Source: *The Straits Times,* pA29
Date: 22 December 2018

NUS gets greener

500 mature trees will be planted throughout the campus, as well as 9,500 saplings nurtured in the NUS nursery.

Urban heat maps collected from thermal satellite images will help to identify ideal planting locations throughout the campus.

Each new tree will be tagged and captured in a Geographical Information System (GIS) database with its own unique identity and coordinates. The database will compile information on tree health and inspection, and facilitate effective tracking and study of the trees across their lifespans.

The new initiative builds on the Campus Greenery Plan introduced by the then Office of Estate & Development in 2012, which aimed to envelop campus buildings in a "tropical rainforest" to enhance the well-being of the NUS community while retaining biodiversity. Over the next few years following its introduction, more than 2,000 new trees and shrubs were planted, 33,000 sq m of skyrise greenery was incorporated into 30 buildings, and 6,500 trees were inventorised using GIS.

Going forward, under the new three-year Campus Greenery Plan launched on Nov 23, NUS plans to work with urban greening specialists to create three clusters of urban farms at Prince George's Park bungalows, Kent Ridge Road bungalows and the Faculty of Science, and a further 20 green roofs and vertical green walls to reduce the "greyness" of buildings on campus.

Smart technologies such as special lamps that promote the growth of green walls in enclosed spaces, improved auto-irrigation systems and drones for fauna health inspection, will also be utilised in support of the efforts.

RARE SPECIES FOUND AT NUS

Margaritaria indica

- An extremely rare and critically endangered tree species, although it has a very wide distribution – occurring in India and Sri Lanka through Myanmar, Thailand, northern Vietnam, southern China and Taiwan, across Malesia and up to Australia.
- The tree at NUS was discovered in 2012 at the then Warren Golf Club where the Yale-NUS College is currently located.
- Endorsed as a heritage tree by the National Parks Board (NParks) in 2014, it is the only mature tree of its kind in Singapore and is one of three known mature trees found in peninsular Malaysia.
- Not much of its uses and growing habit is known, as the tree at NUS was identified as a new species record for Singapore when it was discovered. It is also the first plant from the genus Margaritaria to be recorded here.
- NUS has since been working with NParks to propagate the species. NUS has planted two saplings on its campus in 2017 and in 2018.

FEATURES

- The deciduous (sheds its leaves) tree can grow up to **30m** tall

- The trunk of the tree is smooth, generally reddish or orangey brown, flaking in places or peeling strongly. The inner bark is pinkish and its twigs are reddish tinged.

- Its thin leaves are long, tapering to a point, with a waxy surface.

- The tree bears both male and female cluster flowers that are small and yellowish white, which develop into clusters of small and almost globular green fruits.

Collared fig (Ficus crassiramea)

- A critically endangered native tree.
- It is not a common tree on the Singapore mainland but can be found in the wild on Pulau Tekong and Pulau Ubin.
- Planted in 2011 at the roundabout along Kent Ridge Crescent that leads into University Town, courtesy of NParks. It can be propagated by stem cutting.

FEATURES

- A strangling fig species with a broad and spreading crown that can grow up to **30m** tall

- Its elliptical leaves grow in a spiral arrangement and have a stiff and leathery texture.

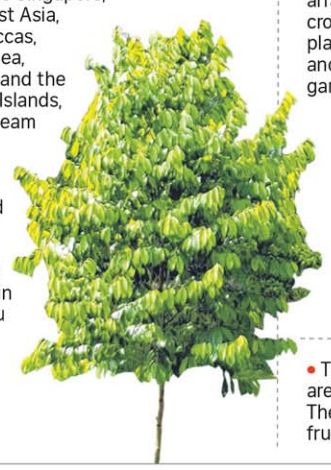
- Has a single trunk with a few pillar roots.

- When ripe, the green figs turn brilliant orange. The figs can take six months to ripen and are consumed by various bird species, including the hornbill.

