



Plants

in Tropical Cities

Uvaria grandiflora



Boo Chih Min is passionate about plants! She studied botany at the National University of Singapore and has a keen interest in native and exotic plants of Singapore and the South-East Asian region. She has previously worked at the National Parks Board where she wrote the 1001 Garden Plants of Singapore which greatly improved accessibility of plant information to many nurseries, researchers, schools, governmental entities, and the general public. Her interests in the other aspect of plants, such as ecology, conservation and propagation has led to the set up of her current company, Uvaria Tide, which specializes in providing professional services for floristic survey, plant selection, plant supply and science-based consultancy for sustainable and ecologically-orientated multi-disciplinary projects: mangrove restoration, rainforest restoration, vertical greenery, rooftop greenery, greening of waterways, floating wetlands and the use of native plants in urban landscapes and forested areas.

Email: uvaria@hotmail.com

Sharon Y. J. Chew graduated from University of Queensland (Applied Science, major in Plants). Prior to that, she studied Horticulture and Landscape Management at Ngee Ann Polytechnic. She has a keen interest in turfgrass management. She has previously worked at the Orchid Country Club, a golf club where she managed the entire golf course and its associated landscaping needs. At the Singapore University of Technology and Design, Sharon manages several environmental science research projects such as the cleansing of canal waters using a selection of aquatic plants and developing the greening initiatives for Jurong island.

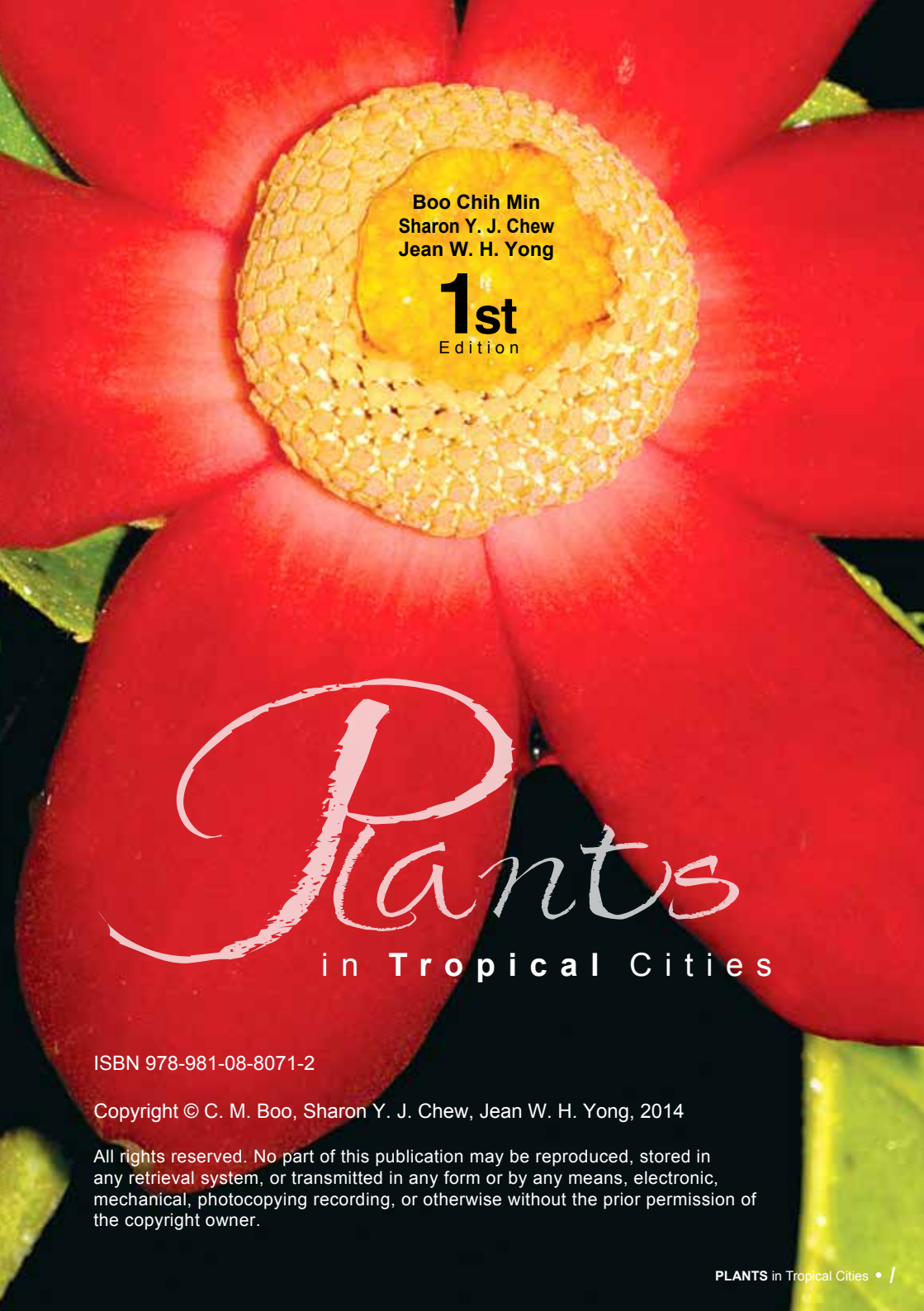
Email: sharonjing22@gmail.com



Jean W. H. Yong (John) finds bio-inspiration in plant diversity and adaptations! He is an Associate Professor at the Singapore University of Technology and Design and runs the Green Solutions Laboratory. John studied botany at the National University of Singapore and later, biochemistry and physiology at the Australian National University. He has written numerous scientific papers as well as several plant-science books such as *The Physiology of Orchids* in relation to the Industry and *A Selection of Plants for Greening of Waterways and Waterbodies in the Tropics* that greatly improved the availability of tropical plant scientific information to researchers, institutions, and the plant industry sectors.

Email: jwhyong@gmail.com

***Pellucieria rhizophorae* (Tea Mangrove)**



Boo Chih Min
Sharon Y. J. Chew
Jean W. H. Yong

1st
Edition

Plants
in Tropical Cities

ISBN 978-981-08-8071-2

Copyright © C. M. Boo, Sharon Y. J. Chew, Jean W. H. Yong, 2014

All rights reserved. No part of this publication may be reproduced, stored in any retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying recording, or otherwise without the prior permission of the copyright owner.

