

Friends of the Royal Botanic Gardens, Melbourne

Number 10, November 1984

ISSN 0813-7889

Registered by Australia Post: VBH 5419X

FROM THE DIRECTOR

After plentiful and refreshing spring rains the Gardens are looking particularly attractive, especially the Species Rose Garden.

There is an interesting collection of late spring to summer flowering *Fuchsia* species and hybrids, including the New Zealand *Fuchsia procumbens* which can be seen in the bed below the Hopetoun Lawn opposite Long Island. This species with tiny flowers and bright blue anthers has green capsules that ripen to a dusty pink. *F. arborescens* from Mexico is also there.

As I write the fragrance of the first *Magnolia grandiflora* blooms promises long warm summer evenings, and the liliums and hydrangeas will add colour until the end of the year when *Tristania laurina* from East Gippsland adds a shower of gold to the Nareeb Gates and the scarlet canopy of *Eucalyptus ficifolia* takes us into autumn.

By then the new management structure proposed by the Department for the Royal Botanic Gardens and National Herbarium may be in place.

David M. Churchill
Director and Government Botanist



FROM THE PRESIDENT ...

1984 is drawing to a close, and your Committee's plans are already well advanced for 1985. Activities will include lectures, visits, tours, and hopefully a reception at Government House. One highlight is expected to be a group of garden enthusiasts from the U.S.A. visiting Melbourne during the year. Friends will be assisting in the hosting of the visitors during their stay.

Apart from an extensive calendar of events, with dates for your diary to be announced soon, we will of course be progressing with our fund raising ideas, aided by a 'tax-deductible' Trust Fund. Capital projects in view include a spherical sundial, Herb Garden, notice board, Herbarium booklet, bronze entrance gates, plus support for a new conservatory and Herbarium facilities, to name just a few.

Our Christmas function held in the Gardens on Thursday, 22nd November, 1984 was a most enjoyable evening and a fitting conclusion for our 1984 calendar. May I take this opportunity to thank all members of our Committee for their enthusiastic efforts throughout the year, and to extend to all members of the Friends of the Royal Botanic Gardens the very best of good wishes for Christmas 1984 and the New Year.

Frank V. Phillips
President



CHANGES AFOOT ...

You may have read 'Watkin', Tom Duggan's article on 'How the Baron's legacy sets a poser' published in *The Age*, Saturday 10 November. Apart from mentioning the State Government's October announcement of a \$2 million allocation to enable a new wing to be built at the Herbarium, there is now discussion of a proposed new administrative structure.

The Department of Conservation, Forests and Lands is working on a proposal which would not only give Victoria a new herbarium, but also draw into the same building, plant and ecological research and education enterprises. The name suggested for this complex is the National Herbarium and Baron von Mueller Research Institute and the site is the former Observatory, now the Gardens Annex on the Domain.

Dianna McClellan



Editorial Committee

Dianna McClellan: Convenor and Editor
Joan Nesbit: Assistant Editor
Eve Almond: Interpretation Officer, Royal Botanic Gardens
and National Herbarium

NEW YEAR ACTIVITIES

VISIT TO 'COORA COTTAGE' - MERRICKS

The Friends have been invited, in conjunction with members of the Herb Society, to visit 'Coora Cottage', the outstanding nursery specialising in herbs, on *Sunday 10th February*. The nursery is usually open to the general public only once a year so Friends are delighted to have this special opportunity for their own viewing.

'Coora Cottage' started as a small family concern about 10 years ago and now covers more than two hectares with over 500 different herbs from all over the world being grown there. Bring your own picnic lunch and please plan to arrive by 12 noon to hear the Thompsons' introductory talk. You'll then be able to wander around the nursery at your leisure and there will be plants for sale.

Tickets at the gate: \$2.00
See enclosed map for directions

ANNUAL GENERAL MEETING

The Friends' Annual General Meeting will be held on *Wednesday 27th March, 1985* at 7.30 p.m. in the Herbarium. It will be preceded by a chicken and champagne picnic in the grounds of 'Garden House', the Director's Residence. Coffee and biscuits will be served in the Herbarium following the meeting. Further details will be available in the new year.

AUTUMN VISIT TO CANBERRA

The Friends are planning a five day visit to Canberra, leaving Melbourne on *Saturday 13th April* and returning on *Wednesday 17th April, 1985*. The itinerary is still to be finalised but will probably include the National Botanic Gardens, National Gallery, Government House, three private gardens (one of them owned by Mrs. Polly Park, the noted writer and horticulturalist), and the historic homestead of 'Lanyon'. A guided tour of Canberra's street trees, which should be magnificent in their autumnal tonings at that time of the year, is also planned. It is hoped that Prof. Lindsay Pryor will host that tour. In addition, Margaret Hendry, lecturer at the College of Advanced Education, Canberra, will talk on the story of the planning of the 'Garden City'.

Look out for further details in the first activity sheet which will be sent to you in late February. Numbers on the trip will be limited so please be prompt with your booking.

A PLEA FROM THE CATERING AND ACTIVITY SUB-COMMITTEES

Where requested, please do let the contact person know if you wish to attend a certain Friends' function by the specified reply date. Notification of last minute cancellations is also important for the smooth running of activities.

