

Headline	Passion for palms		
MediaTitle	The Star		
Date	25 Aug 2014	Color	Full Color
Section	StarTwo	Circulation	288,916
Page No	1to4	Readership	866,748
Language	English	ArticleSize	2666 cm²
Journalist	Story by TAN CHENG LI	AdValue	RM 134,170
Frequency	Daily	PR Value	RM 402,510



Rare: Botanist Dr Saw Leng Guan is the country's leading expert in palms. The palm species *Licuala scortechinii* (critically endangered) is grown in the Kepong Botanic Gardens. — KAMARUL ARIFFIN/The Star

Wild about palms

Delve into the world of palms and it is difficult not to be fascinated.

Headline	Passion for palms		
MediaTitle	The Star		
Date	25 Aug 2014	Color	Full Color
Section	StarTwo	Circulation	288,916
Page No	1to4	Readership	866,748
Language	English	ArticleSize	2666 cm ²
Journalist	Story by TAN CHENG LI	AdValue	RM 134,170
Frequency	Daily	PR Value	RM 402,510

Story by TAN CHENG LI

star2green@thestar.com.my

Photos by TAN CHENG LI and KAMARUL ARIFFIN

THERE is a garden of palms growing deep within the confines of the Forest Research Institute Malaysia (Frim) in Kepong, Kuala Lumpur. In this sanctuary for plants, palm trees of varied forms and sizes can be seen. There are palms which soar high above, some with leaves big enough to shield one from the sun and rain, some which climb and coil themselves around other trees, and some which are just a mass of longish leaves emerging from the ground.

The lush reserve known as the Kepong Botanic Gardens, housed within Frim, is a little-known place that was recently shared when wild palms expert Dr Saw Leng Guan led a walk there for a group of interested public. Some 100 species of palms have been cultivated in the botanical garden alongside other plants, to serve as a living collection of rare and endangered species. During the walk and the talk prior to it, Saw shed light on this group of plants which most of us know little of, though we're surrounded by them.

Long before oil palms (*Elaeis guineensis*, which is not native to Malaysia but originates from West Africa) took over the Malaysian landscape, there were wild palms. They are a common feature of the tropical forest. In fact, Malaysia is a palm-rich country; it has one of the highest diversity of palm species in the world. Of the known 2,600 palm species, 443 (17%) are found here. The fact that we have named many of our states and towns after palms – Penang, Kedah, Salak South, Nibong Tebal, Bertam and Serdang are examples – is an indicator of our rich palm heritage.

Palm sanctuary

In the Frim botanical garden, palm seeds and wildlings collected over the years by botanists such as Saw are cultivated as part of an *ex-situ* conservation measure. He points out that most people will know a palm when they see one because of its simple construction.

"They have well-defined architecture and leaf morphology. They are solitary or clustered and hardly branch, and have only a single living trunk. That's why you should never prune your palm, you'll kill it," says the director of the forest biodiversity division at Frim.

His passion for palms is obvious as he shares insightful details about the plant. Many of us had no inkling that so many palm species exist here. And we certainly had no idea that they could all look so different. The most beautiful part of palms – which is what makes them so popular in horticulture – is their leaves. And boy, do the leaves come in unusual shapes. Aside from the familiar feathered leaves (like oil palm's), some leaves are fan-like, fish-tail-like, and even slightly diamond-shaped.

Some leaves divide into two to resemble

the wings of butterflies, like those of the *Pinanga disticha*. Drawing our attention to the mottled patterns on the leaves, Saw exclaimed, "Isn't that beautiful?" That line was oft-repeated throughout the hour-long walk. Saw, 58, is clearly a man enamoured with palms.

In his 24 years of studying palms, he has described 49 new palm species, of which 18 were personally collected by him. His foray into the world of palms stemmed from a meeting with palm specialist Dr John

Dransfield (former head of palm research at the Royal Botanic Gardens, Kew). He opted to research on palms (focusing on the genus *Licuala*) for his Masters and PhD degrees, and the interest kept growing from there.

"The greatest attraction came when I started collecting these plants in the wild for my research and when I analyse my research findings. They just added on. As I learn more, I discovered that I knew less. So there is an ever-increasing pull to study more of this interesting group of plants."

As we trail closely behind Saw down a path in the botanical garden, and listen closely to his explanations, it is difficult not to be fascinated by palms, too. Wild palms are not just pretty to look at; they are of socio-economic importance, too. They are a source of rattan and rural communities depend on them for thatch, fibres and fruits. Their pretty leaves make them valuable as ornamental plants. Palms are most diverse in lowland and hill forests. There are fewer varieties in other habitats though some species are confined to certain areas such as peat swamps, limestone hills and highlands.

Rare and endangered

Their high endemism (peculiar to a specific place) makes palms an important flora in the world of plants. Of the 231 species found in Peninsular Malaysia, 118 (51%) are found nowhere else. In Sabah and Sarawak, 191 (70%) of the 272 species are confined there.

