THE FRIENDS OF THE WAITE ARBORETUM INC.

WAITE
ARBORETUM

NEWSLETTER NO. 69
Spring 2011

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FROM THE PRESIDENT

In this issue of the Newsletter we seem to have a lot of material. This coincides with rather a short report from me.

The hosting of the 12th National Treenet Symposium on the 1st and 2nd of September has been our main event of late. With near perfect weather in contrast to last year's wet and windy conditions the Friday at the Waite was very successful. Jennifer devised a walk for delegates through the Arboretum, titled "Out of Africa", where trees from our homocline region of Southern Africa were featured. Eileen Harvey, one of our Arboretum guides must be commended for the extensive work she did in researching the trees involved. The Arboretum was also needed for demonstrations on "Habitat Trees" and "Image analysis techniques to assess canopy architecture and water status". I must say that I never cease to be impressed and amazed at the extensive range and array of trees growing in this wonderful collection.

Not long before the Treenet event, regrettably, Mark Ziersch tendered his resignation. He had been a tireless and enthusiastic worker and supporter of the Arboretum and the Precinct. The timing was unfortunate, as it left Jennifer with even more to be concerned about with having all in readiness for the Symposium.

Touching on other matters; our membership numbers are steady and our finances remain healthy. The commissions received from the sale of various items including Les and Faye Loffler's tree silhouettes were very welcome.

The recent Teddy Bears' Picnic couldn't be held outside due to wet weather. The next General Meeting is planned for, the afternoon of 16 November with Peter Nicholls taking us on his Cooper Creek trip, titled "Up the Creek and down the Cooper".

The joint end of year wind up, in place of the annual Christmas Party at Urrbrae House, is planned to be a BYO picnic on Sunday 4th December at 5 pm.

Henry Krichauff

IN THE ARBORETUM

FROM THE DIRECTOR

After good winter rains and mild weather, the Arboretum is looking green and lush. Our Texan Buckeye *Ungnadia speciosa* (Family: Sapindaceae)(#260, I9) flowered beautifully in early September. The Red Horse-chestnut *Aesculus x carnea* (#261, H9) is spectacular in bloom at present and in two or three weeks the nearby Californian Buckeye *Aesculus californica* (Family: Hippocastanaceae) (#261A, I9) will be a picture with large racemes of pinkish-white blossoms attracting a cloud of butterflies until early December. The Dry Rainforest Garden has developed well this year. Right now you can see the showy clusters of deep pink flowers of the Rusty or Dwarf Kurrajong *Brachychiton bidwillii* (Family: Sterculiaceae) (#2972A). This is an example of cauliflory in which the flowers arise on the main stem or older branches. The velvety buds are covered with dense, rusty-coloured hairs.

The 2011 Treenet Symposium was a great success with all who attended, though numbers were down from last year. The weather was perfect for the Friday Arboretum workshops and the flowering pears *Pyrus calleryana* in the Urrbrae House gardens were a magnificent display. The guides led groups on an "Out of Africa" walk highlighting African species in the collection which are performing well. Eileen Harvey produced an excellent set of notes based on her research and these will be available on www.treenet.com.au/symposia/102-symposium-2011 along with the rest of the Symposium Proceedings. As in previous years, delegates also enjoyed the popular exhibition in Urrbrae House of Les Loffler's exquisite tree silhouettes, hand-carved with a scroll saw and many made from Arboretum timbers. Les very generously donated a percentage of his sales to the Friends of the Arboretum. A team of highly efficient and friendly volunteers served lunch and morning and afternoon teas, and other volunteers shepherded groups of delegates between the different workshops. Sincere thanks to everyone who assisted with symposium preparations, on the registration desk in the National Wine Centre on Thursday and at The Waite on Friday. The symposium would not be possible without your sterling efforts.