LAKESIDE NEWS - THE FRIENDS' SHOP: HELP NEEDED!

Those of you who have visited the Friends' Information Desk at the Kiosk will have realised that we work under conditions which are less than ideal either for display or accessibility or comfort. BUT change is on the way! Committee member David Wilkinson has produced plans for the modification of a storeroom at the Kiosk which have been approved by the Director and are now with the Public Works and should be implemented this financial year. The Friends will then have, to all intents and purposes, a lock-up shop with a service window facing the Lake.



However, it will then be up to us to furnish the inside in such a way that our stock is easily available, readily checked and protected from dust and damp. We also need to make full use of our vertical surfaces to achieve an attractive display of our items for sale. We have some ideas, but, because these are in some cases expensive, we are appealing to the membership for help.

Do you know of a secondhand set of map drawers at a reasonable price or a till in good working order or a carpet square of suitable size?

We shall also need some floor-standing storage cupboards which may not be of standard dimensions; do we have any cabinet makers in our membership who would be willing to build something for us or at least give us professional advice? Do we have any experts in graphic art and display?

The Herbarium Staff have given us their time and expertise cheerfully and unstintingly but it is really time that we took on more of the responsibility for such things and we would be grateful for any offers of assistance in these three areas.

Phone: Eve Brunner 818 5954
Brenda Owen 560 4414



CHRISTMAS PLANTS - FOLKLORE AND LEGENDS

With holly and ivy

So green and so gay

We deck up our houses

As fresh as the day

With bays and rosemary

And laurel complete

And everyone now

Is a king in conceit

Poor Robin's Almanack for 1695 ⁵

Many Christmas customs result from the fusion of ancient pagan ceremonies with those of early Christian rites and practices. Not least of these customs is the use of certain plants for decoration.

Despite the reversal of the seasons in the southern hemisphere and the unavailability of certain northern hemisphere plants here in Australia, many of these traditions continue in this country. In the era of plastic holly and synthetic Christmas trees, it is interesting to reflect upon the original symbolism underlying some of these customs.

HOLLY - *Ilex aquifolium*

The Romans sent holly boughs to their friends as tokens of good wishes during the festival of Saturn celebrated in December. The Druids of ancient Britain and Gaul held the Holly tree to be sacred and included it in their winter solstice celebrations and associated fertility rites. When Christianity was first introduced into Britain, wreaths of holly (and mistletoe) were banned for their association with pagan practices.¹ However in 598AD, Gregory the Great wrote that the Christian missionaries in Britain should not try to abruptly change popular practices but should rather adapt them 'to the praise of God'.²

The name 'holly' is thought to be a corruption of the word 'holy' for in time the evergreen tree, with its bright red berries contrasting with the bleak winter landscape, became a Christian symbol of everlasting life.¹

The genus *Ilex* contains more than 400 different species of hollies with many more cultivars now available in the nursery trade. The majority of species are native to the temperate and tropical regions of North and South America and Asia, occurring as small evergreen trees or shrubs with male and female flowers on different plants.³

The dried leaves of some hollies have traditionally been used in various cultures to make a tea-like beverage. 'Mate' a very popular South American drink comes from the leaves of *I. paraquariensis*, while the North American Indians held 'black drink' or 'cassena', brewed from *I. vomitoria*, in great esteem.¹



Viscum album on an oak -
from a 1587 woodcut.

MISTLETOE - *Viscum album*

This plant was also considered sacred by the ancient Druids, especially if it was parasitic on an oak (probably *Quercus petraea* or *Q. robur*). It was a symbol of fertility and growth and was used to ward off evil spirits, fits, consumption and a host of other afflictions.^{1,4,5} Like the holly, mistletoe gradually became accepted by the early Church (the leaves growing out of an otherwise bare tree in winter were taken to symbolise new life) and was widely valued as a medicinal plant. One particular association of mistletoe with Christmas festivities dates back to the Elizabethan era when a 'kissing ball' of evergreens and mistletoe was suspended from the ceiling. Courting couples who kissed beneath the mistletoe were assured of happy marriages.²

IVY - *Hedera helix*

Ivy was formerly associated with Bacchus, the Roman god of wine and conviviality and during the middle

ages inns often displayed ivy at their doors to indicate their trade. As one of the few attractive plants available in mid-winter, ivy naturally became popular for Christmas decorations and was widely used from the 17th century onwards. Its tenacious habit meant that it came to symbolise friendship and fidelity.^{4,5}

There are only five or six different species of ivy. However because the juvenile shoots mutate freely, there are now many different cultivars readily available.³

BAY - *Lauris nobilis*

Also known as the Sweet bay, Bay laurel, Laurel or Bay tree, use of this plant dates back to antiquity when the Greeks and Romans crowned their rulers, warriors, orators and poets to signify that their fame would not fade. Young 'doctors of physic' were also crowned with laurel berries (*bacca lauri*) and our modern terms 'laureate' and 'batchelor' are derived from that custom.

