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**Christmas Island and Cocos (Keeling) Islands:
Biodiversity and Management Challenges**

PREAMBLE FOR VOLUME

Christmas Island is one of the most isolated places in the Indian Ocean, and one of the truly significant natural heritage sites on Earth. Its most famous denizen, the Red Crab (*Gecarcoidea natalis*), is world-renowned for its mass spawning, and this has been declared one of the 10 most amazing natural phenomena on Earth. With its large number of endangered and/or endemic seabirds, reptiles and crabs, it can surely lay claim to be the “Galapagos” of the Old World. Indeed, the connection to Charles Darwin goes much deeper. Christmas Island is acclaimed as the original oceanic island described by Darwin, and the Cocos (Keeling) group was the inspiration for him to develop his now famous and well accepted theory of coral atoll formation. However, Cocos (Keeling) Islands, while biogeographically close to Christmas Island, has many different faunal elements.

Christmas Island and Cocos (Keeling) Islands have long been associated with Singapore, before their becoming part of Australia in 1957. Researchers at the renowned Raffles Museum of Singapore in the days of the Straits Settlements were responsible for a large part of the work done on its natural history in the 20th century. With regard to the iconic crabs of the island, much of what we now know about these animals have been based on the excellent collections and papers of Carl Gibson-Hill and Michael Tweedie, both ex-directors of the Raffles Museum. In the years since 1957, many Australian institutes, notably the Western Australian Museum and several universities have conducted research work on the plants and animals of these islands.

It is with the crabs and other crustaceans in mind that the Raffles Museum of Biodiversity Research (now the Lee Kong Chian Natural History Museum) examined the possibility of a fresh study of the fauna in these islands in 2009. The sense of history was not lost on Singapore; that we are restudying what our predecessors had done decades earlier. Encouraged and facilitated by the then chief ranger, Max Orchard with the strong support of the Parks Australia; we eventually planned for a three-year survey programme on Christmas Island and Pulu Keeling. As the programme started as a crustacean-centric exercise, the museum roped in their long time research associate in the Queensland Museum, Peter Davie, Australia’s top crustacean specialist, to join in the planning.

The expedition team, coordinated by the Raffles Museum of Biodiversity Research with the Queensland Museum, eventually included a total of 11 researchers from Singapore, Australia, Japan and Taiwan, working from 2010 to 2012. As predicted by Max Orchard (who in the interim published his wonderful book on the Crabs of Christmas Island), the crustacean fauna of the island still presented many surprises. The expeditions uncovered many new records, and even a number of new species. Despite its size and years of study, the island still had many secrets. Notable discoveries have included the realisation that the famous Blue Crab of Christmas (long known as *Discoplax hirtipes*), is actually a new species, now named *Discoplax celeste*. Similarly, the common limestone crab long known as “*Chiromantes obtusifrons*” turned out to be a new species, now called *Chiromantes garfunkel*! More amazing was the discovery of two new species of cave dwelling crabs of the genus *Orcovita*, a genus previously not known from the Indian Ocean!

In 2012, senior staff from Parks Australia and the Raffles Museum of Biodiversity Research discussed the possibility of doing a much needed successor to the much used but now dated 1947 monograph on Christmas and Cocos (Keeling) Islands published in the *Bulletin of the Raffles Museum*. That monograph summarised what scientific knowledge we had about the islands, and is still a major reference. However, in the 60 years that have passed, much more has been learnt, and there are still new discoveries being made, as testified by the recent expeditions. The two organisations then decided on the jointly funded production of a new volume that will update and add to our knowledge of the fauna of these islands, in what is now the Australian Indian Ocean Territory. That is the genesis of the present tome.

The present volume has a strong focus on the crabs and other crustaceans of both Christmas and Cocos (Keeling) Islands; but there will also be numerous papers on various groups of aquatic animals, both freshwater and marine, written by a variety of researchers who have spent much effort and time studying the amazing wildlife on the island. It also includes reviews of the research and management efforts that are ongoing by Parks Australia as caretakers of these islands, to ensure that this unique heritage is conserved for posterity.

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