Several Victorian growers gave presentations and at the end of the symposium Humphris Nursery and Metro Trees donated their specimens which were on display. These are now planted out in addition to the 43 species mentioned in the autumn newsletter. From Humphris some exciting new grafted cultivars of flowering gums 'Mini Orange' and 'Mini Red' which grow to 2m x 2m; *Corymbia ficifolia* 'Baby Scarlet' and 'Baby Orange' 3 m x 3 m; and 'Wildfire', 'Calypso', 'Fairy Floss' and 'Snowflake' 6 m x 4 m as well as a compact form of Lemon-scented gum *Corymbia citriodora* 'Scentuous'. These cultivars should provide a colourful display in the high profile area northwest of the Waterbird Pond. Two Brachychiton hybrid cultivars – *B. populneus x discolor* 'Griffith Pink' and *B. populneus x acerifolius* Bella Pink™ were planted in the Brachychiton collection on the north side of Elm Avenue. Metro Trees donated two Willowmore Cedar *Widdringtonia schwartzii* (family Cupressaceae) from Africa, two Bronze Loquat *Eriobotrya deflexa* to replace the specimen lost in the 2006 fire and a Chilean Wine Palm *Jubaea chilensis*.

The Gardens of Urrbrae House have never looked better with a breath-taking display of roses this spring thanks to the dedicated pruning efforts of the volunteers and mild weather. Recent plantings by the Mediterranean Garden Society in the Garden of Discovery are all thriving especially the striking display of kangaroo paws in flower at present.

Since the last newsletter four more teak bench seats have been donated: the Bailey and Marmion seats in the Urrbrae House gardens and the Findlay and Schmidt seats in the Arboretum, bringing the total for this year to six. The late Prof. Otto Schmidt was an insect molecular biologist at The Waite for 20 years and he and his wife Traudel were foundation members of the Friends of the Arboretum. Seats encourage more people, especially staff and students, to visit the Arboretum and gardens, linger and enjoy.

Last year the fungal pathogen Australian Honey Fungus *Armillaria luteobubalina* was discovered in the Arboretum infecting one of the three Blue Oaks *Quercus douglasii*. The three trees were treated by

Arbortech Tree Services in spring 2010 with soil injection and surface spraying the area and canopies with TRI-D25, a non-toxic fungal inoculant of two species of parasitic fungi which can suppress and potentially kill the *Armillaria* in the right conditions. A follow up soil injection has just been undertaken this spring and there will be ongoing monitoring next autumn.

In July groundsperson Mark Ziersch resigned his position. His six and a half years of enthusiastic hard work and commitment to the Arboretum is acknowledged and I wish him well in his future endeavours. I expect to fill this position in the near future.

Plans for the Arboretum equipment storage shed are proceeding through the City of Mitcham with Planning Approval already granted and documentation submitted to Council for Building Approval. A contract has been let and construction can commence as soon as Development Approval is received. I am hoping the shed will be completed before Christmas to provide secure storage for the Arboretum vehicle, front end loader, ride-on mower, tools and equipment. I am grateful to The Friends of the Arboretum committee for recently approving a grant of $5,000 for the purchase of necessary new equipment including a brushcutter, power tools, pole pruner and cartage tank for watering new plantings.

Observant visitors to the Mallee block may have noticed coloured tags on *Eucalyptus incrassata* #1816A. Prof. Avi Shmida, botanist and ecologist from the Hebrew University, Jerusalem is spending his sabbatical at the Waite with Dr Katja Hogendoorn (who established the Blue-banded Bee wall in the Arboretum). Prof. Shmida's research in the Arboretum involves daily monitoring of the flower number, flower longevity, changing flower colour, nectar production and fruit set in relation to pollinator behaviour and floral evolution. The Australian Myrtaceae like eucalypts and melaleucas with their showy stamens have a very different floral shape/display from the European flowers he has studied. I hope a future newsletter will contain a report on his fascinating project.

Red Horse-chestnut *Aesculus* x *carnea*

Aesculus x *carnea* flowers 13.10.11

Texan / Mexican Buckeye
Ungnadia speciosa

Flowers and fruits 7.9.11

Rusty Kurrajong *Brachychiton bidwillii*

B. bidwillii trunk showing cauliflory

Text and photographs Jennifer Gardner

A FIRST FLOWERING IN AUSTRALIA AND NO ONE SAW IT

The Dragon tree grows well in Adelaide and the Arboretum has several fine trees. *Dracaena draco* was named after the modern European discovery of the Canary Islands and a few plants were soon growing in Portugal. It was found that it also occurred on the Cape Verde Islands, and Madeira as well as the Canary Islands.