Native to the Mediterranean region, *Lauris nobilis* was widespread in southern England by the mid 16th century. With its evergreen, glossy, aromatic foliage, it soon became another Christmas favourite. Now its primary use is as a culinary herb.^{4,5,6}

ENGLISH LAUREL - *Prunus laurocerasus*

Also known as the Cherry laurel and sometimes confused in literature with *Lauris nobilis*. Native to eastern Europe and Asia minor, the English laurel was well known in England by 1633. Its sweet smelling leaves were often employed in Christmas decorations with other 'winter greens', such as *Myrtus communis*, Myrtle. From western Asia, Myrtle was introduced into England in the 16th century and became a symbol of peace, home and restfulness.⁶

ROSEMARY - *Rosemarinus officinalis*

Another fragrant plant used in Christmas festivities, Rosemary has been known in England since Roman times. Now prized as a culinary herb, this plant is traditionally associated with friendship and remembrance.^{5,6}

"CHRISTMAS TREES"

Almost every Northern European culture gave significance to special evergreen trees because they were unchanging throughout the year. Firs and junipers were always brought inside at the winter solstice. Each was supposed to have special powers and symbolised renewal, hope and immortality because of their evergreen nature.

In one ancient German tradition, young girls danced around a special fir tree decorated with candles, flowers and eggs. The dance imprisoned an imp living in the tree who was then forced to give presents to the girls. Possibly this practice was the forerunner of the more modern Christmas tree custom, revived in England during the Victorian era. Yet another legend tells the story of St. Wilfred who chopped down a sacred Druid oak to convince Christian converts that it had no power to harm them. Inside the oak (probably growing from a crotch) he found a young fir which he declared a symbol of holiness and peace.

It is unclear which was the fir referred to in ancient folklore. There are at least three possibilities: *Abies alba*, Silver Fir; *Picea obovata*, Siberian Spruce and *Picea abies*, Norway Spruce.² However the 'Christmas tree' widely available in Melbourne each December is *Pinus radiata*, Monterey Pine.

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3. *Hortus Third* (1976) Macmillan, New York



Picea abies

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Ceratopetalum
gummiferum

CHRISTMAS PLANTS IN THE GARDENS

There are a number of southern hemisphere and tropical plants with the word 'Christmas' as part of their common name. All are summer flowering and some are very suitable as decorations over the festive season. Several have red-orange or red flowers and bright green leaves, reminiscent of the red and green tonings of English Holly. Some are growing in the Botanic Gardens, others may already be familiar to you as indoor or house plants.

There are several specimens of *Prostanthera lasianthos*, Victorian Christmas Bush, in the Gardens, including one behind the small lawn to the right as you enter 'F' gate. This small tree has masses of purple foxglove-like flowers over the Christmas period. *Ceratopetalum gummiferum*, New South Wales Christmas Bush, can be seen in the Australian Border, opposite where the Oak Lawn adjoins the nursery yard. It has small white flowers which fall in late spring: the green sepals then enlarge and turn bright red to remain over summer. *Metrosideros excelsa*, New Zealand Christmas Tree, produces deep red flowers over summer which contrast with the dark green leaves. There are three specimens in the beds on the northern edge of the Southern Lawn.

Behind the Hoop Pine, south-west of the Kiosk, is a small example of *Cassia bicapsularis*, Christmas Bush, a member of the legume family from tropical America. This robust bush produces clusters of golden yellow flowers. Another 'Christmas Bush', *Pavetta lanceolata*, this time from South Africa, can be seen in the north-eastern bed of the Tennyson Lawn. This is an evergreen shrub with narrow lanceolate leaves and clusters of perfumed flowers over summer. There is a *Schinus terebinthifolius*, Christmas Berry Tree, near 'B' gate lodge, uphill from the Grotesque Rockery. The female trees produce small white flowers which are followed in summer by bright red berries.

Sandersonia aurantiaca, Christmas Bells, is a tuberous climber from South Africa. There is a specimen in one of the Gardens' glasshouses. The nodding flowers are bright orange and shaped like inverted urns. Also in the glasshouse collections is *Aechmea racinae*, Christmas Jewels, a South American epiphyte with green strap-like leaves and striking orange-red flowers. *Tillandsia imperialis*, Mexican Christmas Candle, is likewise well named for it has a brilliant red central inflorescence surrounded by a

rosette of light green leathery leaves. In the Orchid House there are several examples of *Cattleya trianaei*, Christmas Orchid, which produce sprays of large flowers, in pink, mauve and purple tonings.

Of course there are many more 'Christmas plants' than those mentioned here. Do however look out for those just listed next time you are in the Gardens as they are all most attractive.

Eve Almond



*Sander
aurant.*

CHRISTMAS PRESENTS . . . CHRISTMAS PRESENTS

We have compiled a Children's Package, both educational and visually pleasing, which we are sure will appeal to the younger section of the community whose love of the Gardens and future patronage will be so vital to their well being in the years to come.

The package contains activity sheets for the young and younger age groups, devised by Eve Almond (Gardens' Interpretation Officer) and Marion van Gameren (Gardens' Education Officer), a poster featuring our own black swans, and a lovely green, gold and black Junior Friends' Badge any child would love to wear, plus a letter of welcome from the Director. They should be on sale at our Desk in the Kiosk before Christmas. Priced at approximately \$4.00, they will make splendid presents for young family members and friends!

Please ring Joan Nesbit, 211 8979, if you have any queries.

