

Singapore Botanic Gardens

A scenic view of the Singapore Botanic Gardens. In the foreground, a large, dark tree trunk is on the right. The middle ground features a white, octagonal gazebo with a dark, pointed roof, situated on a grassy area with some low-lying plants. The background is filled with lush green trees under a blue sky with scattered white clouds.

Group 2

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General Information and Important Events

- Established in 1859 (157 years)
- 22.4 hectares including 6 hectares of primary forest
- Expansion in 1866
- Greatest expansion in 1879 (41 ha) for plants with economic benefits e.g. latex, food, timber, etc.

General Information and Important Events

- 82 hectares nowadays
- Inscribed as UNESCO World Heritage Site in 2015
- Over 3 million visitors every year
- >40 heritage trees
- Serving multiple purposes
 - e.g conservation, education, recreation, etc.
- 3rd Botanic Garden in Singapore

Primary Forest in Singapore Botanical Gardens



Rainforest @ SBG

Heritage Trees



Source: Vernon

Tembusu Tree (*Fagraea fragrans*)



Source: Vernon

Tembusu Tree

- Featured on the back of Singapore \$5 note
- Long living & Evergreen
- Creamy-white flowers with sweet perfume
- Berries only eaten by some animals
e.g. bats & birds
- Wood is extremely durable and resistant
to termite attack
⇒ Used for construction
- Yellow leaves found in SBG
- Mutated species



Source: Vernon

Jelawai
(*Terminalia Subspathulata*)



Source: Sean

Jelawai

- Tallest trees in the Gardens (More than 150 years)
- 47m tall
- Located in the rainforest
- Large spreading buttress roots
- Wide conical
- Flat-topped crown
- Struck by lightning in the 1980s
- Flattened and winged fruit



Source: Fruit of Jelawai



Source: Sean

Monkey pot
(*Lecythis pisonis*)



Source: Vernon

Monkey pot

- Plant on Feb 1928
- From South America originally
- Named by the unique fruit
- Seeds are rich in oil
- Oil is used in Brazil for making white soap & burning source
- Economic plant in Singapore



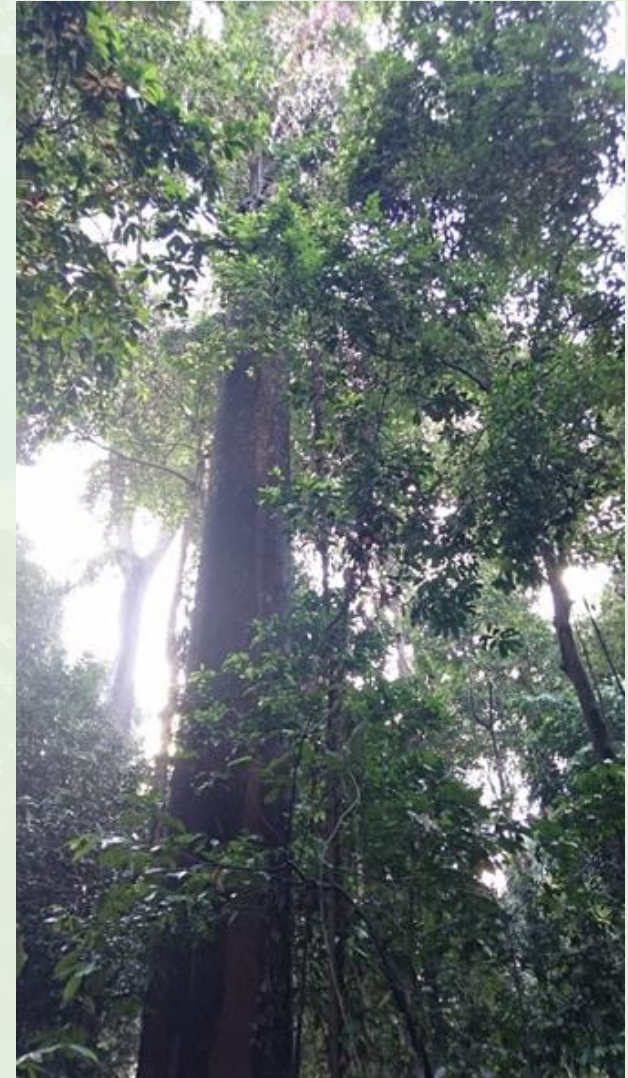
Source: Vernon



Source: Tall Tales, page 84, Monkey Pot Tree

Meranti Melantai (*Shorea macroptera*)

- Age unknown (Already a giant in 1819)
- Important source of timber
- 2-winged seed



Source: Nparks Facebook page [<https://www.facebook.com/nparksbuzz/posts/853199614719516>]

Seed of *Shorea macroptera* [<http://tidechaser.blogspot.hk/2009/08/fruiting-dipterocarps-at-singapore.html>]

Penaga Laut (*Calophyllum inophyllum*)

- Located next to the entrance
- More than 100 years old
- Designed to built around it



Source: Chandler

What are the *functions* of the garden?