Early in 1996, A. Benabid from Morocco and F. Cusin from France were prospecting in the western Part of the Moroccan Anti Atlas mountains in the Anezi region near the coast when they discovered several thousand plants of *Dracaena* soon to be distinguished as *D. draco* subspecies *ajgal* (the local name). The plants grew on two quartzite massives with difficult access. The newly found area had a remarkable set of endemic plants. There is little doubt that the steep cliff faces had protected the plants from eradication by goats. The new *Dracaena* was the first discovery of *D. draco* in Africa. The new discovery was published in 1997 and soon Dr F.E. Beyhl and H. Spies from Germany visited the site, photographed the trees and gathered some seeds. Dr Beyhl generously sent a few seeds for our *Dracaena* collection. The seeds germinated and two were planted in the Arboretum, tree #1712 in 2001 and tree #1717 in 2004. A third tree was donated to the Adelaide Botanic Garden. All have grown steadily, are densely leaved and have noticeably stout trunks. Tree #1712 flowered (probably in December 2010). Most regrettably I missed this and so did not see the characters of the flowers which were reported to be a little different from the type species.

By March 2011, the tree had a large crop of numerous fruits just beginning to ripen. The inflorescence was large and terminal and must have had a great number of flowers. The remaining two trees have not yet flowered.

The tree in the Botanic Garden is growing well and is now 2 m tall. The second tree in the Arboretum, planted a little later (2004) reflects its later planting.

It will be interesting to see how distinctive this sub species proves to be.

If you wish to go and see it, it is in the far southwest corner of the Arboretum, adjacent to the fence.

David Symon

TWELFTH TREENET SYMPOSIUM 2011

Presentations at the Waite Arboretum: Friday, September 2 - 9am to 3 pm.
A guide's personal account of the demonstrations and presentations.

1st stop: TREENET Gutter Inlet and 'Black Hole' cistern water detention system.

The latest technical developments in TREENET street-tree run-off collection and watering system [Water Sensitive Urban Design WSUD] were demonstrated by David Lawry in a short section of Claremont Avenue installed with 4 TREENET® run-off inlets retrofitted (in this instance) into the kerb between two established trees. These feed into a 76L capacity 'Blackhole' detention cistern filled with special colloidal, carbon-enriched low density (1t/m³) filler. A tubular insert into the cistern captures granular road-wash in the first flush of street run-off and is removed before better quality water is stored and gradually released to nearby tree roots encouraged by it to develop. Two useful pictorial handouts and a full size clear plastic model were used to show its action. Currently the initial road dirt material is being collected and analysed to characterize its nature. A team from Mitcham Council ran a sample gutter flow from a water truck, for the sump, and almost total use of recycled materials was emphasized. Cost including installation will be ~$300 per inlet, comparable with current costs to councils of street tree maintenance. Another aspect of the investigation is the need to estimate tree water use and check how much regular watering is reduced by the cisterns. Water use is a passive process but when active is the time in daylight when photosynthesis and growth takes place. It is determined by the ease of extracting water from the root zone and how much 'pull' is exerted by the air. Tim Johnson of Mitcham Council demonstrated a device for measuring the wilting point of living leaves from street tree canopy by finding out what stress (tension) is on a representative leaf at a particular time. The result can be expressed in mL/m^2 of leaf area / hour. This is a figure that can be translated into transpiration use as L/m^2 of ground occupied by each tree and means scheduling of watering routines can be more efficient.

2nd stop: Measurement of tree canopy architecture and water status:

Dr Sigfredo Fuentes at the Waite Institute demonstrated some recently low cost developments in a task that has been intrinsically difficult because of the large volume of crop plants. His devices had been designed for use in vineyards. The additional sheer bulk of trees and difficulty of having adequate samples had been a major drawback. Sensory devices have been developed and the first were cumbersome and very expensive but recently miniature digital cameras costing only a few hundreds of dollars have been used. The breakthrough here relies on what are usually seen as 'Boys' Toys', radio-controlled model vehicles making a contribution to serious scientific data collection. Demonstrated here were a digital camera fitted to a model ATV (about 1:25 scale), an electric 4x4 all-terrain vehicle taking a continuous video record of a vertical view of the changes in leaf arrangements, branch by branch over a scanning track. It resulted in images with intricate detail of the amount of sky blocked by the tree canopy. The ATV was able to cross the detritus of leaves and twigs usually found beneath mature trees although a gyroscopic mounting to keep the camera truly horizontal would be a useful feature in woodland. The second device was a model helicopter (about 1:50 scale) also fitted with a miniature digital camera and flown on radio-controlled circuits and trajectories. Both devices yielded video data and records were shown computed using laptop or tablet computers into useful imagery and graphic output.