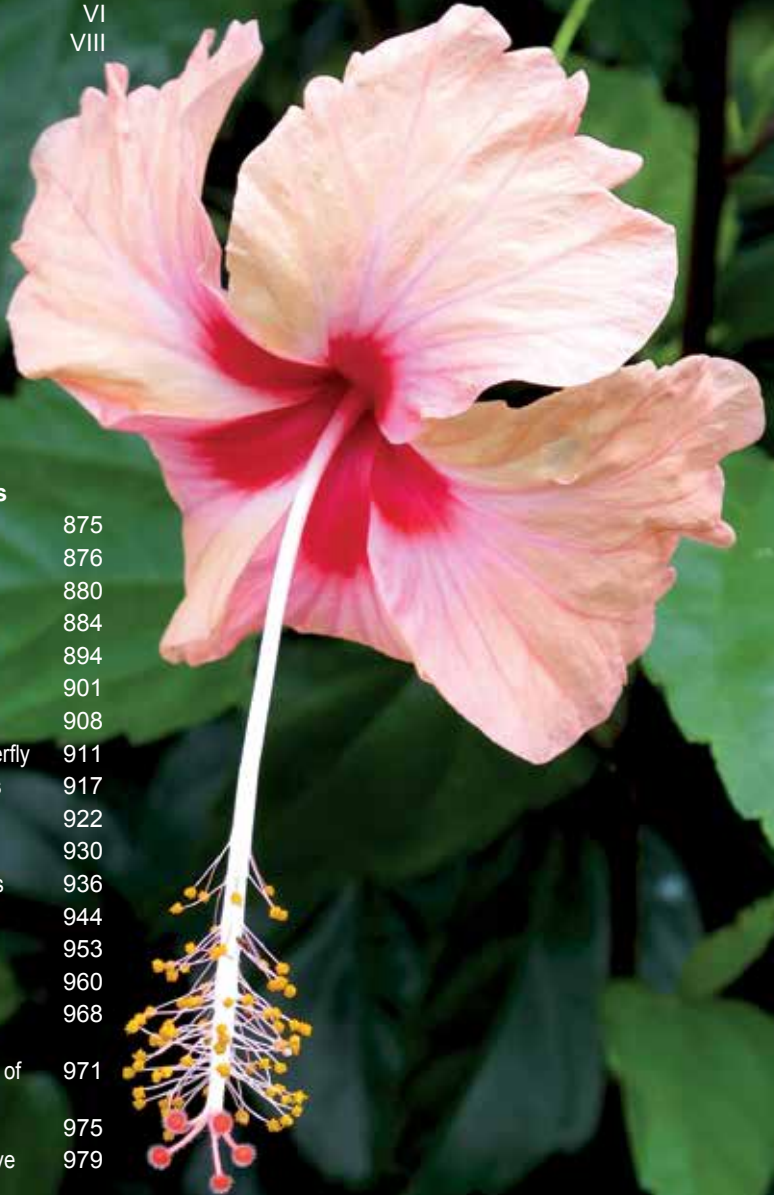
Content

Acknowledgements	III
How to use this book?	IV
Key to Icons	VI
Preface	VIII

A	1	N	561
B	91	O	575
C	127	P	593
D	251	Q	681
E	299	R	683
F	335	S	705
G	361	T	785
H	391	U	831
I	427	V	839
J	447	W	851
K	457	X	857
L	469	Y	865
M	507	Z	867

Index to categories

Cycads	875
Palms	876
Ferns and Fern Allies	880
Climbers	884
Trees	894
Ground Covers	901
Hedges	908
Plants that Attract Butterfly	911
Plants that Attract Birds	917
Indoor Plants	922
Aquatic Plants	930
Drought Tolerant Plants	936
Fragrant Plants	944
Seaside Plants	953
Roadside Plants	960
Plants for Green Roof Planting	968
Plants for the Greening of Vertical Wall	971
Epiphytes	975
Mangrove and Mangrove Associates	979



Hibiscus sp.

Acknowledgements

This book was produced with the objective to enhance the level of awareness and interest in tropical plant species amongst the general public, as well as to raise the standard of horticultural and landscaping industry in tropical cities to a greater height.

We would like to thank the following colleagues and friends who have rendered their support to make this book possible:-

Mr. Ali Ibrahim
Ms. Chew Ping Ting
Ms. Ng Yan Fei
Dr. Sheue Chiou Rong
Ms. Wong Wei San

Ms. Anne Ng
Mr. Heng Ming Yuan
Ms. Ng Yok Lan
Dr. Tan Swee Ng

This book will not be comprehensive without the additional high-quality photos to illustrate certain plant species. We would like to express our heartfelt gratitude to the following individuals for the contribution of photographs:-

Mr. Chua Jit Chen
Mr. Derek Yap
Dr. S. Chin Wong
Mr. Teo Nam Siang

Mr. Derek Liew
Mr. Ron Yeo
Mr. Saifudin Suran

We would also like to express our appreciation to many individuals and organizations who have allowed us to take photographs of their plants and gardens or render their help in one way or another.

Special appreciation to David Yeap and Alex Toh of Touche Design for their innovative and contemporary design in making this book attractive and functional.

Last but not least, we would like to thank our families for their patient support and encouragement.

How to use this book?

Uvaria grandiflora



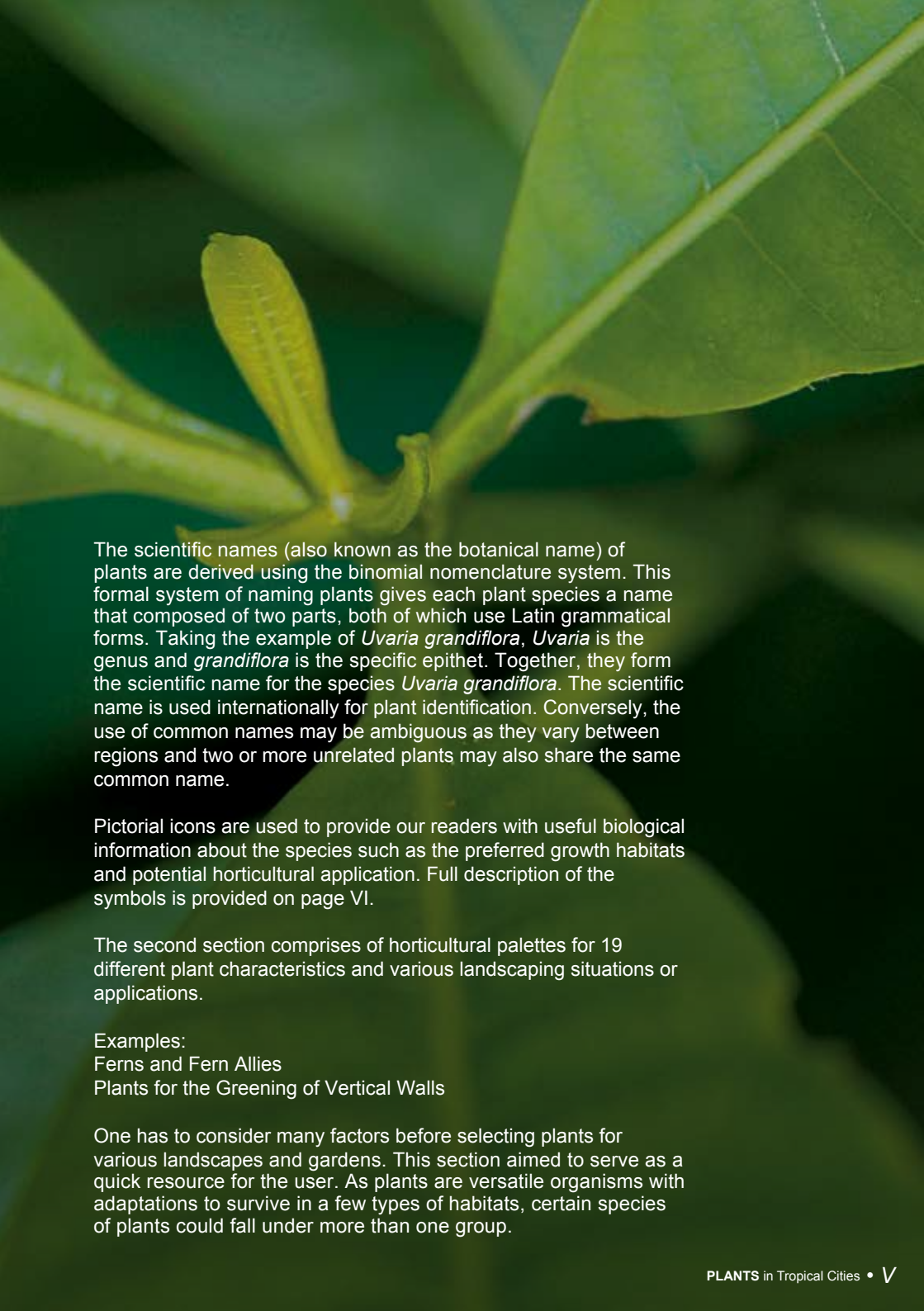
Annonaceae

Red Hot Poker, 山椒子、山椒、
大花紫玉盘

Unona grandiflora, *U. setigera*,
Uvaria purpurea, *U. platypetala*,
U. rhodantha, *U. rufa*, *U. setigera*

'Plants in Tropical Cities' is a pictorial reference to the vast selection of plants found in tropical cities. This book serves as a guide for horticulturists, landscapers and researchers in plant identification.

