

The Friends of The Australian Arid Lands Botanic Garden

Port Augusta Incorporated

Newsletter



February 2013

President's Message

John Zwar presenting Life membership pins to Friends



My best wishes to all Friends and supporters for the New Year. We look forward to a productive year at the Garden and we are off to a good start! Shirley Mundy has been busy applying for grant funding and has been successful in gaining two grants from The Premier's Community Initiatives fund, one for \$1,000 to provide notice boards in the Nursery, and the other for \$1,600 to provide a sink and associated plumbing and drainage in the Nursery. Well done Shirley!

On another winning note I report with pleasure that the Friends won the Sustainability Section in the state wide Advantage SA Awards announced at a presentation dinner in Adelaide in December. Chris Nayda and I attended and accepted the award on behalf of The Friends. Thanks Chris for preparing the submission. A separate article in this Newsletter gives more detail.

It was my pleasure also to confer Life Membership on six long term and hard working Friends at our last meeting. Recipients were From left, Peter Hall, Chris Nayda, Peter Langdon, Ronda Hall, Geraldine Davis and Shirley Mundy. All have been very involved in a wide range of Friends activities and have occupied various committee positions and had leadership roles over many years. Congratulations to each of the new and very deserving Life Members!



John Zwar and Chris Nayda being presented with award by Mr Paul Shaw Director of marketing and sales at the Intercontinental Hotel Adelaide.

Port Augusta has had some extremely hot days with temperatures above 47 degrees, but the Garden looks surprisingly good and demonstrates the value of growing tough arid zone native species. Naturally, numbers arriving for guided tours drop off in summer but there are still some, including visitors from overseas.

A new waste water treatment plant has been installed to treat waste water from the Visitor Interpretive Centre and treated water is used to irrigate the Eremophila Garden. Installation of irrigation has been undertaken in the courtyard re-development.

Recently I visited our Foundation Secretary, Pauline Schiller, in Adelaide. Pauline worked very hard in the early years and along with her late husband, Wally who was treasurer, helped establish the Friends group on a firm foundation. Although not enjoying good health, Pauline was keen to hear how the Garden is progressing and keeps in touch via the Newsletter.

Enjoy this Newsletter and we look forward to seeing some of you at the Garden in the coming year. For those unable to visit, your support through membership of the Friends is always greatly appreciated.

Regards to all, John Zwar - President

ADVANTAGE SA REGIONAL FINAL
InterContinental Adelaide Sustainability Award:

Winner: Friends of the Australian Arid Lands Botanic Garden Port Augusta, Far North

Other Regional finalists of the Sustainability Award:

- Kalleske Wines, Barossa;
- Kangaroo Island Pure Grain, Hills and Coasts;
- Wild 'n' Fresh, Murraylands and Riverland;
- Spencer Gulf & West Coast Prawn Fishermen's Association, Whyalla and Eyre Peninsula;
- Savannah Lamb, Yorke and Mid North

Next Meeting

The next meeting of the Friends of the Australian Arid Lands Botanic Garden, Port Augusta Inc. will be held on the 23rd of February at 1pm in the WMC Herbarium Meeting Room at the AALBG Visitor's Centre.

Guest Speaker is Lorraine Edmunds talking about the advances made in eradicating Prickly Pear and other invasive weeds.

TOPIC: Ten Years On - Controlling invasive cactus in the Flinders Ranges

Lorraine Edmunds has spent the last ten years working to control wheel cactus and other invasive weeds in South Australia's iconic Flinders Ranges. A former NPWSA Senior Ranger and a long-term Environmental Officer at Arkaroola Wilderness Sanctuary, Lorraine has presented to the Friends of AALBG in the past and returns to update us about her ongoing weed control work.

In 2004, nine pastoralists in the Blinman area asked Lorraine to work with them to control wheel cactus (*Opuntia robusta*), which was spreading across their properties. They formed the Blinman-Parachilna Pest Plant Control Group and became the first community group in Australia to successfully advocate for, and receive, government funding to undertake landscape-scale control of the highly invasive cactus. Working collaboratively for ten years, landholders, contractors, volunteers and scientists achieved a significant knockdown across more than 400 km² of rugged terrain in the central Flinders Ranges. But the big rains of 2010 and 2011 have triggered widespread wheel cactus recruitment across the project area. Delivering on-going control across such a large area, much of which is difficult to access, continues to be huge challenge for the group.

In her presentation, Lorraine will explore recent initiatives including an expanded role for volunteers, cliff-face control in Parachilna Gorge, cochineal trials on Gum Creek Station, and research and communication networks like the Australian Invasive Cacti Network. She will also profile the activities of the Arkaroola Landcare Group, a small group of volunteers who formed in 2009 to control an outbreak of Jumping cholla (*Cylindropuntia prolifera*), in the hills around Arkaroola Village in the Northern Flinders Ranges.

Lorraine has presented papers at two international weed conferences. The group's work has been recognized with several national and state awards.

Reptiles and Amphibians of the AALBG

The reptiles and amphibians found at the Australian Arid Lands Botanic Garden were recorded over the years, firstly by a short survey done in February 1991, by persons unknown. This survey comprised of traversing the site on foot, observing and recording sightings of vertebrates. A line of pit fall traps was also set for one week in the chenopod plain and in the sand dunes area. Five mammal species were recorded, eleven reptile species and twenty one bird species.

THE REPTILES RECORDED WERE:

Gould's Goanna	<i>Varanus gouldii</i>
Bearded Dragon	<i>Pogona vitticeps</i>
Painted Dragon	<i>Ctenophorus pictus</i>
Sleepy Lizard	
<i>Trachydosaurus rugosus = (Tiliqua rugosa aspera)</i>	
Striped Skink	<i>Ctenotus regius</i>
Striped Skink	<i>Ctenotus brooksi = (Ctenotus orientalis)</i>
Grey's Skink	<i>Menetia greyii</i>
Snake-eyed Skink	<i>Morethia adelaidensis</i>
Broad-banded Sandswimmer	<i>Eremiascincus richardsonii</i>
Smooth Knob-tailed Gecko	<i>Nephrurus levis</i>
Legless Lizard	<i>Delma nasuta = (Delma butleri)</i>

As you can see all reptiles recorded at this time are natives and some of their scientific names have also changed as can be seen in following list.