And please remember, the Friends' swan lettercards are also on sale at the Desk and are ideal for that short thank you note during the festive season. The Friends' three new postcards are also now available in the Kiosk and are most handy for last minute overseas greetings.

SPECIAL BOOK OFFER

A diary of flowering bulbs, reviewed on page 20 of the Friends' newsletter, is available at the discount price of \$15.00 until 7th December. While this does not leave a great deal of time to return your orders to the Friends, it should ensure that the publishers are able to post out your copies before Christmas.

FRIENDS' DISCOUNT

Don't forget that Fryer's Nursery, 598 Glenferrie Road, Hawthorn, offers 10% discount on all cash transactions to Friends on production of a current Friends' membership card.

OXFORD BOTANIC GARDENS

NOTABLE DATES

- 1621-32 Botanic Garden founded by Lord Danby (1573-1644), leased from Magdalen College, embanked, walled, and gated.
- 1642-79 Jacob Bobart the Elder (1599-1679), Keeper.
- 1648 First catalogue of plants published.
- 1669-83 *Robert Morison*, Professor, recommended by Charles II.
- 1670 First glasshouses built.¹
- 1683-1719 Jacob Bobart the Younger (1641-1719), Keeper and Professor.
- 1702 First seed exchange list circulated.
- 1750 *Georg Dionysius Ehret*, Flower Painter and Head Gardner.
- 1784-95 *John Sibthorp* 'Regius' Professor.
- 1834-67 *Charles Daubeny*, Professor, established experimental gardens and laboratories.
- 1887 Sunday opening permitted.
- 1944 Garden extended into Christ Church Meadow.
- 1954-60 Genetic Garden established and moved to the University Parks.
- 1962-70 Nuneham Courtenay Arboretum restored and enlarged to 50 acres

¹ Rebuilt seven times: 1710, 1776, 1837, 1852, 1893, 1947, 1968-70

OXFORD BOTANIC GARDENS

A little of the history of the University of Oxford Botanic Garden is included in the August 1983 issue of the Friends' publication entitled *Origin of modern botanic gardens*. Information included in the following is extracted from a *Guide to the Oxford Botanic Gardens*, 1971 [Reprinted 1980].

There are three botanical gardens of Oxford:

1. The Botanic Garden, founded 1621, to exhibit flowering plants of the world.
2. The Genetic Garden, founded 1954, and a continuation of an earlier experimental garden.
3. The Nuneham Arboretum, founded 1830, and managed by the Botanic Garden since 1962, for the display of trees, shrubs and woodland plants.

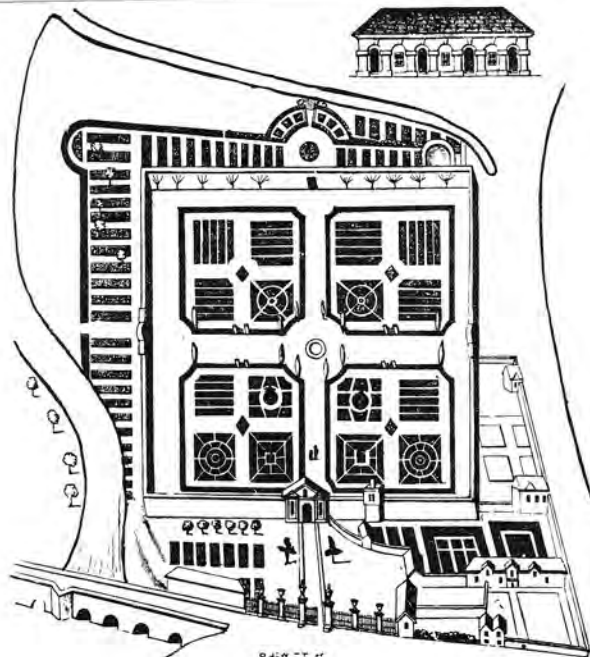
1. THE BOTANIC GARDEN

Henry Danvers, Earl of Danby established the Physic Garden (later Botanic Garden) whereby learning, especially the faculty of medicine might be improved. He leased from Magdalen College five acres of meadow outside the city wall. The foundation ceremony took place on 25 July 1621. The soil was improved and a wall 14 feet high was built. By 1632 the three acre Inner Garden was enclosed. Inigo Jones designed the main gateway, built by Neklaus Stone and decorated with a bust of Danvers. Sixty years later figures of Charles I and Charles II were added. There was little money to pay for a professor or a keeper. However, in 1642, Jacob Bobart, a retired soldier of the German wars undertook the duties of Keeper or *Horti Praefectus* of the Gardens. He planted fruit trees and built a cottage against the south wall which is still in existence. Bobart collected many plants from home and abroad and in 1648 issued his first catalogue. He died in 1679.

