

# **KAUST BOTANICAL TOUR BOOKLET**

### **ENRICHMENT PROGRAM**















#### Thanks



Thank you to Martina Viglasska, operations coordinator in the project team (Campus Support). Her work, along with the collaboration of her colleagues from the KAUST Campus Support Department and the Office of Enrichment Programs, made this booklet possible.

A special thanks to the KAUST Horticulture Department. Their tireless care enables community members and visitors to enjoy KAUST's wide diversity of trees and plants.

To read this booklet and access the map online, please visit http://www.kaust.edu.sa/enrichment-program-office.html or scan the QR Code below.



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Respect biodiversity. Each species has an important role to play.

### **Foreword**

#### Dear community members and visitors,

Plants are central to our existence; providing the oxygen we breathe and the food we eat. They also provide us with beautiful vistas, enrich our lives, and create an environment in which to undertake creative and inventive work. The plants you will see in this tour have all been selected to enhance and beautify our campus and community.

In an environment like KAUST, nurturing a rich biodiversity is a challenge. The plants here at KAUST are part of a carefully conceived program, which includes thorough maintenance and minimizing environmental waste and harm. This is achieved through careful selection of the plants and through advanced horticultural practices:

- Many of the plants are native to this region, or have been selected because they are adaptable to the harsh Arabian climate.
- Water conservation is maximized through a centrally controlled irrigation system, which uses half the irrigation water of conventional systems.

Throughout this tour, it is my hope that you learn more about the plant life that is around you every day, and about the systems that make such beauty possible. You may also discover more about the broader value and wonder of plants!

Yours sincerely,

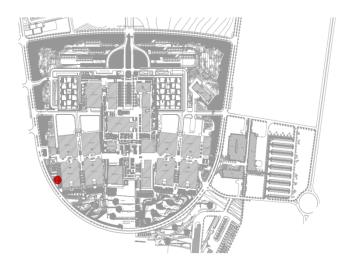
#### **PROF. MARK TESTER**

Department of Biological, Environmental Sciences and Engineering King Abdullah University of Science and Technology کوردیا Cordia subcordata

Common Names: Sea trumpet, Kou, Kerosene wood, Manjak, Glueberry

Family: Boraginaceae Origin: Tropical Asia

Cordia subcordata can be easily identified by its thick, wide-spreading crown of foliage and its light gray, grooved, flaky bark. Its flowers are orange, and the cycle of blooming occurs several times annually. The seeds of this multipurpose tree are edible, and are known to have been eaten during famine. Its wood is soft, durable, easily worked and resistant to termites. The well-earned nickname "kerosene tree" is often used, as this tree burns readily.



BOOKLET LOCATION OF CORDIA SUBCORDATA IN CAMPUS AREA (Top View)



CORDIA SUBCORDATA - FRONT OF BLDG. 5, SEA LEVEL

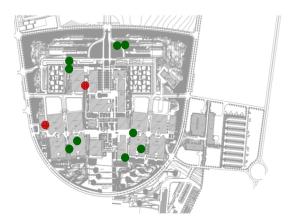
سىدر Zizyphus jujuba

Common Names: Red date, Chinese date, Korean date, Indian date

Family: Rhamnaceae

Origin: China

A small deciduous tree with thorny branches, *zizyphus jujuba* is easily recognized by its shiny green leaves and three conspicuous veins at the base of its trunk. Having a consistency and taste similar to an apple, its fruit is an edible oval drupe, and looks much like a small date. Through history, this fruit has been used to alleviate stress and for antifungal, antibacterial and wound-healing properties.