Since development work has commenced at the site more reptiles and amphibians have been observed and recorded. The common Bynoe's Gecko, Western Brown Snake and Mulga Snake, were of course noted as well as the Trilling Frog, the first amphibian recorded, which also appears on the next list of animals printed for the site. This list has 26 species recorded on it, 15 of them were new opportunistic records.

Some were found whilst digging trenches or planting plants in the garden. This was the case for finding the Trilling Frog, a Slider, Blind Snakes and Yellow-faced Whip Snake. Others were found when removing plants, dead wood or litter, such as the four new Gecko's, another Slider, and Mallee Black-headed Snake. Some were found just moving around in the garden area. These include the Western Brown Snake, Mulga Snake, Striped Skinks and Western Blue Tongue lizard. A Thorny Devil was picked up on the road after it had been run over and no others seen for years later, but recently another one was found in the garden.

A biological survey was done over a period of five days and four nights by me in March, 2006. Two pit fall trap lines were used each consisting of six pits, placed at ten metre intervals and a sixty metre fly wire fence connecting the pits. Fifteen Elliot traps and two cage traps were laid around the pit lines. A trap line was placed in the chenopod plain and another in the sandhills. Manual searching for animals and spotlighting was undertaken on three days.

From this survey only twelve reptile species were found, but one of them was new to the site. The Ringed Brown Snake and one amphibian, the Meeowing Frog or Painted Frog. In the latest literature the Western Brown Snake has been split into three species, the Northern Brown Snake, which retains the original scientific name. The Western Brown Snake, which has a new scientific name and the Strap-snouted Brown Snake. Both of the latter species are found at the AALBG.

Smooth Knob-tailed Gecko (*Nephrurus levis*)



THE INFORMATION HAS BEEN SOURCED FROM THESE BOOKS:

A complete guide to Reptiles of Australia, 3rd edition
Steve Wilson and Gerry Swan

Reptiles & Amphibians of Australia, 5th edition
Harold Cogger

Frogs of South Australia, 3rd edition
Michael Tyler and Steven Walker

I hope you found this article of interest,
B. Haase

P.S. Following on from my article in a previous newsletter about mammals in the A.A.L.B.G., I can inform readers that a Mitchell's Hopping Mouse was caught in the nursery and an Echidna has been seen several times in the garden.

THE AALBG REPTILES AND AMPHIBIANS LIST NOW CONSISTS OF:

AMPHIBIANS

MYOBATRACHIDAE

Meeowing Frog, Painted Frog	<i>Neobatrachus pictus</i>
Trilling Frog	<i>Neobatrachus sudelli</i>

REPTILES

GEKKONIDAE

Southern Rock Dtella	<i>Gehyra lazelli</i>
Bynoe's Gecko	<i>Heteronotia binoei</i>
Beaded Gecko	<i>Lucasium damaeum</i>
Smooth Knob-tailed Gecko	<i>Nephrurus levis levis</i>

DIPLODACTYLIDAE

Southern Spiny-tailed Gecko	<i>Strophurus intermedius</i>
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PYGOPODIDAE

Legless Lizard	<i>Delma butleri</i>
Legless Lizard	<i>Delma mollerii</i>

SCINCIDAE

Striped Skink	<i>Ctenotus leae</i>
Saltbush Ctenotus	<i>Ctenotus olympicus</i>
Spotted Ctenotus	<i>Ctenotus orientalis</i>
Royal Ctenotus	<i>Ctenotus regius</i>
Sandplain Ctenotus	<i>Ctenotus schomburgkii</i>
Broad Banded Sand-swimmer	<i>Eremiascincus richardsonii</i>
Eastern Two-toed Slider	<i>Lerista labialis</i>
Three-toed Slider	<i>Lerista timida</i>
Grey's Skink	<i>Menetia greyii</i>
Snake-eyed Skink	<i>Morethia adelaidensis</i>
Western Blue Tongue	<i>Tiliqua occipitalis</i>
Sleepy Lizard, Shingleback	<i>Tiliqua rugosa aspera</i>

AGAMIDAE

Painted Dragon	<i>Ctenophorus pictus</i>
Thorny Devil	<i>Moloch horridus</i>
Central Bearded Dragon	<i>Pogona vitticeps</i>

VARANIDAE

Sand Goanna, Gould's Goanna	<i>Varanus gouldii</i>
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TYPHLOPIDAE

Dark Spined Blind Snake	<i>Ramphotyphlops bicolor</i>
Prong-snouted Blind Snake	<i>Ramphotyphlops bituberculatus</i>

ELAPIDAE

Yellow-faced Whip Snake	<i>Demansia psammophis cupreiceps</i>
Mallee Black-headed Snake	<i>Parasuta spectabilis spectabilis</i>
Mulga Snake, King Brown Snake	<i>Pseudochis australis</i>
Strap-snouted Brown Snake	<i>Pseudonaja aspidorhyncha</i>
Western Brown Snake	<i>Pseudonaja mengdeni</i>
Ringed Brown Snake	<i>Pseudonaja modesta</i>

The area north and west of the garden site is a conservation area and used for training of TAFE students and some biological surveys have been done there in the past. Other reptile species that have been found there include four species which are possibly in the AALBG they are:

Desert Skink	<i>Egernia inornata = (Liopholis inornata)</i>
Interior Blind Snake	<i>Ramphotyphlops endoterus</i>
Southern Desert Banded Snake	<i>Simoselaps bertholdi</i>
Eastern Bandy Bandy	<i>Vermicella annulata</i>



Mulga Snake (Pseudechis australis)



Southern Spiny-tailed Gecko (Strophurus intermedius)



Sleepy Lizard (Tiliqua rugosa aspera)



Broad-banded Sandswimmer (Eremiascincus richardsonii)



Striped Skink (Ctenotus regius)



Western Blue Tongue (Tiliqua occipitalis)



Bearded Dragon (Pogona vitticeps)



Brown snake with bands



Gould's Goanna (Varanus gouldii)



Three-toed Slider (Lerista timida)



Yellow-faced Whip Snake (Demansia psammophis cupreiceps)



Southern Rock Dtella (Gehyra lazelli)

Response to and recovery from heat stress: thermal tolerance of Australian arid land vegetation



Ronda Hall from the Friends of the AALBG / A series of temperature treatments in progress



*A close-up of *Olearia ferrissii* under the CF probe.*

By far the largest part of Australia is desert or semi-arid and, contrary to belief, it is a landscape filled with some of this nation's most amazing and treasured biota. It is this unique biotic diversity and the beautiful landscape of arid Australia that captured my attention and encouraged me to pursue a PhD on arid vegetation.

