Christmas comes early for scientists

Raffles Museum team finds new crab species on Christmas Island

BY GRACE CHUA

A TEAM of Singapore scientists who explored the remote Christmas and Cocos (Keeling) Islands received an unexpected gift: Not only did they find a number of new species of crabs, but they are also beginning to understand better how different species arise in isolated habitats.

Researchers from the Raffles Museum of Biodiversity Research took a two-week trip last month to the islands off Sumatra and discovered species new to science.

The icing on the cake: Last week, they published records of three new crab species that were discovered on their first research trip in 2010, in the Raffles Bulletin of Zoology.

One of them, a sky-blue crab found on Christmas Island, was thought to be a colourful variant of another species, but they proved that it is genetically different.

Genetics also suggests that the crabs began to evolve into a separate species only two to three million years ago – an eternity to humans, but the blink of an eye on geologic time scales.

“We used to think that evolution takes millions of years, but now think that it can take place much faster,” explained Professor Peter Ng, who heads the Raffles Museum.

Christmas Island, a 132 sq km speck in the Indian Ocean south of Sumatra, was chosen for its long history with Singapore, which administered it in colonial times. (In 1957, it was transferred to Australia.)

Because the original Raffles Museum had studied the island in pre-war times, its collection holds a library of specimens that researchers can compare their new finds to.

“Even though Christmas Island is Australian, its rainforests and reefs are South-east Asian, and our focus is South-east Asian biology,” Prof Ng said.

The Cocos (Keeling) Islands to the south-west, also an Australian territory, feature a similar environment.

They consist of two atolls. These are islands with an enclosed lagoon, formed when coral reefs grow around a volcanic island which then subsides, leaving just the reef like a fringe around a balding man’s pate.

The northern atoll, North Keeling, is battered by waves so strong that boats do not land there.

Instead, the research team had to swim about 20m to shore, said Dr Tan Heok Hui, a fish taxonomist with the museum.

But they were rewarded with new finds, such as a purple land crab and a marine crab from 40m depths.

The research has implications for Australia’s national parks management.

If a species is found only on a particular island, for instance, the rules that govern it, such as limiting access or harvesting, are stricter than if it is widespread.

This year’s trip was supposed to be the last of three, but Dr Tan said the team is trying to get funding to go back later this year. “We’re trying to strike while the iron is hot.”

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