"Seven out of 10 palm species in Malaysia are only found here. In terms of conservation, this is important. If we lose any of these endemic species, that means that species goes extinct," explains Saw.

Examples of such rarities are *Maxburretia graciles* (found only in Pulau Langkawi) and *Maxburretia rupicola* (restricted to two limestone hills in Selangor, Bukit Takun and Batu Caves).

Of the 41 species of *Licuala* (palas palms) in Peninsular Malaysia, 33 are endemics. Of these, 19 are hyper-endemics – they are known only from a very restricted range. One hyper-endemic is *Licuala cameronensis* which Saw described in 1997. It has been found

Headline	Passion for palms		
MediaTitle	The Star		
Date	25 Aug 2014	Color	Full Color
Section	StarTwo	Circulation	288,916
Page No	1to4	Readership	866,748
Language	English	ArticleSize	2666 cm²
Journalist	Story by TAN CHENG LI	AdValue	RM 134,170
Frequency	Daily	PR Value	RM 402,510

only in the lower montane forest of Cameron Highlands, Pahang.

"Based on its population size and range (confined to one population), the species is assessed as critically endangered. The population is safe only as long as the forest reserve remains and is not converted to other land use," says Saw, who has 32 years' experience in the taxonomy and ecology of plants and has contributed significantly towards documentation and conservation of Malaysian

plants. Aside from palms, he has also described several other plants and has even had four plant species named after him – a begonia, a bamboo, an orchid and a monocot related to bananas.

We come by a towering palm. The leaves are big enough to shade Saw. The signboard underneath indicates its name – *daun payung*, *Johannesteijsmannia magnifica*. One of the world's largest palms, its leaves can reach 3m long and 2m wide and are favoured by the orang asli for thatch. The *Johannesteijsmannia* genus has only four species worldwide, three of which are confined to Peninsular Malaysia, and even then, limited to small pockets of primary forest in several states.

If you are in Kedah, Saw advises that you look out for *Corypha utan* palms standing tall from paddy fields. If the timing is right, you might see long stems full of yellow blooms emanating from the tree-tops. These imposing palms flower only once in their lifetime, and die soon after their fruits mature. Saw explains that this happens because they have exhausted their carbohydrate store in that single flowering and fruiting event.

He also tells us about the *Borassodendron machodonis*, an endemic palm with huge fruits usually found in limestone areas. "You look at it and you wonder if nature has made a mistake. Who is going to disperse these big seeds? But nature is never wrong. A study has found that megafauna such as elephants, are a major disperser of these fruits," says Saw.

Symbiotic bond

Some species of the climbing palm *Korthalsia* (which produces rattan) live in mutualistic association with colonies of ants. The ants make their nests in little pockets that grow where the leaf bases join the stems. In return for the shelter, the ants protect the rattan from leaf-eating insects. When disturbed, the ants tap their bodies against the dry walls of the pockets and produce an eerie, rustling sound. When Saw first heard the sound, his first thought was of a ghostly encounter. "I had goose pimples the first time I heard it," he says.

Stemming the loss

As forests disappear, so does our wild flora. Frim is currently conducting conservation

assessment for the nation's plants. Of the 1,132 species reviewed so far, 257 are under threat of extinction. "All these plants deserve attention. Palms, on the other hand, needs special attention because of their high endemism and because they are predominantly

lowland forest plants. The lowland forest is the most threatened habitat in Malaysia due to conversion. If we don't take steps now, we are likely to see some of these species go extinct. Even now some species are already critically endangered," says Saw.

Frim has so far listed 34 palm species as critically endangered and 30, endangered – and that's just a preliminary assessment, with many species yet to be reviewed. "In most cases, the reasons for their listing are due to their very restricted distribution and imminent threat by the loss of habitat," explains Saw. So far, one palm species has been listed as extinct – *Salacca lophospatha* from Sabah. The species was described in 1942 and was never seen again.

Over the years of botany work, Saw has seen forests which harbour rare flora being destroyed by farms, plantations and development. "I am cautious about listing species as extinct until we have taken searches for the species and truly cannot locate populations anymore but I have seen changes that will indeed cause extinction. *Licuala whitmorei* and *Pinanga johorensis* in Johor, *Licuala palas* and *Licuala sallehana* in Terengganu (all critically endangered) are examples where the original areas where I collected these species from have been converted to oil palm plantations."

Another threatened species is *Livistona sari-bus* – it grows in freshwater swamps which are often drained for development. "There used to be populations of this in Klang and Kuala Selangor but they are all gone."

Take action

The findings of Frim on endangered plants have been passed on to the Natural Resources and Environment Ministry and the Forestry Department; what is needed now is follow-up action to deal with the threatened plants.

