Crabs put S’pore on map

NUS scientists’ photos of 600 crab species found in Vanuatu get published on National Geographic website

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The National Geographic Society has published a series of stunning photographs taken by Singaporean scientists working on a remote South Pacific island.

This year, a team of researchers from NUS (National University of Singapore) and the Raffles Museum of Biodiversity Research discovered and photographed over 600 crab species in Vanuatu, an island nation in the Pacific Ocean. The images are part of a larger project to document the biodiversity of Vanuatu, which is home to over 800 species of crabs.

The team, led by Dr. Tan Swee Hee, a zoologist at NUS, spent several weeks in Vanuatu photographing the crabs and their habitats. The images are part of a series of photos that will be published in the National Geographic magazine.

The crabs were photographed using a combination of camera equipment and underwater photography techniques. The team used a combination of macro and wide-angle lenses to capture the details of the crabs and their environments.

"We live on this planet and it is shared with all these different species of animals. A basic question we want to know is: How many are there? It’s like putting together a huge jigsaw puzzle,” said Dr. Tan Swee Hee, a zoologist on the team.

The team discovered a variety of crabs, including some that had never been photographed before. The images are expected to provide valuable insights into the biodiversity of the region and help conservation efforts.

"It was a long trip and we lost our luggage along the way. When we went out to buy new clothes, we discovered to our surprise that the provision shops in Vanuatu were run by Chinese people,” said Dr. Tan Swee Hee, a 37-year-old zoologist.

The scientists lived in hotels and college dormitories. Meals consisted mostly of beef, rice and pomelo juice.

They worked seven days a week, off a ship that trawled the seabed for specimens at depths of up to 500m.

Each haul brought up about 100kg of creatures like clams, sponges, sea lilies, sea urchins, snails and starfish, which were then sorted and examined.

Rough seas

"The sea was rough. We had swells of 2m to 3m. There was an excellent French cook on board but unfortunately, the food would all come out afterwards,” said Dr. Tan Heok Hui, 37, another zoologist on the team.

During a dive, he was bitten by a moray eel when he was trying to collect specimens from a coral.

"At first, I thought it was a small bite but when I looked at it, I saw a whole piece of flesh dangling off my finger. There was a lot of blood and there were tiger sharks around, so that was definitely a scary experience," he said.

The wound, which needed five stitches, caused him to cut short his stay.

But the result has been worth it: 10,000 exquisite pictures of the crab species which will take years, if not decades, to sort out.

"We need to study their features carefully and compare them with similar specimens from around the world. It’s a tedious process, because nobody wants to make the mistake of declaring a new species when it isn’t,” said Dr. Tan Swee Hee.

But already, the Singapore team has discovered and named two new crab species never seen before.

One is the Volucrana erectus, a flat-shell crab that dwells on – and resembles – driftwood. The other is the Zappia pectinata, which resembles a smooth pebble.

"We live on this planet and it is shared with all these different species of animals. A basic question we want to know is: How many are there? It’s like putting together a huge jigsaw puzzle,” said Dr. Tan Swee Hee.

"But we also want to know: Is there a new species out there we can exploit to help alleviate hunger? Or for medicine? After all, researchers are already studying the possibility of using crab poison for cancer treatment one day."

PICTURES: RAFFLES MUSEUM OF BIODIVERSITY RESEARCH

HUNT: The S’porean team worked seven days a week trawling the seabed for oceanic specimens.

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**OTHER CRAB SPECIES FOUND**

**LYBIA TESSSELLATA (BOXING CRAB)**
This feisty little fellow likes to carry live sea anemones in its claws, using them as weapons when threatened. Little wonder it’s also known as the pom-pom crab.

**PSEUDOMICIPPE (FALSE VELCRO CRAB)**
This smart shell has a knack for attaching algae to its hooked hairs on its legs (just like velcro) as camouflage.

**HOPLOPHYSIS OATESI (SOFT-CORAL SPIDER CRAB)**
Looking like the crest on Spiderman’s chest, the spider crab makes its home among soft corals. Its coral-like appearance of soft colours and spikes lends it a cloak of invisibility.

**VULTOCINUS ANFRACTUS (DRIFTWOOD CRAB)**
A new species discovered by the Singapore team, it is a fist-sized crab that dwells on — and resembles — driftwood.

**ARCANIA GRACILIS (GRACEFUL JADE CRAB)**
Looking more like an alien mother ship, this crab’s claws are long and slender, useful for catching those elusive worms. Aunts would be enticed by its shiny shell, which resembles polished jade.