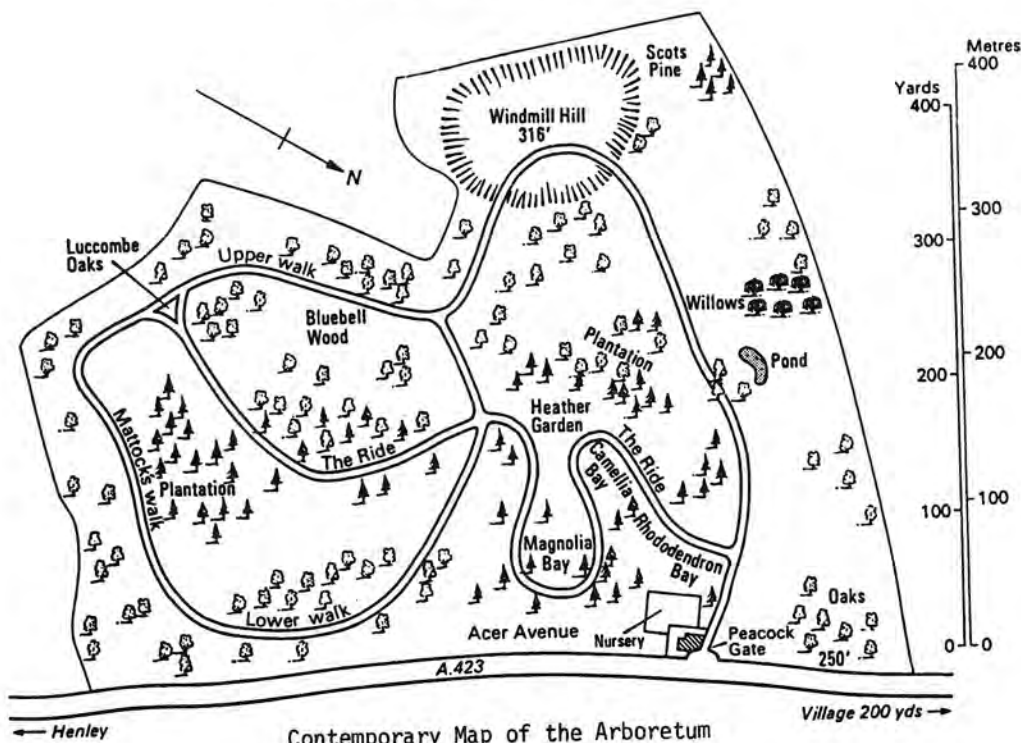
Robert Morrison who introduced the 'striped plant' and who had far-reaching ideas on an evolutionary plant kingdom was appointed Professor in 1669 at Charles II's request. However, he was killed in a coach accident in London in 1683. Soon Jacob Bobart the younger became both Keeper and Professor of the Gardens. In 1702 he was responsible for circulating a seed list for exchange among botanic gardens which marked the beginning of a world wide service.

It was William Sherwood who endowed the University with a Chair of Botany (accepted by the University in 1734) but Sherwood stipulated that the appointment of professor rested with the Royal College of Physicians and not the University, and that the first was to be his friend Dr Johann Dill or Dillenius of Darmstadt. This began the long and continuing struggle between two different ways of studying plants, the descriptive (herbarium) and the experimental (garden). In 1750 his successor Humphrey Sibthorp engaged Georg Dengysius Ehret, the great flower painter, as Head Gardener but he left after a year.

Humphrey's son John Sibthorp succeeded him in 1784. John travelled to Greece (1784-7, 1794-5) for the purpose of establishing the botanical and



1866 Map of the Botanic Gardens



Contemporary Map of the Arboretum

medical authenticity of the herbal of Dioscorides. John employed the German artist Ferdinand Bauer but it was not until after John's death from 1806-1840 that the 10 volume *Flora Graeca* with 960 plates was published. It is thought that this work represents the climax of all botanical illustration.



In 1834 Charles Daubeny became Professor. His approach was always experimental and so the Garden, neglected for a century, was again revived. With the help of William Baxter who was the Curator, Daubeny built a laboratory, rebuilt the glasshouses, installed pools and fountains and planted trees. A Guide to the Garden was prepared. In 1840 he changed the name from Physic Garden to Botanic Garden as Daubeny saw the purpose of plant study not just for the herbalists but for all fields of science and industry. Daubeny tested the mineral requirements of crops which were the first experiments with chemical fertilizers in Great Britain. By 1843 these experiments had inspired one of his pupils, John Bennet Lawes to found the agricultural experiment station at Rothamsted. Daubeny was interested in evolution and rearranged his herbaceous plants in order of kinship and descent.

In 1873 the first joint course in 'Biology' was given in the Botanic Garden by Daubeny's successor Lawson, combining with Lankester, as it was seen that evolution required the co-operation of Botany and Zoology. In time the Botany School was rebuilt on its old site where it stayed until 1951 when it was moved to the Science Area.

The Garden remained small and confined but in 1944 an additional three acres was leased from Christ Church and used to display plant introductions and hybridization. It is interesting to note that Sir Joseph Banks learnt his botany in the Oxford Garden. He was the greatest exponent of plant introduction and from 1778 to 1820, 7000 exotic species were brought into British gardens under his auspices.