These devices permitted estimates of Leaf Area Index (LAI), area of leaves per unit area of ground, and also measurement of external leaf temperatures. Both can be used to determine tree water use and partial root-zone drying, thus linking back to David Lawry's system for root-zone water enhancement by capturing local run-off and urban tree care.

3rd stop: Optional choice of Workshop Sessions: The Urban Nursery Industry: New traits - selection, development and breeding.

The Charles Hawker Lecture Theatre. (A very 'meaty' and enjoyable 40 minutes!)

A. Peter May and John Fitzgibbon presented results of 2nd-generation breeding at 'Metro' Trees (Victoria). They concentrate on selection to produce more refined stock to replace existing semi-wild' material used, not always well-adapted visually or physiologically to many urban conditions. Recent persistent droughts in SE Australia had added emphasis to thinking on how to incorporate drought tolerance. Climate change scenarios had shown that 'real-life' changes were not likely to be more than those recently operating ecologically-speaking in an area some 200 - 300km distant. Selectors were looking towards homoclimes to the Australian regions for ideas. In fact about half of Jennifer Gardner's list of 20 best-performing species at the Waite Arboretum were of South African origin (introduced in the 1950s and part of the Homoclime selection).
B. Traditional clonal propagation with some promising new varieties was illustrated with beautiful slides. These are intrinsically robust but can be selected for desirable floral colour, crown shape and height. On quality grounds there is a need to find a practical way to define 'robustness' especially with respect to critical *local* ecological conditions (e.g. impact of drainage lines, compaction due to density of foot traffic, sealed areas, soil tolerance, etc.). Micropropagation was likely to be a benefit but needed more R & D. Resistance to root pathogens was important because fungi like *Phytophthora* spp. could be introduced in mud on mechanical equipment or be favoured by disrupted urban drainage.
C. Mike Tesch from Humphris Nurseries in NSW, related their experience and how they apply strict controls to tasks, grow their own rootstocks, do their own propagation and training, to give good form structure (compact or fastigate for footpaths) coupled with attractive flowers or low-fruiting. Cooperating with R&D into induced hybrids and suitable rootstocks with Kate Delaporte at the University of Adelaide School of Agriculture Food & Wine, David Beardshall and Philip Vaughn. Emphasized the need to preserve specimen trees with historic significance.
D. Finally a stirring report by Robert Prince of Nursery and Garden Industry Australia (NGIA) on the theme of 'What's happening in the Urban Forest", aka 'Managing the Urban Forest in a 100-year Timeframe'. He pointed out that 89% of people live in urban areas: cities consume 75% of all energy supplied, 60% of all water consumed. However, the urban forest does not 'rate' in 'Green' considerations.

- 'Space Wars' were becoming endemic: space available for planting trees is being reduced, first by new subdivision into smaller plots and then filling smaller blocks with possibly-smaller houses, but ones which fill most of the space. If infill housing on redevelopment of older blocks is included the result was a drastic reduction in planned space for trees in commercial and domestic sites.
- However, 89% of people said they wanted trees in their 'environment' but these should be 'paid for by local government, not themselves'.
- 81% of people currently have a tree of some sort in their front or backyard, even if it's only in a pot.

In 2007 the 'green' market was driven by consideration of drought and water restrictions; in 2010 this market had switched to 'climate change' (although in the 3 years it had dropped from 3rd to 16th place in people's priorities). The same survey had shown:

- 47% of people 'said climate change was due to CO_2 pollution';
- 37% 'said we should reduce C in our body';
- 44% 'thought food and drink is safer without C or CO_2 in them'.

E. In the face of this amount of ignorance there is a need to communicate the benefits of trees to consumers, namely, 'improve your plant/life balance' - care of www.facebook.com launched in March 2011. It begins with the suggestion that 'you put a plant on your desk'. There are 6 projects including the 'Green Cities' theme. It's already up and running in Europe, N. America, Japan, Singapore and due to start in China.
   - NGIA is supporting R&D focused on quality of products for the urban forest;
   - CSIRO – Mitigation of heat stress in urban vegetation project,
   - UNSW – Carbon and pollution mitigation studies, and
   - the 'iTree' Coordination Group is using an Australianized 'iTree Canopy' tool; it is for tree management, optimizing water collection and use linked to Google Earth.