How these functions are achieved?

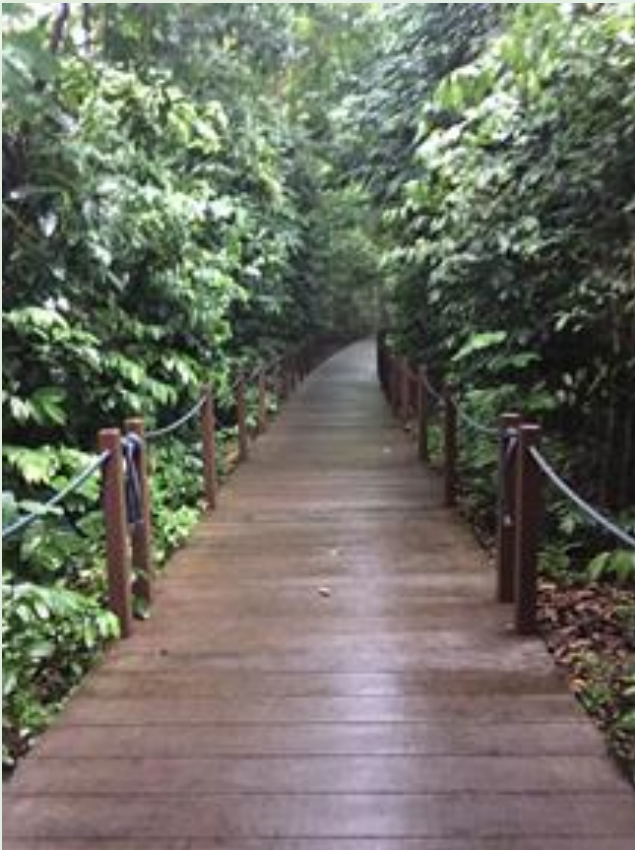
Functions of the garden?

1. “Conservation” over “Preservation”

- Preservation: isolation, and hence, avoiding disturbance
- Conservation: open entry to primary forest (rainforest)
 - allow public to explore and learn, **BUT!**
 - with limited access: one pathment branched from the main trail
 - ⇒ appreciate the beauty of primary forest
 - ⇒ hence, develop the sense of conservation

How to conserve the environment?

→ Pavements made by wood planks



Why not concrete?

How to conserve the environment?

→ Pavements made by wood planks

(i) Better “feeling” when walking and running

(ii) Using natural materials: micro-environment

→ water vapour/ humidity of soil

→ temperature

⇒ soil composition, bacteria and other microbes

⇒ **Conservation:** carefully open the forest to public

Function of the garden?

2. Education

- A huge themed garden for a dedicated spread of knowledges and raise in awareness



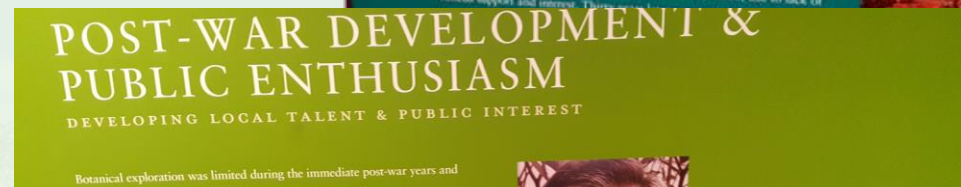
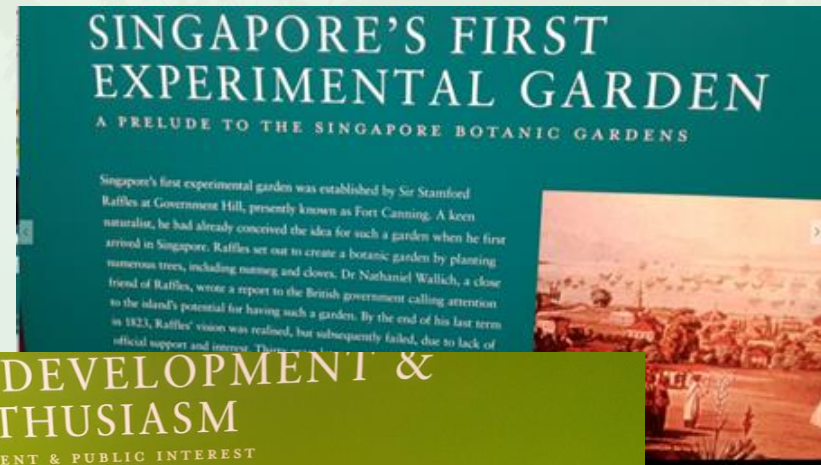
How to educate the public?