- BOOKLET LOCATIONS OF ZIZYPHUS JUJUBA IN CAMPUS AREA (*Top View*)
- ALTERNATE LOCATIONS OF ZIZYPHUS JUJUBA IN CAMPUS AREA (Top View)



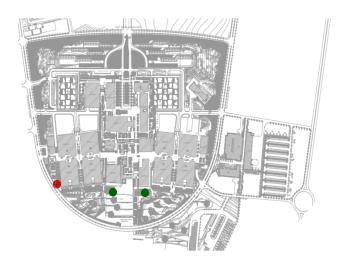
ZIZYPHUS JUJUBA - IN FRONT OF BLDG. 5, SEA LEVEL

# نخيل الكناري Ehoenix canarensis

Common Names: Canary Island date palm, Pineapple palm

Family: Arecaceae Origin: Canary Islands

A slow-growing, thick, solitary palm, phoenix canarensis is easily recognized through its sprouting crown of leaves and layered-tile trunk characteristics. It is widely used as an ornamental plant in warmer, temperate regions of the world. In its native Canary Islands, the sap of this date palm is used to make palm syrup.



- BOOKLET LOCATION OF PHOENIX CANARENSIS IN CAMPUS AREA (*Top View*)
- ALTERNATE LOCATIONS OF PHOENIX CANARENSIS IN CAMPUS AREA (Top View)



PHOENIX CANARENSIS – IN FRONT OF BLDG. 5, SEA LEVEL

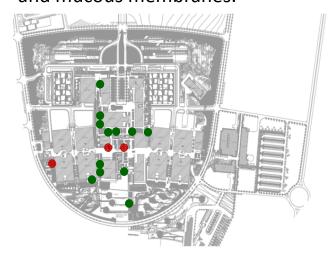
# فتنة، ياسمين هندي فتنة، السمين هندي

Common Names: Red frangipani, Common frangipani, Temple tree

Family: Apocynaceae

Origin: Central South America, from Mexico to Ecuador

Plumeria rubra can grow as either a spreading shrub or as a small tree. It can reach a height of up to 8 meters, with a similar width. Its fragrant flowers can be pink, white and yellow, and its large, green leaves are deciduous - drying and falling off in the colder months. The somewhat brittle branches of the "temple tree" contain a white latex ,which can be irritating to the skin and mucous membranes.



- BOOKLET LOCATIONS OF PLUMERIA RUBRA IN CAMPUS AREA (Top View)
- ALTERNATE LOCATIONS OF PLUMERIA RUBRA IN CAMPUS AREA (Top View)

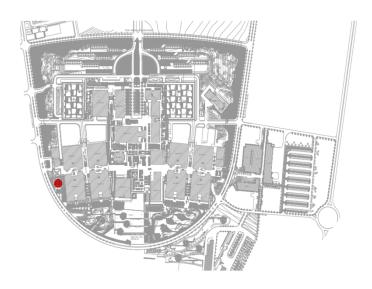


PLUMERIA RUBRA – WALKING RAMP OF BLDG. 5

Common Names: Madagascar almond, Umbrella tree

Family: Combretaceae Origin: Madagascar Variety: Tricolor

A tall and distinct tree, *terminalia mantaly* is easily spotted by its tiered layers of leaves that look like umbrellas. In each layer, the branches grow almost parallel to the ground. Green leaves cluster from each branch in harmonic, vein-like patterns. The flowers of the "umbrella tree" are small, green, and form tiny, erect spikes. Due to its small leaves and naturally layered look, this tree is suitable for Bonsai.





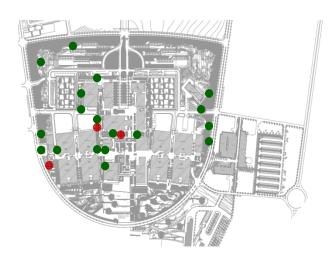
TERMINALIA MANTALY - STARCASE NEAR BLDG. 18

## أريكسترم Cocos plumosa

Common Names: Queen palm, Cocos palm

Family: Arecaceae Origin: South America

A very popular ornamental tree that is used in urban landscaping, the *cocos plumosa* grows tall and straight. Its leaves and flowers are often used as animal fodder, especially for dairy cattle. Mammals and birds enjoy the edible fruit of the "Queen palm;" the taste of which is sweet, and could be described as a mixture of plum and banana.



