

# Plan to save Singapore freshwater crab from extinction

By CAROLYN KHEW

EXPERTS here have come up with a detailed conservation plan to help the *Johora singaporensis* crab claw its way back from the brink of extinction.

The effort, likely to be the first of its kind in the world for an invertebrate (without backbone) species, aims to save the pebble-size crustaceans – found only in Singapore – through captive breeding, better understanding of the crabs’ genetics and demographics, and habitat protection, among other things.

Dr Daniel Ng of the National University of Singapore’s (NUS) department of biological sciences, said that the Singapore freshwater crab, as it is commonly called, is of national significance as the crea-

tures are uniquely Singaporean. “This species is named after Singapore, which underlines the fact that our nation should take a leading role in safeguarding this critically endangered species from extinction,” he said.

But scientists could not do it alone, added Assistant Professor Darren Yeo, who is also from the NUS biological sciences department and a member of the conservation effort. “When we say we want to conserve, we cannot just say we want to. So many things have to fall in place like management and collaboration between different stakeholders – which a bunch of scientists alone are not necessarily equipped to do.”

So the blueprint was put together by experts from NUS, the National Parks Board (NParks), Wildlife Reserves Singapore (WRS) and the International Union for Conservation of Nature.

Dr Ng estimates that there are only a few hundred reproductively mature individuals in the wild. The omnivorous crabs are known to exist in five freshwater streams in the Bukit Timah Nature Reserve, Bukit Batok and Bukit Gombak and, more recently, were discovered in a protected security area in Bukit Gombak.

As research on *J. singaporensis* started gaining momentum only two to three years ago, a lot is still not known about them, including the genetic diversity of the crabs which live in homes sometimes less than 5km apart. A breeding plan is in place to hopefully establish a healthy population before the crabs are re-introduced into suitable habitats.

Dr Sonja Luz, director of conservation and research at WRS, which runs the River Safari, said the captive breeding programme is still in its infancy as the crabs were introduced into their captive facility only in March: “We are still trying to get an understanding on the ideal set-up for them to successfully breed.”

Dr Lena Chan, director of the National Biodiversity Centre at NParks, said each location where the species is found has different characteristics and will require site-specific management. Plans for each location and potential reintroduction sites will be developed by researchers and officers from NParks, NUS and WRS.

Professor Peter Ng, a crab expert who discovered the species in 1986, said he was surprised a “tiny, unsexy, boring-looking small animal without a backbone” was receiving treatment usually reserved for the stars of the animal kingdom such as pandas and whales. “It is not a bad goal. It will be a tough goal. And they may well fail,” he said of the effort.

If it had not materialised, however, he noted: “The crab could have quietly died out, and no one would have been the wiser.”

✉ [kcarolyn@sph.com.sg](mailto:kcarolyn@sph.com.sg)



NParks researchers (top) carrying out fieldwork on the *Johora singaporensis* crab (above) this year. Experts estimate there are only a few hundred reproductively mature members of the species in the wild. PHOTOS: CAI YIXIONG, DANIEL NG

## Healthy population discovered in Bukit Gombak

CRAB researchers have cause for cheer – a previously unknown and healthy population of critically endangered *Johora Singaporensis* crabs has been spotted in a hill stream at a protected security area in Bukit Gombak.

Even though the stream is located less than 500m away from a previously known habitat, researchers behind the discovery say

that the finding is significant.

“There are not that many of them, so knowing every additional locality is really great news,” said Assistant Professor Darren Yeo from the department of biological sciences at the National University of Singapore (NUS). “Every additional bit of information helps in the conservation of the species.”

The crab populations are likely to

be isolated from one another, with the crabs breeding only within their own populations.

The study involved experts from NUS and the National Parks Board.

Two years ago, they found several of the crabs hiding under small rocks and leaf litter in a stream. Night surveys revealed more of them foraging for food – and even a brooding female.

Encouragingly, the population density was relatively high as well, with about seven crabs per square metre.

Said Dr Daniel Ng, also from the biological sciences department and one of the researchers behind the study: “A higher population density could indicate that the site habitat is more suitable for this species.”

CAROLYN KHEW