4th stop: Habitat Trees.

Phil and Pat Kenyon, supported by ecologist-zoologist James Smith, showed advances gained in their experience of providing tree hollow habitat for dependent birds, bats and quadrupeds. Drastic removal of medium to large trees by the original colonists and the very long times before tree hollows appear on young trees growing to maturity has meant that the urban area has a critical scarcity. This initiative aims to short-circuit the natural process to aid threatened hollow-dwelling species now and conserve their numbers. It provides artificial hollows in urban areas where suitably-large trees and fallen logs are scarce. Essentially, work is now more-strongly focused, specializing in ways species needs and position in an ecosystem can be met. These centred around a check list of Hollow dimensions for five groups of animals provided by James Smith: Pardalotes, Bats, small mammals and birds, medium ditto; Possums, small ducks and larger birds (Owls, Kookaburra, Cockatoos). It provides a tabular guide to 6 basic needs for viable breeding and protection from predators, namely, branch/log placement and orientation (vertical or horizontal and species-preference orientation relatively cool or warm); cut shape - height, width and depth (range from 10 to 90 cm); size and shape of entrance hole, circular or rectangular (range 1.2-1.5 for tiny microbats, to 26x18 cm for owls and cockatoos.); minimum height for hollow above ground (range 1 to 10m). Practical demonstrations were made in the mid-crown of large gum trees and ground-based habitat (large diameter logs in or beside a waterway).

- As a tree-ecologist I was somewhat concerned at an apparent lack of appreciation on the part of zoologists that trees channel water, sap and nutrients parallel to the long axis of trunks and branches and this out on their periphery (in the bast/phloem and sapwood.) Chain-sawing to shape artificial hollows severs these flows permanently. Whilst the 'slab piece' with the entrance hole is replaced over the cut hollow shaped to prevent rain penetration and potential rot fungi, it does not restore the disrupted flow over a significant section of the circumference, nor does it restore the strength needed to forestall breakage in strong winds that depends on the girder principle. For this reason I would like to see the amount of artificial tree-hollow installation be carefully considered in relict woodland.

- Further, I would not recommend its further use in Waite Arboretum where the number of specimens of each species is often limited to one or just three; seven is the maximum for Algerian oak. The risk of breakage and loss of crown is too high with such low numbers.

5th Stop: "Out of Africa" at tour of specimen species held in the Arboretum.

The theme was that species native to one of the global Homoclimes (sharing the same type of climate) also enjoyed by W and SE Australia would offer alternatives for urban planting to the native and 'the usual suspects'. This selection of South African candidates of suitable stature, many with singular foliage character or with attractive flowers, was made jointly by Jennifer Gardner and Eileen Harvey one of the Guides. Eileen also researched the definitive notes. Other guides were rostered to conduct each of the four sets of symposium participants. Two tours ran NW – SE zigzagging the long axis of the Arboretum and two in the reverse direction. Fourteen stops were included with two concentrations of five and six species giving a bit of a breather for it was a fair trek to complete in 40 minutes. This was the last of the day for writer's set and was linked to include the guide's role. Copies of the short and long versions of the notes, the latter with excellent photographs can be viewed or copies obtained from the Treenet website.

Robert Boardman

Callery Pear *Pyrus calleryana*

Eucalyptus pyriformis x *youngiana*

Photographs byJennifer Gardner 6.9.11

PALMS AND CYCADS

The Palm and Cycad Society in Adelaide has been generous with donations of plants and time for the plantings along the watercourse in the Arboretum. The old palm plantation just above the playing field represents the palms commonly available here until the end of WWII. Later there has been a boom of interest in palms and in the species available. The Australian species have been intensively studied (as have the cycads). There are now some notable collections, mostly in Eastern Australia. The palm and cycad collection in the Arboretum has matured enough now to look at some of the newer plants still not widely grown in Adelaide. One of my favourites is *Bismarkia nobilis* (# 3015, 3015 B, # 3013 – all K 12), palm from Madagadcar with massive leaves that are strikingly grey-white. There is a fine plant in the old glasshouse at the Botanic Garden. Ours had a slow start but is now growing well. It is near the northern end of the plantings. Our first plant has not established well; it is leaning badly and has a doubtful future. However, the second, much smaller, looks far more promising.