→ Museums & Galleries



How to educate the public?

→ Details on important historical events and contributors



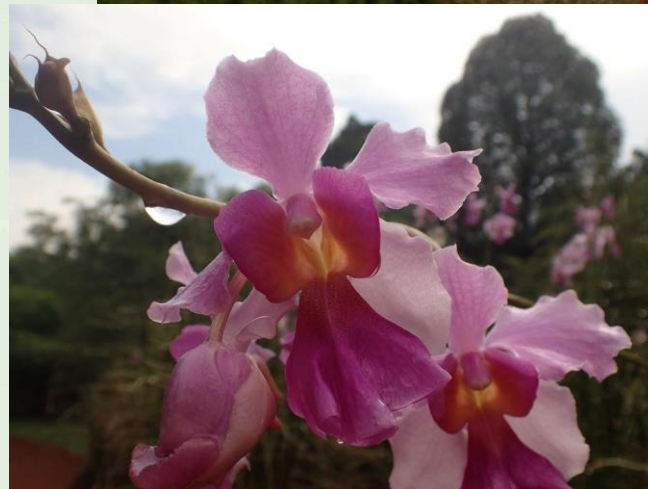
Source: Ivan

How to educate the public?

→ Information boards

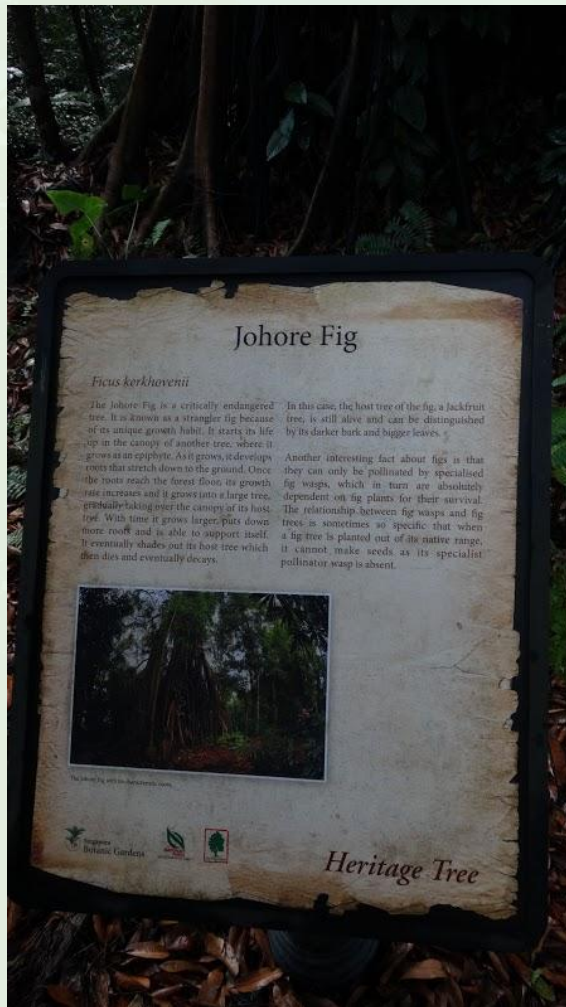


vanda miss joaquim



Source: Ivan

How to educate the public?



Source: Sean

Johore Fig (*Ficus kerkhovenii*)

How to educate the public?

→ Laboratory setups behind glass windows



Source: Ivan

How to educate the public?