Some may already know of the research that I am currently undertaking on site at the AALBG but for those who do not, I would like to briefly introduce myself. In early 2012 I commenced my postgraduate studies at the University of Technology, Sydney, investigating how Australian arid plants respond to and recover from heat stress. The ability to tolerate high temperatures in arid environments is vital for plants, which cannot escape the heat the way animals can.

This is especially important as it is predicted that extreme high temperature events will increase in both frequency and magnitude, particularly in central and south-eastern arid Australia. As a consequence, damaging high temperature events are also likely to increase, with the potential to change vegetation communities. Although we know that leaf temperatures above a certain threshold will lead to physiological stress and potentially a decline in plant health, research regarding heat tolerance and recovery of Australian native plants has not been conducted.

Such insight can help establish scientifically informed conservation and agricultural management efforts targeting the protection of species or guilds that are most vulnerable during seasonal high temperature extremes. Currently, we have no ability to predict which species are likely to decline nor, by inference, how landscapes will shift in the future, both for Australia and globally.

As part of my PhD research, I am investigating thermal tolerance in a wide range of Australian southern arid zone plant species. I am also examining whether different species have different rates of recovery from heat stress, something that is not currently known, even at a global scale. Knowledge of how long plants need to recover from heat stress is important, not only to ensure ongoing survival but also because the recovery process requires a period of time during which plants cannot photosynthesise (grow).

The work I am doing at the AALBG involves subjecting the leaves of different species to a range of heat stress treatments and then measuring the health of the leaf tissue. In addressing the question of species thermal tolerance in arid and semi-arid Australia, my research is therefore fundamental to our understanding of future vegetation function and survival in these vast and ecologically important regions.

I am very grateful to the Port Augusta City Council for providing funding and accommodation, the AALBG staff for kindly letting me commandeer the nursery office and transforming it into a laboratory for the duration of my visits and lastly, the Friends of the AALBG for their ongoing support and enthusiasm. In particular, I would like to thank Ronda Hall for her much appreciated assistance. On my recent trip to the Gardens, Ronda kept me company each day and has now become a professional scribe and time-keeper, an invaluable member of the research team.

*Ellen Curtis - PhD Candidate
University of Technology, Sydney*



Assessing leaf health with a chlorophyll fluorometer

Contacts

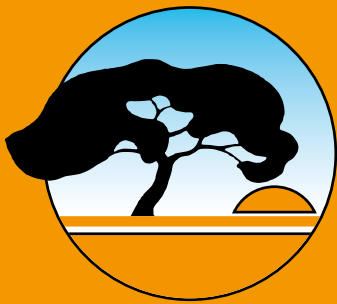
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Friends of The Australian Arid Lands Botanic Garden

Port Augusta Incorporated

Newsletter



May 2013

President's Message



Work at the Garden has continued apace since my last report and the Friends have been actively involved in this. Friends have helped Garden staff at plant sales at events in Laura, Adelaide, Clare and Kadina, and also assisted at the Garden's stall at a very successful market day in the Port Augusta CBD where our activities and membership were promoted. Our members have helped complete the planting in the Circular Courtyard which looks most impressive, with large plantings of flowering Sturt Peas which attract much favourable comment.

Donations for the Bird Book, published last year total \$3,414 which will go towards a reprint. Some members have also been busy fixing drip irrigation systems and replanting in the car park surrounds and this work continues along with weeding and pruning.

The Friends successfully applied for two small grants which have paid for notice boards, a new sink and plumbing in the nursery and have applied for a BHP Billiton Community Grant to help fund "Listening Posts" in the Garden, which will enable visitors to undertake self guided tours and hear about various aspects of the Garden and plant collection in several locations in any of five languages. Besides regular guided tours which are increasing again after the hot summer months our tour guides have 8 school groups coming from Adelaide for bush food tours during May.

Ronda Hall spends long hours assisting with research on heat stress tolerance of various species when researchers from a university in Sydney make regular visits as this ongoing research project continues. We will hear more about this at our AGM later in the year. We are also working with Council staff, planning a Spring Festival at the Garden to be held on September 29th.

Friend and well known author on books relating to native plants, Neville Bonney is currently writing a major work on "Quandongs", *Santalum accuminatum* and we are working on a launch of this book at the Garden in October. Recently the AALBG Strategic Management Committee met and Friends efforts and involvement were applauded and recognised by City Council representatives which was most encouraging.

We look forward to welcoming members of The Playford Trust to our next meeting to present a scholarship grant of \$5,000 to AALBG Trainee Ryan Hayward who was also recently awarded the title of Apprentice/Trainee of the year for the Port Augusta Region. We will also hear more about the role of the Trust and the life of horticulturist and former premier Sir Thomas Playford.

Until next time, John Zwar, President

Photo: Entrance path AALBG

Next Meeting



Prof. Don Bursill



Hon. Dean Brown AO

The next meeting of the Friends of the Australian Arid Lands Botanic Garden Port Augusta Inc. will be held on **Saturday the 25th May at 1pm** in the WMC Herbarium Meeting Room at the AALBG Visitors Centre

Guest Speakers will be Prof. Don Bursill and Hon. Dean Brown AO (Chairman, Playford Trust) members of the Thomas Playford Trust in Adelaide presenting Ryan Hayward with his scholarship and explaining how and why the Trust works helping Trainees, Apprentices and University students with financial help.