Somewhat like *Bismarkia* but not so massive is *Brahea armata* Blue Hesper Palm from California (#390 – E 11; #3003 A & B – K11). This, too, is grey-green but less so than *Bismarkia*. It is doing well and may be seen in some old gardens in Adelaide.

A unique palm with a triangular trunk *Dypsis decipiens* (replacement for the first three which were stolen) is doing well. Also flourishing is *Trithrinax brasiliensis* (#3063 A & B, #3057 A & B – J 120). It has rigid, dark green leaves but may never be well received because of the long spines on the trunk. However, few people embrace their palm trunks and its sturdy habit may endear it to keen gardeners.

David E. Symon

POT POURRI

BAROSSA OLD ROSE REPOSITORY

Take time to smell the roses on your next trip to the Barossa, by going to Hannay Crescent, Angaston where you will find a garden of locally grown, pre-loved and often forgotten roses brought together in one place for the public to appreciate some of the roses that our forbears grew.

The roses have been grown from cuttings taken from the "mother plants" which may have been in cemeteries, along roadsides or in the gardens of old homesteads and cottages.

The Barossa Rose Repository was established in 2003 and is cared for by the members of the Heritage Roses in Australia Barossa and Beyond Regional Group.

The aim of this group is to encourage others to appreciate and grow some of the older types of roses-available through specialist rose nurseries or group members and to educate the public about the importance of preserving these treasures for future generations.

Heritage Roses in Australia Inc. has 20 regional groups across the country and provides regular newsletters of events and old rose information.

The roses are at their best in late October.

You can obtain information from
Barossa and Beyond Regional Group
Heritage Roses in Australia Inc.
P.O. Box 568
ANGASTON SA 5353
Telephone Pat Toolan 8564 8286

Beth Johnstone

FORTHCOMING EVENTS

Wednesday 16 November: General Meeting 2.30 - 400 p.m.:Guest Speaker Peter Nicholls will present "Up the Creek – Down the Cooper", a record of a Rex Ellis led expedition to the mouth of Cooper Creek into Lake Eyre.

Sunday 4 December: The Combined Friends' Groups will hold their Christmas function the in the form of a BYO picnic in the Urrbrae House gardens at 5 p.m. The Onkaparinga Harmony Chorus will sing Christmas songs from 5 30 p.m.

Saturday 25 Feb – Sun 5 March 2012: SA Basketry Society Exhibition, "Morphing Nature" – opening Friday 24 February. Fringe Event

WHAT'S ON AT URRBRAE HOUSE

Monday 24 October: Twilight Concert presented by Vivente Music. 6 p.m. - Refreshments from 5.30 p.m. Sublime Sonatas with pianist David Lockett and Minas Berberyan. Bookings essential – Vivente Music 8296 6851 or vivantemusic@yahoo.com.au

Sunday 11 December. 'Medieval Christmas'. 3 p.m. Afternoon concert presented by Friends of Urrbrae House with Lumina Vocal Ensemble. Bookings essential: please contact peggy.rowe@ bigpond.com

Samuel Joshua Jacobs AO QC LLB D. Univ. (Adel.)

We record with regret the death of former Supreme Court Judge, The Hon. Dr Samuel Jacobs, a Foundation member of the Friends of the Waite Arboretum and our inaugural and long-standing Patron.

Christmas presents suggestions

A gift membership to the Friends of the Waite Arboretum makes an ideal Christmas present
or
choose from the ideas below and support the Waite Arboretum at the same time.

All items are available from the Arboretum Office (8313 7405) and at the Friends Christmas party.

Jewellery

Exquisite sterling silver jewellery by Pat Hagan including the Arboretum brooch (Dragon's Blood Tree), earrings and many more. All are beautifully handcrafted and feature Australian plants and animals. They make an ideal gift for overseas friends and family. Prices $30 - $120.

Greeting cards

Colourful Beryl Martin greeting cards $5 ea or your choice of 5 for $22.50.

Books

"Eucalypts of South Australia" by Dean Nicolle $25
"Melaleucas – A Field and Garden Guide" 2nd ed. by Ivan Holliday $32
"Gardener's Companion to Eucalypts" by Ivan Holliday & Geoffrey Watson $30

Arboretum T-shirts $16

We are still seeking a Publicity Officer. **Please help if you can. Call Jennifer on 8313 7405**.