

Review of the work of the Singapore Botanic Gardens for the year 1974

1. IMPROVEMENTS TO THE GARDENS

A second lake was constructed at the northern end of the Gardens, close to the Tyersall Road boundary. This new lake covers an area of approximately 0.9 ha, has three islets and is provided with facilities for band performances.

Another floor was added to the New Herbarium Building to accommodate the increasing number of herbarium specimens.

The plant introduction nursery and part of the pot plant nursery have been shifted to Malcolm Road. The new nursery provides additional space for development and expansion.

The roof of the annexe to the Plant House was renovated to allow better lighting for the plants grown there.

2. HERBARIUM

The Herbarium facilities were fully made use of throughout the year by visiting botanists. A total of 3,017 specimens were loaned to various botanical institutions and 2,016 duplicates were sent outward in exchange for 1,913 specimens.

During the year, a total of 4,421 specimens were mounted, 459 old sheets were repaired and 6,769 specimens were incorporated in the Herbarium. A total of 270 specimens of indigenous species were added to the collection.

Several plant collecting trips were made in the year, details of which are given in Appendix I.

3. ORCHIDS

Twenty-one new orchid hybrids were described during the year. Two new hybrids were registered. They were *Dendrobium* Tien Soeharto (*Dendrobium* Noor Aishah x *D. schulleri* J. J. Smith) named in honour of Her Excellency Madame Soeharto, wife of the President of Indonesia during her visit on 30.8.74, and *Vanda* Farah Pahlavi (*Vanda* Ling x *V. tessellata* Hook ex Don) a hybrid selected for the honour by Her Imperial Majesty, the Empress of Iran during her visit to the Gardens on 19.9.74.

During the year, 119 hybrid pods were harvested from the Gardens' nursery. Of these, 107 pods produced viable seed. A total of 3,600 flasks of orchid seedlings were subcultured and seedlings from 1,158 flasks were transplanted into community pots.

A total of 106 plants and cuttings and 97 seedlings were received from various institutions and private individuals in exchange for 117 plants and cuttings.

During the year, 25,157 orchid sprays were supplied to various organisations, government departments and statutory bodies.

4. NURSERIES

a. *Pot Plant Nursery*

A total of 28,723 pots of plants were propagated for display, landscaping and decoration purposes.

b. *Plant Introduction Nursery*

Plant species introduced through collection, gifts, purchases and exchange totalled 1,562 for the year.

5. DECORATIONS

Four floats for National Day were decorated by the Gardens. In addition, floral decorations were put up for the National Day State Banquet and for a number of functions organised by the 24th Colombo Plan Consultative Committee.

6. EXHIBITIONS

The Gardens participated in the 1974 Orchid Show organised by the Orchid Society of South East Asia. One of the Gardens' orchids, *Phalaenopsis sumatrana* Korth & Rechb, won an award for 'Best Local Species' at the Show.

7. TREE PLANTING DAY

Tree Planting Day was on Sunday, 3rd November 1974. A total of 23,625 ornamental and fruit trees and shrubs were planted in various parts of the Island.

8. SCHOOL OF ORNAMENTAL HORTICULTURE

The first group of 12 students graduated from the School with a Diploma in Ornamental Horticulture in September 1974. They had successfully completed a two-year course on various aspects of tropical horticulture.

9. LIBRARY & PUBLICATIONS

A total of 126 books and 4 new titles of periodicals were added to the Library in 1974, making a total collection of 10,005 books and 360 current titles of serial publications which were obtained from subscriptions and exchanges.

Publications produced during the year include:

- a. The Gardens' Bulletin, Volume 27, parts I & II.
- b. A Revised List of Plants for Sale.

10. SALE OF PUBLICATIONS AND PLANTS

Revenue collected from the sale of botanical and horticultural publications amounted to \$5,517.25.

2,393 orchid seedlings and plants were sold for a total sum of \$7,531.00.

11. VISITORS

Among the many visitors welcomed in the Gardens in 1974 were:—

Madam Tien Soeharto, wife of the President of Indonesia.

Her Imperial Majesty, the Shahbanou of Iran.

Miss Makiko Tanaka, daughter of the former Prime Minister of Japan.

Mr D. T. Ekanayake, Director of the Royal Botanic Gardens, Peradeniya, Sri Lanka.

Dr Duncan Poore and Dr & Mrs Bruce Weber from the International Union for the Conservation of Nature.

Prof J. Arditti, University of California, Irvine, USA.

Members of a study group from the Horticultural Sub-department, Department of Agriculture, Bogor Agricultural University, Indonesia.

Members of a Japanese Landscape Survey Mission.

Delegates from the ASEAN Youth Ship.

12. NATURE RESERVES

The present Nature Reserves, comprising the Bukit Timah, Catchment, and Labrador Reserves, come under the management of the Nature Reserves Board. The daily administration and maintenance of the Bukit Timah Nature Reserve is carried out by the Botanic Gardens.