The main section of the book provides botanical information of the plant species using photos that illustrate their various morphological features. The plant species are arranged in alphabetical order according to their scientific name. Information pertaining to the individual species includes the Scientific Name, Family, Common Name and possible Synonym. Other useful botanical information and plant cultural needs are provided using various pictorial icons.



The scientific names (also known as the botanical name) of plants are derived using the binomial nomenclature system. This formal system of naming plants gives each plant species a name that composed of two parts, both of which use Latin grammatical forms. Taking the example of *Uvaria grandiflora*, *Uvaria* is the genus and *grandiflora* is the specific epithet. Together, they form the scientific name for the species *Uvaria grandiflora*. The scientific name is used internationally for plant identification. Conversely, the use of common names may be ambiguous as they vary between regions and two or more unrelated plants may also share the same common name.

Pictorial icons are used to provide our readers with useful biological information about the species such as the preferred growth habitats and potential horticultural application. Full description of the symbols is provided on page VI.

The second section comprises of horticultural palettes for 19 different plant characteristics and various landscaping situations or applications.

Examples:

Ferns and Fern Allies

Plants for the Greening of Vertical Walls

One has to consider many factors before selecting plants for various landscapes and gardens. This section aimed to serve as a quick resource for the user. As plants are versatile organisms with adaptations to survive in a few types of habitats, certain species of plants could fall under more than one group.

Key to Symbols

Plant Habits

- T** **Trees** — Plants which usually grow more than 3 metres in height and 10 centimetres in trunk diameter.
- S** **Shrub** — Plants with multiple stems and shorter in height, usually under 5 m.
- Cl** **Climbers** — Plants with soft, flat or round stems with a small diameter, which enable them to creep upwards along the trunk/ branches of trees or any other supporting structures.
- F** **Ferns** — Plants that do not bear flowers and thus produce no fruits or seeds; reproduce by spores instead.
- P** **Palms** — Plants with large, palmately or pinnately compound, evergreen leaves spirally arranged at the top of an unbranched trunk.
- Cy** **Cycads** — Palm-like plants with stout, woody trunk and a crown of hard and stiff evergreen leaves.

Plant Care Requirements

-  Prefers full-shade condition
-  Prefers semi-shade condition
-  Prefers full-sun condition
-  Requires occasional spraying
-  Requires little water for maintenance
-  Requires moderate watering for maintenance
-  Requires lots of water for maintenance and to be given on a regular basis

Plant Use/Characteristics



Tropical natives — Plants which thrive well in the tropics, where the climate is warm and generally moist all year round. These plants are found in Singapore and the neighbouring countries.



Suitable for roadside planting — Trees or palms which require little maintenance are suitable for roadside planting. Generally, larger trees and palms are planted along main roads, whereas smaller trees and palms are planted along minor roads.



Suitable for seaside planting — These plants tend to be tolerant of salt-sprays and the periodic strong coastal winds. Some may have varying degree of salt-tolerance to sea water.



Aquatic plants — Plants which are adapted to live in an aquatic environment.



Drought tolerant plants — Also known as xerophytes with high water-use efficiency. These plants are either morphologically or physiologically (or both) adapted to periodic water deficit.



Indoor Plants



Ornamental flowers



Herbs & Spices



Attracts birds



Ornamental foliage



Attracts butterflies

Preface

The use of plants in landscaping goes back a long way since 5000 years ago. In ancient civilisations, the choice of plants used for landscaping purposes may take into consideration of their botanical, cultural or mythological significance. During the mid-20th century and especially in urban cities, plants were primarily grown for simple aesthetic purposes within a man-made environment.


There are many avenues for using plants in our contemporary living environment. Plants can be used simply to form canopies that provide shade for any desired place, such as those planted along the road sides and in the parks. Plants are also grown to form “green” screens which block off unsightly views from an aesthetic perspective. The variety and availability of plants that can be used for any landscaping activity is indeed unlimited and this is especially true for the warmer tropical and sub-tropical cities. At present, a broad assortment of plant species is used to meet the ever increasing demand of compatible planting materials for urban landscapes and recreational areas.

Advancement made in the fields of horticulture and plant sciences had helped us to better understand the immense potential of using plants to improve the urban environment in which we live in. Within this context, plants are no longer cultivated solely for food, shade or aesthetic purposes but for the added

and often unseen “Ecological services” they provide. Apart from adding colours onto the seemingly boring concrete buildings, these plants are able to reduce the negative effects of our contemporary built environment. For example, recent studies have shown that green roofs and green walls can reduce the heat entering and “trapped” within the buildings. Many urban-dwellers also choose to grow potted plants indoor over artificial plants, which can improve the air quality of their homes and offices.

Plants also play a pivotal role in many Water-sensitive Urban Design, where landscaping practices and selected plants are carefully incorporated within modern civil engineering works in order to reduce flooding and even improving the water quality of the associated waterways and waterbodies. With the increasing desire among urban dwellers to have more greenery within the built environment, city planners are increasingly naturalizing former concrete canals with suitable plants to re-create natural Waterscapes in a bid to improve the livability of the area for the people

With an appropriate selection of plants from the ecological perspective, horticultural landscaping will help to re-introduce biodiversity back to the built environment by restoring the natural habitats that were previously lost as a result of urbanisation. As such, the role of plant introduction in any urban setting has gradually evolved over the years,



from its simple aesthetic purpose and towards improving the livability of the built environment using essentially the intrinsic biological properties of plants.

With the intention to conserve and restore the dwindling biological diversity and natural heritage within the built environment, suitable plant species, especially native or indigenous species, can be re-introduced back into cities through the process of urban

landscaping. The planting of native plants can restore the natural biodiversity and heritage of any given area by attracting some previously lost fauna.

In order to enjoy the beauty and multiple benefits of what plants can provide, it is important to first understand the biological features of these plants, and their basic growth requirements and compatibility with the tropical environment. This includes understanding the interactions between the plant species and the other organisms of the ecosystem (e.g. a legume plant and its symbiotic bacteria *Rhizobium* in the root nodules; potential pollinator of a fruit tree), as well as the influence of environmental factors on the growth of these plants. Therefore, having good horticultural and scientific understanding of the selected plants will provide landscapers and researchers with the necessary knowledge to choose the appropriate plants for their site of interest.

Plants in Tropical Cities aims to be a pictorial reference to the vast selection of plants found in many tropical and even sub-tropical cities. This book serves as a quick and easy-to-use guide for horticulturists, landscapers and researchers in plant identification. The first part of the book categorises the plants in alphabetical order according to their scientific name. In this part of the book, photos describing the plants will be shown to facilitate quick and reliable identification purpose. Each plant will then be further classified, in accordance to its



Begonia sp.

probable usage, in the later sections. The second segment contains 19 arbitrary growth habitat categories, with some brief descriptions for each growth habitat and their potential horticultural application. Photographs and iconic labels (e.g., sun-loving; low watering frequency) are used to describe each plant species and their basic growth preferences. It is noteworthy that certain species of plants can be classified under more than one group as the characteristics of plants are usually not “black and white” per se, and may be variable over a typical biological continuum.

