

Tree species discovered by Indonesia, S'pore team

Scientists' discovery is first one of a tree in peat swamp habitat in almost 60 years

HIDDEN TREASURES

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DR LAHIRU WIJEDASA

Audrey Tan
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A new tree species has been discovered in the peat swamp forests of Indonesia by two scientists based in Singapore and their Indonesian colleague.

Their discovery of *Disepalum rawagambut* is the first one of a tree in a peat swamp habitat in almost 60 years.

The last peat swamp forest tree found was the *Shorea retusa* back in 1963, also in Indonesia.

Dr Lahiru Wijedasa, who is part of the team behind the latest find, described it as a chance discovery.

"We came across this tree in our plots back in 2015. But without flowers, we did not know it was a new species," said the scientist from the integrated tropical peatland restoration programme at the National University of Singapore's (NUS) Environmental Research Institute.

Around November 2020, however, there was a mass flowering event at their study site – a peat swamp forest in the Jambi province of Indonesia's Sumatra island.

The Covid-19 pandemic kept Dr Lahiru away from the site, but the rare event was documented by his Indonesian colleague, research assistant Agusti Randi.

"In our 40 years of collective ex-



Research assistant Agusti Randi with a bunch of immature fruits from the *Disepalum rawagambut*, a new species of peat swamp forest tree discovered in the Jambi province of Sumatra island. PHOTOS: COURTESY OF AGUSTI RANDI



The fruits of the *Disepalum rawagambut* tree are bright red when they first appear but turn black after they ripen.

perience, we have never seen anything like it – the forest was full of colourful flowers and amazing smells," Dr Lahiru told *The Straits Times* over e-mail.

"It was then that we found that this tree in our site was nothing like we had ever seen before. Working closely with Dr Daniel Thomas from the Singapore Botanic Gardens, an expert on this group of trees, we confirmed that it was, in fact, new," he added.

Over the following months, Mr Agusti observed the flowers on the

two mature trees found at the site becoming fruits, which were eaten by hornbills and mammals.

Their findings were published on Thursday in the scientific journal *Phytotaxa*.

Peat swamp forests are one of mankind's greatest allies against climate change. These habitats, formed when tropical forest trees grow in water-logged soil, are natural carbon sponges.

The leaves of the trees take in planet-warming carbon dioxide through photosynthesis.

When leaves and other tree debris fall off, they decompose slowly because they are covered by water.

So while carbon dioxide from this decomposition is being released in an intact peatland, more carbon is being stored in the soil, resulting in an overall net removal of carbon from the atmosphere.

Think-tank World Resources Institute has estimated that tropical peatlands can store up to 20 times more carbon than non-peat mineral soils. Yet, these habitats are under threat.

In Indonesia, for instance, peatlands are often drained and cleared for palm oil or pulp and paper production.

Dr Lahiru said the latest discovery shows how little is known about peat swamp forest trees.

He added: "It (the latest discovery) makes us wonder, what else is hiding in plain sight out there? Or for that matter, what are we losing without even knowing it when a forest vanishes?"

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