

THE FRIENDS OF THE WAITE ARBORETUM INC.



NEWSLETTER

Summer 2000

No. 22

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OUR LAST GENERAL MEETING

Sunday, October 31, 1999 at 11 am.

“Visit to Currency Creek Arboretum”

The usual evening general meeting was replaced by a most fascinating visit to the Nicolle family's **Currency Creek Arboretum** which was enjoyed by about 20 members and friends under the guidance of Curator Dean Nicolle and his father Bob.

We were shown the extensive collection of Eucalypts, Corymbias and Angophoras, together with a few other Australian native trees, which form this 32 ha research arboretum. The main emphasis is on a wide variety of eucalypts. Planting began in 1993, the objective being research into the taxonomy, ecology, physiology, cultivation and conservation of the three above genera.

The trees were raised from seed, collected in the wild, with locations and other site data recorded and herbarium specimens prepared. This alone would have been an extensive operation.

Seedlings were then raised and eight from each sampling retained. Four were pressed as seedling herbarium specimens and four planted together in the arboretum. Trees were planted in rows about 4 m apart to facilitate ripping, weedicide spraying and drip-irrigation. The irrigation is retained for the first summer after planting. Records are kept of survival, growth rates, time to flower-bud initiation and flowering time.

At present there are over 6,500 trees from 1,600 separate seed collections, representing 904 eucalypt species and sub-species.

The extreme diversity within the three genera was a very noticeable feature.

We were all impressed by the enthusiasm of the Curator and his father, Bob, the dedication and thoroughness of their planning and the establishment and care of the arboretum. Valuable information will be obtained over a period of years about genera which are important to Australia, but about which there is limited information. Some of the knowledge so gained will, of course, be limited to that site and region only.

The success of an undertaking such as this depends on many factors, some of which are climatically determined and beyond the control of the Curator. We wish the Nicolle family every success with this wide-ranging eucalypt study and thank them for sharing it with us on this wonderful excursion.

Following the visit we all drove a short distance to a reserve beside Currency creek to enjoy our picnic lunches in a well-kept natural area with facilities. We then set off, taking various routes, for our journeys home.

Roger Bungey

FROM THE COMMITTEE

A meeting was held on Wednesday, 13 October 1999 at 9.15 am.

- The meeting was preceded by a visit from Mr Gilbert Dashorst, botanical artist, in relation to our major programmed exhibition this year to be held in Urrbrae House during the 2000 Festival. The exhibition is included in the Festival Fringe.
- It was agreed that \$3,000 be set aside for weed control in the Arboretum.
- Other topics discussed were:
 - the possibility of improving signs within the Arboretum
 - general concern regarding vandalism.

A meeting was held on Tuesday, 23 November 1999 at 9.15 am.

- Despite the rainy weather, Open Day on November 7, was a success. \$383 was raised from sales of plants, books, cards etc. Thank you to everyone who donated plants, staffed the stalls and visited on that day.
- The committee allocated \$1,000 for a panel on the Arboretum in the planned Visitor Centre (formerly the Peter Waite garage).

“FLORA AND FAUNA – THROUGH THE LENS”

On Sunday, October 24, Dr Tim Flannery, Director of the South Australian Museum, officially opened “Flora and Fauna — Through the Lens”, a photographic exhibition depicting the diversity and beauty of the natural world. This was a group exhibition, with eighteen photographers’ work represented.

Before a gathering of 160 people in Urrbrae house, Dr Flannery humorously recounted an experience he had endured with a decidedly uncooperative animal during an important photo shoot, thus drawing the attention of all present to the patience, skill and dedication required to succeed in nature photography.

The exhibition certainly provided many noteworthy examples of “capturing the light” with both dramatic and sensitively portrayed landscapes. Close-up studies revealed the symmetry and subtle beauty present in so much of the world around us.

This was one of the major fund-raising events for the Arboretum in 1999 and was attended by a wide spectrum of the public. Over \$1,000 was raised and special thanks must go to Tim Newbery for his invaluable advice and practical help. Cicely Bungey and her team of helpers, who gave of their time so generously to prepare and staff the exhibition are also deserving of appreciation for their efforts.

