FRIENDS OF THE WAITE ARBORETUM INC.

NEWSLETTER

WINTER 2001

No 28

Secretary
Mrs Rosemary Sawley
8379 7102

Editor
Dr Barbara Possingham
8363 0346

THE GOLDEN OAKS OF CYPRUS

The climate of the Mediterranean basin has favoured the evolution of an extremely variable flora largely dominated by evergreen trees and shrubs. During the fourth Ice Age when much of northern and central Europe were covered with ice sheets and glaciers, this area escaped unscathed, and so became a haven for continuing evolution.

Cyprus, being an island and so isolated from the mainland, also became rich in endemics; a botanical paradise with a large number of species which grow nowhere else. Today most of the rare plants are concentrated in the two mountain ranges and in the Akamas Peninsula on the western tip of the island. The Troodos Range, because of its relatively undisturbed environment, still has many endemic species. The beautiful Golden Oak (*Quercus alnifolia*) is one of these.

The Golden Oak is a large evergreen shrub, rarely taller than 6 metres, which lives only on the mountain slopes between 800 m and 1600 m altitude. Its thick leaves are dark green above but golden below. I first saw them growing when I climbed up a mountain track above the tiny village of Stavros, a forestry station 800 m up in the Troodos Mountains. From the top of a rise I looked down a steep scree slope covered with the pine trees of the area, *Pinus brutia.* Dozens of golden oaks grew thickly between them. The sun was shining through the brooding darkness of the pines so the picture of the golden leaves of the oaks underneath was a brilliant contrast I will not quickly forget.

The oak's hard wood is used occasionally for parquet flooring and for making agricultural implements but its relatively inaccessible location and much-branched scrubby growth has saved it from exploitation and so it still covers extensive areas on the steep slopes. The male flowers grow in catkins while the females, sessile in groups of two to four, develop in the leaf axils. The fruit is an acorn, 2 to 2.5 cm long, in a cupule covered with linear scales. The ground was covered with acorns so I gathered a small bag full. Later I found every single acorn had a tiny hole drilled into it - my crop had been parasitised!

There is a sturdy little *Quercus alnifolia* growing in the arboretum. It was planted in1999 and can be found at E14, #589.

Mary Tester.

IN THE ARBORETUM

Note explaining identification of tree positions in the Arboretum.

You will notice that the position of the Arboretum's Golden Oak, in Mary Tester's article above, was specified to be E14, #589. You may well ask, "What does this mean?" I shall do my best to give a brief explanation.

The E14 is a grid reference, the #589, a tree identification number.

The whole Arboretum is sub-divided into rectangular grid sections. Fullarton Road, which runs approximately North to South from Cross Road to Claremont Avenue, is divided into 16 equal sections numbered 1 (at the Cross Road end) to 16 at the corner of Claremont Avenue. The letter in the reference starts from the corner of Claremont Avenue and Fullarton Road, It starts with A at goes up to L towards the hills. The Eastern edge of the playing field is the beginning of Block E. L is on a line along the West side of Urrbrae House. The grid reference given is the NW corner post of the rectangle. All the grid posts are painted white with identifying disks on top. Thus E 14 is about 80m in from the Claremont Avenue edge of the playing field and up to about 70 m in towards the "Farm Dam".

I shall provide a prize of $10 for the best sketch, in pencil, on a blank A4 sheet of paper, of the Golden Oak in the said block. Members of the Friends Committee, Jennifer G. and Mary T. will have their entries ignored. Only entries received on or before 4.00 pm on August 24 will be considered. Any person wishing to have his or her masterpiece restored to him or her, should include a stamped, addressed envelope. Any critical comments regarding my artistic judgement, or lack thereof, will also be ignored.

Barbara Possingham
10 River St Marden 5070.

THE CONSERVATION BIOLOGY OF SALT PIPEWORT, *ERIOCAULON CARSONII*, A NATIONALLY ENDANGERED PLANT ENDEMIC TO THE GREAT ARTESIAN BASIN MOUND SPRINGS

Richard Davies' article which follows is a summary of the talk he gave at this year's AGM.

It may be of interest to readers to know a little about the nature of a mound spring and also to know where some quite spectacular springs may be seen in South Australia that are accessible with an ordinary (not 4WD) car.

To quote from "A Natural History of the Lake Eyre Region" published by the National Parks & Wildlife Services of SA: "The Great Artesian Basin is a one million square kilometre bed of porous water-holding sediments lying beneath most of the north-eastern portion of Australia. A series of "mound springs" occurs around the south-western edge of the basin where artesian water forces its way to the surface through fractures along the rim". "The spring at Blanche Cup is often cited as a 'typical' mound spring, but this is not strictly correct." Blanche Cup is actually rather an "ideal" spring! Luckily for us it is quite close to the Oodnadatta Track and easily accessible by a well-labelled side road, off the track, after it turns west at Marree. It is very fascinating and quite spectacular. Other springs occur as one travels up the track. I have seen those at Coward Springs, and above Oodnadatta the well-known Dalhousie Springs. I wouldn't try to reach the latter without a 4WD!