As quoted from Baba Dioum, a well-known Senegalese conservationist: *“In the end, we will conserve only what we love, we will love only what we understand and we will understand only what we are taught.”*

We sincerely hope that this book can increase the awareness, understanding and appreciation of tropical city plants. With greater and in-depth understanding of tropical plants and their growth habits, appropriate choice of plants can then be made for landscaping or any other activity involving plant selection leading to plant introduction on sites. From a broader perspective, the continual selection, introduction and integration of ecologically compatible plants into urban greenery is the most ideal approach to improve the livability of our cities while restoring and conserving our natural heritage and living environment in tropical cities.

Acanthus ilicifolius



Abelmoschus esculentus



Malvaceae Lady's-Finger, Okra, Gumbo, Bendi, 咖啡黄葵、黄苏葵、黄秋葵 *Hibiscus esculentus*

Abelmoschus sagittifolius



Malvaceae Tuberose Mallow, 箭叶秋葵 *Hibiscus sagittifolius*

Abroma augusta



Malvaceae Devil's Cotton, Indian Hemp, 昂天莲

Bixa orellana



Butia capitata



Arecaceae

Butià, Wine Palm, Jelly Palm,
Pindo Palm, 冻子椰子

Butia bonnettii, *Cocos capitata*

Byrsonima crassifolia



Malpighiaceae

Nance, Savanna Serrette,
Golden Spoon, 比尔松尼木属乔木

Malpighia crassifolia

Byttneria maingayi



Sterculiaceae

Cerbera manghas



Cyrtosperma johnstonii



Araceae

Arbi

Cyrtosperma merkusii



Araceae

Swamp Taro, Giant Swamp Taro

Cyrtostachys renda



Arecaceae

Sealing-Wax Palm, Pinang Rajah, Maharajah Palm, Lipstick Palm, Red Sealing Wax, 印章棕

Cyrtostachys lakka

Delonix regia



Dypsis lutescens



Areaceae

Yellow Cane Palm, Golden Cane Palm, Butterfly Palm, Golden Fruited Palm, Madagascar Palm, Yellow Palm, Golden Cane Palm, Pinang Kuning, Bamboo Palm, Yellow Areca Palm, 散尾葵、黄椰子

Chrysalidocarpus baronii var. *littoralis*, *C. glaucescens*, *C. lutescens*

Dypsis madagascariensis



Areaceae

Malagasy Palm, Butterfly Palm, Lucuba Palm, Mahajanga Palm, Farhazo, Hirihiy, Kizohazo, 马达加斯加椰子

Chrysalidocarpus lucubensis, *C. madagascariensis*, *C. oleraceus*

Dysoxylum cauliflorum



Meliaceae

Stem Dysoxylon

Euphorbia sp.



E

Excoecaria agallocha



Euphorbiaceae

Blind-Your-Eyes, Buta-Buta, Bebuta, Milky Mangrove, 海漆

Excoecaria cochinchinensis



Euphorbiaceae

Buta-Buta, Bebuta, Daun Sambang, Daging, 红背桂, 青紫木

Excoecaria bicolor

Fagraea fragrans



Friesodielsia desmoides



Annonaceae Wedding Canange

Fuchsia Hybrids



Onagraceae Ladies' Eardrop, 倒挂金钟

Furcraea foetida 'Striata'



Agavaceae Giant False Agave, 黄纹万年麻 *Furcraea gigantea* 'Striata'

Grammatophyllum speciosum



Gynura procumbens



Asteraceae

Longevity Spinach, Sambung Nyawa, Green Harmony,
尖尾凤

Gynura pseudochina var. *hispida*



Asteraceae

紫绒草

Helianthus annuus



Hyophorbe verschaffeltii



Arecaceae

Spindle Palm, Palmiste Marron

Hypolytrum nemorum



Cyperaceae

割鸡芒

Hypolytrum formosanum, *H. latifolium*,
Schoenus nemorum

Hyptis capitata



Lamiaceae

Knobweed

Ixora congesta



Ixora Cultivars



Ixora Hybrid



Ixora 'Siam Ribbon'



Ixora 'Super Pink'



Ixora 'Super King'



Ixora 'Super Orange'



Ixora 'Light Pink'

Rubiaceae

Jatropha gossypifolia



Jacaranda obtusifolia



Bignoniaceae

Jacaranda, Green Ebony,
Jambol Merah, Jambul Merak, 蓝花楸

Bignonia filicifolia, *Jacaranda filicifolia*,
J. rhombifolia

Jackiopsis ornata



Rubiaceae

Merbuluh Merah, Selimbar, Selumar

Knema globularia

K

Kaempferia elegans



Zingiberaceae

Limestone Kaempferia, 紫花山柰

Kaempferia pulchra

Kaempferia galanga



Zingiberaceae

Cekur, Kencur, Sand Ginger, Lesser Galangale, Resurrection Lily, 沙姜 (Rhizome), 山柰 (Whole Plant)

Lepironia articulata

L



Labisia pumila



Labisia pumila
Cultivar (Pink Leaf)



Primulaceae

Akar Fatimah, Kunci Fatimah, Rumpun Siti Fatimah, Selusoh Fatimah, Akar Kecil Fatimah, Kacip Fatimah, Pokok Pinggan, Mata Pelandok Rimba, 卡西法蒂玛

Lablab purpureus



Fabaceae

Hyacinth Bean, Lablab Bean, 扁豆

Dolichos lablab, *D. purpureus*, *Lablab niger*, *L. lablab*, *L. vulgaris*, *Vigna aristata*

Melaleuca cajuputi

NM

Macaranga bancana



Euphorbiaceae

Mahang Plant, Common Mahang

Macaranga tenuifolia

Macaranga conifera



Euphorbiaceae

Macaranga populifolia

Macaranga gigantea



Euphorbiaceae

Giant Mahang

Macaranga incisa, *M. megalophylla*

Nymphaea cultivar

N



Nandina domestica



Berberidaceae

Heavenly Bamboo, Sacred Bamboo, Nandina, 南天竹、天竺、兰竹

Narcissus Species



Amaryllidaceae

Daffodil, 水仙

Nauclea orientalis



Rubiaceae

Bangkal, Leichhardt Tree, 东方鸟檀

Oryza sativa



Ochanostachys amentacea



Olacaceae

Petaling, Tamggal

Ochanostachys bancana, *Petalinia bancana*

Ochna integerrima



Ochnaceae

Vietnamese Mickey Mouse Plant,
金蓮木

Elaeocarpus integerrimus, *Ochna andamanica*, *O. wallichii*, *O. harmandii*

Ochna kirkii



Ochnaceae

Mickey Mouse Plant, 米老鼠花, 桂叶黄梅

Passiflora sp.