Our thanks to the photographers: Nick Birks, Peter Canty, Ray Channells, John Cooper, Kate Delaporte, Bob Edge, Robert Fisher, Andrew Gibson, Keith Mallett, Ian McLachlan, David Munro, Tim Newbery, Berndt Stoecker, Jimmy Thomson, Ed Tylkowski, Gary Weber and Michelle Wirthensen, for sharing their vision with us.

Diana Mayfield

MUNDULLA YELLOWS

The following article was abstracted, by the Editor, from material provided by Dr David Paton, Senior Lecturer in the Department of Environmental Biology, University of Adelaide.

In the late 1970s Geoff Cotton, an observant beekeeper, noticed unusual yellowing of the foliage on a few mature red gums (*E. camaldulensis*) at Buckingham, near Mundulla, in the South-East of South Australia. The main symptom is a yellowing of the foliage, while the leaf stems and veins remain green. By 1990 some of the trees showing the yellow

foliage were dead and adjacent trees were showing the symptoms, as were other eucalypts in the region, particularly those along roads in and around the towns of Keith and Bordertown. Despite lobbying by Geoff Cotton, little interest was shown in this problem.

Surveys in 1992-3 in the Keith-Bordertown area revealed that around 30% of roadside trees inspected, on both bitumen and gravel roads, were showing symptoms. Such trees were rarely found away from roadways and, when they were, it was often along driveways, next to drainage lines or along intermittent waterways. Only 1% of the trees in agriculturally developed paddocks showed symptoms.

After considerable effort, some funds were made available to study the epidemiology of the symptoms (ie the spread through the environment). In 1994, five 1 kilometre sections of roadside vegetation were selected. Every tree and shrub along each of these sections was mapped and the condition and health of each tree noted and scored on a five point scale between 0 (healthy) and 4 (dead). In June/July 1999 three of these sections of roadway were re-scored.

None of the trees had shown any recovery over the five year period, some were in about the same condition but most had deteriorated and a reasonable proportion had died. The actual results recorded for the five species of eucalypt examined are given in the table below.

Species of plant	Number examined	% plants dead		% plants with Mundulla Yellows	
		1994	1999	1994	1999
<i>Eucalyptus camaldulensis</i>	245	20	35	73	93
<i>Eucalyptus leucoxyton</i>	69	3	6	70	100
<i>Eucalyptus fasciculosa</i>	76	0	4	78	99
<i>Eucalyptus incrassata</i>	78	3	19	79	100
<i>Eucalyptus leptophylla</i>	9	0	33	56	100

The conclusion from these figures is that once a plant shows symptoms of Mundulla Yellows, its condition deteriorates and death is inevitable, although it may take 10 or more years. Depending on the species of eucalypt, between 4 and 35% of the trees in these three 1 km road sections were now dead, substantially more than was the case in 1994. Worse still, between 93 and 100 % of the trees were now showing signs of being affected. The prediction from these five years of monitoring is that all of the trees will be dead within 10 - 20 years. Furthermore, the only eucalypt seedlings to establish along these roadsides over the last five years also contracted Mundulla Yellows, severely dampening any thoughts of being able to re-tree these areas.

Other shrubby species of plants have also developed similar symptoms and died, both in the monitored sites and elsewhere. Amongst the genera of plants that have shown symptoms, and some of which have died are: various *Acacia*, *Allocasuarina*, *Kunzea*, *Banksia*, *Hakea*, *Melaleuca*, *Angophora*, *Bursaria* and *Xanthorrhoea*. Mundulla Yellows is therefore a threat to a wide range of plant species, not just eucalypts.

Plants showing the symptoms are now present throughout South Australia: from Mt Gambier to Naracoorte, Tailem Bend, Callington, Adelaide and its suburbs, towns on the Fleurieu Peninsula and in the mid-north of SA. The disease is suspected in Eyre Peninsula and has been reported in Victoria, NSW, Tasmania, WA and the Northern Territory — in short it is running riot in many parts of the country. There are also further problems in that as infected trees lose condition, their ability to reproduce declines and their value as habitats for native wildlife, particularly birds, declines.

