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Turtles Get Some Good News in 2020

Scientists Release Genetic Results Confirming A Female Turtle Captured in October 2020 Is Definitely the Near Extinct Swinhoe's Softshell Turtle (*Rafetus swinhoei*)

Also Known as the Swinhoe's Softshell Turtle – Hoan Kiem Turtle

This Discovery Means At Least One Male and One Female Are Now Known to Exist

Viet Nam Government Leading this Effort to Prevent Extinction of the Swinhoe's Softshell Turtle, Along with ATP/IMC, WCS and Other Partners

Ha Noi, 18th December 2020, Ha Noi Department of Agriculture and Rural Development, in collaboration with the Asian Turtle Program (ATP) of Indo-Myanmar Conservation (IMC) and the Wildlife Conservation Society (WCS) have made dramatic progress to possibly prevent the extinction of the Swinhoe's Softshell Turtle (*Rafetus swinhoei*). At a workshop here today, scientists revealed that genetic testing has confirmed a female turtle captured on the 22nd of October 2020 in Dong Mo Lake is definitely a Swinhoe's Softshell Turtle.

This confirmation means there is now one known male Swinhoe's Softshell Turtle at Suzhou Zoo in China; and one known female captured in October 2020 in Dong Mo lake, Ha Noi, Viet Nam. Authorities believe there is at least one more of these turtles in Dong Mo Lake and yet another in nearby Xuan Khanh Lake. Conservationists hope to at least capture and determine the sex of the turtles in both Dong Mo and Xuan Khanh Lakes this coming spring. Ultimately, conservationists aim to ensure at least one male and female are given a chance to breed to ensure this species can return from the brink of extinction.

Nguyen Huy Dang, Deputy Director of Ha Noi Department of Agriculture and Rural Development said, "Hanoi Department of Agriculture and Rural Development (Hanoi DARD) determines that this is an important mission and needs to be conducted effectively. Hanoi DARD has consulted with Hanoi People's Committee to promulgate directing documents and to coordinate with international organizations to initially implement the plan for the conservation and development of Swinhoe's Softshell Turtle. Hanoi DARD has then instructed the Hanoi Department of Fisheries



The turtle was photographed before being released back to the lake. © Hoang Van Ha - ATP/IMC

to continue implementing the Hanoi People's Committee's Plan 200 to restore and conserve the rare and endangered soft shell turtle species listed in Vietnam's Red Data Book and IUCN Red List. ”

Timothy McCormack, Program Director of the ATP/IMC said: ”It is so important that we are taking these steps, confirming the sex of the identified animals, and in the case of the animal in Xuan Khanh Lake confirming the species, as currently this has only been based on Environmental DNA. Once we know the sex of the animals in Vietnam, we can make a clear plan on the next steps, hopefully we have a male and a female, in which case breeding and recovery of the species becomes a real possibility. At the same time our surveys in other areas of Vietnam suggest other animals might still survive in the wild, and we need to be looking at bringing these together as part of the broader conservation plan for the species.”

Said WCS Viet Nam Country Director Hoang Bich Thuy: “In a year full of bad news and sadness across the globe, the discovery of this female can offer all some hope that this species will be given another chance to survive. Overhunting and habitat destruction have contributed to the

demise of this species. In Viet Nam, with the leadership of the government, we are determined to take responsibility to give this species another chance.”

Said Andrew Walde, Chief Operating Officer of the Turtle Survival Alliance, a technical advisor on this project, “This is the best news of the year, and quite possibly the last decade, for global turtle conservation. As the most endangered turtle on Earth, a tremendous amount of energy and resources have been dedicated to the preservation of Swinhoe’s softshell turtle. Following the loss of the only known female at the time in 2019, the confirmation of this wild specimen as female is a cause for celebration for all those who have worked tirelessly to see this turtle species survive. We commend the dedication and leadership of the Vietnam Government, Ha Noi DARD, and our colleagues at ATP and WCS. We look forward to continuing to provide technical expertise to the project in 2021, and continued successes.”

Previous to this discovery, there had been a major effort to breed the remaining two known animals of the species. Then, the last known female Swinhoe’s Softshell Turtle died on April 13, 2019, during recovery from anesthesia after an artificial



The capture team photographed with the giant turtle captured in October 2020.
© Hoang Van Ha - ATP/IMC.

insemination procedure in Suzhou, China. The male and female turtles, which had failed to produce offspring naturally since they were brought together in 2008, were determined to be healthy for the procedure, and similar anesthesia procedures had previously been performed without incident. When the female died, the hope for the species turned to the possibility of additional turtles in two different lakes in Viet Nam, Dong Mo Lake and Xuan Khanh Lake.