Editor

Summary of talk by R. Davies

The Salt Pipewort, *Eriocaulon carsonii,* is a nationally endangered native plant that is totally confined to the mound springs at the edge of the Great Artesian Basin. The species is restricted to four spring complexes in South Australia, nine in Queensland and nine in New South Wales. While the species has a range of over 1200km, spring complexes supporting the species are highly scattered with some populations being up to 500km from the next population. Populations range from the base of Cape York to adjacent to Lake Eyre.

The survival of *E. carsonii* is threatened by drawdown caused by the extraction of water from the Great Artesian Basin, feral pigs, the scooping out of springs to make farm dams, and the planting of introduced grasses on springs for grazing purposes.

The species is also threatened from grazing and trampling by cattle and sheep. However, the removal of stock without the resumption of the burning undertaken by aboriginals previous to European settlement is also probably a threat. Since Finniss Springs station was destocked in the early 1980s naturally occurring reeds (*Phragmites australis*) have out-competed *E. carsonii* on the spring vents and the species is now confined to small areas on the more vulnerable spring tails.

American studies of the closely related species *E. kornickianum* have found that low levels of genetic variation, is one factor threatening that species. Given its similar biology and ecology, it is possible that this also a threat to *E. carsonii.*

My PhD aims to quantify levels of genetic variation between and within mound spring populations of *E. carsonii* in South Australia, Queensland and New South Wales. This information will be important in assessing the levels of inbreeding within populations and levels of gene flow occurring between mound springs. It will also help identify populations that have a high conservation priority because they contain particularly high levels of genetic variation, or alternatively because they contain rare genes, information important for the conservation of genetic variation. It is important to maintain genetic variation in *E. carsonii*, since its loss will threaten the species' continued ability to evolve in response to changing environments. This information will in turn be important to determining whether to allocate conservation resources towards a few key populations or whether to spread conservation efforts across a broad spectrum of populations.

My PhD has already studied the reproductive biology of the species and found that, unlike *E. kornickianum*, low seed set is not a threat to *E. carsonii* and the species is able to self as well as outcross. I am also monitoring the effect of trial burns around springs to determine the effect on *E. carsonii* and other species.

Richard Davies, PhD Student, Flinders University

URRBRAE HOUSE ROSE GARDEN

The rose garden that is a feature of the gardens at Urrbrae House has had a number of roses that have shown signs of age in recent years. Some have actually died. It is therefore with great pleasure, that the Arboretum Friends (ie. US), who do much of the work and, with the assistance of a yearly grant, keep the roses pruned, trimmed and weeded, have received a donation of over 120 roses from Maureen Ross from Ross Roses of Willunga. We should like to express our appreciation of this, very generous and much appreciated donation.

We should also like to thank Jean Reid for helping to appropriately lay out the 37 new Heritage Roses within that section of the Rose Garden.

BOERBOON

Schotia brachypetala

Schotia is a relatively small genus of very variable leguminous trees. Recent treatments accept four species of which we have two in the Arboretum. They are native to Southern Africa, although not to the Cape Region. The common name "boerboons' literally means boer beans as the relatively large seeds were regularly eaten by the natives as well as by the early farmers. Seed grinding tools have been found under large old trees just as the Australian Aborigines left their grinding tools amongst stands of *Acacia ligulata*. While larger old trees were used for timber, this is now of minor importance, however the trees are of major importance as a source of nectar for birds.

Palmer & Pitman in "Trees of Southern Africa", Vol 2 write "----their crimson cups of flowers, brimming with nectar, attract insects by the million and both nectar- and insect-eating birds" In their early flowering period they simply weep nectar at the touch of a branch, and they are alive with birds. Skead in his "Sunbirds" says that so noisy can such a tree become, with its sunbird inmates, that the position of a tree can be pinpointed before it can be seen.

Exactly the same happens here with a different suite of birds, honeyeaters and lorikeets. Anyone who has watched the Arboretum tree or the one in the Adelaide Botanic Gardens (near the lotus pool) stands transfixed by the noisy frenzy. At times the birds seem almost drunken. I know of no other tree that seems to attract such a boisterous party of birds!

Our trees are evergreen with attractive pinnate leaves. The flowers tend to be in compact bunches on the branchlets and older wood - perhaps this helps to protect them from being battered by the birds. As the flowers tend to be hidden within the canopy, one cannot say that these trees are showy except at close quarters and our parrots tend to disappear within them. Palmer and Pitman write, "A boerboon covered with red blossoms and green Malachite Sunbirds is one of the most beautiful sights the Karoo has to offer". Boerboons are wonderful in the bush and veldt, or in the garden and although usually slow growing they can grow reasonably fast where winters are mild and garden conditions suitable.