- BOOKLET LOCATIONS OF COCOS PLUMOSA IN CAMPUS AREA (*Top View*)
- ALTERNATE LOCATIONS OF COCOS PLUMOSA IN CAMPUS AREA (Top View)



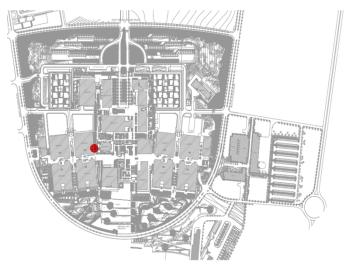
COCOS PLUMOSA - IN FRONT OF BLDG. 18

# نخيل الليفستونا الاسترالي Livistona australis

Common Name: Cabbage-tree Palm

Family: Arecaceae Origin: Australia

Livistona australis is a tall, slender palm that can reach a height of about 25 meters. It is plumed with long, dark, glossy green leaves, which form a plaited fan pattern. In warmer months, this tree bears small spikes with sprigs of cream-white flowers. The reproduction of the "Cabbage-tree palm" is by fruit, not by seed. This fruit first appears as red, then turns black in its ripened state. At that time, it is ready to be peeled and planted.







LIVISTONA AUSTRALIS – RAMP OF MOSQUE & BLDG. 4

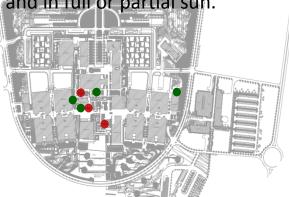
فرشات Callistemon viminalis

الزجاج

Common Name: Weeping Bottlebrush

Family: Myrtaceae Origin: Australia

Long, hanging pendant branches and bright red flowers are the distinguishing features of *callistemon viminalis*. Often used in landscaping and as a screen plant, this tree grows to about 8 meters in height. As it exhibits a high tolerance for smog, the 'weeping bottlebrush' is commonly used as a street-side tree. Durable and adaptable, this tree is also good for ground erosion control, and should be planted in moist well-drained soil and in full or partial sun.



- BOOKLET LOCATIONS OF CALLISTEMON VIMINALIS IN CAMPUS AREA (Top View)
- ALTERNATE LOCATIONS OF CALLISTEMON VIMINALIS IN CAMPUS AREA (Top View)



CALLISTEMON VIMINALIS- IN FRONT OF THE MOSQUE

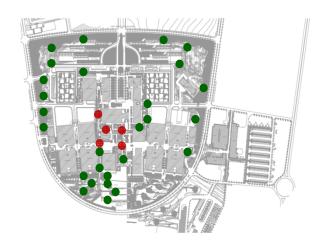
# جوز هند قزمي جوز هند قرمي

Common Name: Coconut palm

Family: Arecaceae

Origin: Malayan Peninsula Variety: Malayan Dwarf

A dwarf coconut palm, the *cocos nucifera* is best planted below ground level to promote the growth of a deep, low root base. This increases trunk stability and keeps the "coconut palm's" fruits at a lower level, for a longer period of time. This pretty, medium-sized tree with full plumage does best in sandy soils with good drainage.



- BOOKLET LOCATIONS OF COCOS NUCIFERA IN CAMPUS AREA (Top View)
- ALTERNATE LOCATIONS OF COCOS NUCIFERA IN CAMPUS AREA (Top View)



COCOS NUCIFERA- SPINE, IN FRONT OF THE MOSQUE

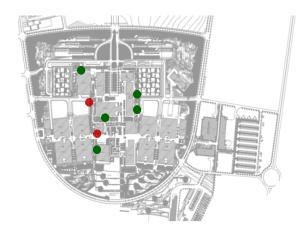
### **Erythrina Crista-galli**

اریترینا کریستاگالی

Common Name: Cockspur Coral Tree

Family: Fabaceae Origin: South America

With bright red flowers of the raceme type, the *erythrina crista-galli* is often a favorite in park settings. These flowers are a favorite of insects, who visit to enjoy the rich nectar. This tree can grow to a height of 8 meters, and has a woody trunk, with irregular, spiny branches. These thin branches grow in random patterns, and dry and die off after each flowering.



