffin, D.J.G. (1966). The marine fauna of New Zealand: spider crabs, family Majidae (Crustacea, Brachyura). *New Zealand Oceanographic Institute Memoir No. 35*. 112 p.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin No. 22*. 463 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Majidae

***Teratomaia richardsoni* (Spiny masking crab) (SMK)**



ARTHROPODA

**Distinguishing features:** Distinct spine in front of eye. Rostrum of 2 long divergent spines. Carapace pear-shaped. Single large, sharp spine at back of carapace. Chelipeds long, especially in adult males.

**Colour:** Dull creamy white. Some red on carapace and legs.

**Size:** Carapace width to 50 mm in males, 40 mm in females.

**Distribution:** Kermadec Trench, Challenger Plateau, Chatham Rise, Campbell Plateau, and Bounty Plateau.

**Depth:** 300 to 7000 m.

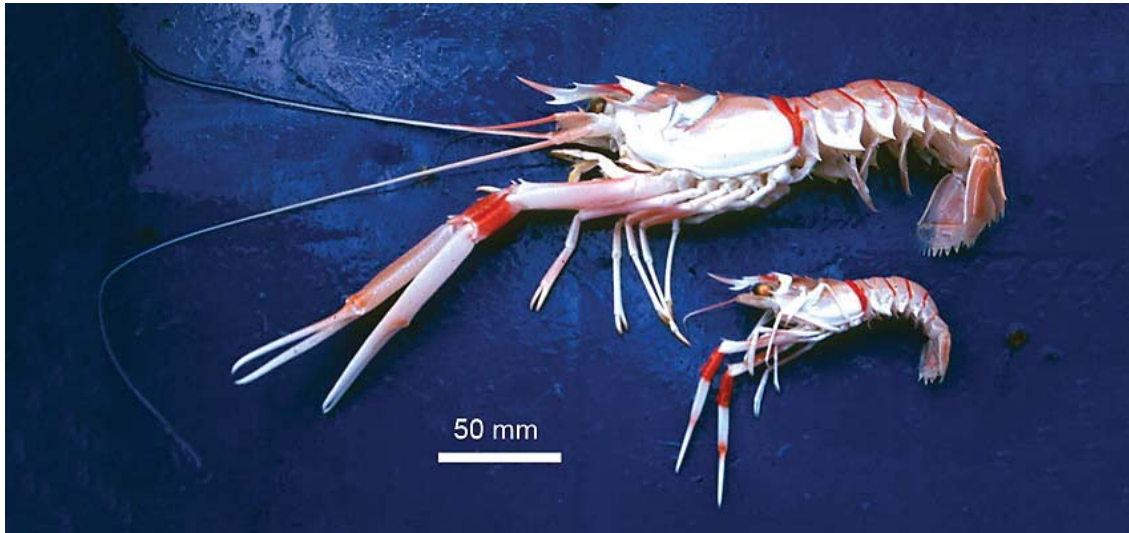
**Similar species:** *Leptomithrax* species are similar, but have no distinct spine in front of eye and shorter, less divergent rostral spines.

**References:** Griffin, D.J.G. (1966). The marine fauna of New Zealand: spider crabs, family Majidae (Crustacea, Brachyura). *New Zealand Oceanographic Institute Memoir No. 35*. 112 p.

McLay, C.L. (1988). Brachyura and crab-like Anomura of New Zealand. *Leigh Laboratory Bulletin No. 22*. 463 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Nephropidae

### ***Metanephrops challengeri* (Scampi) (SCI)**



**Distinguishing features:** Lobster-like, with prominent, slightly uprising rostral horn, and a pair of elongate pincers. Large eyes. Distinctive and spectacular.

**Colour:** Upper surfaces fawn or reddish brown; lateral surfaces white; carpus of chelipeds conspicuously crimson, with transverse bands of crimson across posterior margin of carapace and posterior margins of tail segments.

**Size:** Total length up to 250 mm. More commonly to 180 mm.

**Distribution:** Widespread in New Zealand waters in mud substrates, but most abundant off the east coast of the North Island, the Chatham Rise, off the northwest of the South Island, on the Challenger Plateau, and east and south of Auckland Island.