DIARY DATES:

Working Bees - every Wednesday morning at AALBG

BIRD WATCHING FIELD TRIPS:

Sunday 16th June - Alligator Gorge / Melrose Meet Wilmington Pub 8.00am

Sunday 28th July - Yorkey's Crossing Road Meet Stuart Highway / Yorkey's turn-off 8.00am

Sunday 18th August - Bernie's Block Meet Mambray Creek parking bay 8.00am

Further Information -

Peter: 8642 5723 Greg: 8648 6882

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New courtyard wall and plants

Friends of the Australian Arid Lands Botanic Garden (AALBG) Port Augusta, South Australia

Courtyard at AALBG



After a very hot summer with many days over 40°C and some days up to 48°C, the Garden is now looking very good with the coming of some cooler weather. Of course a few young plants died in the heat but overall many have new growth and are relishing the cooler weather.

A new rammed earth wall funded by the Friends of the AALBG has been built on the northern edge of the courtyard, complementing the first section of wall built with an entrance archway in 1996. A few hundred new plants were planted in the courtyard in mid-February and nearly all have grown well. They are all plants that grow in sand in arid inland Australia and include: *acacias*, *crotalarias*, *eremophilas*, *hakeas*, *triodias*, *goodenias* and *swainsonas*, to name just a few. As you will note in the photo the *triodias* are growing very well and little Fairy Wrens flit around, feeding off the low grasses in this newly established area.

Within the courtyard area there has been a swath of annual plants from the arid regions planted out in May 2012, such as *Ptilotus*, *Lotus australis* and many of the daisy species. Thanks to the great work of staff in maintaining the watering system, which has helped these unique arid growing annuals be carried through the hot summer as though they were in a 'good year all the time'! Many of these annuals have given the visitor a great flower display, further complemented by a superb flowering display of Sturt Desert Peas (*Swainsona formosa*), a great excitement for photographers and visitors in general. The Sturt Pea was the perfect picture complemented by the red sand of the courtyard.

The Friends and nursery staff have also been working hard propagating plants to sell at various fairs and garden shows coming up in the next few months. The AALBG recently held a plant sale in Prospect, an early established suburb of Adelaide, which has a focus on using our native plants in its upgrade of some of its streetscapes.

Through the Friends a \$5,000 Playford Trust Scholarship has been awarded to Ryan Hayward, a horticultural trainee at the AALBG, to assist with his training expenses. The Trust was established in honour of Sir Thomas Playford, a former Premier of South Australia, and helps students at all levels further their study with more than 30 scholarships given each year. It is supported by the South Australian Government with an annual grant and receives donations and bequests. Ryan is very excited and pleased with his scholarship and is a deserving winner. There will be a formal presentation to Ryan at our next meeting with Dr Kate Delaporte, Professor Don Bursill and former Premier the Hon. Dean Brown AO coming to the AALBG at Port Augusta for the presentation.

Chris Nayda

Playford Trust



John Brook, far right (bending) working with pastoral industry trainees building the first section of perimeter fencing at the newly acquired AALBG site 1985. Materials were paid for by the Friends.



Ryan Hayward

Smoke water treatment - seed report

In 2011 I had the opportunity to work as a volunteer at AALBG where I began working two days a week in the Arid Lands nursery. Training as a tour guide followed, prior to the 2012 Conference. This has increased my knowledge of arid land plants of various regions as well as enhancing my work in the nursery. I also attend events across the state with Deon and the team; Prospect, Clare, Balaklava, Laura, Riverland and Adelaide.

Back in June 2012 a major seed propagation day was scheduled for garden specimens. On the list were *triodias* for the central courtyard at AALBG. Comments at the time were, "we can't get them to grow", "don't even bother". Being aware of *triodias* from doing tours and the environment they survive in, I started feeding punnets with smoked water. Eventual success of in excess of 300 plants from eight punnets over three months followed. One other success achieved accidentally was *Pycnosorus globosus*. Instead of overnight soaking in smoke water 1:10 parts they soaked for 48 hours with 100% success. This was also in June.

But wait! Another success story. *Callitris glaucophylla*. 2005 stratified seeds were sown 13th January 2013. Weekly smoke water drink given over next month. 40 plants were produced towards our Christmas Tree initiative.

The nursery has also introduced smoked vermiculite for several annuals to be sown in May. Plants propagated from The Great Victorian Desert use S.W.T. I have also introduced pre-germination and direct sowing into tubes and olive pots. This reduces handling of seedlings from punnets. We prick out seedlings when two or four leaves develop.

Maireana seeds have been treated while fresh and sown within days of removal from parent plant: success rate of seedlings high in punnets within a week. These are not yet potted up.

Citrus *glauca* suckers with minimal roots planted in December 12th 2012 are now developing new growth along trunks. They were treated as simulated flood conditions, flushed with seasol solution then allowed to dry out and capillary watering introduced.

I have completed a Permaculture Consultant Design Course and have now been given the portfolio of 'seed co-ordinator'. This has opened a new world of challenging techniques, further enhancing my passion for native plants. Living on a flood plain, I am at home with arid native plants and have become more appreciative of their diversity.

Ruth Sheldon

Ruth Sheldon in hot house



VALE John Brook

Formerly of Emeroo Station, near Port Augusta.

John Brook of Emeroo Station was an avid supporter of the AALBG since its inception. As well as managing the station John spent time teaching Pastoral Industry Trainees at the Port Augusta TAFE College. It was there that I noticed they were building fences in the TAFE grounds as a training exercise, and then dismantling them.

I contacted John and asked if he would like to build some real fences to give his students practical experience. This was in the mid 1980s and John and students fenced the Stuart Highway boundary of the Garden with vermin proof fencing, with materials funded by the Friends.

This was some of the first work done at the newly acquired AALBG site and was greatly appreciated. On retirement John and Margaret moved to Hahndorf. He died on 13th October 2012. Flowers including Sturt Pea and Eremophila for his funeral were sent from the AALBG which were greatly appreciated by his wife Margaret and family. We extend our sincere sympathy to them.