- BOOKLET LOCATIONS OF ERYTHRINA CRISTA-GALLI IN CAMPUS AREA (Top View)
- ALTERNATE LOCATIONS OF ERYTHRINA CRISTA-GALLI IN CAMPUS AREA (Top View)



ERYTHRINA CRISTA-GALLI- SPINE, IN FRONT OF THE MOSQUE

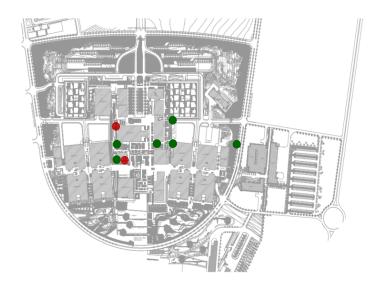
کامیروبس کامیروبس

Common Names: European fan palm, Mediterranean dwarf palm, Dwarf fan palm

Family: Arecaceae

Origin: Mediterranean Italy, Spain, Portugal, Morocco

Easily standing out from the pack, the *chamaerops humilis* is a shrub-like clumping palm, and has several stems which grow from a single base. Due to its rusticity and ability to resprout after fire, it has a high ecological value for preventing erosion and desertization. For centuries, the leaves of the adult "dwarf fan palm" have been used to make mats, baskets and brooms.



- BOOKLET LOCATIONS OF CHAMAEROPS HUMILIS IN CAMPUS AREA (Top View)
- ALTERNATE LOCATIONS OF CHAMAEROPS HUMILIS IN CAMPUS AREA (Top View)



CHAMAEROPS HUMILIS – SPINE, IN FRONT OF THE MOSQUE

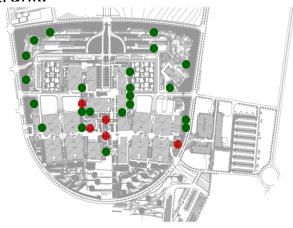
### Washingtonia robusta

# واشطونيا قوية

Common Names: Mexican Fan Palm, Mexican Washingtonia

Family: Arecaceae Origin: Mexico

The washingtonia robusta is a tall, slender ornamental palm that can reach 30 meters in height. It has a noticeably swollen base, and the trunk tapers toward the top. The leaves of the "mexican fan palm" have a petiole up to 1 meter long and a palmate fan up to 1 meter long. This tree is well known for its 'hula skirt' – the blanketing of dead leaves that fall and collect around the base of the trunk.



- BOOKLET LOCATIONS OF WASHINGTONIA ROBUSTA IN CAMPUS AREA (*Top View*)
- ALTERNATE LOCATIONS OF WASHINGTONIA ROBUSTA IN CAMPUS AREA (Top View)



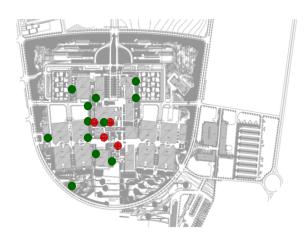
WASHINGTONIA ROBUSTA – SPINE, IN FRONT OF THE MOSQUE

دفلة Nerium oleander

Common Name: Oleander Family: Apocynaceae

Origin: Europe and Asian Middle East

Tolerant of poor soils and drought, the *nerium oleander* is often used as an ornamental plant in landscapes, parks and along roadsides. An evergreen, this pretty shrub or small tree is toxic in all of its parts. Its leaves are thick, leathery, and dark green in color. When in bloom, its flowers are white, pink or red – and grow in clusters at the end of each branch.



- BOOKLET LOCATIONS OF NERIUM OLEANDER IN CAMPUS AREA (*Top View*)
- ALTERNATE LOCATIONS OF NERIUM OLEANDER IN CAMPUS AREA (*Top View*)



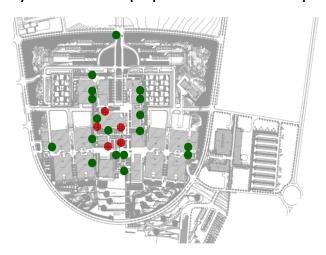
**NERIUM OLEANDER- IN FRONT OF THE MOSQUE** 

Cycas revoluta ذيل الجمل

Common Names: Japanese sago palm, Sago cycad

Family: Cycadaceae Origin: Southern Japan

The easily identifiable, symmetrical cycas revoluta has a thick, shaggy trunk, which supports a crown of shiny, dark green leaves. In younger plants, the trunk is very low to subterranean, but will lengthen above ground with age. In many areas of the world, it is used heavily in commercial landscaping. Due to its shape, the "sago cycad" is also popular as a bonsai plant.