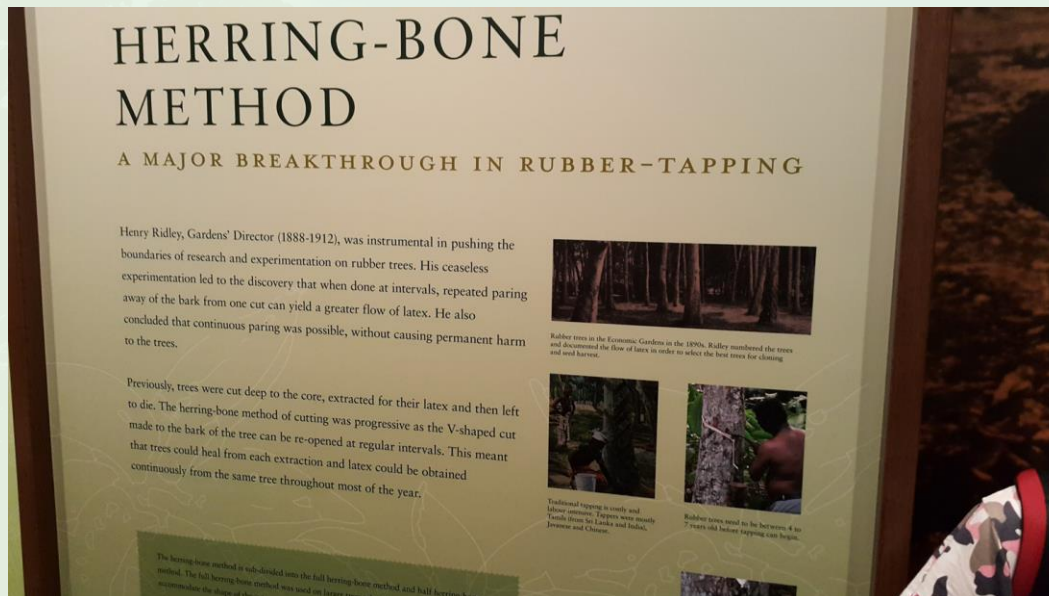
→ Specimen collections in museum



Source: Ivan

How to educate the public?

→ Methodologies related displays



Source: Ivan

How to educate the public?

→ Apps that can guide tourist walking through SBG

Singapore Botanic Gardens Navigator

Featuring

- * Offline interactive map
- * Self navigation
- * DIY Trails
- * Attractions, events and more!

Download the app today!

Available on the App Store

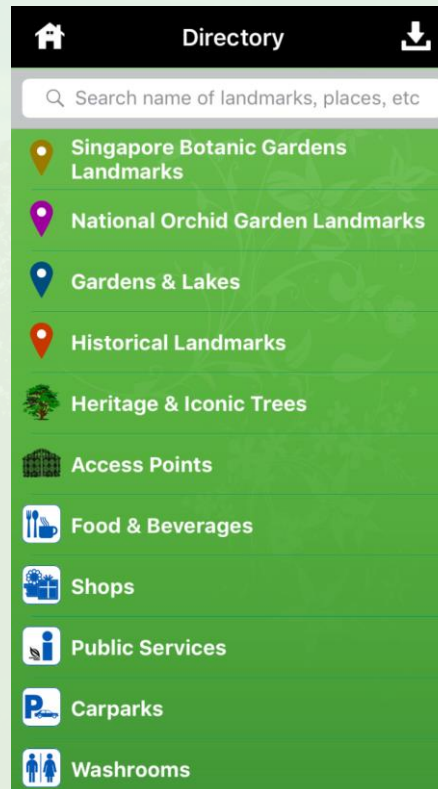


For more information regarding the Gardens, please visit www.sbg.org.sg
Find us on www.facebook.com/singaporebotanicgardens and [instagram.com/nparksbuzz/](https://www.instagram.com/nparksbuzz/) / Hashtag #singaporebotanicgardens



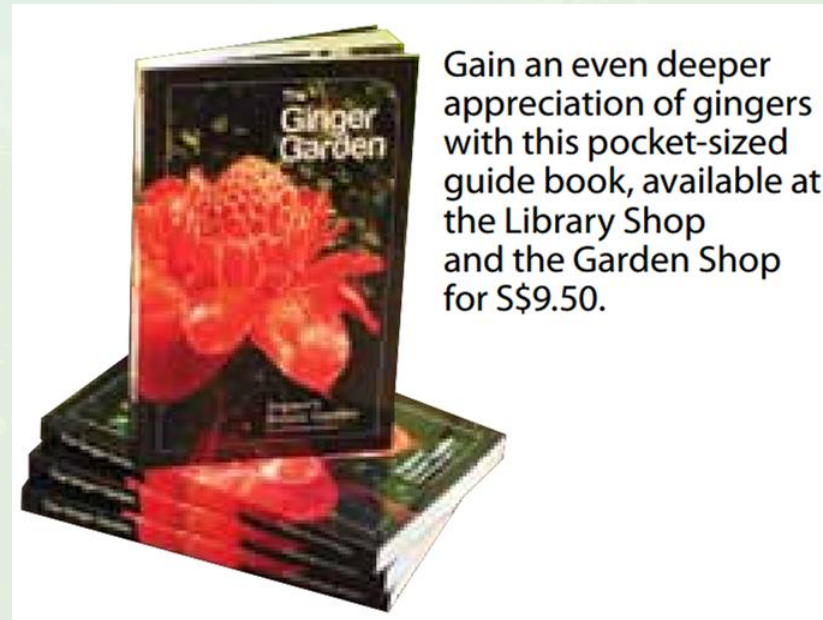
How to educate the public?