In the course of the year, a survey of the boundary of the Bukit Timah Reserve was carried out by the Survey Department. Old boundary stones were located and new ones marked out to replace those lost. The labour force at this Reserve concentrated mainly on repair work throughout the year. A fair number of trees were also identified and labelled.

13. METEOROLOGICAL RECORDS

Temperature, rainfall and humidity records for 1974 are given in Appendix II. The figures were recorded at the Botanic Gardens, the Bukit Timah Nature Reserve, and the Kranji War Graves Cemetery.

APPENDIX I

PLANT COLLECTIONS

Personnel	Date	Locality	Collection
Mohd. Shah b. Mohd. Noor and Ahmad b. Shukor	22.2.74 to 1.3.74	Kelantan (Bukit Baka, Sungai Merkeh, Jeram Tinggi, Bukit Yong)	107 nos. for herbarium, 293 orchids.
Sanusi b. Sarih, Pang Kim Whatt, and Samsuri b. Ahmad	23.2.74 to 4.3.74	Pulau Tioman	38 nos. for herbarium, 370 orchids, 27 other living plants.
Mohd Shah b. Mohd Noor, Mahmud b. Awang and Ahmad b. Shukor	30.5.74 to 4.6.74	Trengganu (Gunong Tebu, Sg. Chabang Dua, Sg. Belanta, Jabi)	97 nos. for herbarium, 237 orchids, 173 other living plants.
Sanusi b. Sarih and Said b. Zailani	30.5.74 to 4.6.74	Trengganu (Bukit Keluang, Dendong, Kekayu Waterfall, Marang, Rantau Abang)	314 orchids.
A. G. Alphonso and Sanusi b. Sarih	14.6.74 to 23.6.74	Perak (Gunong Kledang, Sungai Kinta Catchment Reserve, Larut Forest Reserve) and Penang (Batu Gantung, Pulau Jerajak and Penang Hill)	531 orchids, 143 other living plants.
Sanusi b. Sarih and A. Mukaya	4.10.74 to 14.10. 74	Penang (Pulau Jerajak and Penang Hill) Perak (Chenderiang and Gunung Brinchang)	650 orchids, 275 other living plants.

Total: 242 nos. for herbarium
2,395 orchids
618 other living plants.

APPENDIX IIA

1974

METEOROLOGICAL REPORT

Recorded daily at 9.30 a.m. local time at Botanic Gardens Office from 1-1-74 to 31-12-74

Month	Total Rainfall inches	Highest fall in 24 hours inches	No. of Days Rainfall	Mean Max. Temp. °F	Highest Max. Temp. °F	Mean Min. Temp. °F	Lowest Min. Temp. °F	Mean Temp. Dry Bulb °F	Mean Temp. Wet Bulb °F	R.H. %
Jan.	3.66	0.60	10	84.0	88.0	72.5	69.0	76.8	74.5	89.5
Feb.	6.30	1.25	13	85.2	89.0	74.1	72.0	78.0	75.3	87.5
Mar.	3.25	0.95	8	86.6	90.0	73.8	70.5	79.2	76.4	84.8
Apr.	11.90	2.49	15	87.1	91.5	74.6	71.0	80.5	77.9	87.1
May	7.59	1.87	12	86.7	92.5	76.6	72.5	81.1	78.3	87.5
June	9.51	2.00	11	86.4	90.5	75.3	71.5	80.4	77.8	88.8
July	6.63	1.26	14	84.9	90.5	74.7	71.5	79.8	76.8	87.7
Aug.	9.22	3.16	12	86.6	90.0	76.5	70.5	80.9	78.2	88.4
Sept.	18.45	3.85	24	84.4	89.0	73.9	71.0	79.0	77.1	11.5
Oct.	7.87	1.48	12	86.6	91.0	74.3	72.0	81.0	78.4	88.5
Nov.	7.82	3.62	19	85.5	89.0	73.9	71.0	79.2	77.2	91.1
Dec.	12.92	3.85	13	85.7	87.5	73.4	71.0	79.2	77.8	93.7
Total	105.12	26.38	163	—	—	—	—	—	—	—
Mean	—	—	...	85.8	89.9	74.5	71.1	79.6	77.1	88.8

APPENDIX IIB

1974

METEOROLOGICAL REPORT

Recorded daily at 8.00 a.m. local time at School of Ornamental Horticulture from 1-1-74 to 31-12-74
(readings previous to 1973 were taken at Orchid Enclosure)