- BOOKLET LOCATIONS OF CYCAS REVOLUTA IN CAMPUS AREA (Top View)
- ALTERNATE LOCATIONS OF CYCAS REVOLUTA IN CAMPUS AREA (Top View)



CYCAS REVOLUTA – SPINE, IN FRONT OF THE MOSQUE

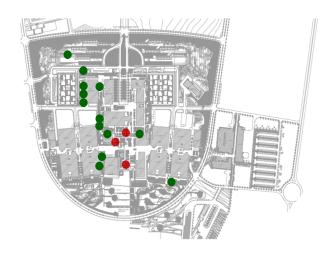
# فایکس نیتدا فایکس نیتدا

Common Names: Chinese Banyan, Indian fig

Family: Moraceae

Origin: Southeastern Asia

With small, deep-green leaves and upright branches, the *ficus nitida* can be readily spotted. An evergreen tree with above-ground, aerial-short roots, it works well when grown under full sun and responds positively to regular pruning. The smooth bark of the "Indian fig" is flecked with tiny horizontal dots known as lenticels.



- BOOKLET LOCATIONS OF FICUS NITIDA IN CAMPUS AREA (*Top View*)
- ALTERNATE LOCATIONS OF FICUS NITIDA IN CAMPUS AREA (Top View)



FICUS NITIDA- SPINE OPPOSITE THE LIBRARY

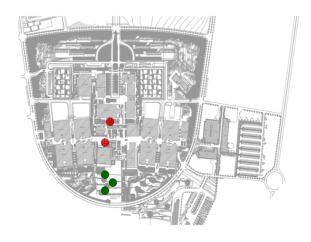
# ذيل السمكة ذيل السمكة

Common Name: Burmese fishtail palm

Family: Areaceae

Origin: Southeast Asia

Caryota mitis can be identified by its light green leaflets, which are shaped much like the tail fin of a fish. The "Burmese fishtail palm" typically forms multi-stemmed clusters of small branchwork, and the mature plan first flowers from the top of the stem. After the last flowering, the stem will die and should be removed. The clump will survive and continue to produce more stems.



- BOOKLET LOCATIONS OF CARYOTA MITIS IN CAMPUS AREA (Top View)
- ALTERNATE LOCATIONS OF CARYOTA MITIS IN CAMPUS AREA (Top View)



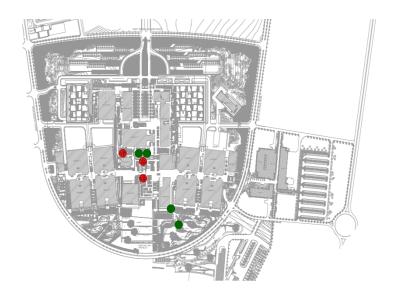
**CARYOTA MITIS - SPINE, IN FRONT OF THE LIBRARY** 

Common Name: Traveler's palm

Family: Strelitziaceae Origin: Madagascar

The sole member of its genus, the *ravenala madagascariensis* has a sturdy gray trunk, and progressively loses its oldest and lower leaves through age. Spotted easily by its enormous paddle-shaped leaves, the "traveler's palm" is widely cultivated in tropical and subtropical regions, for its distinctive habit and foliage. Its leaves are tipped on long petioles, that form a distinctive, single-plane,

fan shape.