→ Providing map of the garden, trail guides with different themes



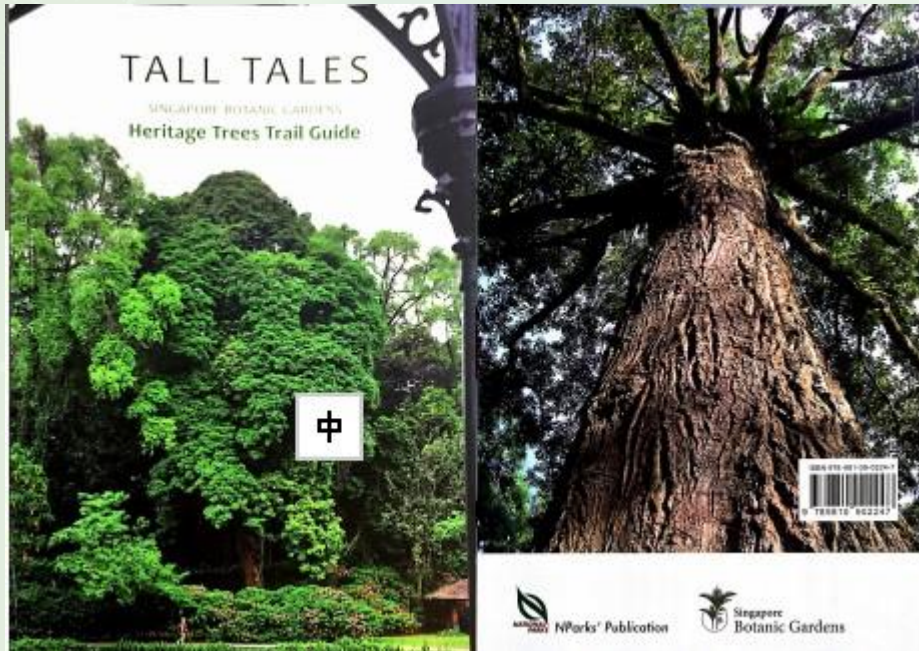
How to educate the public?

- Books with detailed information over certain sections of the garden
e.g. Ginger Garden



How to educate the public?

e.g. Heritage trees



Trees of the Tanglin Core

NUMBER	COMMON NAME	SCIENTIFIC NAME	PAGE NUMBER
1	Temak Nipis	<i>Shorea roxburghii</i>	12
2	Chicha / Snake Tree	<i>Stereospermum limbratum</i>	14
3	Jali Bukit / Mountain Teak	<i>Podocarpus nerifolius</i>	16
4	Senegal Mahogany	<i>Khaya senegalensis</i>	20
5	Burmese Banyan	<i>Ficus kurzii</i>	22
6	Purple Milletia / Tulang Daing	<i>Cassia atropurpurea</i>	26
7	Mentulang Daun Lebar	<i>Alangium ridleyi</i>	28
8	Buni	<i>Antidesma bunius</i>	30
9	African Sausage Tree	<i>Kigelia africana</i>	32
10	Monkey Pot Trees	<i>Lecythis pisonis</i>	34
11	Jelawai Jaha	<i>Terminalia subspatulata</i>	38
12	Kapur	<i>Dryobalanops aromatica</i>	40
13	Kapak / Silk-Cotton Tree	<i>Ceiba pentandra</i>	42
14	Mengkulang	<i>Heritiera elata</i>	46
15	Saga Daun Tumpul	<i>Adenanthera pavonina</i>	48
16	Kapur	<i>Dryobalanops aromatica</i> *	40
17	Pulai Basong	<i>Alistonia pneumatophora</i>	50
18	Chucher Atap / Malayan Yellow-Wood	<i>Dacrydium imbricatum</i> *	16
19	Andiraba / Carapa	<i>Carapa guianensis</i>	54
20	Tekik / Kungkur	<i>Albizia lebbekoides</i>	56
21	Monkey Pot Tree	<i>Lecythis pisonis</i> *	34
22	Melaka	<i>Phyllanthus pectinatus</i>	58
23	Kapur	<i>Dryobalanops aromatica</i> *	40
24	Tembusu	<i>Cyrtophyllum fragrans</i>	60
25	Kapak / Silk-Cotton Tree	<i>Ceiba pentandra</i> *	42
26	Penaga Laut	<i>Calophyllum inophyllum</i>	64

* These trees share accounts with other trees and thus do not appear in this book according to their order on the trail.

How to educate students?

- Group visits for **kids/ children**
- Law Faculty of NUS is right next to the garden
 - Teaching environment law and environment-related courses
 - Getting first-hand experience
 - ⇒ **Education for students (primary to tertiary education)**

Function of the garden?