Pachira aquatica



Malvaceae

Guiana Chestnut, Provision Tree, Shaving-Brush Tree, Malabar Chestnut, Water Chestnut, Saba Nut, Fortune Tree, Money Tree, Oje, 瓜栗、马拉巴栗、发财树

Bombax aquaticum, *B. macrocarpum*, *Carolinea macrocarpa*, *Pachira macrocarpa*

Pachira glabra



Malvaceae

French Peanut, Guinea Peanut, Money Tree, Lucky Tree

Bombacopsis glabra

Quisqualis indica



Quassia amara



Simaroubaceae

Bitter-Wood, Bitterwood, Surinam Quassia, 括矢亚

Quassia indica



Simaroubaceae

Samadera indica, *S. madagascariensis*, *S. tetrapetala*

Quisqualis indica



(Single Petal)

Combretaceae

Rangoon Creeper, Drunken Sailor, Akar Dani, Akar Suloh, Dani, Ara Dani, Akar Pontianak, Red Jasmine, 使君子

Combretum indicum, *Kleinia quadricolor*, *Mekistus sinensis*, *Ouroparia enormis*, *Quisqualis glabra*, *Q. grandiflora*, *Q. indica* var. *oxypetala*, *Q. indica* var. *villosa*, *Q. longiflora*, *Q. loureiroi*, *Q. obovata*, *Q. pubescens*, *Q. sinensis*, *Q. spinosa*, *Q. villosa*

Rhizophora stylosa

RR

Radermachera 'Kunming'



Bignoniaceae

Dwarf Tree Jasmine, Peep Thong

Rapanea porteriana



Primulaceae

Kicar, Kicar-Kicar

Myrsine porteriana

Raphanus sativus



Brassicaceae

Radish, 萝卜

Senna alata



Sabal palmetto



Areaceae

Blue Palmetto, Cabbage Palmetto, Cabbage Tree, Common Palmetto, 菜棕

Sabal jamesiana, *S. parviflora*, *S. vitoris*

Saccharum officinarum



Poaceae

Sugarcane, Tebu, 甘蔗

Saccharum spontaneum



Poaceae

African Fodder Cane, Asian Fodder Cane, Fodder Cane, Kans Grass, Wild Sugarcane, 甜根子草

Imperata spontanea, *Saccharum canaliculatum*, *S. propinquum*, *S. semidecumbens*

Tunera subulata



Tabebuia aurea



Bignoniaceae

Paraguayan Silver Trumpet Tree,
Silver Trumpet Tree, Tree of Gold,
银鳞风铃木

Tabebuia argentea

Tabebuia haemantha



Bignoniaceae

Roble Cimarron, 血红风铃木

Bignonia haemantha, *Tecoma haemantha*, *Spathodea portoricensis*

Tabebuia ochracea



Bignoniaceae

Gold Trumpet Tree, Cortez,
Corteza, Guayacan, Piuva

Tabebuia hypodidtion, *T. neochrysantha*, *Tecoma heterotricha*, *T. ochracea*

Utricularia aurea



U

Uncaria cordata



Rubiaceae 叶儿茶钩藤

Uncaria longiflora var. *pteropoda*



Rubiaceae

Uncarina grandidieri



Pedaliaceae Mouse Trap Tree, Succulent Sesame, 黄花胡麻 *Harpagophytum grandidieri*

Victoria amazonica



Vallaris glabra



Apocynaceae

Bread Flower, 纽子花

Vanda 'Miss Joaquim'



Orchidaceae

Singapore Orchid, 卓锦万黛兰

Wodyetia bifurcata



Wallichia disticha



Arecaceae

Wallich Palm, 二列瓦理棕

Waltheria indica



Malvaceae

Sleepy Morning, 蛇婆子、和他草

Waltheria americana, *W. elliptica*

Washingtonia robusta



Arecaceae

Mexican Fan Palm, Washington Palm, 墨西哥扇形棕榈、华盛顿葵

Xanthorrhoea johnsonii



Xanthophyllum flavescens



Polygalaceae

Xanthophyllum affine

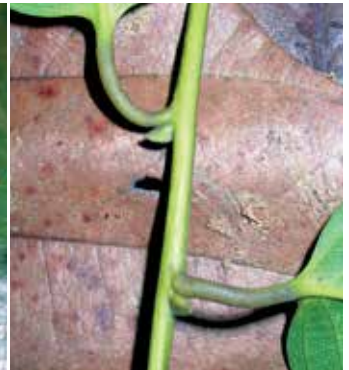
Xanthophyllum obscurum



Polygalaceae

Kiu, Nyalin

Xanthophyllum vitellinum



Polygalaceae

Minyak Berok, Nyalin

Yucca aloifolia



Youngia japonica



Asteraceae

Oriental Hawksbeard, Asiatic Hawksbeard, 黄鹤菜

Yucca aloifolia



Asparagaceae

Spanish Bayonet, Dagger Plant, 芦荟叶丝兰、千寿兰

Yucca gloriosa



Asparagaceae

Spanish Dagger, Palm Lily, Mound-Lily Yucca, 凤尾兰

Zingiber ottensii



Zamia fischeri



Zamiaceae

Fernleaf Cycad, 费切尔泽米

Zamia forsteri, *Zamia tenuifolia*

Zamia furfuracea



Zamiaceae

Cardboard Palm, Sago Cycad, 砗鳞壮泽米

Zamia pumila



Zamiaceae

Florida Arrowroot, Coontie

Zamia integrifolia



Cycads

Cycads (Cycadaceae) are gymnosperms as they bear seeds that are not enclosed by a structure. Although these plants resemble palms, both families of plants are taxonomically unrelated. Morphologically similar to certain palm species, cycads generally have cylindrical trunks that do not branch. Pinnate leaves will form a crown on the top of the trunk as part of the vegetative growth cycle. Cycads are either male or female and they bear reproductive cones in the centre of the crown. Unlike palms, cycads generally grow at a slower rate and they have a longer life span. Cycads are popular plants for landscaping purposes due to their interesting and unique features and low maintenance requirement.



Ceratozamia robusta
174



Dioon edule
270



Zamia furfuracea
868



Cycas clivicola
241



Dioon spinulosum
271



Zamia pumila
868



Cycas edentata
242



Macrozamia moorei
513



Cycas revoluta
242



Zamia fischeri
868



Palms

Palms (Arecaceae) is a family of plants which are generally recognised for their large, palmately (fan-shaped) or pinnately (feather-shaped) compound, evergreen leaves that are spirally arranged at the top of an unbranched trunk. A palm tree can either grow as a single trunk ending with a crown of leaves, or in clusters where shoots emerge from axillary buds near the base of the trunk resulting in clustering. Palms thrive well in tropical, sub-tropical and warm temperate climates. In many cities, palms are widely used in landscaping as these plants are considered iconic plants and are often selected as the main aesthetic feature of a place/locality.



Acoelorrhaphes wrightii
10



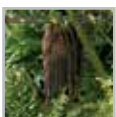
Arenga hookeriana
71



Bismarckia nobilis
109



Adonia merrillii
17



Arenga pinnata
72



Bismarckia nobilis
'Silver'
109



Aiphanes horrida
29



Arenga undulatifolia
72



Borassodendron machadonis
113



Archontophoenix alexandrae
68



Arenga westerhoutii
72



Borassus flabellifer
113



Areca catechu
70



Asterogyne martiana



Butia capitata
126



Areca triandra
71



Beccariophoenix madagascariensis
105



Calyptrocalyx micholitzii
148



Areca vestitaria
71



Bentinckia nicobarica
107



Carpentaria acuminata
161



Uncarina grandidieri
832



Washingtonia robusta
852



Ziziphus mauritiana
873



Uvaria grandiflora
838



Xanthorrhoea johnsonii
859



Ziziphus nummularia
873



Vanilla planifolia
841



Yucca aloifolia
866



Zornia diphylla
874



Vanilla planifolia
'Variegata'
841



Yucca aloifolia
(Variegated)
866



Zoysia Species
874



Vitex trifolia
846 – 847



Yucca gloriosa
866





Fragrant Plants

To further enhance the multiple roles of any gardens, fragrant plants are introduced to give an additional dimension to our senses – smell! Many fragrant plants are well known for their positive benefits in aromatherapy. Growing fragrant plants in gardens also improves the biodiversity as the scent will attract more pollinators. Based on our experiences, it is best to grow these plants at places where there is minimal external wind movements in order to retain the fragrance which are essentially natural chemicals secreted by the plants