RAVENALA MADAGASCARIENSIS – SPINE, ENTRANCE/ELEVATOR TO THE DINER

- BOOKLET LOCATIONS OF RAVENALA MADAGASCARIENSIS IN CAMPUS AREA (Top View)
- ALTERNATE LOCATIONS OF RAVENALA MADAGASCARIENSIS IN CAMPUS AREA (*Top View*)

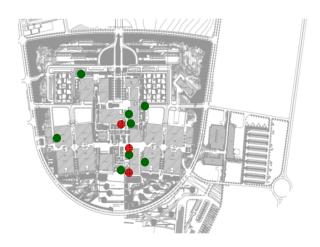
### Wodyetia bifurcata

نخيل ذيل الثعلب

Common Name: Foxtail palm

Family: Arecaceae Origin: Australia

Quickly becoming one of the more popular landscaping palms in the tropics and sub-tropics, the spectacular wodyetia bifurcata was only discovered in the late 1970s. Endemic to only a very small area, the "foxtail palm" is extremely hardy, able to take full sun from a very early age, and drought and wind tolerant.



- BOOKLET LOCATIONS OF WODYETIA BIFURCATA CAMPUS AREA (*Top View*)
- ALTERNATE LOCATIONS OF WODYETIA BIFURCATA CAMPUS AREA (Top View)



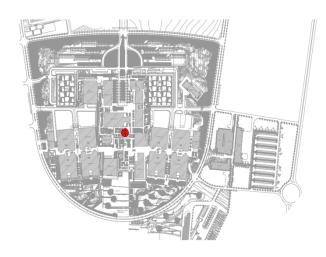
WODYETIA BIFURCATA – SPINE, IN FRONT OF BLDG. 1

### يكس عادي يكس عادي

Common Names: Curtain fig, Indian laurel

Family: Moraceae Origin: India, Malaya

A fast grower with a dense canopy of glossy, oval, and leathery, the *ficus microcarpa* produces small figs, upon reaching maturity. Commonly known as the "curtain fig," this evergreen also produces exposed aerial roots that, upon reaching soil, will take root. Though this tree can grow to be quite large, it is also popular as a bonsai and a favorite as a houseplant.







FICUS MICROCARPA - IN FRONT OF BUILDING 16

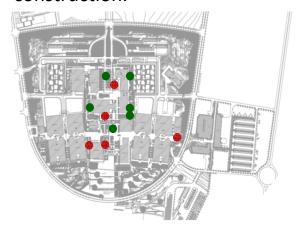
# نخيل ملوكي نخيل ملوكي

Common Name: Royal palm

Family: Arecaceae

Origin: Cuba and Panama

Large and attractive the *roystonea regia* palm, has been planted throughout the tropics and subtropics as an ornamental tree. Often called the "royal palm", it is very smooth, gray-white in color, and has a characteristic bulge below a distinctive green-crowned shaft. Its seeds are valued as a source of oil and for livestock feed, its leaves are used for thatching, and the wood is common in construction.



- BOOKLET LOCATIONS OF ROYSTONEA REGIA CAMPUS AREA (*Top View*)
- ALTERNATE LOCATIONS OF ROYSTONEA REGIA CAMPUS AREA (Top View)



ROYSTONEA REGIA- IN FRONT OF BLDG. 9

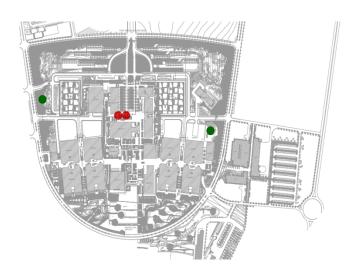
### Pterocarpus macrocarpus

Common Name: Burma padauk

Family: Fabaceae

Origin: Southeastern Asia

This dry-season, deciduous tree, the *pterocarpus* macrocarpus is a medium-sized tree, that can grow from 10 to 30 meters in height. Its bark is grey-brown, and if cut, it secretes a red gum. Produced in racemes, the flowers of the "Burma paduak" are yellow. Used for furniture, construction timber, cart wheels, tool handles, and posts, the wood of this tree is resistant to termites.