John Zwar, President



John Brook



Stan Cornish

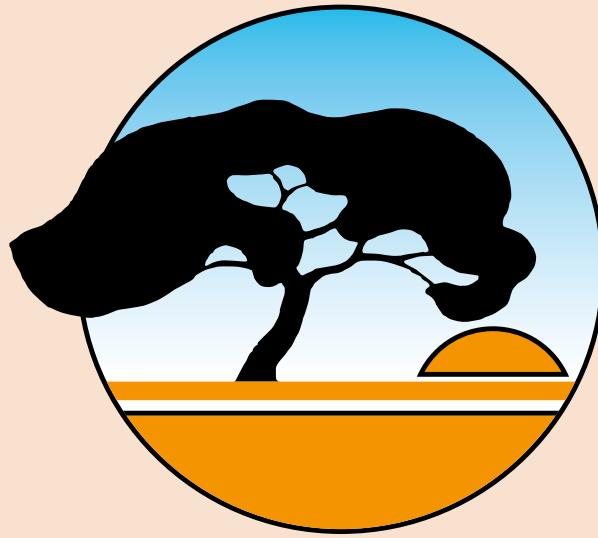
VALE Stan Cornish

Stan Cornish was born in Riverton but grew up on the family farm on Yorke Peninsula where he developed a strong belief in sound management of land and livestock and hence became an avid conservationist.

His career began as a travelling salesman for a farm machinery company servicing much of rural parts of NSW, Victoria and Queensland before joining the Department of Agriculture SA and travelling extensively through the state from the S. East to Eyre Peninsula, finally settling in Port Lincoln.

Eventually he became the Animal and Pest Plant Control Officer for the District Councils of Cowell and Kimba until his retirement. He was dedicated to all aspects of his position working closely with the community on weed eradication, soil conservation, salinity, revegetation and roadside weed control.

He was also an active member of Landcare, Coastcare, Friends of the Australian Arid Lands Botanic Garden and a highly regarded member of the Mallee Fowl Preservation Society. He continued to assist in ongoing projects in these fields after retirement. e.g. with Lorraine Edmunds and the control of *Opuntias* and wheel cactus in the Flinders Ranges. His knowledge and expertise will be sorely missed. Stan died on May 1st 2012 after a short illness leaving six surviving children.



RENEW YOUR MEMBERSHIP

Current membership is just over 570 members Australia wide. Membership covers 12 months and a reminder will be sent when due. Your membership helps to maintain and upgrade the Australian Arid Lands Botanic Garden.

Please ensure you have renewed. Try to sign up a friend!

To check your membership status, ring or email Geraldine Davis on 0418 447 020 glgadavis@bigpond.com

Join or Renew Subscription



TO JOIN OR RENEW SUBSCRIPTION

Fill in this form and send with remittance to:

Friends of the Australian Arid Lands Botanic Garden Inc.

PO Box 2040, Port Augusta SA 5700
www.australian-aridlands-botanic-garden.org

PLEASE TICK: New Membership Renewal of Membership

NAME: Dr / Mr / Mrs / Miss / Ms:

Address:

..... Date:

Email Address:

Any donation will be gratefully accepted. Donations of \$2.00 and over are tax deductible.
Please make cheques payable to 'Friends of the Australian Arid Lands Botanic Garden Inc.'
Receipts will be posted. A SAE would be appreciated but not obligatory.

Enclosed is my:

Subscription \$

Donation \$

TOTAL \$

DIRECT DEBIT BANKING DETAILS

BSB: 035-065

Account No.: 164 604

Account Name: FAALBG

Reference: 'name of person banking'

Please notify by email to

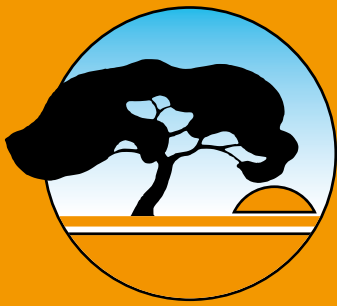
friends@aalg.sa.gov.au

MEMBERSHIP SUBSCRIPTIONS (annually)

Individual: \$15.00

Family: \$20.00

Institution / Group: \$20.00



Friends of The Australian Arid Lands Botanic Garden

Port Augusta Incorporated

Newsletter



September 2013

The next AGM of the Friends of AALBG

The next meeting and AGM of the Friends of the Australian Arid Lands Botanic Garden Port Augusta Inc. will be held on Saturday the 28th September in the WMC Herbarium Meeting Room at the AALBG visitors centre.

Guest speakers are *Dr. Andrea Leigh*, a plant ecologist at the University of Sydney in the School of Environment where her research includes leaf traits that protect desert plants from heat stress; and *Ms Ellen Curtis* who is conducting her PhD with Dr Leigh investigating variation in thermal tolerance and potential to recover from heat stress in plants from Australia's southern arid region.

Their talk is entitled: *'If you can't stand the heat get out of the desert: how arid zone plants cope with high temperature extremes.'*

Together they have been doing research at the AALBG over the last year or so with the City Council helping them with accommodation and area at the AALBG nursery for their research.



Dr. Andrea Leigh



Ms Ellen Curtis

Dates to Remember

Sunday 29th September
GARDEN EXPO at AALBG

WORKING BEE every Wednesday
at AALBG from 8.30am

Saturday 7th December 2013
CHRISTMAS MEETING

Bird Life Port Augusta:

17th November 2013
Whyalla Conservation Park / Pt Lowly
Meet Iron Knob turnoff 7.30am

8th December 2013
AALBG meet in car park 7.30am
Christmas lunch in cafe

For further information contact Peter - 8642 5723

President's Message

Once again our AGM is coming up (on Sept 28th) and our guest speakers on that occasion will be Dr Andrea Leigh, Senior Lecturer, Plant Ecology; Leader, Teaching and Learning, School of the Environment, University of Technology, Sydney, and her PhD student Ellen Curtis, talking about the research they are doing at the AALBG into the heat tolerance of arid zone plants, with the support of City Council and the Friends, (especially Ronda Hall). Andrea says 'The research is going extremely well and Ellen has been incredibly productive. It's difficult to imagine a more successful collaborative project'. Come along and hear about this work and the findings to date. The following day a garden Expo will be held in the Garden with talks and presentations, a book launch, displays and activities - see the brochure included with this newsletter. The Friends have been helping to organise this event and will participate in it.

