



Christmas Island blue crab

The Christmas Island blue crab was previously thought to be an aberrant-colour form of the land crab, or just an island peculiarity. But Professor Peter Ng and Queensland Museum senior curator Peter Davie were instrumental in solving its identity crisis, eventually naming it *Discoplax celeste*. On how it got its name, Prof Ng said: "I had proposed to name it after Queen Elizabeth, as the eureka moment was on the occasion of her diamond jubilee. But Peter, clearly not a royalist, politely objected. So we named it after the Latin word for sky blue. Our celestial blue crab! In hindsight – a much better name!" PHOTO: TAN HEOK HUI



Chiromantes garfunkel

This crab has striking yellow eyes which intrigued the scientists, Prof Peter Ng and Queensland Museum's Mr Peter Davie. Its eyes reminded them of the song Bright Eyes, by American singer Art Garfunkel. The crab was eventually named *Chiromantes garfunkel*. PHOTO: PAUL NG



Christmas mirabilis

The discovery of the crab was made in the marine caves of Christmas Island, and it represented a new family, new genus and new species. Prof Ng said: "To find a new species is cool. To find a new genus is ecstatic. To find a new family – well – that blows your mind! The marine divers found the specimens deep inside a sub-marine cave – no eyes, long legs, ghostly." PHOTO: TOHRU NARUSE

Nature's gifts galore on Christmas Island

S'pore team has found 10 species of crabs, prawns unique to island

Audrey Tan

With a name like that, one would expect Christmas Island to bear many gifts. It has not disappointed.

Among its treasures is the red crab (*Gecarcoidea natalis*) – a crustacean unique to the Indian Ocean island. These creatures move en masse from forest to sea to spawn once a year, turning roads and homes a bright red, in a phenomenon that famed naturalist David Attenborough reportedly regards as one of the most "astonishing and wonderful" sights.

But Christmas Island, about an hour's flight from Jakarta, has more surprises in store, as Singapore scientists are discovering.

Over four expeditions since 2010, the team has discovered 10 species of crabs and prawns, including the blue crab and the yellow-eye crab, which also cannot be found anywhere else in the world.

This festive season, people can get a glimpse of these creatures without having to travel all the way to the island that once belonged to

Singapore. Specimens of the unique creatures are on display at the Lee Kong Chian Natural History Museum, in a temporary exhibition called Christmas Island Red launched on Monday.

"It highlights the historical links between both islands – Singapore and Christmas Island – why conservation is important, and the discoveries we've made. Our predecessors in the 1930s and 1950s described many new species and we continue with this tradition," said crab expert and museum head Peter Ng, who led the expeditions.

Christmas Island was named on Christmas Day in 1643, and was part of Singapore until 1957, when it was sold by the British to the Australian government for £2.9 million, according to the website of the Christmas Island Tourism Association.

But close ties remain, especially in research, between the Republic and Christmas Island, which has a population of about 2,000. More expeditions are planned.

"There was the assumption that the island's fauna was well-known, as it is located so close to Indonesia. But we found that there is still so many things left to discover," said Professor Ng.

"There have been about 400 to 500 species recorded on the island,



but I think that is a gross underestimate because the island is actually not easy to survey as it has a very rugged landscape – land and sea."

Despite its welcoming name, Christmas Island is surrounded by inhospitable rocky cliffs which hampered early explorers. But Prof Ng and his team saw opportunity in adversity. "I was intrigued by why no one had found a freshwater cave crab, even though the island had so many limestone caves. So I looked for caves with the Australian Parks people, went into them, laid traps... and lo and be-

hold, we caught two new species of crabs – *Orcovita hicksi* and *Orcovita orchardorum*, and a new prawn (*Macrobrachium xmas*). Why had no one caught them before? Because they are few and scattered in a big cave system. Traps worked best!"

But Prof Ng considers his best discovery on the island to be the blue crab, which has a unique shell the colour of the sky. The crab was previously thought to be a unique colour form of the widely distributed land crab, *Discoplax hirtipes*.

But in 2012, Prof Ng and crustacean expert Peter Davie from the Queensland Museum discovered otherwise, after extensive study of museum and fresh specimens from Christmas Island and the whole Indo-West Pacific region.

"I had long known the blue crab was a problem," said Prof Ng. "I have been studying these crabs for the better part of a decade. When you put all the specimens from all over together, the differences are clear. And genetics has confirmed what we have seen."

Discoveries are not always the result of breaking new ground, finding new habitats, or luck, he said.

"Very often, discoveries are the result of cumulative knowledge and patience – to slowly build up a case, build up the evidence and the comparative material. It comes to a prepared mind and a careful build-up. The blue crab, which we named *Discoplax celeste*, is such a discovery."

Australian High Commissioner Bruce Gosper, who was at the launch of the exhibition, said: "The work we're doing in this area is something that's been enhanced in recent years through the comprehensive strategic partnership between Australia and Singapore."

audreyt@sph.com.sg