Is it, yet again, a 'foreign' tree that lacks either a European or American imprimatur and is thus ignored by timid Australians despite its innate qualities.

David Symon

LIMERICKS about TREES

There once was a man who said 'God
Must think it exceedingly odd
That this sycamore tree
Continues to be
When there's no one about in the quad'.

RIPOSTE

Dear Sir, your astonishment's odd,
I am always about in the quad,
And that's why the tree
Continues to be
As observed by, yours faithfully, God.

The first is attributed to R Knox, who wrote the second?

URRBRAE WETLANDS REVISITED

Many of us will remember, with pleasure, visiting the newly established wetlands at Urrbrae High School two and a half years ago. This was one of our most successful meetings. Since then, each time I drive down Cross Road I have been delighted and amazed to see the rapid growth of the plants around the lake. Now is definitely time for me to pay another visit!

The master in charge, Dr. Allin Hodson, still full of energy and enthusiasm, was generous with his time. I found his teaching room on the edge of the wetlands attractive and beautifully set-up. I learnt that not only have 13 000 children visited the site since it was opened, but also 700 adults - Allin relies on donations from visitors to purchase and service much of his essential equipment. Students come from schools far beyond the Mitcham area and emphasis is placed upon interaction between city and country students.

One of the reasons for the establishment of the wetlands was to prevent regular flooding along Cross Road. As a retention basin this project has been 100% effective. The water level of the large lake has remained fairly constant but with the autumn leaf drop in the catchment area the outlet pipe has to be continually cleaned. Mesh has to be put over the outlet not only to collect the leaves but to stop the little ducks drowning there. When this is blocked the water level rises rapidly endangering some of the marginal vegetation. The trash racks at the inlet are almost totally useless; a far better alternative, CDS units which work on a centrifugal system, is expensive and so there are no plans for them.

Do you remember that the wood duck were being destructive, pulling out the small plants? I asked how this problem had been solved. Wire cages protected the young plants quite successfully, but as less destructive coot and moorhen moved in they chased the wood duck out to the small dam where they are living now. Problem solved! A recent visitor is a Nankeen Night heron. Everyone hopes it will stay.

One as yet unsolved problem is the build-up of silt which is, in some places, a metre deep. The students have done a number of well-executed cross-sections showing this. Different solutions are now being considered.

Outside a small group of volunteer Friends were working hard, digging out weeds and putting in name stakes. Botanist Karen Lane has collected seeds of indigenous plants, mostly growing within a 5 kilometre radius of the wetlands. These have been raised by Karen and planted by the volunteers. Now river red gums 3 m high ring the foreshore of the lake growing between reeds and grasses while behind them on drier ground grow many different plants like acacias, myoporum and native grasses. A blue gum, flowered brilliantly red and hardenbergias scrambled over fences. These plantings have been carefully mapped and hopefully will re-seed. All are growing rapidly and healthily and the area is most attractive - unquestionably an asset to the district both aesthetically and educationally.

Allin Hodman's funding finishes at the end of this year. It would be a disgrace if this were not re-newed. So much care, planning and hard work has gone into this unit. It is unique in South Australia and far too precious to lose.

Mary Tester

Editor's Note: It was Mary's article that suggested to us that a second meeting be arranged to the Urrbrae wetlands. Read on!

FORTHCOMING EVENTS AND DIARY DATES

Monday, August 13, 8.00 pm, Urrbrae House
General Meeting of Friends

Dr David Symon and Dr Jennifer Gardner will address this meeting. Their topic is :
'Our ornamental pear collection in the Waite Arboretum - the potential uses of these trees.'

Monday, October 8, 6.00 pm, Urrbrae Wetlands
General Meeting of Friends

Ms Karen Lane and Dr Allin Hodson will address this meeting.

- Karen Lane will talk about vegetation of the Wetlands as we walk around the area, from about 6.15 - 7.15 pm.
- Between 7.15 and 8.00 pm there will be a light meal available, at nominal cost, with liquids to maintain hydration. (We are hoping for dry, mild weather!)
- At 8.00 pm Allin Hodson will talk about the Wetlands Project.
- 9.00 pm = coffee time.

You can see from the above programme that this meeting will be like a very mini-conference. Consequently Friends and their friends may arrive and leave at appropriate times within the programme. Each participant will be asked to pay $2 to contribute towards the Wetlands maintenance.

Friends of the Wetlands will also be present on this occasion.

Bookings for the meal must be made by phoning Peggy Rowe, at Urrbrae House. on 8303 7497. Her Email address is peggy.rowe@adelaide.edu.au

If she is not there, please leave a message, on her answering machine, telling us that you wish to purchase a light meal on Oct. 8. You may then pay at the meeting.