Aglaea borneensis
23



Alstonia scholaris
42



Anisomeles indica
53



Aglaia duperreana
24



Alstonia spathulata
42



Annona cherimola
54



Aglaia odorata
24



Amorphophallus atroviridis
47



Anredera cordifolia
55



Allium tuberosum
33



Amorphophallus paeoniifolius
47



Antigonon leptopus
60



Aloysia virgata
37



Amorphophallus titanum
47



Arachnotryx leucophylla
65



Alstonia angustifolia
41



Anaxagorea javanica
50



Areca triandra
71



Alstonia angustiloba
41



Angelonia angustifolia
52



Aristolochia grandiflora
74



Syzygium syzygioides
783



Syzygium zeylanicum
784



Tabebuia aurea
786



Tabebuia pallida
787



Tabebuia rosea
787



Talipariti tiliaceum
794



Tamarindus indica
795



Tecoma stans
798



Tectona grandis
799



Terminalia brassii
799



Terminalia calamansanai
800



Terminalia catappa
800



Terminalia mantaly
801



Terminalia mantaly 'Tricolor'
801



Tristaniopsis obovata
827



Tristaniopsis whiteana
827



Washingtonia robusta
852



Wodyetia bifurcata
854



Xanthostemon chrysanthus
860



Xanthostemon
Species (Orange Flower)
861



Xanthostemon
Species (Pink Flower)
861



Xanthostemon youngii
861



Plants for Green Roof Planting

A green roof is generally defined as the cultivation of plants on growth medium over a waterproof membrane on buildings. In many cities, green roofs are popular and are widely installed on many buildings due to the many positive attributes associated with improving the liveability of any urban environment. The availability of water on the roof top will determine the type of plants chosen for any green roof planting exercise. If irrigation system is absent, plants which employ Crassulacean Acid Metabolism (CAM) mode of photosynthesis are more suitable as they tend to use much less water, i.e., have higher water use efficiency. More variety of plants can be grown on green roofs if a well-established irrigation system is available.



Agave angustifolia
'Marginata'
22



Alysicarpus vaginalis
44



Callisia repens
143



Agave desmettiana
22



Arachis pintoii
65



Carissa macrocarpa
159



Agave potatorum
22



Arachis pintoii
cultivar orange
flowers
65



Carissa macrocarpa
'Nana'
159



Agave tequilana
23



Asparagus densiflorus
'Sprengeri'
81



Carissa macrocarpa
(Variegated)
159



Alternanthera ficoidea
43



Axonopus compressus
89



Carpobrotus edulis
161



Alternanthera sessilis
44



Axonopus compressus
'Pearl Grass'
89



Chrysopogon zizanioides
186



Alternanthera sessilis
'Red'
44



Beaucarnea recurvata
104



Codiaeum variegatum
Cultivars
206



Mangrove and Mangrove Associates

A mangrove area is typically characterised by muddy shores of sheltered coasts and river estuaries which are subjected to movements of tides and periodic overflow of rivers. Hence the soil is often waterlogged, anaerobic and they may have high salinity (may be fluctuating) and pH. Mangrove is a plant community which inhabit the mangrove areas whereas mangrove associates may extend its habitat colonisation further into terrestrial communities. Mangrove species are well adapted to grow and thrive in such ecologically-challenging environment with several unique biological features which are not present in mangrove associates. Many mangrove species develop unique structures to help them to survive in this coastal environment such as breathing roots (pneumatophores) and their seeds tend to germinate while attached to the parent plant (vivipary). Some mangrove plants have succulent leaves that contain specialized glands which secrete excess salt. It is important to recognise that mangrove and mangrove associates can be planted for landscaping purposes under certain unique circumstances or special requirements for selected project sites.



Acanthus ebracteatus
8



Acanthus ebracteatus
(Variegated)
8



Acanthus ilicifolius
8



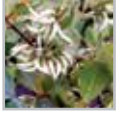
Acanthus volubilis
9



Acrostichum aureum
12



Acrostichum speciosum
12



Aegiceras corniculatum
19



Allophylus cobbe
34



Ardisia elliptica
69



Avicennia alba
87



Avicennia marina
88



Avicennia rumphiana
88



Barringtonia asiatica
97



Barringtonia edulis
98



Barringtonia racemosa
98



Brownlowia tersa
119



Bruguiera cylindrica
120



Bruguiera gymnorhiza
121



Bruguiera hainesii
121



Bruguiera parviflora
122



Caesalpinia crista
129



Pandanus tectorius 'Sanderi'
600



Scyphiphora hydrophylacea
728



Talipariti tiliaceum 'Tricolor'
794



Pemphis acidula
610



Sonneratia alba
747



Talipariti tiliaceum var. *purpurascens*
794



Podocarpus polystachyus
651



Sonneratia apetala
748



Terminalia catappa
800



Planchonella obovata
663



Sonneratia caseolaris
748



Thespesia populnea
806



Rhizophora apiculata
689



Sonneratia ovata
749



Xylocarpus granatum
863



Rhizophora mucronata
690



Talipariti tiliaceum
794



Xylocarpus moluccensis
863



Rhizophora stylosa
690



Talipariti tiliaceum 'Dwarf'
794



Xylocarpus rumphii
864



Scaevola taccada
718



Genus Name

- Abelmoschus** 2
Aberia 285
Abroma 2
Abrus 3
Abutilon 3
Acacia 4, 300, 485, 569, 711
Acalypha 5, 6, 7
Acanthopanax 310
Acanthus 1, 8, 9
Acapillaris 76
Acer VIII, 9
Acetosella 592, 591
Achras 185, 522, 662, 663
Acmella 10
Acoelorrhapha 10
Acokanthera 788
Acorus 11
Acrostichum 12, 644
Acrotrema 12
Actinodaphne 13
Actinophloeus 679
Actinoscirpus 13
Adansonia 14
Adelaster 356
Adenanthera 14, 337
Adenia 15
Adenium 15
Adenopodium 450
Adhatoda 528
Adiantum 505, 16
Adina 17
Adinandra 17
Adonidia 17
Adinootrys 140
Adipera 733
Aechmea 18, 19
Aegiceras 19
Aegiphila 603
Aeschynanthus 20
Aeschynomene 737
Afardisia 68
Afgekia 21
Agapanthus 21
Agathis 21
Agati 737
Agave 22
Agelaea 23
Ageratum 23, 24
Aglaia 24
Aglaonema 25, 26, 27, 28
Agrostis 318, 440
Agrostistachys 28
Aidia 28
Aiphanes 29
Ajania 29
Ajuga 29
Albizia 337, 711
Alcantarea 850
Alchornea 232
Aletris 288
Aleurites 30
Allamanda 30, 31, 32
Allium 33
Allophylus 34
Alocasia 34, 35, 36
Aloe 37
Alopecurus 611
Aloysia 37
Alphonsea 547
Alpinia 37, 38, 39, 40, 321
Alsodeia 694
Alstonia 41, 42, 296
Alternanthera 43, 44
Alysicarpus 44
Amaranthus 45
Ambaiba 169
Amerimnon 254
Amesiodendron 45
Amherstia 46
Amisotolotype 46
Ammannia 46
Ammocallis 167
Amomum 872
Amoora 61
Amorphophallus 47
Ampelgonum 620
Ampelocissus 48
Anacardium 49
Ananas 49, 50
Anastrophu 604
Anaxagorea 50
Andira 51
Andrographis 51
Andropogon 185, 244, 440
Aneilema 554
Anemopaegma 51
Angelica 52
Angelonia 52
Angiopteris 53
Anisomeles 53
Anisophyllea 54
Annona 54, 55
Anoectochilus 55
Anredera 55
Anthactinia 15
Anthocephalus 564
Anthurium 56, 57
Antia 204
Antiaris 58
Antidesma 58, 59
Antigonon 60
Antrophyum 60
Aphanamixis 61
Aphelandra 61, 699
Aporosa 62, 63
Aporum 257
Aptenia 64
Aquilaria 64
Arachis 64, 65
Arachnotryx 65
Aralia 338
Aralidium 65
Araucaria 66
Archidendron 67
Archontophoenix 68
Archytaea 649
Ardisia 68, 69
Arduina 159
Areca 70, 71, 637
Arenga 71, 72
Arfeuillea 73
Argyrea 73, 763
Aristolochia 73, 74, 75
Arrabidaea 715
Artabotrys 75
Artanthe 638
Artemisia 76, 230
Arthrophyllum 77
Artocarpus 77, 78, 79, 603
Arum 47, 622, 624, 859
Arundina 79, 80
Arundo 80, 629
Asclepias 81, 147, 377
Asparagus 81, 82
Aspidistra 83
Aspidopterys 83
Aspidium 569
Asplenium 83, 84
Asa 802
Aster 772
Asterogyne 85
Asteromyrtus 85
Astyposanthes 769
Asystasia 85, 86
Ataccia 790
Atractocarpus 86
Averrhoa 87
Avicennia 87, 88
Axanthes 834
Axonopus 89
Azadirachta 90
Azolla 90
Azuki 845
Baccaurea 92
Bacopa 93
Baeckea 93
Baeobotrys 513
Baikiaea 94
Balanocarpus 564
Ballota 53
Balsamaria 145
Bambusa 94, 95
Baphia 96
Barleria 96, 97
Barringtonia VI, 97, 98
Basella 99
Bassia 513
Bauhinia 99, 100, 101, 102, 103, 104
Beaumontia 104, 105
Beccariophoenix 105
Begonia X, 106
Beilschmiedia 107
Belamcanda 439
Beloperone 455
Bentinkia 107
Berrya 107
Biasoletia 404
Bignonia 51, 448, 511, 523, 715, 786
Bihai 396, 400
Billbergia 109
Biota 646
Bismarckia 109
Bixa 91, 110
Blechnum 110
Bletia 79
Blighia 111
Blumea 111
Blumeodendron 112
Bobea 814
Boerhavia 112
Bombacopsis 594