2. THE GENETIC GARDEN

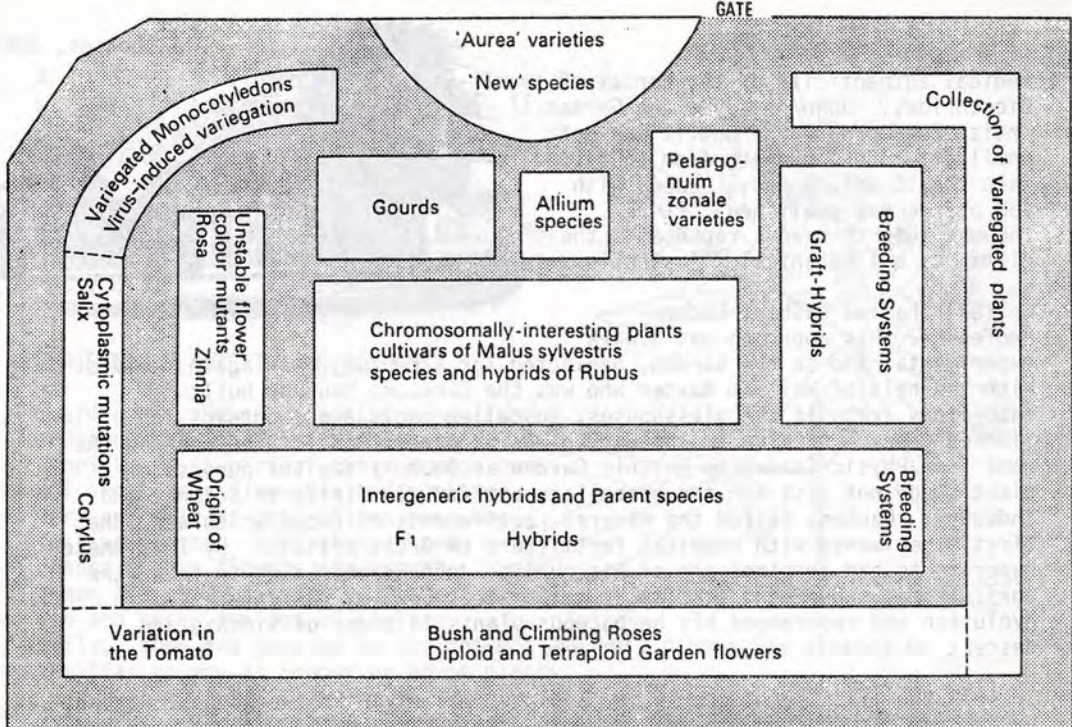
This one acre experimental garden is found at the edge of the University Parks. It aims to show the processes by which evolution is known to be occurring in flowering plants. Therefore the groups of plants are arranged in relation to problems of immediate interest for teaching and research, namely:

I. Species, hybrids, and cultivated plants

Particular genera are arranged to illustrate natural variation among their species and to show the changes which give rise to new species. The examples chosen illustrate the origins of cultivated plants such as grains and vegetables.

II. Breeding system

Species are kept going by systems of breeding which are genetically controlled.



Contemporary Plan of the Genetic Garden



All *Plants* which *Europe's* Fields contain;
 For Health, for Pleasure, or for Pain;
 (From the tall Cedar, that does rise
 With Conic Pride, and mates the Skies;
 Down to the humblest Shrub that crawls
 On Earth, or just ascends our Walls),
 Her Squares of Horticulture yield.

By Danby Planted, Bobart Till'd,
 Delightful scientifick Shade!
 For Knowledge, as for Pleasure made.

Vertumus, an Epistle to Mr Jacob Bobart
 Botany Professor to the University of
 Oxford and Keeper of the Physick-Garden,
 1713.



III. Variegation

Plants with leaves patched or striped have been brought together and arranged according to the different causes of the variegation which are now known.

IV. Problem plants

These are botanical and horticultural curiosities, many of which provide objects of research or are used in teaching.

3. THE ARBORETUM

The Arboretum at Nuneham Courtenay is 50 acres. It began with the 'Knowle Plantation'; eight acres planted as a Pinetum by Edward Harcourt, Archbishop of York, who lived at the mansion in Nuneham Park from 1830 to 1844. This planting continued by his nephew, Edward Harcourt, from 1855 to 1865, gives the mature part of the Arboretum.

The whole estate was purchased by the University from Lord Harcourt in 1949. In 1962 the Estates Committee decided to sell the woodlands, reserving 4.6 acres, the nucleus of the original Pinetum, for the use of the Botany School.

This offer was accepted and the work of restocking was started by the Botanic Garden. The Professors of Botany and Forestry and their colleagues, however, asked that the 30 acres of the original Pinetum also be retained. They proposed that the Curators of the Botanic Garden should develop the area in the interests of the plant sciences, particularly for two purposes:

1. To preserve the collection of North American conifers.
2. To develop the area as a mixed Arboretum: a place of beauty which would also provide material for teaching and research in the plant sciences which the Botanic Garden was too small, and too lime-soaked, to grow.

This proposal was rejected and the woodlands sold. After negotiations, however, between the Keeper of the Botanic Garden and an anonymous benefactor, a 99-year lease of the 30 acres was purchased and a sinking fund was set up for the eventual repurchase of the freehold. At the same time the University added another 10 acres to provide an entrance area. The enlarged plantation was established as a University Arboretum in September 1968. Natural areas of indigenous woodland are being preserved for ecology studies while new trees have been planted for three purposes:

1. To show species of economic importance.
2. To show geographic and genetic variation within certain variable species.
3. To show groups of species of special botanical and horticultural interest.