- BOOKLET LOCATIONS OF PTEROCARPUS MACROCARPUS CAMPUS AREA (*Top View*)
- ALTERNATE LOCATIONS OF PTEROCARPUS MACROCARPUS CAMPUS AREA (*Top View*)



PTEROCARPUS MACROCARPUS – BEHIND BLDG. 16, BUS STOP

### Phoenix dactylifera

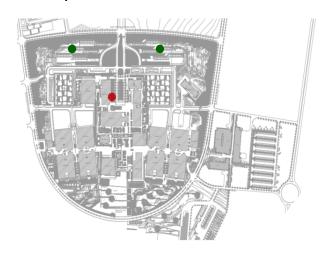
نخيل البلح

Common Name: Date palm

Family: Arecaceae Origin: Arabian Gulf

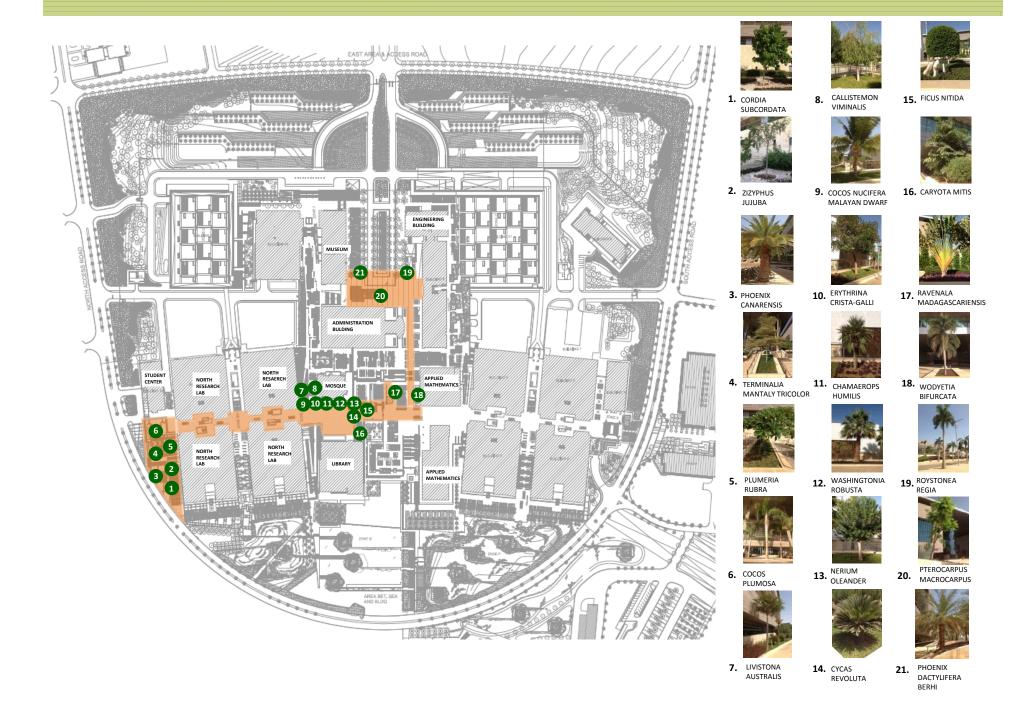
Variety: Berhi

Growing from 20 to 25 meters in height, the *phoenix* dactylifera is dioecious - having separate male and female plants. Known as the "date palm," it can grow singly or form from a clump, with several stems produced from a single root system. Mature date palms can produce 80–120 kilograms of dates per harvest, though the dates do not ripen at the same time.



- BOOKLET LOCATIONS OF PHOENIX DACTYLIFERA CAMPUS AREA (Top View)
- ALTERNATE LOCATIONS OF PHOENIX DACTYLIFERA CAMPUS AREA (Top View)





#### Cordia subcordata Sea trumpet, Kou, Kerosene wood, Manjak, Glueberry

فتئة، ياسمين هندي Plumeria rubra Red frangipani, Common frangipani, Temple tree

Livistona australis نخيل الليفستونا الاسترال Cabbage-tree Palm

10 Erythrina Crista-galli Cockspur Coral Tree

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#### Zizyphus jujuba Red date, Chinese date, Korean date, Indian date

5 Terminalia mantaly (Tricolor) لوز Madagascar almond, Umbrella tree A tall and distinct tree, terminalia mantaly is easily spotted by its tiered layers of leaves that look like umbrellas. In each

