MANCHESTER MUSEUM

Toad breeding success at Manchester Museum is world first

Manchester Museum, part of The University of Manchester, is delighted to announce that it has become the only institution outside their country of origin to breed the Variable Harlequin Toad, one of the world's rarest amphibians.

In a unique collaboration between Panama Wildlife Charity PWCC, Manchester Museum, and the Faculty of Medicine, Biology and Health at The University of Manchester, the team recreated the exact conditions that the Variable Harlequin Toad (*Atelopus varius*) enjoys in the wild in Panama in Central America. This project exemplifies Manchester Museum's mission to build understanding between cultures and a sustainable world

The work with the critically endangered toads is a key part of a project which combines non-invasive research and conservation education involving local communities in the Santa Fe National Park in Panama.

This first successful captive breeding of the amphibian outside Panama is the culmination of 3 years of painstaking work since the 6 specimens of the Variable Harlequin Toad arrived at the Museum in 2018.

The Manchester Museum's Vivarium team, who are world renowned experts in amphibian husbandry, recreated the turbulent tropical stream with boulders and rocks, where this toad lays its eggs. They monitored their amphibians' native habitat closely to gain baseline data so they could recreate the correct temperatures, water levels, flow, and lighting. The special lighting allowed a specific species of tropical algae to grow in the Museum's aquarium, a key condition for successfully rearing of the tadpoles.

Andrew Gray, Curator of Herpetology at Manchester Museum explained**:**

"These rare toads usually live deep in the rainforest and only go to the streams to breed under very specific conditions, so it was vital we were able to recreate them. Tropical algae on submerged rocks are the only things these tadpoles eat, because of their specialised, sucker-like mouthparts. So it was essential we were able to grow it in the aquarium.

"The adults can stay underwater for very long periods before breeding and were in the aquarium for over a month. We were very nervous about putting them in such deep water but they walked along the bottom just like they were walking on land; it was unbelievable."

The Variable Harlequin Toads from Santa Fe National Park are unique and Manchester Museum was invited by the Panamanian authorities to keep and breed them in order to

highlight their conservation needs. They will also provide a back-up population in case they become extinct.

Andrew Gray added: *"The University is the only institution outside Panama to house these amphibians; it's a huge responsibility the team do not take lightly. So we're over the moon we've achieved the first captive breeding of this remarkable species. Our success heralds the next chapter for more innovative amphibian conservation work."*

Professor Amanda Bamford from The University of Manchester worked with the team in Panama.

She said: *"This is a fabulous project, especially as* Atelopus *toads are one of the most highly endangered groups of amphibians on the planet. I'm particularly proud of our collaboration with our Panamanian conservationist colleagues, which involves training local people as co-researchers and providing educational resources to local schoolchildren in the area.*

"I feel this project uniquely involves research, education and community involvement and is a beacon for such conservation initiatives."

Dr Luis Urena, Director of PWCC said:

"Looking after our global biodiversity must be a top priority for all citizens in this world. We are proud to use the conservation of the Harlequin toad of Panama as an example of the positive difference we can make"

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Notes to Editors

Andrew Gray and Professor Bamford are available for comment

Images are available of the frogs and the eggs.
Videos are available showing the breeding and tadpoles.

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MANCHESTER MUSEUM

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About Manchester Museum

Manchester Museum, part of The University of Manchester, first opened in 1890. It is the UK's largest university museum with a collection of about 4.5 million items from every continent. Its combination of the academic and the popular is what makes the Museum so distinctive and lies at the heart of its widespread appeal. The Museum's vision is to build understanding between cultures and a sustainable world. Every year over half a million people visit. Over the next two years, Manchester Museum is working towards an exciting new £13.5 million project *hello future*, to transform and develop the Museum becoming more inclusive, imaginative and caring to the diverse communities it serves.

The hello future transformation includes:

- A new Exhibition Hall
- South Asia Gallery
- Lee Kai Hung Chinese Culture Gallery
- Redisplayed galleries
- New entrance and visitor facilities with focus on inclusive and accessible design

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