- The roots, bark and leaves of the collared fig have been used traditionally to treat snake bites by pounding them into a paste.

Sea beam (Maranthes corymbosa)

- Fewer than 10 mature individual sea beam trees in the wild in Singapore.
- The young plant at NUS was discovered at Prince George's Park at the Kent Ridge campus. It was transplanted in 2016 and is now located next to the Education Resource Centre at NUS University Town.
- Native to Singapore, South-east Asia, the Moluccas, New Guinea, Australia and the Solomon Islands, the sea beam typically grows in coastal areas and forests. It occurs locally on Pulau Ubin and Pulau Tekong.



FEATURES

- It can grow up to **40m** tall

- It has leathery leaf blades that are oblong-oval shaped and the leaves grow in an alternate arrangement on stalks. Its bushy crown makes it suitable for planting along streetscapes and in parks and gardens.

- The petals of its small flowers are white with a pinkish tinge. The flowers develop into edible fruits.

White fig (Ficus vasculosa)

- An endangered native tree species.
- A lush mature white fig tree can be found along Engineering Drive at NUS.

FEATURES

- An evergreen tree that can grow up to **45m** tall

- Its thin leathery leaves are usually oval with short rounded tips and distinct light-coloured mid-veins. They grow in a spiral arrangement.

- The flowers are tiny and develop within the fig. The pear-shaped figs are apricot-yellow when unripe and develop into a deep rose-red when they ripen.

Source: NATIONAL UNIVERSITY OF SINGAPORE PHOTOS: NATIONAL UNIVERSITY OF SINGAPORE STRAITS TIMES GRAPHICS

Growing efforts in greening of NUS campus

University will plant over 10,000 trees in next three years

Cheryl Teh

It is already cloaked in a swathe of green, but the National University of Singapore (NUS) is now taking green to the extreme.

More than 10,000 trees will be planted throughout the NUS campus in the next three years.

These will include 500 mature trees and 9,500 saplings that will be nurtured in the NUS nursery.

The trees to be planted will include native and common species found in Singapore, along with rare and endangered species such as the *Margaritaria indica*.

This is part of the Planting 10,000 Trees initiative launched recently by NUS to improve the green space on its campus.

"The benefits of cultivating a rich and diverse landscape of trees and plants extend beyond providing shade and visual aesthetics.

"Regular exposure to them can have a positive effect on cognitive and emotive well-being, and promote social interactions," said NUS president Tan Eng Chye at the launch last month at University Hall.

The initiative also seeks to tap the expertise of NUS researchers, and employ smart technology.

These include the use of urban heat maps collected from thermal satellite images. To be generated by researchers from the NUS School of Design and Environment, the heat maps will pinpoint ideal locations for planting the trees.

By shading heat-absorbing surfaces and mitigating the urban heat island effect, the trees are expected to cool down surrounding temperatures by about 1 deg C.

Each new tree will also be tagged and listed in a Geographical Information System database.

The unique identity of the tree and its coordinates will help in the compilation of information on tree health, and the tracking of the trees across their full lifespans.

The new initiative builds on the existing Campus Greenery Plan, which was introduced in 2012 with the aim of enveloping campus buildings in a tropical rainforest.

The university plans to work with urban greening specialists to create three clusters of urban farms at Prince George's Park bungalows, Kent Ridge Road bungalows and the Faculty of Science, and create a further 20 green roofs and vertical green walls to reduce the "greyness" of buildings on campus.

Smart technologies, such as special lamps to promote the growth of green walls in enclosed spaces, improved auto-irrigation systems and drones for fauna inspections, will also be deployed.

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OTHER BENEFITS

The benefits of cultivating a rich and diverse landscape of trees and plants extend beyond providing shade and visual aesthetics. Regular exposure to them can have a positive effect on cognitive and emotive well-being, and promote social interactions.

NUS PRESIDENT TAN ENG CHYE, at the launch of the Planting 10,000 Trees initiative last month.