"We need to identify important plant areas and conserve them. Land must be managed based on these plants. For species that are

going extinct, there must be recovery plans. We haven't done much on this."

Looking at the pattern of distribution of palms and where they are mostly found (in lowland areas), Saw says we need to do conservation at a more dispersed level.

"We cannot just save Taman Negara and Endau-Rompin and think that's good enough. A high percentage of palms are in small areas in states, so we need each state to initiate palm conservation to capture these distributions. Some palm species are found in a single locality, so these sites should be totally protected. The priority states are Terengganu,

Headline	Passion for palms		
MediaTitle	The Star		
Date	25 Aug 2014	Color	Full Color
Section	StarTwo	Circulation	288,916
Page No	1to4	Readership	866,748
Language	English	ArticleSize	2666 cm ²
Journalist	Story by TAN CHENG LI	AdValue	RM 134,170
Frequency	Daily	PR Value	RM 402,510

Johor and Sarawak. These states contain some of the highest diversity of palms in the country. In Sarawak, the Kuching-Bau-Lundu area has the highest number of palm species in the world (within one site)."

The area around Kuching has 19 species of *Licuala* palms with 13 endemics, and is also the most developed part of the state. Fortunately, there are protected parks there which Saw hopes will help conserve the rare palms.

Many rare palms are found in production forests (where timber is harvested). As such, Saw cautions that logging practices must be sustainable and must include protection of threatened species. Continuing research work is crucial, he adds.

"Taxonomy is important as we need to know what we have. Conservation assessments will tell us what is threatened and what is not. It must be systematically done if we are to ensure that plant species do not go extinct. Assessment of threat must be accurate so that proper action plan can be put in place."

In the meantime, ex-situ conservation is helping to conserve the rare flora. Aside from the Kepong Botanic Gardens, two other places currently grow palm species – Rimba Ilmu in Universiti Malaya, Kuala Lumpur, and Semengoh Botanical Garden, Sarawak. But of course, nothing can beat the presence of palms in the wild.



Umbrella palm: The leaves of the *Johannesteijsmannia magnifica* tower over botanist and palm expert Dr Saw Leng Guan. The species is found only in the primary forests of Selangor, Perak and Negri Sembilan.

Headline	Passion for palms		
MediaTitle	The Star		
Date	25 Aug 2014	Color	Full Color
Section	StarTwo	Circulation	288,916
Page No	1to4	Readership	866,748
Language	English	ArticleSize	2666 cm²
Journalist	Story by TAN CHENG LI	AdValue	RM 134,170
Frequency	Daily	PR Value	RM 402,510



Iguanura polymorpha is another palm with unusual leaves.

Headline	Passion for palms		
MediaTitle	The Star		
Date	25 Aug 2014	Color	Full Color
Section	StarTwo	Circulation	288,916
Page No	1to4	Readership	866,748
Language	English	ArticleSize	2666 cm²
Journalist	Story by TAN CHENG LI	AdValue	RM 134,170
Frequency	Daily	PR Value	RM 402,510



Pinanga disticha has unusual two-winged leaves with beautiful mottled patterns.

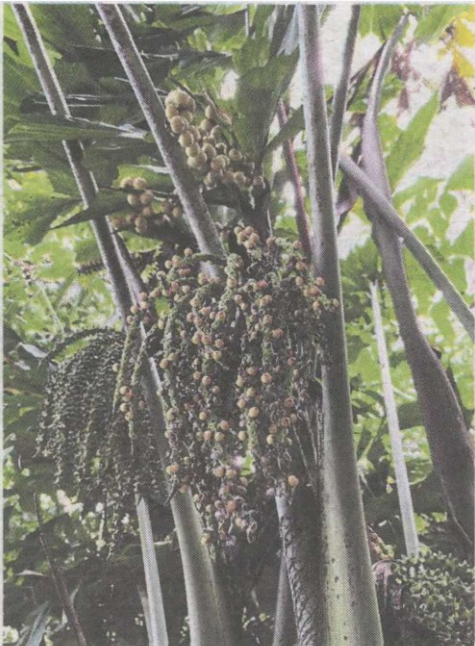


Johannesteijsmannia lanceolata grows only in the forests of Selangor, Pahang and Negri Sembilan and nowhere else in the world.

Headline	Passion for palms		
MediaTitle	The Star		
Date	25 Aug 2014	Color	Full Color
Section	StarTwo	Circulation	288,916
Page No	1to4	Readership	866,748
Language	English	ArticleSize	2666 cm²
Journalist	Story by TAN CHENG LI	AdValue	RM 134,170
Frequency	Daily	PR Value	RM 402,510



Arenga hookeriana has decorative toothed leaves.



The fruits of *Caryota mitis*, a fishtail palm.



Some species of palms, such as the *Eugeissona utilis*, are armed with spines.



The pretty foliage of *Licuala glabra* makes it popular among horticulturists.