Dianna McClellan

BOTANICAL EXPEDITION IN THE KIMBERLEY

September 10, 1984 marked the centenary of the death of George Bentham, author of the first comprehensive account of Australia's flora - *Flora Australiensis*. After one hundred years Bentham's work is still the only text available to identify plants in many parts of Australia. It is one hundred years out of date.

Botany was well served by exploring expeditions up to Bentham's time, with most parties including a botanist or naturalist. With Cook, - Banks, with Flinders, - Brown, with King, - Cunningham, with Bourke and Wills, - Beckler (who was fortunate enough to remain with the store-supply section of the party). And where there was no botanist, the explorer often collected plant specimens, as for instance Sturt, Stuart and Giles.

The last century has seen detailed mapping of the continent, especially through geological exploration in the last two decades. Although modern expeditions rarely include a botanist, improved access has allowed botanists to collect widely. The known flora of Australia has increased from 8,125 species included in Bentham's *Flora* to an estimated 18,000 species. A new flora is obviously overdue and a Commonwealth project for a new *Flora of Australia* began in 1981. There are still blanks on the map where botanical exploration stands as in Bentham's day.

As a botanist at the National Herbarium in Melbourne, I was fortunate enough to co-ordinate a team filling in blanks in the Kimberley of Western Australia. Vansittart Bay in the northern, and Bungle Bungle in the south-eastern Kimberley were major objectives.

The experience of working in a competent interdisciplinary team was immensely valuable. The team botanists were Dr. Jim Willis, Evan Chesterfield and myself. Ethnobotanical work was undertaken by Neville Scarlett. Ken Norris was the sole zoologist; John Aldrick, land systems analyst and Colin Totterdell, photographer. I was also fortunate to undertake some work with Dr. Kevin Kenneally (Western Australian Herbarium) and collect eucalypts for 10 days with Dr. Lawrie Johnson, Ken Hill (both N.S.W. Herbarium) and Chris Done (Forests Department W.A.).

In the tropics, best flowering occurs in the wet (say November to March), but access to remote areas without a helicopter is impossible. Ideally one would plan to move the team in as soon as the wet finished, however individual commitments meant that firm dates had to be settled in advance. May-July was selected on the assumption that 1983-84 would be a normal wet (in 1982-83 roads were still impassable in May). As it happened the timing was fine and in three months only one day's rain was encountered (about 30 mm on the only night I had no shelter).

A set of 1:100,000 topographic maps and aerial photos at similar scale were obtained to work out ground access and the absence of botanical information was explained. Curiously access to both target areas was probably easier 40 years ago. An abandoned airforce base lay on the east side of Vansittart Bay and a deserted outstation was marked north of the Bungle Bungle massif. In fact the airbase included a bitumen road running about ten kilometres to a barge landing.

A rather daunting maze of red tape and a massive correspondence was required to obtain entry permits through mining and pastoral leaseholders, aboriginal communities and government departments. Nevertheless establishing contact with land users proved invaluable, and their knowledge of the areas involved allowed relatively trouble free access.

A minimal budget with major items being paid for by team members necessitated care in selection of equipment and in logistics. A diesel Land Cruiser wagon was chosen as the main expedition vehicle and an HF radio installed. ARB equipped the vehicle with Warn winch, bull-bar, roof rack, tow bar, dual battery, long range tank, driving lights, recovery gear and heavy duty suspension (which amongst other advantages allowed me to sleep under the vehicle). In retrospect the only addition required was a water tank - plastic jerries have a very limited life.

Road and track conditions off the main tourist roads were uniformly dreadful but usually allowed steady progress. However, once off the track, progress was difficult, even where a route was known. Wash-outs, jump-ups and tyre staking can mean days of frustration, and loss of valuable field work. Accordingly bush driving was only tackled with a guide or with clear instructions. The most exasperating problems were caused where drilling exploration had been undertaken on a grid pattern and obscured the major track with a maze of subsidiary tracks.

Assistance with access was received from two Royal Australian Navy Free-mantle Class Patrol Boats, BHP and a routine Norforce patrol to the Vansittart Bay area. In Bungle Bungle good access depended on helicopter charter and guidance from the Warmun aboriginal community.

Over 1200 plant specimens were collected with duplicates to be lodged at the Western Australian Herbarium (PERTH), the Australian National Herbarium (CANB.) and with various specialists. Identification of material is still dependent on Bentham as the main text with subsequent monographs consulted where available. Even quite recent monographs may be unsatisfactory in a region as poorly collected as the Kimberley. For example a review of *Hibiscus* section *Furcaria* (pink flowered, often prickly species), published in *Austral. J. Bot.* in 1974, was used to determine the seven collections made from this group. Duplicates were checked by Lyn Craven (CANB.) and were found to include three undescribed species, two of which were known from only one other population. An undescribed *Eucalyptus*, only known from one other collection, a new *Grevillea* and two ferns previously unrecorded for Western Australia are among other interesting collections in the 2-300 specimens so far examined.

