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Save our frogs.... and toads



Ong (second from left, squatting, middle) and fellow researchers at Gunung Penrissen listening attentively to Dr Vladimir Shakhparonov, a herpetologist from Moscow State University.

FOREST JEWELS: Environmental groups often champion the preservation of other species of fauna, but experts say certain species of frogs and toads that are endangered need protection, too, writes Suzanna Pillay

TRAIPSING through the jungle in search of a lost frog species might seem like a lost cause to most people, but to postgraduate student Ong Jia Jet, it is a worthy passion.

In June 2011, Ong, who is pursuing a masters in herpetology, was a member of a small expedition, funded by Shell Chair and Universiti Malaysia Sarawak's (Unimas) Institute of Biodiversity and Environmental Conservation, that rediscovered the rare Bornean Rainbow Toad (*Ansonia latidisca*), an amphibian not seen since 1924.

The rediscovery of the species at the higher elevations of Gunung Penrissen in Western Sarawak attracted worldwide interest and was a triumph for the expedition, which managed to snap the first-ever photograph of the toad.

Prior to the rediscovery, the only clues to the toad's appearance were illustrations by early European explorers. Also known as the Sambas Stream Toad, it was listed as one of the "World's Top 10 Most Wanted Lost Frogs" in a 2010 campaign by Conservation International

and International Union for Conservation of Nature Amphibian Specialist Group, with support from Global Wildlife Conservation.

"The Search For Lost Frogs" campaign encouraged scientists worldwide to search for 100 threatened amphibian species not seen for decades.

"During my three-month internship with Unimas' Institute of Biodiversity and Environmental Conservation in 2011, I joined the research team, led by my supervisor, Professor Indraneil Das, to search for this lost frog.

"Initial searches for the Bornean Rainbow Toad had been fruitless. Then, one lucky night while we were exploring the higher elevations of Gunung Penrissen above 1,000 feet, with one of Das' graduate students, Pui Yong Min, we rediscovered three of them on three mature trees near the forest trails."

Intrigued by the find, Ong wanted to know more about the little-known tree-dwelling toad.

"How could a toad that had been missing for so many years reappear?"

He applied to London-based Rufford Small Grant for Nature Conservation for a grant to study the toad further and was successful.

For the past year, Ong has been busy with fieldwork, investigating the ecology of toads in their natural habitat.

Having completed his study, he is working on a thesis and describes the results from his fieldwork as being very encouraging.

"Information on the natural history of the toad is totally new to science. It adds to the limited knowledge of anuran amphibians (frogs and toads) in Borneo.

"To date, we have good data on what they eat and where they are distributed along the jungle trails.

"A tiny population of the Rainbow Toad still exist in the upper range of Gunung Penrissen. Their primary diet consists mainly of ants and beetles."

Another major achievement of his study, Ong added, was the world's first recording of the toad's call.

"Each species of toads and frogs has its own distinct calling patterns. Only the males make these calls."

Ong said the study had shown that the arboreal species survived only in the unprotected primary forest of the Penrissen range vulnerable to logging.

"We are not sure about the exact population size, but we are certain that the species is not widespread and has to be protected.

"I hope that important sites or the known localities of the species can be effectively preserved."

In the International Union for Conservation of Nature Red List of Threatened Species, the Rainbow Toad is listed as endangered because of habitat loss and threats from forest fragmentation.

Ong said logging had ceased in the upper part of the Penrissen range, but the current threat to the toad's survival is land conversion for recreational use and illegal wildlife trade for exotic species.

"I refrain from divulging the exact site where I had discovered the population, owing to the intense demand for brightly-coloured amphibians by those involved in the pet trade.

"The Rainbow Toad is vulnerable to the illegal wildlife trade for exotic species."

Like his student, Das enjoys working with frogs and toads and enjoys highlighting their diversity in Sarawak and Borneo.

"Kubah National Park, for instance, is such an important study research area for frogs because about 56 species of amphibians are now known to exist here. A specific site -- the "Frog Pond" - is the breeding site of at least 16 of these species, all of which can be seen easily."

An interesting frog species that Das co-discovered in the national park in 2010 with German researcher Dr Alexander Haas from the Biozentrum Grindel und Zoologisches Museum of Hamburg was the micro-sized Matang Narrow Mouthed Frog (*Microhyla nepenthicola*), which breeds within *Nepenthes ampullaria* pitcher plants.

"We made the discovery by accident. We heard the calls of an unknown frog and were drawn to a pitcher plant along the way. The tiny frog's call sound is similar to running your finger over the teeth of a comb.

"We were very surprised to discover the tiny species thriving in a plant that contains fluid for digestion. In this case, the pitchers contain very weak acid and can be inhabited by the tadpoles produced by the micro-sized frogs.

"Considered as one of the smallest frogs in the world, the adult males of this species range in size between 10.6mm to 12.8mm long and are described as being no bigger than a pea."

In April, the Institute of Biodiversity and Environmental Conservation and Sarawak Forestry Corporation co-organised The Bornean Frog Race, an event that coincided with the annual world "Save The Frogs Day".

Open to the public, it included talks on amphibians and their conservation, in addition to exhibits of sights and sounds, and a photography competition. It was the second time that the event was held in the state.

"Amphibians, for their dual requirement of both clean water and intact forests, make themselves suitable surrogates of tropical biodiversity and useful indicators of the health of the environment," said Das.

"If one of these two elements are missing from an environment, chances are that frog species, too, would not be present.

"Creation of protected areas, such as national parks like Kubah, is perhaps the best way to protect amphibian species whose survival is particularly threatened by habitat destruction.

"Rates of deforestation are high in Borneo, the major driver being logging for hardwood and land clearing for oil-palm plantations and urbanisation. During the dry season, many forests are prone to fire that are accidentally started or by settlers to clear vegetation for agricultural purposes.

"Haze probably affects the frogs negatively, but we have no data that supports this. Many chemical particles in the environment are bad for species with sensitive skin, such as frogs."

Source: **New Straits Times**