

# Christmas Island National Park

environment.gov.au/parks/christmas

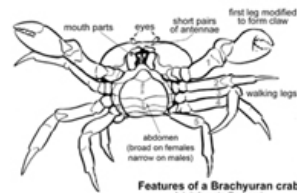


## Land crabs | arthropods - crustaceans - decapods

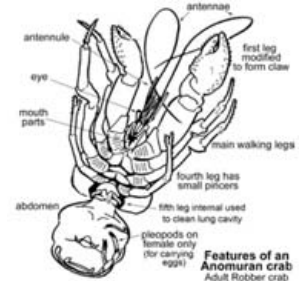
Christmas Island is home to the most remarkable abundance and diversity of land crabs in the world. Their scavenging activities recycle nutrients locked in fallen leaves, the burrowing tills the soil and their grazing on fruit trees and seedlings is an important factor in determining forest composition. The land crabs have evolved from marine ancestors as shown by their return to the sea for spawning. Apart from the 20 land crabs shown here, over 160 other species have been recorded from the reefs and shallows of Christmas Island.

Crabs are classified in the vast group of animals called arthropods which have a hard external skeleton. Insects are arthropods, as are spiders, scorpions, millipedes and centipedes. Crabs belong in the arthropod division called crustacea. Crustacea are distinguished from other arthropods by the simple feature of having two pairs of antennae.

Crustaceans evolved from segmented worm-like animals which had a pair of legs on each segment. Segments of a crustacean can be conveniently grouped as the front ones and the back ones. The name given to the front segments, a combination of the head and chest is the cephalothorax. The back segments are called the abdomen. In crabs, a tough outer shell called the carapace covers the cephalothorax, disguising its segments. Two pairs of antennae and one pair of eyes are on a crab's head. The mouth is flanked by six pairs of feeding appendages. Crabs have five pairs of legs and are thereby further classified as belonging to the crustacean order Decapoda (deca = ten, poda = legs). The front pair of legs has evolved into claws.



Red crab diagram



Robber crab diagram

'True' crabs are a suborder of decapoda, scientifically named Brachyura (small tail), referring to their greatly reduced abdomen which folds snugly beneath the cephalothorax. They are distinguished from Anomura (mixed tail), the hermit crabs and robber crabs, which have a much larger abdomen (soft and protected as in hermit crabs), longer antenna originating outside the eyes, the last pair of legs greatly reduced in size and claws the extend forward from the cephalothorax.

Crustaceans were the first animal group to develop true legs, very effective for walking, for defence and for handling food. An external skeleton, on the other hand, has obvious disadvantages. They have to discard their outer shell and form new ones as they grow. This process is known as moulting and occurs regularly as crabs grow.

## Robber and hermit crabs - Infra-order Anomura, Family Coenobitidae

### **Robber crab** - *Birgus latro*

Robber crabs are a close relative of hermit crabs, but do not (at least as adults) carry shells to protect their abdomen. They are found in most parts of the island. From the shore terrace to the highest plateau areas, generally sheltering during the day and venturing out at night or on overcast days. They forage on any vegetable material or carrion on the forest floor.

The fruits of some trees and the pith of fallen Arenga palms are favourite foods. Though found through the tropical islands of the Pacific and Indian Oceans, Christmas Island now supports the world's largest population.



### **Hermit crabs** - *Coenobita* sp.

There are three species of the genus *Coenobita* recorded on Christmas Island. This number may be revised with further research. As many as eight species are found in the Indo-West Pacific. When spawning, hermit crabs carry their eggs inside the shell attached to hairs on the pleopods on the left side of their body.



### **Red hermit crab** - *Coenobita perlatus*

Carapace length > 34mm. Distinguished by flattened triangular eyestalks and red colour of the carapace or red about the joints of the legs on a white to pink background. Recorded on most beaches, they prefer rubble beaches. Hermit crabs are shy and stay close to cliffs.

### **Purple hermit crab** - *Coenobita brevimanus*

The largest of the island's hermit crabs (upto 45mm carapace length). A distinctive purplish brown crab with cylindrical eyestalks. Found mainly on the beaches and shore terraces.



### **Tawny hermit crab** - *Coenobita rugosus*

Carapace length > 25mm. Flattened triangular eyestalks. Colour is quite variable - white, grey, brown carapace with markings of orange, brown or black. Sometimes a dark spot is noticeable on the larger left claw. Found on all beaches and forage for food along the strand line.