General References

- Anonymous (1970) **Selected Plants and Planting for a Garden City: Forty Popular Climbers**. Ministry of Law and National Development (National Development Division), Singapore.
- Anonymous (2000) **Guiding Principles for Constructed Treatment Wetlands: Providing for Water Quality and Wildlife Habitat**. US Environmental Protection Agency, Washington DC, USA.
- Anonymous (2001) **A Guide to Skyrise Gardening**. Singapore Science Centre, Singapore.
- Anonymous (2009) **ABC Waters Design Guideline: Version 1**. Public Utilities Board, Singapore.
- Archer-Willis A (2002) **The Water Gardener: A Complete Guide to Designing, Constructing and Planting Water Features**. Todtri Productions, New York, USA.
- Barwick M (2004) **Tropical and Subtropical Trees: A Worldwide Encyclopedic Guide**. Thames and Hudson Ltd, London, UK.
- Bell AD, Brian A (2008) **Plant Form: An Illustrated Guide to Flowering Plant Morphology**. Timber Press.
- Boo CM, Omar-Hor K, Qu-Yang CL (2006) **1001 Garden Plants in Singapore**. National Parks Board, Singapore.
- Chan GL, Chang S, Chow KK, Goh KL, Hoo KY (2000) **A Guide to Toxic Plants of Singapore**. Singapore Science Centre, Singapore.
- Chefetz A, Double C, Barnard L, Imwold D (2002) **Botanica's Annuals and Perennials**. Laurel Glen Publishing, San Diego, USA.
- Chia TF, Astley D (2012) **The Essential Guide to Growing Orchids in the Tropics**. Marshall Cavendish International (Asia) Pte Ltd.
- Chin SC, Chan E (1995) **Skyrise Gardening in Highrise Homes**. National Parks Board, Singapore.
- Chong KY, Tan HTW, Corlett RT (2009) **A Checklist of the Total Vascular Plant Flora of Singapore: Native, Naturalised and Cultivated Species**. Raffles Museum of Biodiversity Research, National University of Singapore, Singapore.
- Corlett RT (2009) **The Ecology of Tropical East Asia**. Oxford University Press Inc., New York.
- Corner EJH (1997) **Wayside Trees of Malaya: Vols. 1 and 2 (4th edition)**. Malayan Nature Society, Kuala Lumpur, Malaysia.
- Courtright G (1988) **Tropicals**. Timber Press, Portland, Oregon, USA, 1988.
- Davison GWH, Ng PKL, Ho CH. (2008) **The Singapore Red Data Book: Threatened Plants and Animals of Singapore (2nd Edition)**. The Nature Society, Singapore.
- Ellison D (1995) **Cultivated Plants of the World: Trees, Shrubs, Climbers**. Flora Publications International Pty Ltd, Brisbane, Australia.
- Ellison D, Ellison A (2001) **Cultivated Palms of the World**. University of New South Wales Press Ltd, Sydney, Australia.
- Engel DH, Phumai S (2000) **What's that Tree? A Field Guide to Tropical Plants of Asia**. Times Edition, Singapore.
- Foo JMY, Ang SLP, Yong JWH (2003) **Majical mistletoes**. Nature Watch 11: 2-5.
- Foo TS (1998) **A Guide to the Wildflowers of Singapore**. Singapore Science Centre, Singapore.
- Gardner S (2000) **A Field Guide to Forest Trees of Northern Thailand**. Kobfai Publishing Project, Bangkok, Thailand.
- Heide-Jørgensen HS (2008) **Parasitic Flowering Plants**. Koninklijke Brill NV, Leiden, Netherlands.
- Henderson MR (1953) **Malayan Wild Flowers Part I**. The Malayan Nature Society, Kuala Lumpur, Malaysia.
- Henderson MR (1954) **Malayan Wild Flowers Monocotyledons**. The Malayan Nature Society, Kuala Lumpur, Malaysia.
- Jones DL (1995) **Palms Throughout the World**. Smithsonian Institution Press, Washington D.C., USA.
- Keng H (2000) **The Concise Flora of Singapore, Gymnosperms and Dicotyledons**. Singapore University Press.
- Keng H (2003) **Orders and Families of Malaysian Seed Plants**. Singapore University Press, National University of Singapore, Singapore.
- Keng H, Chin SC, Tan HTW (1998) **The Concise Flora of Singapore, Volume II: Monocotyledons**. Singapore University Press.
- LaFrankie JV (2010) **Trees of Tropical Asia: An Illustrated Guide to Diversity**. Black Tree Publications Inc, Philippines.
- Larsen K, Ibrahim H, Khaw SH, Saw LG (1999). **Gingers of Peninsular Malaysia and Singapore**. Natural History Publications (Borneo) Sdn. Bhd., Malaysia.
- Lee SK, Lum SKY (2001) **A Guide to Common Horticultural Shrubs**. Singapore Science Centre, Singapore.
- Maberley DJ (1997) **The Plant-Book – A Portable Dictionary of Vascular Plants (2nd edition)**. Cambridge University Press, Cambridge, UK.
- Ng ABC, Ng A, Lee B, Chuah AL, Goh SG, Lai JTK, Tan GC, Vilma D Rozario (2005) **A Guide to the Fabulous Figs of Singapore**. Singapore Science Centre, Singapore.
- Ng FSP (2006) **Tropical Horticulture and Gardening**. The Academy of Sciences Malaysia and Clearwater Publications, Malaysia.
- Ng PKL (1992) **A Guide to Freshwater Life in Singapore**. Singapore Science Centre, Singapore.
- Ng PKL, Corlett RT, Tan HTW (2011) **Singapore Biodiversity – An Encyclopedia of the Natural Environment and Sustainable Development**. Tien Wah Press Pte Ltd, Singapore.
- Ng PKL, Sivassothi N (1999) **A Guide to the Mangroves of Singapore 1: The Ecosystem and Plant Diversity**. Singapore Science Centre, Singapore.
- Ng PKL, Wang LK, Lim KKP (2008) **Private Lives: An Exposé of Singapore's Mangroves**. The Raffles Museum of Biodiversity Research, National University of Singapore, Singapore.
- Piggott AG (1979) **Heinemann Guide to Common Epiphytic Ferns of Malaysia and Singapore**. Heinemann Educational Books (Asia), Singapore.
- Piggott AG (1988) **Ferns of Malaysia in colour**. Tropical Press Sdn. Bhd. Kuala Lumpur, Malaysia.
- Polunin I (1987) **Plants and Flowers of Singapore**. Times Edition, Singapore.
- Polunin I (2012) **Plants and Flowers of Singapore**. Marshall Cavendish Editions, Singapore.