3. Recreation

e.g. Walking and running trails

→ free entrance

→ quiet and shady areas



(source:
<http://hpility.blogspot.com/2015/07/15-things-to-do-at-singapore-botanic.html>)



What kind of recreational activities?

Highlights



An Evening of Music
from Perth: Chisholm
Catholic College Concert
Band

e.g. Concert

Function Room

The Function Room can take up to 50 guests seated in seminar-style seating. It is an ideal venue for small corporate meetings, networking and training sessions.



e.g. Venue hire

How to provide recreations?

- By (i) organizing numerous **events** monthly
- (ii) providing great variety of **exhibitions** (indoor and outdoor)
- (iii) offering wide range of **services**
 - e.g. gift shop, dining, venue hiring...
- ⇒ making SBG a recreational center for locals, and
- ⇒ must-go attraction for tourists

How to facilitate people to go there?

- Close to MRT station
- 4 stations (10-15 minutes) from (financial center)
 - ⇒ Convenient for office workers to go there after work
- ⇒ **Recreation**



How to encourage people to go there?

- Free entrance everyday except for Orchid Garden
- Free entrance for Orchid Garden during school holidays
e.g. free admission for students, local residents and work permit holders

School Holidays Special
Free Admission to National Orchid Garden*
*Terms and conditions apply. For more information, please visit www.sbg.org.sg

21st May to 26th June 2016



Opening Hours
8.30am to 7pm daily
(Last admission at 6pm)

National Orchid Garden
Singapore Botanic Gardens

Function of the garden?

4. Research

- Orchid Breeding Lab
- Herbarium
 - A house of plant specimens
- ongoing systematic and taxonomic researches



Source: SBG Herbarium
[https://www.sbg.org.sg/index.php?option=com_k2&view=item&layout=item&id=47&Itemid=64]

Why Compare SBG with HKZBG?

→ Sharing great similarities

(i) Close to financial center of both cities

→ SBG: 15 minutes from Raffles Place

→ HKZBG: 10~15 minutes from central

(ii) Close establishment year

(iii) Themed Gardens and Walking Trails

(iv) Housing numerous Heritage trees (Singapore)/
Old and Valued Trees (OVTs) (HK)



General Comparison

	SBG	HKZBG
Size of Garden	82 hectares	5.6 hectares
Climatic Region	Tropical	Subtropical
No. of plant species	>10000	~900
UNESCO World Heritage Site?	Yes!	Nope.
No. of heritage trees/OVTs	>40	24

1. Events

	SBG	HKZBG
Diversity	High → Garden tours, nature sketching, heritage tour, musical, orchid selling day...	Low → Guided tour and meet the zookeeper

Orchid Garden Tour

Venue : Visitor Services Counter, Nassim Gate
 Start Date : 18 Jun 2016
 End Date : 18 Jun 2016
 Time : 9am, 10am, 11am, & 4pm

An Evening of Music from Perth: Chisholm Catholic College Concert Band

Venue : Shaw Foundation Symphony Stage
 Start Date : 10 Jul 2016
 End Date : 10 Jul 2016
 Time : 5.30pm - 6.30pm

Nature Sketching in the Gardens

Venue : Visitor Services Counter, Tanglin Gate
 Start Date : 16 Jul 2016
 End Date : 16 Jul 2016
 Time : 9am - 11am

活動 Programmes	公園導賞團 Guided Visits	動物護理聚談 Meet-the-Zookeepers
對象 Target Participants	公眾人士 Members of the public (先到先得 First come, first served)	
特色 Highlights	參加者可透過實地觀察及專人講解，加深對公園歷史和園內動植物的認識。 Participants will learn more about the history of the Gardens as well as its animals and plants through field observations and information provided by the guide.	活動期間，園內資深動物飼養員將與遊人分享日常照顧靈長類動物的心得和動物保育工作的情況。 During the activity, the gardens' zookeepers will share with visitors their experience in daily primate care and animal conservation.
活動 Programmes	動物園導賞團 Guided Visits to the Zoological Gardens	植物園導賞團 Guided Visits to the Botanical Gardens
對象 Target Participants	學校或團體 Schools or organisations (需預約 Advance booking is required)	
特色 Highlights	參加者可透過實地觀察及專人講解，加深對動物特徵及習性的認識，並了解保護動物的重要性。 Participants will learn more about the characteristics and habits of animals and recognise the importance of animal conservation through field observations and information provided by the guide.	參加者可透過實地觀察及專人講解，加深對植物的認識。 Participants will learn more about plants through field observations and information provided by the guide.