While the epidemiology of this disease has been reported, alarmingly little work has been done in order to identify the cause or causes. Current thoughts are that it is caused by a phytoplasma, but considerable pathological research is necessary to identify the

cause and until this is done, sensible management and/or containment programs are impossible.

There are many unanswered questions; one being "Why do significant differences exist between the occurrence of the disease on roadsides or along waterways, where it commonly occurs, while it is much less frequent elsewhere?"

Mundulla Yellows is obviously a serious environmental problem. Governments, both State and Federal, are aware of its existence but to date their response has been to give totally inadequate sums of money. Furthermore it is essential that government authorities refrain from giving permission to clear native vegetation since those plants removed might happen to be those which have some innate resistance to the disease and be able to provide genetic stock for future replanting. Scattered trees in paddocks seem to be surviving better — they should certainly be totally protected.

Reference

Distribution, spread and progression of Mundulla Yellows in South Australia.

David C. Paton, Dept. of Environmental Biology, University of Adelaide, Adelaide, SA 5005.

Joanne Cutten, Biodiversity Branch, DEHAA, GPO Box 1047, Adelaide, SA 5001

IN THE ARBORETUM

CYPRUS CEDAR, *Cedrus libani ssp. brevifolia* (Hook f.) Meikle Pinaceae

American and Australian conifers with aromatic wood are often called "cedars". In the beautiful film "Snow Falling on Cedars" showing in our cinemas at present, the spectacular trees are *Thuja plicata*, commonly called Western red cedar, but are not related to the true cedars. There are only four true cedars, all confined to the Old World. The least known of these is the Cyprus cedar (*Cedrus libani ssp. brevifolia*) which today grows only in a small area of the Troodes Mountains in this Mediterranean island.

Once large parts of the central mountains of Cyprus were covered with cedars but, despite being under royal (or similar) protection as far back as 300 BC, these valuable trees have gradually disappeared as indiscriminate, often illegal, felling occurred. The island is also prone to bushfires and wild goats graze unchecked. Today there are only a few hundred trees left growing, in the valley of Rga Staradja (Cedar Valley). Compared with other cedars the Cyprus cedar is unspectacular and is rarely cultivated. It is barely half the size of Lebanese cedars and there is sometimes the mistaken idea that it is a dwarf. It is however a very attractive tree, with conical growth and an open crown. It grows to 15 metres with a spread of 3 metres. The cedars are not as slow growing as is often imagined and the Cyprus cedar may reach 7 metres in 20 years. The bark is purplish-grey and smooth although rectangular cracks open as it ages. The needles are half the length of those of other cedars and rich green to bluish-green. The cones are smooth and pale green.

Since the independent Cypriot state was founded in 1960 there has been much reforestation but regeneration is slow. Five years ago I visited the small forestry station of Stavros tis Psokas in Cedar Valley. All cedars live in mountains between 1000 m and 1500 m altitude— Stavros' altitude is 1000 m. Here the forester showed me with great pride, hundreds of tiny seedlings growing in the nursery, soon to be widely planted on the degraded mountainsides. He also gave me some seeds which have now been grown successfully in the nursery at the Mt Lofty Botanic Gardens. Three of these I brought back to the Arboretum and they are now growing well [#1051 & #1053 (B5), #1052 (A5)]— another valuable addition to our collection.

Mary Tester

ARBORETUM NEWS

The former site of the Netherby Kindergarten has now been cleared and reinstated as part of the Arboretum. A ceremony is planned for autumn and several dignitaries have been invited to plant trees. Friends will be invited to attend. A Bill to repeal the Netherby Kindergarten (Variation of Waite Trust) Act has been prepared at the instigation of Martin Hamilton-Smith MHA, Member for Waite. When the Bill is tabled (hopefully when Parliament resumes in March), Friends may wish to lobby politicians of all parties to support the passage of the Bill. The repeal of the Act is imperative for the long term protection of the integrity of the Arboretum.