The Friends have participated in special Wednesday working bees to help remove prolific weed growth from the Garden resulting from good winter rains. So far this year Port Augusta has received 170mm rain, compared with an average of 128mm Jan to end of August. Some of the more open areas have been sprayed with herbicide by Garden staff as well to control weed growth.

You will see elsewhere in the newsletter that we have received three small government grants enabling improvements in the propagating area - thanks Shirley Mundy for preparing grant applications! Chris Nayda reports that two new garden guides are being trained and that some large tours are scheduled.

Dennis Dobson has resigned as garden tour guide after many years, and long term guide Peter Marmash has scaled back, but is still looking after occasional small tours. Our most grateful thanks to these two long term voluntary tour guides for many years of dedicated service. Well done Dennis & Peter!

We look forward to seeing some of our Friends at the AGM and extend best wishes to all Friends, many of whom cannot attend because of distance. Thank you all for your ongoing support of the Friends and the Garden.

John Zwar, President

Birdtalk from the garden



Peter Langdon assisting in installation

Brian Reichelt and Peter Langdon have constructed three artificial nest logs and have installed them on trees in the garden, to assist the Mulga Parrots in finding suitable nesting sites. The Mulga Parrots have limited sites available so it is hoped that they will take to the new artificial nest sites to breed. The artificial nests are manufactured from 90mm PVC pipe and they are scorched on the outside to make them look more like logs. When next in the garden in the carpark area have a look in the trees and see if you can spot the nests.



Artificial nests



Nest installed



Brian installing artificial nest

Mistletoe by Peter Langdon

Mistletoe suffers from a bit of 'bad press'. It does not kill the host tree. That would not benefit the Mistletoe at all! In fact many host trees support clumps of Mistletoe during their lifetimes, suffering no ill-effects. Dead trees that appear to have died from infestation of mistletoe, may have had other problems like water-stress or disease. Mistletoe is fairly host specific. That is, Mistletoe that grows on Eucalypts will probably not grow on Acacias and vice versa. However native mistletoes can be seen on introduced plants such as Tobacco Bush (from South America) and cultivated Lemons. In the AALBG different types of mistletoes can be seen on Acacias, Sennas, Santalums, Eremophilas and Myoporums. They have their own form and cannot change leaf-shape to match the host-plant. Mistletoes take water and mineral nutrients from the host, but manufacture their own sugars.

Many creatures benefit from mistletoe. The foliage is high in nutrients and contains no "nasties". The larvae of the *Ogyris* (Azures) and *Delias* (Jezebels) Butterflies feed on the leaves as do possums and domestic stock if they can reach it.

Honeyeaters feed from and thereby pollinate the flowers. The fruits are eaten by many birds and in particular the Mistletoe bird, the main disseminator of the sticky seeds. The fruit passes through the specialized gut of the Mistletoe bird where the flesh is digested and the seed is voided, unharmed, on to a suitable twig or limb to germinate and start the cycle again. Some Honeyeaters, particularly the Spiny-cheeked Honeyeater, also disperse the seeds, but are not as proficient at it as the Mistletoe bird. Over 60 species of birds are known to use the thick clumps of Mistletoe for nesting or roosting sites. In the nearby Flinders Ranges, Diamond Firetails favour these sites, even using the dead clumps.

Despite its reputation, Mistletoe is very beneficial to a number of creatures, especially in the arid areas. Many of its perceived negatives are in fact man-made.



Amyema quandang var quandang



Lysiana exocarpi (Harlequin Mistletoe)

You can see the colours of the Great Victoria Desert without going there - just visit the GVD area of the Australian Arid Lands Botanic Garden

Photos taken by Chris Nayda



Grevillea juncifolia Honey Grevillea



Eremophila delisseri



Eucalyptus youngiana (Ooldea Mallee)



Central Courtyard at AALBG



Grevillea juncifolia Honey Grevillea

Garden Thoughts by Ryan Hayward - Trainee

To me what makes the Arid Lands Botanic Garden so special from others is its focus on the southern arid lands of Australia, an area with the annual rainfall of less than 250mm. Also our large range of eremophilas is a great attraction to the garden, and with more eremophila species being planted out soon, there will be even more varieties to see. The Arid Lands Botanic Garden has been looking great in the past few months with areas around the car park and towards the café being revamped by mulching and pruning through the efforts of a group of friends on a one day weekly basis.

The court yard has undergone a lot of work and is looking great with all the new plants and annuals being planted, and in particular I'm looking forward to seeing the Poached Egg Daisies in bloom (*Polycalymma stuartii*). Since working at the Garden / Arid Smart Nursery I have been noticing plants that we have in the garden on sides of roads on our way north on family trips. I think the most rewarding thing about my job is to see the plants you grow in their natural environment, and seeing annuals on the sides of sandhills on our way to Birdsville QLD was an experience and a half.

I have learned and gained so much from working here and am very thankful for all the great opportunities that have arisen.



Bev and Brian Reichelt, Ryan Hayward, Ryan Blaschek, Peter Langdon



Organized and submitted by a Volunteer with the FAALBG Shirley Mundy, three grants were approved

\$1600 was received in late 2012 from the Premier's Community Initiative Fund for the Propagating Shed for: installation of a sink for washing dishes; fitting of hot and cold water pipes and a drainage system; purchase and installation of a vanity unit (for hand washing); backing board and a soap dispenser. Some electrical tools were purchased as well. Also in late 2012 \$1000 was received from the Volunteer Support Grant SA from the Government of SA, Office for Volunteers and spent on Notice Boards for the Propagating Shed.