Stephen Forbes
Senior Botanist, National Herbarium of Victoria



OPENING OF THE NEW DISPLAY HOUSE

In an effort to display just a few of those interesting plants generally not accessible to the public, a small Special Display House has been erected next to the Tropical Plants Glasshouse. The house was financed by the M.M.Gibson Trust and designed and built by Gardens staff. It was formally opened by the Minister for Conservation, Forests and Lands, the Hon. Rod McKenzie on Wednesday 26th September.

To mark the occasion, a joint display of spring flowering bulbs, especially tulips, was mounted by the Gardens and Tesselaars Padua Bulb Nursery, a member of the Nurserymen's Association of Victoria. On view there for the next ten days, the colourful and informative display drew many complimentary comments. It is hoped that there will be other joint displays with members of the Nurserymen's Association next year.

The Display for November features rare and endangered plants held in the Gardens' collections. 'E' gate is the nearest entrance to the new House.



PAST EVENTS . . .

Visit to Cranbourne Annex

More than 80 people enjoyed a fine sunny afternoon at the Gardens' Annex on Sunday 14th October. The heath plants were in full flower and the Friends were able to see the considerable progress made in landscaping the native display garden in the north-west corner. Many thanks to the Voluntary Guides who were on duty to take the groups around.

Solomon's
Seal.



'Bolobek'

Four bus loads of Friends and Plant Craft Cottage members took advantage of Lady Law-Smith's kind invitation to view 'Bolobek', her lovely garden in the foothills of Mt. Macedon, and again we extend our thanks to our hostess for inviting us to visit this truly outstanding garden. Expertly landscaped, every vista presented an exquisite symmetry of trees, shrubs and lawns, all most elegantly positioned and providing a living testimony to Lady Law-Smith's obvious mastery of line, colour and harmony.

Amidst a profusion of colour and perfumed beauty, vignettes remain to delight the inner eye; the apple trees, festooned with pink and white blossom edging an elegant walkway, the garden beneath, as elsewhere, uniformly planted with

masses of low growing white perennials; the luxuriant profusion of mauve and white beautifully scented lilacs flanking the main lawn; a walled garden nodding, serene and quiet, in the surrounding beauty, itself an integral part of a beautifully planned whole, and containing the pool well screened from any searching breeze and no doubt inviting on hot summer days.

White and pastel flowers proliferated, a lovely foil for the many shades of burgeoning green, yet as we entered we were greeted with a sea of vivid colour from old towering rhododendrons, the white Solomon's Seal of the lovely name, arching beneath.

A truly delightful day and an unforgettable garden.

Joan Nesbit

Roses

We very much enjoyed Peter Lumley's recent talk and slides of the lovely species roses. Among others, we were shown pictures of the beautiful White Rose of York and the Red Rose of Lancaster, evoking timeless images of lovely lovely roses unpolluted and undefiled, flowering down through the ages in all their glorious perfection.

All the old roses shown were simply beautiful. Thank you Peter, for a delightful and informative morning.

Joan Nesbit

Bananas and Rhododendrons

Dr George Argent, the world famous botanist from the Royal Botanic Gardens, Edinburgh, was in Melbourne briefly at the end of October and was able to talk to Friends at two twilight gatherings. The lectures were held in conjunction with the M.M. Gibson Trust.

Those Friends who were able to attend, very much appreciated his illustrated talks on the diverse topics of breeding bananas and rhododendrons from eastern Malaysia.

The Herbarium

As always, Dr Jim Willis, former Assistant Government Botanist, was a most informative and entertaining speaker at the combined Friends' and Guides' luncheon on Monday 12th November.

His personal anecdotes about the Herbarium and its special collections were fascinating.



BOOK REVIEWS

HORN, Barbara. *A diary of flowering bulbs; a season by season guide to their care and cultivation.* Illustrated by Sheila Galbraith. Pp.48 (including colour plates and line illustrations). South Melbourne, Macmillan, 1984. \$17.95.



An attractive publication, mainly about bulbs and growing them for Australian conditions. The text is chatty and intimate. Barbara is a long-time gardener and relates her experiences under seasonal chapter headings. An index to plants is arranged by common name together with the botanical name and description of the plant. A three page guide giving distance and depth of planting for each bulb, plus a short description is useful for quick reference.

This is a book for the casual but interested gardener who enjoys looking at good illustrations while learning about the fundamentals of growing bulbs.



ELLIOT, Rodger. *A field guide to the Grampians flora.* Text: Rodger Elliot; illustrations: Trevor Blake; photographs: John Brownlie. Pp.144 (including colour plates and line illustrations). Northcote, Vic., Algona Publications, 1984. \$16.00.

This handy, well produced guide is an enlarged and revised edition of Elliot's *An introduction to the Grampians flora*, 1975. There are copious illustrations; each plant description is complemented by a line drawing to aid in identification. The book is divided into three sections: 1. Trees, shrubs, climbers, lilies and grasses. 2. Orchids and 3. Ferns and fern allies. Descriptive entries under each section are arranged alphabetically by the scientific name with the common name given alongside.

At the back there are separate guides to identification for each of the three sections followed by detailed identification charts. On page 115 a useful flow chart example is given on how to identify *Acacia verticillata*

An index to common names, a glossary of terms and suggestions of further reading add to the usefulness of the publication. This attractive work is a must for anyone observing the wonders of the Grampians flora.

Dianna McClellan