



‘Christmas’ wish for Pulau Ubin takes root

Plan to turn former aquaculture ponds into mangrove habitats

Audrey Tan

Christmas is just around the corner and boughs of imported holly are already decking many halls and building facades.

But Singapore has its own version of the Christmas holly – and it can be found growing in the wild, in places such as Pulau Ubin and the Sungei Buloh Wetland Reserve.

The country has three species of the sea holly – or jeruju, as it is known in Malay – all of which grow in mangrove habitats.

They have spiny leaves similar to the temperate plant used in Christmas decorations, although the local versions are not closely related to the Christmas holly.

The latter can be found in western Europe, the British Isles and parts of the Mediterranean.

“The ‘holly’ appellation of the sea holly is purely based on the leaf shape,” said botanist Shawn Lum, a senior lecturer at the Nanyang Technological University’s (NTU’s) Asian School of the Environment.

“The most consistently ‘holly-like’

of the three local species is *Acanthus ilicifolius*. In Latin, *ilicifolius* means leaves like a holly,” added Dr Lum, who is also president of the Nature Society (Singapore).

The other two species of sea holly are *Acanthus volubilis* and *Acanthus ebracteatus*.

Singapore’s sea hollies do not always have lobed leaves with spiny edges. They sometimes have leaves which are spineless.

“Spininess appears to be a feature of younger leaves and may be affected by water stress, seasonality and light intensity,” said Ms Ria Tan, 55, a naturalist who runs the wildsingapore.com nature blog.

She is among a group of people – including National University of Singapore (NUS) scientists, fish farmers, fishermen and naturalists – who are hoping that the sea holly, as well as other mangrove plants, will naturally regenerate in the abandoned aquaculture ponds on Pulau Ubin, an island north-east of the mainland.

The 150ha of mangroves on the island make up about 20 per cent of Singapore’s mangrove forests.

The Restore Ubin Mangroves (RUM) initiative aims to make use of an ecological approach to rehabilitate the habitats.

This is done by first recreating

MULTIPLE SPIN-OFFS

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MR WONG TUAN WAH, group director for conservation at the National Parks Board.

conditions suitable for mangrove growth in the abandoned ponds.

“We collect data on the rehabilitation sites, such as their elevation and tidal flooding, and compare this with a nearby natural mangrove forest,” said NUS Assistant Professor Daniel Friess, who is leading the scientific study.

“For example, if the data shows that the rehabilitation site is too low, then we can use these maps to guide where to bring in dredge material to raise the elevation so that mangroves will grow more successfully.”

Scientists are now working on the first phase of the RUM initiative,

which involves mapping out existing mangrove and abandoned aquaculture sites using equipment similar to a digital theodolite – which uses laser beams to map out elevation changes.

The next phase of the project will involve changing the elevation of the abandoned aquaculture sites by adding soil or digging channels to mimic areas of natural mangrove growth, said Mr Wong Tuan Wah, group director for conservation at the National Parks Board (NParks).

The latter is working with the RUM team on mangrove rehabilitation.

This will be the first time that this method is being used to transform aquaculture ponds to mangroves in Singapore.

Prof Friess said it has been successfully applied in many projects in Florida in the United States, Thailand and Indonesia.

Said Mr Wong: “Mangrove forests are vital to the coastal zone in Pulau Ubin as they protect the shoreline from erosion.

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The RUM team is also conducting activities to raise awareness about Singapore’s rich and diverse mangrove habitats, through free guided walks along Pulau Ubin’s sensory trail, for example.

Said Ms Tan who leads the walks: “Mangroves are amazing. They are plants that can live in the sea, they are full of animals, they are fascinating and part of our coastal ecosystem.”

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• To sign up for the mangrove walks, visit rum-initiative.blogspot.sg/

Naturalist Ria Tan, with sea hollies on Pulau Ubin, leads free walks on the island that aim to raise awareness about its mangrove assets.
ST PHOTO: ARIFFIN JAMAR

ST VIDEO
Spot some holly at Pulau Ubin’s mangroves
<http://str.sg/4dma>