2. Thematic trails/Guided walk

	SBG	HKZBG
Similarly Themed	Heritage tree trail	OVTs Trail
	Longer, more	Shorter, less



Trees of the Central Core

NUMBER	COMMON NAME	SCIENTIFIC NAME	PAGE NUMBER
27	Rain Tree	<i>Samanea saman</i>	68
28	Johor Strangler Fig	<i>Ficus kerkhooveri</i> *	22
29	Miranli Laut	<i>Shorea gratissima</i>	70
30	Petal	<i>Parkia speciosa</i>	72
31	Common Pulai	<i>Alstonia angustiloba</i> *	50
32	Yembau	<i>Cyrtosperмум fragrans</i> *	60
33	Petal Kerayong	<i>Parkia simarlana</i> *	72
34	Common Pulai	<i>Alstonia angustiloba</i> *	50
35	White Gutta / Nyotah Putih	<i>Palauquium obovatum</i>	76
36	Tallow / Candle Butter Tree	<i>Persea indica</i>	78
37	Pulat Laut	<i>Barringtonia asiatica</i> *	80
38	White Gutta / Nyotah Putih	<i>Palauquium obovatum</i> *	76
39	Penerahan Pianggu	<i>Hortileidia iya</i>	82

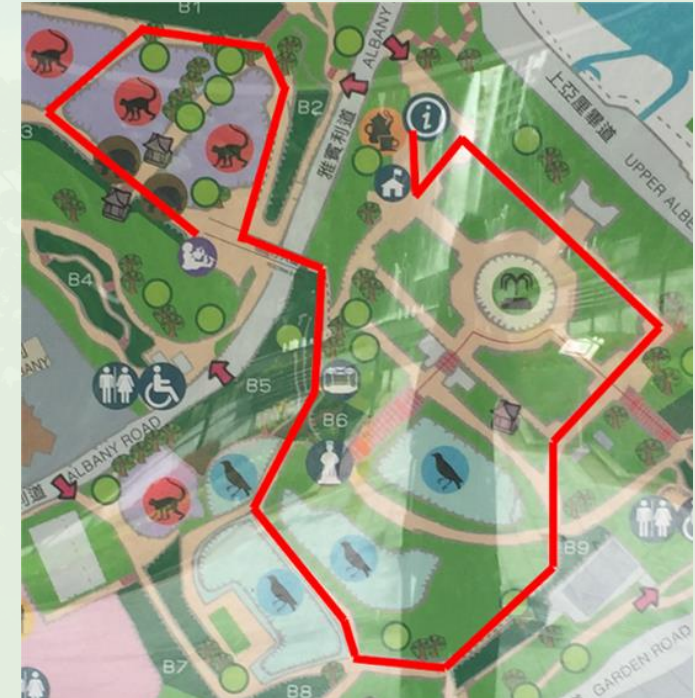
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Trees of the Tanglin Core

NUMBER	COMMON NAME	SCIENTIFIC NAME	PAGE NUMBER
1	Temak Napis	<i>Shorea roxburghii</i>	12
2	Chicha / Snake Tree	<i>Breosperrnum fimbriatum</i>	14
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17	Pulai Basong	<i>Alstonia pneumatophora</i>	50
18	Chuchur Alap / Malayan Yellow Wood	<i>Dioscorea pinnatifida</i>	54
19	Arak / Casapa	<i>Carapa guianensis</i>	56
20	Tekik / Kungkur	<i>Lecythis pisonis</i> *	34
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24	Tembusu	<i>Celtis pentandra</i> *	42
25	Kapok / Silk-Cotton tree	<i>Casiphyllum inapophyllum</i>	64
26	Penaga Laut		

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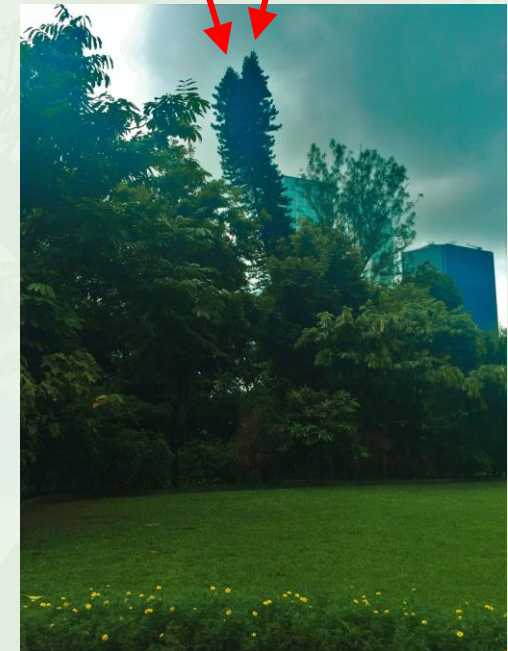
2. Thematic trails/Guided walk

	SBG	HKZBG
Similarly Themed	Heritage Trail	Heritage Trail
	Longer, include trees	Shorter



2. Thematic trails/Guided walk

	SBG	HKZBG
Information boards	→ Easy to find along the trail and near trees	→ Hard to find along the trail



Location

About 20 meters behind this displayed board.