**Callistemon viminalis** فرشات الزجاج Weeping Bottlebrush

Chamaerops humilis كاميرويس 11 European fan palm, Dwarf fan palm

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#### Phoenix canarensis Canary Island date palm, Pineapple palm

نخيل الكنارى Cocos plumosa Queen palm, Cocos palm q Cocos nucifera (Malayan Dwarf) Coconut palm

واشطونيا قوية Washingtonia robusta Mexican fan palm, Mexican Washingtonia

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#### Nerium oleander دفلة 13

16 Caryota mitis
Burmese fishtail palm

Roystonea regia Royal palm

نخيل ملوكي

**جوز هند قزمی** 

Oleander Tolerant of poor soils and drought, the *nerium oleander* is often used as an ornamental plant in landscapes, parks and along roadsides. An evergreen, this pretty shrub or small tree is toxic in all of its parts. Its leaves are thick, leathery, and dark green in color. When in bloom, its flowers are white, pink or

red - and grow in clusters at the end of each branch.

Caryota mitis can be identified by its light green leaflets, which are shaped much like the tail fin of a fish. The "Burmese fishtail palm" typically forms multi-stemmed clusters of small branchwork, and the mature plan first flowers from the top of the stem. After the last flowering, the stem will die and should be removed. The clump will survive and continue to produce more stems.

Large and attractive the roystonea regia palm, has been planted throughout the tropics and subtropics as an ornamental tree. Often called the "royal palm", it is very smooth, gray-white in color, and has a characteristic bulge below a distinctive green-crowned shaft. Its seeds are valued as a source of oil and for livestock feed, its leaves are used for thatching, and the wood is common in construction.

#### **BOTANICAL TOUR MAP**

#### 14 Cycas revoluta Japanese sago palm

ذيل الجمل

Ravenala madagascariensis 17 Traveler's palm The sole member of its genus, the ravenala madagascariensis

has a sturdy gray trunk, and progressively loses its oldest and

lower leaves through age. Spotted easily by its enormous

Pterocarpus macrocarpus Burma padauk

This dry-season, deciduous tree, the pterocarpus macrocarpus is a medium-sized tree, that can grow from 10 to 30 meters in height. Its bark is grey-brown, and if cut, it secretes a red gum. Produced in racemes, the flowers of the "Burma paduak" are yellow. Used for furniture, construction timber, cart wheels, tool handles, and posts, the wood of this tree is resistant to

The easily identifiable, symmetrical cycas revoluta has a thick, shaggy trunk, which supports a crown of shiny, dark green leaves. In younger plants, the trunk is very low to subterranean, but will lengthen above ground with age. In many areas of the world, it is used heavily in commercial

paddle-shaped leaves, the "Traveler's palm" is widely cultivated in tropical and subtropical regions, for its distinctive habit and foliage. Its leaves are tipped on long petioles, that form a distinctive, single-plane, fan shape.

termites.

#### Ficus nitida Chinese banyan, Indian fig

as a bonsai plant.

فايكس نيتدا

نخيل ذيل الثعلب Wodyetia bifurcata

21 Phoenix dactylifera Berhi نخيل البلح Growing from 20 to 25 meters in height, the phoenix dactylifera is dioecious - having separate male and female

With small, deep-green leaves and upright branches, the ficus nitida can be readily spotted. An evergreen tree with aboveground, aerial-short roots, it works well when grown under full sun and responds positively to regular pruning. The smooth bark of the "Indian fig" is flecked with tiny horizontal dots known as lenticels.

landscaping. Due to its shape, the "sago cycad" is also popular

Quickly becoming one of the more popular landscaping palms in the tropics and sub-tropics, the spectacular wodyetia bifurcata was only discovered in the late 1970s. Endemic to only a very small area, the "foxtail palm" is extremely hardy. able to take full sun from a very early age, and drought and wind tolerant.

plants. Known as the "date palm," it can grow singly or form from a clump, with several stems produced from a single root system. Mature date palms can produce 80-120 kilograms of dates per harvest, though the dates do not ripen at the same time.



# KAUST BOTANICAL TOUR BOOKLET



# ENRICHMENT PROGRAM