A grant to TREENET from Transport SA has enabled the appointment of Gareth Hodges under the University of Adelaide's GILES (Graduate Industry Linked Entrepreneurial Scheme). In this program, a graduate works with a business on a project for 4 days per week over 12 months whilst continuing to study one day a week for a Graduate Diploma in Business Enterprise. Gareth will be based in the TREENET office in Urrbrae House. His assignments will include: conducting and analysing extensive surveys of Local Government and tree nurseries regarding the selection, installation, maintenance and supply of street trees; the development of a database for recording TREENET trials and making that information accessible on a TREENET Website; and the preparation of strategic, financial and marketing plans for TREENET. The program will culminate in a symposium towards the end of this year, summarising the research, encouraging discussion of the issues and officially launching TREENET.

Several very large, dead trees were recently removed and other trees were pruned by students undertaking arboricultural courses conducted by the TAFE School of Horticulture (now relocated on the Urrbrae Agricultural High School site) and SASA (the South Australian Society of Arboriculture). The use of the Waite Arboretum for training future arborists and others working in the industry is encouraged. There are a number of mutual benefits to be gained. The Arboretum has work done, at no cost, which would otherwise cost thousands of dollars. The students benefit from their introduction to the Arboretum as a reference collection and have a convenient and quality venue in which to gain their practical skills. Thanks to lecturers Kym Knight, Marcus Lodge and Gary Harding for their ongoing support of the Arboretum this way.

New signs advising that to protect wildlife, **dogs are not permitted** in the Arboretum have been put on all gates; the old ones were stolen. Security has been increased.

Jennifer Gardner

NEW MEMBERS

A warm welcome to the following new members:

Mr John Chen, Ferryden Park
Jim & Margaret Cleghorn, Netherby
Mr John Colman, Forestville
Keith & Heather Crellin, St Georges
Mr & Mrs Bob Fisher, Urrbrae
Mr Ian Gardiner, Torrens Park
Mr Ian Goodwin, Parkside
Mr Trevor Hancock, Waite Campus
Mrs Gwyn Moody, Kensington
Mr Ronald Woolmore, Mitcham

FORTHCOMING EVENTS AND DIARY DATES

General Meeting: 8 pm Monday February 14

Dean Nicolle will give a talk, illustrated by slides, about desert eucalypts. He will start with an overview of the eucalypts, their diversity and taxonomic groupings.

Friends might be interested to read about Dean's Arboretum at the following Internet address: <http://www.chariot.net.au/~vo/cca.html>

"All in a Day's Work"

An exhibition of artwork by **Gilbert Dashorst** including botanical and zoological illustrations, landscapes and portraits. The exhibition will be opened by Dr Brian Morley, Director, Botanic Gardens of Adelaide at **6 pm Friday 3 March** and will run daily 11 am - 4 pm until March 19.

Annual General Meeting — April 10 — details not yet finalised.

NOTICES

Subscriptions: Friends are reminded that they were due on January 1. A renewal form is enclosed.

Tour Information: Information regarding several overseas tours with a botanical and/or gardening theme have been received. Brief details, with methods for contacting the tour providers are given below.

- From Destination Management, a Brisbane special interest tour operator, P.O. Box 1109, Stafford, Qld. 4053, phone (07) 335 96651, Email: travel@powerup.com.au. This firm is offering a trip to **Belize** (in the Carribean), from 26/11/00 to 13/12/00. Cost about \$9,000.
- In association with Friends of the Royal Botanic Gardens, Sydney, the same firm is offering a trip entitled "**Gardens of Northern Europe**" from May 5 to May 27 this year. Cost about \$10,000.

HELP WANTED

Do you enjoy arranging flowers? Displays of fresh flowers and leaves from the Arboretum are an integral feature of the permanent Arboretum Exhibition. Anyone who would like to assist by doing some displays or even one arrangement, please contact Jennifer on 8303 7405.