- Poole C, Briggs E (2006) **Tonle Sap - The Heart of Cambodia's Natural Heritage**. River Books, Bangkok, Thailand.
- Rauch FD, Weissich PR (2000) **Plants for Tropical Landscapes: A Gardener's Guide**. University of Hawai'i Press, Honolulu, USA.
- Seidenfaden G. and Wood J.J. (1992) **The Orchids of Peninsular Malaysia and Singapore**. Olsen and Olsen, Fredensborg.
- Soepadmo E (1998) **The Encyclopedia of Malaysia – Plants**. Tien Wah Press Pte Ltd, Singapore.
- Speichert G, Speichert S (2004) **Encyclopedia of Water Garden Plants**. Timber Press, Portland, USA.
- Stephens KM, Dowling RM (2002) **Wetland Plants of Queensland: A Field Guide**. CSIRO, Collingwood, Australia.
- Tan HTW (1995) **A Guide to the Threatened Plants of Singapore**. Singapore Science Centre, Singapore.
- Tan HTW, Chua KS (1995) **Growing at your Doorstep, 35 Native Plants of Singapore (2nd edition)**. Singapore Environment Council, Singapore.
- Tan HTW, Hew CS (1995) **A Guide to the Orchids of Singapore**. Singapore Science Centre, Singapore.
- Tan HTW, Morgany T (2001) **A Guide to Growing Native Plants of Singapore**. Singapore Science Centre, Singapore.
- Tan PY, Sia A (2005). **A Selection of Plants for Green Roofs in Singapore**. National Parks Board, Singapore.
- Tee SP (2009) **Trees of Our Garden City: A Guide to the Common Trees of Singapore (2nd Edition)**. National Parks Board, Singapore.
- Teo CKH (1995) **Native Orchids of Peninsular Malaysia**. Times Book International, Singapore.
- Tomlinson PB (1986) **The Botany of Mangroves**. Cambridge University Press, Cambridge, UK.
- Turner IM (1995) **A Catalogue of the Vascular Plants of Malaya**. Gardens' Bulletin Singapore volume 47.
- Turner IM (2000) **The Plants of the Singapore Botanic Gardens: An Annotated Checklist**. National Parks Board, Singapore.
- Turner IM, Chua KS (2011) **Checklist of the vascular plant species of the Bukit Timah Nature Reserve**. The Raffles Museum of Biodiversity Research, National University of Singapore, Singapore.
- Turner IM, Yong JWH (1999) **The coastal vegetation of Singapore**. In: Briffett C and HC Ho (eds.). State of the Natural Environment in Singapore. Nature Society (Singapore), Singapore. pp 5-23.
- Veesommai Uamporn (2001). **Plant Materials in Thailand**. Thailand.
- Warrier PK, Nambiar VPK (1993) **Indian Medicinal Plants: A Compendium of 500 Species, Volume 4**. Orient Longman Pte Ltd, Hilmayatnagar, India.
- Wee YC (1983) **A Guide to the Ferns of Singapore**. Singapore Science Centre, Singapore.
- Wee YC (1989) **A Guide to the Wayside Trees of Singapore**. Singapore Science Centre, Singapore.
- Wee YC (1997) **Ferns of the Tropics**. Times Editions Pte Ltd, Singapore.
- Wee YC (1998) **A Guide to the Medicinal Plants**. Singapore Science Centre, Singapore.
- Wee YC (2004). **A Guide to Herbs and Spices of Singapore**. Singapore Science Centre, Singapore.
- Wee YC (2005). **Plants that Heal, Thrill and Kill**. SNP International, Singapore.
- Whistler WA (2000) **Tropical Ornamentals: A Guide**. Timber Press Inc, Portland, Oregon, USA.
- Whitmore TC (1988) **Tropical Rain Forests of the Far East (2nd Edition)**. Oxford University Press, USA.
- Whitten T, Whitten J (1996) **Indonesian Heritage: Plants**. Archipelago Press, Singapore.
- Wong KM, Kamariah AS (1999) **Forests and trees of Brunei Darussalam**. In: Tree Flora of Brunei Darussalam. University Brunei Darussalam, Brunei Darussalam.
- Yam TW (2013) **Native Orchids of Singapore – Diversity, Identification and Conservation**. National Parks Board, Singapore.
- Yam TW, Aung Thame, Teo R, Choi YS, Ali Ibrahim, Soh J (2006) **Conservation and reintroduction of Singapore's native orchids to Pulau Ubin**. Gardenerwise 27: 10-11.
- Yam TW, Tay F, Ang P, Soh W (2011) **Conservation and reintroduction of native orchids of Singapore – the next phase**. European Journal of Environmental Sciences 1: 38-47.
- Yang YP, Yen SH, Lin CK (2004) **Illustrated Guide to Aquatic Plants of Taiwan**. Counsel of Agriculture, The Executive Yuan of Taiwan, Taipei, The Republic of China.
- Yong JWH, Tan PY, Nor Hafiz, Tan SN (2010) **A Selection of Plants for Greening of Waterways and Waterbodies in the Tropics**. National Parks Board, Nanyang Technological University, Public Utilities Board, Singapore.
- Yong JWH, Wang JW, Khew JYT, Sheue CR, Wong WS (2014) **A Guide to the Common Epiphytes and Mistletoes of Singapore**. National Parks Board, Singapore University of Technology and Design, Singapore.

Websites

- <http://www.anbg.gov.au/mistletoe/epiparasitism.html>
- <http://www.asianplant.net/>
- <http://www.bsi.org/>
- <http://florafaunaweb.nparks.gov.sg/>
- <http://floraofsingapore.wordpress.com/>
- <http://www.floridata.com/>
- <http://www.frim.gov.my/>
- <http://www.natureloveyou.sg/>
- <http://www.orientalaquarium.com/>
- <http://www.pfaf.org/>
- <http://www.theplantlist.org/>

Quick Resource to the 19 Categories of Plant Grouping / Applications



Fragrant
Plants
944



Cycads
875



Hedges
908



Seaside
Plants
953



Palms
876



Plants that
Attract
Butterfly
911



Roadside
Plants
960



Ferns and
Fern Allies
880



Plants that
Attract
Birds
917



Plants for
Green
Roof
Planting
968



Climbers
884



Indoor
Plants
922



Plants
for the
Greening
of Vertical
Wall
971



Trees
894



Aquatic
Plants
930



Epiphytes
975



Ground
Covers
901



Drought
Tolerant
Plants
936



Mangrove
and
Mangrove
Associates
979



Uvaria Tide

Email: uvaria@hotmail.com | Contact: +65 9783 4314

a touche design production @ 6699 1876