Since early 2019, with technical support from the ATP/IMC and WCS, Ha Noi Fisheries Department had organized various consultation and review meetings to develop a technical approach for the discovery and capture; conduct more surveys of Dong Mo Lake; and select trapping locations. The plan was delayed due to COVID-19 lockdowns in Viet Nam; preventing international team members, including veterinary teams and turtle experts, travelling to Viet Nam due to travel restrictions.

In September 2020, a team went back into the field; including local fishermen, the Ha Noi Fisheries Department and the ATP/IMC and WCS personnel. They spent weeks putting out a series of nets to create a trapping zone, making sure that from the 1,400 ha lake (about 3459 acres), the turtle could be observed in a fenced-in 90 ha (about 222 acre) capture zone. On October 22, 2020, an animal was seen next to the net fence and a quick-thinking team member was able to capture the animal with the help of a local fisherman.

A temporary holding pond had already been prepared on a small island in the lake and a veterinary team from ATP/IMC and WCS arrived in a matter of hours, along with an international veterinarian working for Four Paws Viet (A bear rescue center) with ultrasound equipment to allow the animal to be clearly sexed. With the close coordination and technical support from the capture and animal care teams, on October 23, 2020, a health check was done, samples were taken, ultrasound was performed and a physical check was recorded. The animal weighed in at 86kg (189.5 pounds) and 1m (3.2 feet) in length. An identification microchip was implanted, while swabs and blood samples were taken for a future conservation plan. To everyone's great relief, she was healthy, strong and keen to get back in the lake where she was released on the same day.

A comparison of head markings from the animal captured in October 2020 against those of a large Swinhoe's Softshell Turtle rescued and released back into Dong Mo Lake in November 2008 indicate that it is the same animal that has been caught in 2020.

And today at the Ha Noi workshop, the genetic results from the tests confirmed this turtle was a female Swinhoe's Softshell Turtle (*Rafetus swinhoei*). This forensic exam was done by the Institute of Ecology and Biological Resources of the Vietnam Academy of Science and Technology and the independent gene analysis was done by the Department of Natural Resources and



The animal was attached PIT tag device before being released back to the lake. © Hoang Van Ha - ATP/IMC



The capture team took measurement of the animal. © Hoang Van Ha - ATP/IMC

Conservation, the Central Institute for Natural Resources and Environmental Studies, Viet Nam National University (VNU CRES) in Ha Noi. The Ha Noi Department of Agriculture and Rural Development on behalf of Ha Noi People's Committee, co-hosted the workshop to update on the process of implementing the conservation plan of the *Rafetus swinhoei* (Hoan Kiem Turtle) during 2018 – 2020 period in Ha Noi . Representatives from technical and managerial agencies, conservationists, reporters and journalists of media agencies attended the event.

With sightings of a second animal in Dong Mo Lake, additional work started at the end of November with the capture team which then did simulation exercises on different trapping methods. It is hoped the second animal can be captured and confirmed at the lake in spring 2021 when the water level is at the lowest. The team is hopeful the second animal is also a Swinhoe's Softshell Turtle and a male, giving even more hope that the world's rarest species can mate and produce offspring in either a semi-wild area or captivity in Viet Nam.



Veterinarians collect tissue samples of the animal to identify and confirm its species and sex.

© Hoang Van Ha - ATP/IMC



Experts conducted ultrasound check on the captured turtle. © Hoang Van Ha - ATP/IMC



Ultrasound was performed, which helps to confirm the animal was female. © WCS Vietnam Programme

The Viet Nam Government is leading the effort and partnerships to save this species. The partners conducting this work thank the following: Forest Protection Department (FPD), Viet Nam Forest Administration, the Biodiversity Conservation Agency (BCA) of the Ministry of Natural Resources and Environment (MoNRE), Fisheries Department, Finance department, Natural Resources and Environment department, Planning and Investment department, Science and Technology department, Tourism, Culture and Sports department, Ba Vi district People's Committee, Son Tay town People's Committee, the Institute of Ecology and Biological Resources of the Vietnam Academy of Science and Technology, the Central Institute for Natural Resources and Environmental Studies, Viet Nam National University (VNU CRES), and the Ha Noi Department of Agriculture and Rural Development.

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For further information please contact:

Asian Turtle Program - Indo-Myanmar Conservation

Room 1806, C14 Bac Ha Building, To Huu road,
Nam Tu Liem Dist., Hanoi, Vietnam

PO Box 46 - Hanoi International Post Office

Tel: +84 (0) 24 7302 8389

Email: info@asianturtleprogram.org

Website: www.asianturtleprogram.org

Facebook: www.facebook.com/AsianTurtleProgram

Youtube: [c/AsianTurtleProgram](https://www.youtube.com/c/AsianTurtleProgram)