Then in 2013 the Federal Department of Families, Housing, Community Services and Indigenous Affairs' Volunteer Grants have given approval for a Grant for \$1800. We requested a Cabinet to secure poisons and chemicals, a Fridge for plant material and a Rain Water Tank. We are in the process of requesting two more Grants. One is for benches to hold boxes of plants at the Nursery, whilst the other is for 25 chairs for the Meeting Room.

Contacts

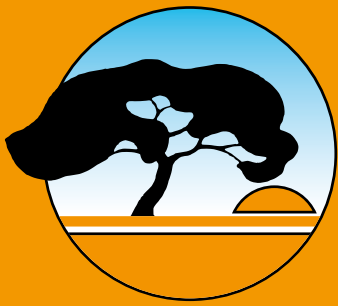
President: John Zwar Phone Home: (08) 8338 6658 Work: (08) 8372 6876 Email: jzwar@bigpond.com

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Secretary/Editor: Christine Nayda Phone: (08) 8642 4684 Mobile: 0434 717 382 Email: b.nayda@bigpond.com

PO Box 2040, Port Augusta, South Australia 5700 Email: friends@aalbg.sa.gov.au





Friends of The Australian Arid Lands Botanic Garden

Port Augusta Incorporated

Newsletter

December 2013

President's Report



John Zwar, President ~ 4/11/13

Christmas and the end of the year are almost upon us and we look forward to our final meeting for the year on the 7th December. Following the meeting there will be Christmas drinks and nibbles and all are welcome to attend. Since our last meeting Neville Bonney's latest book 'Jewel of the Australian Desert: Native Peach (Quandong)' was launched at the Garden on 27th October with Friends Deputy President Brian Reichelt as MC, and Treasurer Geraldine Davis proposing a vote of thanks after the launch by Gary Lucas. Those present enjoyed afternoon tea with Quandong pavlova provided by Neville as he sold and signed books. This beautifully illustrated book is available at the AALBG gift shop - Phone: (08) 8641 9116. Those present also had the opportunity to inspect the Garden which was looking great on the day!

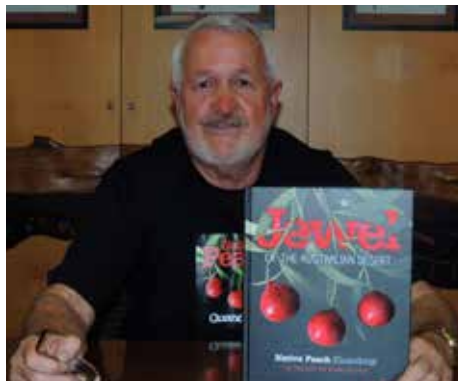
Following an exceptional season with good winter rains, Friends have finished pruning the eremophilas and doing general weeding in the Garden. In the extended Eremophila Garden drip irrigation had been installed in readiness for additional plantings. Two more volunteers are helping with plant propagation at the Garden on Wednesdays.

Friends Secretary and Co-ordinator of our small group of garden guides, Chris Nayda, conducted an evening tour of the Garden with science students from Adelaide as part of Science Week at Augusta Park School and reports that it was a very pleasant time for a tour.

(We need more volunteer garden guides and training is provided, so if you would like to find out more please contact Chris). Our guides meet some very interesting people but we need more to spread the work load.

At short notice I received a small grant which enabled me to attend the 5th Global Botanic Gardens Congress in Dunedin New Zealand late in October. The Friends contributed to this funding for which I am most grateful. It was an amazing experience and I am reporting on the Congress elsewhere in the Newsletter. I will also do a presentation to a Friends' meeting next year on this event, which was a highlight in my professional life. I thank the Friends sincerely for funding assistance. As a result of my attendance, some people from overseas gardens are interested in doing work experience in our Garden and there may be other developments with contacts I made, in the future. I also bring greetings from the Friends of Auckland Botanic Garden, which I visited before the Congress in Dunedin.

I wish all friends and supporters of the AALBG a very Happy Christmas season and a healthy prosperous New Year and thank you all for your support. We look forward to a new year of further progress for our wonderful Garden!



Neville Bonney at the AALBG at the launch of his new book entitled, *Jewel of the Australian Desert*, a book just on the Quandong, the first book ever written on a single, Australian, edible, native plant.

Next Meeting



The next meeting of the Friends of the Australian Arid Lands Botanic Garden, Port Augusta Inc. will be held on Saturday 7th December at 1pm in the AALBG WMC Herbarium Meeting Room.

This will be followed from 4.30pm-6.30pm with a light tea at the Bluebush Cafe for our Christmas get-together.

GUEST SPEAKER: HENRY MANCINI

TALK TITLE

Lake Eyre Basin - vast, unique and variable - a journey to the centre of the earth, soils, plants, animals and wetlands.

Henry Mancini is the Senior Water Project Officer for Natural Resources SA Arid Lands - Dept for Environment, Water and Natural Resources, and is based in Adelaide. He has a background and interest in wetland and plant / soil ecology. His work in the region over the last eight years has centred on gaining a greater understanding of the ecological functioning and management of arid land wetlands. This provides key information to better manage these unique and relatively intact ecosystems.

Contacts

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The 5th Global Botanic Gardens Congress

I was aware of this Congress but had not considered attending. On the last day of applications though, I applied for a Botanic Gardens Australia New Zealand (BGANZ) grant and was notified a few days later that I had been awarded a grant to assist with expenses to attend the congress. Subsequently the Friends of the AALBG and Port Augusta City Council also assisted with funding, and before long I was on my way to represent our Garden at the Congress!