**Depth:** 140 to 640 m. Most common 200 to 500 m.

**Similar species:** None in New Zealand waters, but resembles European scampi, *Nephrops norvegicus*.

**References:** Holthuis, L.B. (1991). Marine lobsters of the world. *FAO Species Catalogue* 13. 292 p.

O'Driscoll, R.L. et al. (2003). Areas of importance for spawning, pupping or egg-laying, and juveniles of New Zealand deepwater fish, pelagic fish, and invertebrates. *NIWA Technical Report* 119. 377 p.

Webber, W.R. (2002). All the pretty lobsters III. *Seafood New Zealand* 10(2): 48–52.



**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Paguridae

***Diacanthurus rubricatus* (Hermit crab) (DIR)**



**Distinguishing features:** Antennules white, eyestalks white with red longitudinal stripes, antennae reddish-brown, chelae and legs yellow-brown with bright red bands on distal ends.

**Colour:** Reddish-brown with pink and red markings.

**Size:** From 2 to 18 mm. Measurement is shield length (SL), measured from the tip of the rostrum to the midpoint of the posterior margin of the shell.

**Distribution:** Apparently endemic to New Zealand. Three Kings Islands to Stewart Island and east to the Chatham Islands.

**Depth:** 15 to 2200 m. Most collected between 180 and 300 m.

**Similar species:** Other pagurid species.

**References:** Forest, J.; de S. Laurent, M.; McLaughlin, P.A.; Lemaitre, R. (2000). The marine fauna of New Zealand: Paguridea (Decapoda: Anomura) exclusive of the Lithodidae. *NIWA Biodiversity Memoir* 114. 250 p.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Palinuridae

***Projasus parkeri* (Deepwater rock lobster) (PPA)**



**Distinguishing features:** Prominent supraorbital horns with row of 2 spines behind each. A single median spine followed by 2 submedian rows of 8 spines. Low median carina on first 5 segments of abdomen; 6th segment with 2 pairs of submedian spines and others on posterior margin.

**Colour:** Light orange to straw brown.

**Size:** Carapace length up to 92 mm. Specimens available mainly 70 to 90 mm.

**Distribution:** South Africa, Southern Australia and New Zealand. Challenger Plateau, Bay of Plenty to Castlepoint, Chatham Rise, Louisville Ridge.

**Depth:** 480 to 970 m. Species has been taken as shallow as 330 m in other parts of the world.

**Similar species:** Rock lobsters with such carapace spination are unique in New Zealand waters.

**References:** Booth, J.; Webber, R. (2001). All the pretty lobsters. I. *Seafood New Zealand* 9(11): 20–23.

Holthuis, L.B. (1991). Marine lobsters of the world. *FAO Fisheries Synopsis* 125.

Webber, W.R.; Booth, J.D. (1988). *Projasus parkeri* (Stebbing, 1902) in New Zealand and description of a *Projasus puerulus* from Australia. *National Museum of New Zealand Records* 3: 81–92.

**Phylum** Arthropoda (subphylum Crustacea)  
**Class** Malacostraca  
**Order** Decapoda  
**Family** Parapaguridae

### ***Sympagurus dimorphus* (Hermit crab) (SDM)**



**Distinguishing features:** Large-bodied, chelipeds markedly dissimilar and hairy. Right cheliped massive. Walking legs overreach extended right cheliped. Tail fan (telson and uropods) markedly asymmetrical.

**Colour:** Overall body colour is cream.

**Size:** Carapace length up to 30 mm, most commonly up to 20 mm.

**Distribution:** Southern Australia and New Zealand. The most abundant parapagurid in New Zealand waters, found on soft sediment and seamount environments. Widespread in southern hemisphere.

**Depth:** 90 to 2000 m. New Zealand records 200 to 1000 m.

**Similar species:** At least 5 other parapagurid species.

**References:** Forest, J.; Laurent, M. de S.; McLaughlin, P.A.; Lemaitre, R. (2000). The marine fauna of New Zealand: Paguridea (Decapoda: Anomura) exclusive of the Lithodidae. *NIWA Biodiversity Memoir* 114. 250 p.