



## UK Overseas Territories Conservation Forum

# Championing UK's most special species: the wildlife of UK's Overseas Territories (UKOTs) and Crown Dependencies (CDs)

FACT-SHEET ON:

## Coconut Crab *Birgus latro* UK Overseas Territory: British Indian Ocean Territory

The Coconut Crab is a species of terrestrial hermit crab. It is the largest land-living arthropod in the world, and is probably at the upper size limit for terrestrial animals with exoskeletons at current conditions during the Holocene, with a weight up to 4.1 kg and up to 1 m in length from leg to leg. They are found on islands across the Indian Ocean, and parts of the Pacific Ocean as far east as the Pitcairn Islands, mirroring the distribution of the coconut palm; it has been extirpated from most areas with a significant human population, including mainland Australia and Madagascar.

The species shows a number of adaptations to life on land. Coconut crabs have organs known as branchiostegal lungs, which are used instead of the vestigial gills for breathing and, after the juvenile stage, they will drown if immersed in water for long. They have an acute sense of smell, which they use to find potential food sources.

Adult coconut crabs feed primarily on fruits, nuts, seeds, and the pith of fallen trees, but they will eat carrion and other organic matter opportunistically, such as turtle hatchlings and other crabs, including their own species. In 2016, a large coconut crab was observed climbing a tree to disable and consume a red-footed booby on the Chagos Archipelago. Anything left unattended on the ground is a potential source of food, which they will investigate and may carry away—thereby getting the alternative names of Robber Crab or Palm Thief “robber crab.” The species is popularly associated with the coconut palm, yet coconuts are not a significant part of its diet. Although they live in burrows, crabs have been filmed climbing coconut and pandanus trees. Climbing is an immediate escape route (if too far from the burrow) to avoid predation (when young) by large sea-birds, or cannibalism (at any age) by bigger, older crabs.

Mating occurs from May to September on dry land. Females glue the eggs to the underside of their abdomens, carrying the fertilised eggs underneath their bodies for a few months. At the time of hatching, female Coconut Crabs release the eggs into the edge of the sea, and then retreat back up the beach. The larvae that hatch are planktonic for 3-4 weeks. Their chances of reaching another suitable location is enhanced if a floating life support system avails itself to them. Examples of the systems that provide such opportunities include floating logs and rafts of marine or terrestrial vegetation. Similarly, floating coconuts can be a very significant part of the crab's dispersal options. They then settle to the sea-floor, entering a gastropod shell and migrating to the shoreline. At that time, they sometimes visit dry land. Afterwards, they leave the ocean permanently and lose the ability to breathe in water. As with all hermit crabs, they change their shells as they grow. Young coconut crabs that cannot find a seashell of the right size often use broken coconut pieces. When they outgrow their shells, they develop a hardened abdomen, discarding the acquired shells. Coconut Crabs reach sexual maturity around 5 years after hatching. They reach their



*A large Coconut Crab (leg span nearly 1 m) scavenging on the reef flat at Ile Manoël, Peros Banhos, BIOT,  
© Sam Pukis, Chagos Conservation Trust*

maximum size only after 40 to 60 years.

They dig their own burrows in sand or loose soil. During the day, the animal stays hidden to reduce water loss from heat. The coconut crabs' burrows contain very fine yet strong fibres of the coconut husk which the animal uses as bedding. While resting in its burrow, the coconut crab closes the entrances with one of its claws to create the moist microclimate within the burrow necessary for its breathing organs. In areas with a large coconut crab population, some may come out during the day, perhaps to gain an advantage in the search for food. Other times, they emerge if it is moist or raining, since these conditions allow them to breathe more easily.

Adult coconut crabs have no known predators apart from other Coconut Crabs and Humans. Their large size and the quality of their meat mean that Coconut Crabs are extensively hunted and are very rare on islands with a human population. Whilst Coconut Crab themselves are not innately poisonous, they may become so depending on their diet, and cases of Coconut Crab poisoning have occurred.

Coconut Crab populations in several areas have declined or become locally extinct due to both habitat loss and human predation. In 1981, the species was listed on the IUCN Red List as Vulnerable, but a lack of biological data caused its assessment to be amended to Data-Deficient in 1996.

Although declining in many areas throughout their range, Coconut Crabs seem to be doing better in BIOT. The largest island in the latter, Diego Garcia, has the highest population density per hectare of anywhere studied. It is a key species and at the top of its food chain. Efforts to maintain the species' good state in BIOT are worthwhile for its wider range, especially as it has never bred in captivity.