Month	Total Rainfall in.	Highest fall in 24 hours in.	No. of days rainfall	Mean Max. Temp. °F.	Highest Temp. °F.	Mean Min. Temp. °F.	Lowest Temp. °F.	Mean Temp. Dry Bulb °F.	Mean Temp. Wet Bulb °F.	Mean R.H. %	Mean Grass Temp. °F.	Mean Earth 4" Temp. °F.	Mean Earth 1' Temp. °F.	Mean Earth 4" Temp. °F.	Mean Solar Radiation °F.	Mean Daily hours at sunshine in.
Jan.	3.61	0.55	10	86.5	91.0	70.6	68.0	73.7	71.6	94.7	68.6	77.8	79.9	81.3	126.4	5.00
Feb.	5.91	1.01	13	87.1	92.0	71.4	69.0	75.0	74.2	96.2	69.4	79.3	81.3	133.4	4.96	
Mar.	2.57	1.06	8	89.4	92.0	71.0	68.5	75.9	74.7	94.3	69.7	81.0	82.1	136.5	7.29	
Apr.	12.10	2.35	14	88.7	93.0	72.1	69.5	77.7	77.0	97.3	70.7	81.2	83.1	135.4	5.81	
May	8.12	2.05	12	88.9	93.0	72.7	70.0	78.2	77.5	96.8	71.4	81.6	83.5	134.4	5.88	
June	10.06	1.94	11	88.6	92.5	72.7	69.5	77.9	77.4	97.5	71.4	81.1	83.6	131.5	6.10	
July	7.67	1.78	15	87.2	91.0	72.1	69.0	77.3	76.6	97.9	70.8	80.1	83.7	132.4	6.10	
Aug.	8.78	3.26	10	88.5	92.5	73.2	69.5	78.4	77.8	97.4	72.0	82.4	84.8	133.9	6.18	
Sept.	19.27	3.76	24	86.3	93.0	71.6	70.0	77.0	76.5	97.9	70.8	81.0	82.4	128.8	4.10	
Oct.	8.21	1.45	12	88.6	94.0	72.9	70.5	77.7	77.1	97.1	72.0	81.5	82.9	129.0	4.79	
Nov.	6.72	3.16	19	87.8	92.5	73.2	69.5	77.3	76.7	97.7	71.3	81.3	83.1	128.9	4.21	
Dec.	12.91	3.78	15	88.3	92.0	71.7	69.5	76.1	75.6	97.9	70.9	79.6	81.3	128.8	4.85	
Mean ...	105.93	26.15	163	---	---	---	---	---	---	---	---	---	---	---	---	---
Total ...	---	---	---	88.0	92.4	72.1	69.4	76.9	76.1	96.9	70.8	80.7	82.5	83.6	131.6	5.45

APPENDIX IIC

1974

METEOROLOGICAL REPORT

Recorded daily at 8.00 a.m. local time at Bukit Timah from 1-1-74 to 31-12-74

Month	Total Rainfall in.	Highest fall in 24 hours in.	No. of Days Rainfall	Mean Max. Temp. °F	Highest Max. Temp. °F	Mean Min. Temp. °F	Lowest Min. Temp. °F	Mean Temp. Dry Bulb °F	Mean Temp. Wet Bulb °F	R.H. %
Feb.	6.73	1.38	15	83.4	87.0	71.6	69.5	74.2	72.5	91.8
Mar.	3.85	1.76	9	85.8	88.3	72.0	70.0	75.8	73.5	88.4
Apr.	9.35	1.80	16	86.3	89.4	74.1	71.0	79.5	75.9	86.7
May.	14.65	2.85	16	87.2	90.5	74.4	69.0	80.3	76.9	85.4
June	7.75	2.30	15	86.4	90.0	74.7	70.0	79.3	77.1	88.6
July	6.41	1.31	14	84.8	88.0	73.7	70.0	78.7	76.6	90.2
Aug.	8.02	2.56	10	86.1	89.8	74.4	70.0	78.9	77.3	92.5
Sept.	21.61	2.70	24	84.6	89.4	72.8	67.4	78.1	76.3	93.0
Oct.	5.41	1.10	13	86.5	91.0	73.7	70.0	79.1	77.5	93.8
Nov.	7.77	2.12	18	85.6	90.0	73.0	69.0	77.2	76.2	94.9
Dec.	12.20	3.06	14	85.6	90.0	72.1	69.5	76.9	75.6	93.9
Total ...	109.58	24.39	174	—	—	—	—	—	—	—
Mean ...	—	—	—	85.4	89.1	73.1	69.5	77.6	75.5	90.8

1974

METEOROLOGICAL REPORT

KRANJI WAR GRAVES CEMETERY

Recorded daily at 8.00 a.m. from

1-1-74 to 31-12-74

Month					Total Rainfall in.	No. of days with rain	Highest fall in 24 hours in.
Jan.	...	...	...	...	4.19	7	1.89
Feb.	...	...	...	...	6.20	13	1.27
Mar.	...	...	...	...	2.77	8	1.00
Apr.	...	..	...	...	5.32	16	0.78
May	...	...	...	...	12.95	13	3.24
June	...	...	...	...	7.07	14	1.51
July	...	...	...	...	6.00	11	1.78
Aug.	...	...	...	...	3.13	11	0.79
Sept.	...	...	...	...	10.24	21	1.64
Oct.	...	...	...	...	5.39	11	2.16
Nov.	...	...	...	...	7.87	15	1.56
Dec.	...	...	...	...	7.73	12	2.52
Total ...					78.86	152	20.14