Please contact Peggy before Thurs. Oct. 4 in order that we can arrange catering.

Beryl Martin ART EXHIBITION
"Colour, Contrast and Form"

An Exhibition of New Paintings by Beryl Martin will open on **Sunday, October 14,** and run until October 28. It will be opened by Dr Jennifer Gardner. Further detail will be sent out, in the form of a flyer, that will be sent to Friends in September.

We shall certainly need **volunteers** to "man the ship" on each day during which the Exhibition is open. If you are able to assist on either a morning or an afternoon session on any Exhibition day, please ring Cicely Bungey on 8271 5720.

CHRISTMAS MEETING, Monday, December 10, 6.00 pm

This gathering, at Urrbrae House &/or in the gardens, will take the form of a Social Evening with Friends of Urrbrae House and all the volunteers so there will be lots of people, with a variety of interests, to whom you can chat.. There will be some sort of nibbles eg cake & biscuits, with drinks.

TREENET SYMPOSIUM

September 6-7, Waite Campus, Adelaide University.

This is not a friends event, but those interested are encouraged to attend if they wish.

The cost for the full two day session is $350 + GST = $385.

The topics discussed will range from trees suitable for street plantings; the place of Australian trees in our streets; together with general information regarding tree growing and planting. Some of Australia's best teachers in arboriculture will give papers, and three postgraduate students will be presenting their research. This is an oppportunity for you to interact with some of the bright, upcoming arborists as well as seeing a variety of trade displays. Information about **TREENET** can be found on ***www.treenet.com.au***

Application forms for the conference can be found on the website above or from:

TREENET, Urrbrae House, Adelaide University - Waite Campus, PMB 1 Glen Osmond, SA 5064

SOUTH AUSTRALIAN TREE CLIMBING CHAMPIONSHIPS

Saturday 8th September from 8 am

Waite Arboretum - between the mallee section & the watercourse

ENTRY FREE

Come and watch the experts engage in a series of competitive exercises in the tree tops and appreciate the skill involved in the proper care of trees.

This exciting event is being organised by the South Australian Society of Arboriculture and it is the first time it has been held in the Waite Arboretum.

Events will include:

- speed climb - reaching the highest point in the shortest time
- throw line event - setting the life line to designated gantry points
- branch walk - a life line is used to take the full weight of the climber to enable him / her to walk out on slender twigs
- foot lock event - going up the life line without using the tree, except as an anchor point
- work climb - reaching designated points in the tree
- aerial rescue - of an 'injured climber'

The five highest place getters in the morning's events will go on to compete in the Masters Challenge in the afternoon. The top three winners will then compete in the National Championships in Canberra, with those two winners competing in the the World Championships in the USA.

BYO chair, rug and picnic. A BBQ, tea and coffee will also be available at nominal cost.

TREENET

It is of interest to include here information about TREENET(*Tree and Roadway Experimental and Educational Network).* TREENET is committed to improving the selection, production, installation and maintenance of street trees in the urban environment. The involvement of the Arboretum, is that its Curator Dr Jennifer Gardner is the Executive Officer and co-founder with Chair, David Lawry. The Arboretum is also a trial site where species of potential use as street trees and new cultivars are tested.

It is worthwhile looking up 'arboretum' in a couple of dictionaries:

- Concise Oxford – "A botanical tree-garden."
- Macquarie – "A plot of land where different trees or shrubs are grown for study or popular interest."

The wider vision of TREENET is to develop and maintain a database of trial sites to share and gather data and information in collaboration with interested parties. A TRIAL SITE is an experimental planting of street trees. Data is collected about the site and the trees and this allows each trees performance to be assessed in situ.

The benefits of TREENET include:

- the reduction of cost occurring when inappropriate trees are planted
- improved tree species diversity
- reduced hazards associated with inappropriate species and/or maintenance
- reduced impact on water catchment, infrastructure and utilities.

Editor

NOTICES

Request for Volunteers

The Committee of Arboretum Friends have agreed that we should provide Morning Tea on both the Thursday and Friday and Afternoon Tea on the Thursday only, for participants at the TREENET CONFERENCE. This will assist in providing funds for the Arboretum.

If you are willing to volunteer to help on any one (or more) of these occasions, please ring our President, Mrs Cicely Bungey. Her phone number is 8271 5720.

Request for Newsletter Articles

I, as a sometimes despairing editor, would be most grateful if some of our FRIENDS would write an article for the Newsletter. They could include a drawing! Suggested topics are: "My Memories of the Waite Arboretum in the 1920s or 1930s", "A Report on a Trip to other Arboreta, Botanic Gardens or any tree habitat of interest."

NEW MEMBERS

A warm welcome to our new member Mr John Dann from Moomba.