Araucaria heterophylla is an evergreen coniferous tree with main branches horizontal in regular whorls. Leaves alternate, simple, short blunt needle-like. Incurved and overlapping. Gymnosperm reproduction through cones.

Particulars

Particulars With a height of about 25 meters, it is one of the oldest trees in the gardens. Usually there is only one main trunk for this species of tree, but there are two main trunks in this specimen.

異葉南洋杉 *Araucaria heterophylla* 南洋杉科 Araucariaceae
古樹名木登記編號 OVT Registration No. ARCHBD 0W29

香港新植物公園
Hong Kong Botanical and Herbarium Garden

位置
在本園覽後約二十米處。
異葉南洋杉是一常綠針葉喬木，其主要枝葉向橫生長，或規則輪生，葉短窄，線形，短而前彎曲及以覆瓦狀排列，屬裸子植物，以球果作繁殖。

特點
此異葉南洋杉高達25米，是本公園最花長的樹木之一，其他同類品種通常只出一支約數主幹，而這株異葉南洋杉具出二支主幹。

Location
About 20 meters behind this displayed board.
Araucaria heterophylla is an evergreen coniferous tree with main branches horizontal in regular whorls. Leaves alternate, simple, short blunt needle-like. Incurved and overlapping. Gymnosperm reproduction through cones.

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QR Code

2. Thematic trails/Guided walk

	SBG	HKZBG
Information boards	→ Detailed on history	→ Detailed on biology

Terminalia subspathulata

A native of the Singapore Botanic Gardens' rainforest, it has been standing here for more than 150 years. It has been identified from photographs taken in the early 1900s. It is a hardwood timber tree. At 47 metres tall, this is one of the tallest trees in the Gardens. It is an uncommon species in the wild.

In the 1980s, the tree was struck by lightning, but subsequently recovered. The species periodically sheds its leaves, leaving almost the entire tree bare. The fruits are winged to aid in the dispersal of the seeds.

This tree was dedicated to Lady Yuen-Peng McNeice, in 2004, at the inaugural Heritage Tree dedication ceremony.

Location

About 20 meters behind this displayed board.

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2. Thematic trails/Guided walk

	SBG	HKZBG
Similarly Themed	Heritage tree	OVTs Trail
	Heritage Trail	Heritage Trail
Uniquely Themed	Rain Forest Trail, Ginger Garden Trail, National Orchid Garden Trail, Evolution Garden trail	Fruit Tree Walk

3. Themed gardens

	SBG	HKZBG
Similarly Themed	Healing Garden	Herb Garden
	Orchid Garden	Green House
Uniquely Themed Gardens	Ginger, Fragrant, Foliage, Evolution and Sun Garden	Bamboo, Camellia, Seed Dispersal, Magnoliaceae, Palm, Fagaceae, Rhododendron and Pollination Garden
Number	7	10 😲

4. Supporting Materials

	SBG	HKZBG
Information boards, Signs and Maps	Detailed and tourist-friendly	Need improvement



4. Supporting Materials

	SBG	HKZBG
Website	Detailed in general	
	→ Events	→ Flowering plants



June ▼ 2016 ▼ to June ▼ 2016 ▼ [go >](#)



Exploring our World's Heritage

Venue : CDL Green Gallery, Botany Centre
Start Date : 12 Mar 2016
End Date : 20 Nov 2016
Time : 9am - 6pm

[more >](#)



[Flowering Plants of the Month \(June\)](#)

4. Supporting Materials

	SBG	HKZBG
Information boards, Signs and Maps	Detailed and tourist-friendly	Need improvement
Website	Detailed in general	
Application on smart phones	Yes, on IOS only	No
Information Leaflet	Found in garden and online	Hard to find in garden



5. Functions

Functions	SBG	HKZBG
Conservation	Primary forest	Mammals and Birds
Education	Workshops and events	
Recreation	Higher Variety	Less Variety
Research	Important	Less important

Suggestions after Comparisons

1. Events Variety

→ higher variety is needed

e.g. plant selling day, nature sketching, musical...

2. Themed trails

→ put more historical information/stories if possible

→ improve maps and signs

Suggestions after Comparisons

3. Themed gardens

→ need more information about the theme and plants

4. Supporting materials for visitors

→ apps for the garden (provide govt. free wifi)

→ government spent >10M on apps

⇒ no need to make information leaflets



*THANK
YOU!*

NATIONAL
ORCHID
GARDEN

School
Sp

BIOL

BIOL



~~ Q&A time ~~