

Spot a horseshoe crab in Singapore? Researchers want to know

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Its head looks like a helmet, it has a long spike for a tail, and its blood is literally blue.

If you spot these distinctive features of a horseshoe crab in Singapore, a research project here wants to know.

It is looking for volunteers to report sightings of the prehistoric creature, and help conduct monthly field surveys along Singapore's coastlines.

This can help the project's researchers keep track of the number of horseshoe crabs here, as well as where they live.

The researchers are hoping that more of such data can bolster conservation efforts for the elusive animal.

Horseshoe crabs have been around for 450 million years, according to The Natural History Museum in London.

This makes them older than dinosaurs, earning them the moniker "living fossils".

They are a keystone species of mudflats, mangroves and sandy shores, where they dwell and help keep sediment healthy. Their eggs, laid in the millions, also feed other species in the ecosystem.

Globally, their most imminent threat stems from habitat change and human activity, say experts.

In some parts of the world, the

animals are sought after for medical research.

Their blue-tinged blood contains a clotting enzyme crucial for bacterial testing and vaccine development, including for Covid-19. In 2020, nearly 700,000 horseshoe crabs were harvested for their blood, according to the National Geographic magazine.

Despite their importance, there remains many gaps in the knowledge of horseshoe crabs native to South-east Asia, said research fellow Lee Bee Yan from the National University of Singapore's Tropical Marine Science Institute, who heads the project.

Lee, a crab expert, hopes to compile the "much-needed" information on the distribution, abundance and habitat use of horseshoe crabs in Singapore.

There are four living species of horseshoe crab globally. Singapore is home to two of them – the coastal horseshoe crab (*Tachypleus gigas*) and the mangrove horseshoe crab (*Carcinoscorpius rotundicauda*).

The coastal horseshoe crab is more commonly associated with sandy shore habitats, while the mangrove horseshoe crab is typically found in mangroves and mudflats, said Lee.

Both species are listed as "vulnerable" in the Singapore Red Data Book, which compiles the descriptions and conservation statuses of threatened plants and animals in



A tour guide showing where eggs are found in a mangrove horseshoe crab near Desaru. Researchers are looking for volunteers to report sightings of the prehistoric creature in Singapore to bolster conservation efforts. PHOTO: ST FILE

the Republic.

Under the International Union for Conservation of Nature (IUCN) Red List of Threatened Species, which details the extinction risk of fauna, flora and fungi globally, the two species are globally listed as "data-deficient".

This was based on the last assessment conducted in 1996, and means there is a lack of information to make an informed assess-

ment of the species' risk of extinction.

Lee is hoping data collected on the horseshoe crab can help with future IUCN Red List assessment for the species, as well as conservation work.

Research has shown that there are now fewer suitable habitats for horseshoe crabs because of coastal development and habitat changes, Lee said.

Nature Society Singapore surveys conducted since 2007 at a mudflat at the end of Kranji Road – where mangrove horseshoe crabs have been sighted – estimated that the number of horseshoe crabs there has fallen to the lower two-digit range over the past decade.

This is compared with about 400 to 500 individuals about 16 years ago, said Lester Tan, chairman of the society's marine conservation

group. Tan is not involved in Lee's project.

Since April, Lee has been conducting studies at coastal sites – Coney Island, Changi Beach, East Coast Park and Sentosa – where she collects information on the distribution, abundance and habitat use of horseshoe crabs.

"Understanding where these species occur and how their populations are changing is an important step towards their long-term conservation," she said.

To help in this effort, she is also recruiting volunteers who are interested in marine conservation and citizen science. They do not need a background in science or prior experience working with horseshoe crabs to volunteer.

Sign-ups are now open, and are expected to close in the second half of 2027, said Lee.

"Engaging the public in biodiversity monitoring can increase awareness of Singapore's coastal ecosystems and the conservation challenges faced by marine species," she added.

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• Sightings of the horseshoe crab in Singapore can be submitted at <https://bit.ly/hs-crabervation>

• Those interested in the volunteer scheme can e-mail the Tropical Marine Science Institute at horseshoe-crabs@nus.edu.sg