## Red, purple, blue and brown crabs | infra-order Brachyura, family Gecarcinidae

### **Red crab** - *Gecarcoidea natalis*

Carapace > 116mm. The carapace is round shouldered and encloses their lungs and gills. Males are larger than females but females have a much broader abdomen and usually have smaller claws than males.



**Purple crab** - *Gecarcoide lalandii*

Carapace > 115mm. Purple colouring with small white false eye spots to side of eye stalks. Lighter coloured claws. Found all over the island but rare. Behaviour similar to red crabs and recorded migrating with red crabs.

**Blue crab** - *Discoplax hirtipes*

Carapace > 120mm. Porcelain blue body with pale blue hairy legs. Hair mat borders mouth parts. Found in moist areas near water seepages. Eat fallen leaves and fruits. Active during the day. Juveniles may be confused with Little nippers. Christmas Island is the only location in this crab's range where the crab has a blue carapace - the normal colouring is a brown to black carapace with red appendages.



**Brown crab** - *Epigrapsus politus*

Carapace > 20mm. Dark chocolate brown above, lighter underneath. Dark eyes and lighter brown legs. Mats of hair on both sides of mouth parts. Found under rocks on beach sand/rubble boundary with forest soil.



Ghost crabs | infra-order Brachyura, family Ocypodidae

**Horn-eyed ghost crab** - *Ocypode ceratophthalmus*

Carapace > 45mm. There are two colour forms on Christmas Island - one is deep olive green (common on Dolly Beach and the colour form common on east Indian Ocean islands) and the other is greyish yellow to cream. It may be that these are two distinct species. The 'horned eyes' are shorter in females and half grown crabs and undeveloped in juveniles.



**Smooth-handed ghost crab** - *Ocypode cordimanus*

Carapace > 43mm. Lacks eyestalk extensions and colouring varies from palish blue-grey to pale cream. Sometimes there is a tinge of pink to the sides of the carapace. The pink form is found higher on the beach among vegetation and litter where the sand is darker.



Nippers and other Grapsids | Infra-order Brachyura, Family Grapsidae

**Little nipper** - *Geograpsus grayi*

Carapace > 45mm. Purple/grey body with pale legs and prominent yellow eyes. Found from the shore terrace to the central plateau. Do not burrow - live under rocks, tree roots. Active during the day.



**Red nipper** - *Geograpsus stormi*

Carapace > 30mm. Orange-red body, hairy legs and hazy blue eyes. They live under shoreline rocks and in crevices on the seacliff near the water. Very shy and rarely seen.



**Yellow nipper** - *Geograpsus crinipes*

Carapace > 60mm. All over subdued yellow to olive green colour. Found on lower terraces, seacliff and beaches. Active during the day. The largest of the island's three nipper crabs.



**Yellow-eyed crab** - *Sesarma obtusifrons*

Carapace > 20mm. Body is dark grey and claws light grey. Legs bluish grey. Bright yellow eyes. Live in crevices high in seacliff beyond tidal or salt spray all round the coast. Algae grows on body. Very shy.



**White-stripe crab** - *Labidium rotundatum*

Carapace > 40mm. Light brown body and legs with brown to purple claws, with or without white tips. Eyes are fluorescent yellow. Found on terraces above Greta Beach, the Dales and West White Beach. Very rare.



**Jackson's crab** - *Sesarma jacksoni*

Carapace > 20mm. Flat, smooth, dark red to purple body. Long spidery legs and pink-cream claws. Live in cool, moist environments on lower terraces and in caves. Not found anywhere else in the world.



**Mottled crab** - *Metasesarma rousseaux*

Carapace > 18mm. Squarish carapace. Colour is variable, with either black, brown or green-white as base colour and mottled markings of orange, brown or black. Found under leaf litter above island beaches. Inconspicuous and uncommon.



**Grapsus crab** - *Grapsus tenuicrustatus*

Carapace > 65mm. Colour varies but greenish brown flat thin body generally. Long legs and very agile. Common all round coastline. Occasionally strays to top of seacliff but never ventures further inland. Preys on smaller crabs and in turn preyed upon by eels.



**Sandy rubble crab** - *Cyclograpsus integer*

Carapace > 20mm. Opaque white with irregular dark markings on top of the carapace. Relatively long legs. Found in rubble buried in sand at base of cliff at Greta and Ethel beaches.



**Freshwater crab** - *Ptychognathus pusillus*

Carapace > 25mm. Back of carapace speckled dark green-brown. Legs are distinctly banded, dark green-brown alternating with pale brown. Male crabs have tuft of hair on outside of each claw. Lives in fresh running water.