I spent the Friday before the Congress in Auckland and visited the Botanic Garden there and met Jack Hobbs, the Manager, the Friends administrator and some other staff. The extensive Auckland Botanic Garden was opened in 1982 and is a 64.7Ha site, 25 Km from the CBD. Jack showed me around briefly before I inspected the garden by myself. The African collection was at its best, with many species in full bloom and the Rock Garden adjacent to the main lake was a picture, in full spring bloom also. I met nursery staff and inspected the large nursery which produces plants for council reserves as well as the Garden. There are extensive native plantings, herbs and productive garden areas, roses – all organically grown with no sprays or chemicals, a Gondwana Forest, Childrens Garden and many other collections. Innovations such as rain gardens are included and there is a fine Visitor Reception Building. The Garden is well maintained and staff I met were proud of their Garden. An interesting feature for me was that no irrigation is needed as the high rainfall, year round keeps the Garden green! Only newly planted seedlings in display beds are hand watered in. Some Congress delegates, mainly from Asian countries were undertaking a pre congress training session in Auckland Botanic Garden and I met them over lunch.

The following day I travelled to Wellington on the new "Northern Explorer" train, a very comfortable way of seeing a cross section of the North Island, including country not accessible by road. The rich green country, flowing rivers, forests and national parks with native vegetation and snow covered volcanoes were all highlights. I stayed overnight in Wellington with a friend I had trained with at the Botanic Gardens of Adelaide many years ago, and flew down to Dunedin on the Sunday morning over snow covered mountains and an impressive coastline with large rivers flowing into the sea.

In Dunedin it was Rhododendron Day at the Botanic Garden and also the Garden's 150th birthday celebrations, and many people were picnicking in the Garden, enjoying the concert and family activities. The Dunedin Botanic Garden is a Garden of International Significance and is 28ha in area. It is considered New Zealand's finest. There are magnificent specimen trees and many plant collections including an Australian Section. As in other Gardens the Friends Group plays an important role, staffing the visitor centre and undertaking other activities. The extensive Rock Garden was particularly impressive and very colourful and the 4 ha Rhododendron Dell is stunning. There are more than 3,000 Rhododendrons, many being trees, planted in the 1800s, blended with cool temperate trees and shrubs, ferns and New Zealand natives. The rhododendrons were in full bloom, a sight to behold!



Clianthus punecius, Kaka Beak closely related to our Sturt Desert Pea, formerly *Clianthus formosus* now *Swainsona formosus*

The extensive New Zealand native gardens are being expanded and showed the flora of the country off to advantage. Some impressive *Clianthus punecius*, closely related to our Sturt Desert Pea made an impact, as did the many beautiful yellow flowering Kowai Trees, *Sophora tetraptera*. There are collections from China, Himalayas, South Africa, the Mediterranean and other regions, all attractively landscaped. Garden staff provided congress delegates with guided tours and in the evening the Congress welcome reception was held in the Garden, with fine local food and drinks. It was a great opportunity to meet some Congress delegates.

The Congress proper commenced on the Monday morning at the impressive Dunedin Town Hall Conference Centre. After a very moving welcome from Huata Holmes, a Maori leader, BGCI officials spoke and the many plenary and concurrent sessions began, with an amazing range of speakers and fine presentations by people from botanic gardens and conservation projects all over the world. Many of the presenters were heads of famous botanic gardens and world leaders in their various fields and it was a wonderful opportunity to hear them and meet them during breaks. I was particularly interested to hear presentations from other arid zone botanic gardens and was most impressed by the Oman Botanic Garden under development with excellent presentations being given by Dr Annette Patzelt, Scientific Director and by Ian Oliver, talking about the challenges and successes of developing this garden, which has some similarities to the Australian Arid Lands Botanic Garden at Port Augusta. Professor Kaiyun Guan, Director of the Turpan Eremophyte Botanic Garden gave a fascinating presentation on botanic garden development and conserving biodiversity in Chinese Central Asia, a region of cold deserts with temperatures of 50 degrees below zero in winter. Other presentations of botanic garden and conservation projects in arid areas of Mexico and Pakistan were also of special interest. Of course there were many other excellent presentations on a wide and varied range of botanic garden related topics and there were important messages and much to learn in all of them. Some of the ethnobotany presentations were particularly interesting also.



Dunedin Botanic Garden



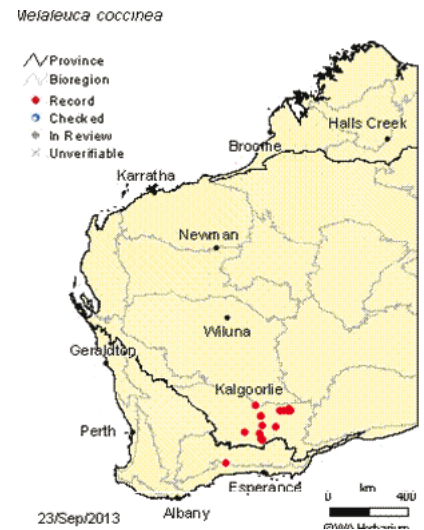
The Rock Garden ~ Dunedin Botanic Garden

There were ample opportunities for networking with other delegates, and discussing points of interest. The conference dinner was most enjoyable with performances by local Japanese drumming, Maori and Pacific Island dance groups, the Dunedin City Pipe band reflecting the Scottish heritage of the city and contemporary music. The field trip included a visit to the Royal Albatross Colony (none there when our group visited) and Lanarch Castle with its magnificent and immaculately maintained gardens on Otago Peninsula, and an inspection of the Orokonui Ecosanctuary and the Aramoana Salt Marsh and Native Plant Arboretum. The weather was perfect, scenery stunning and cameras worked overtime.

Two ladies from Tonga attended the Congress as they are trying to establish Tonga's first botanic garden. Their poster display featured their garden site and as a result of contacts made I am hopeful that they will receive help and support from well established gardens to assist them to develop their garden. The Congress was an amazing opportunity to meet more than 300 delegates from 45 countries and I enjoyed meeting people I had not seen for many years. It was magnificently organised with great venues, a very friendly atmosphere and plenty of time for networking. I consider it one of the highlights in my professional life and am most grateful to BGANZ and to the City of Port Augusta and The Friends of The Australian Arid Lands Botanic Garden who also assisted with expenses. My sincere thanks to each organisation.

My visit to New Zealand ended with a weekend staying with friends at Oamaru (former work colleagues from Roxby Downs) where I enjoyed seeing a most impressive collection of Victorian buildings in this small city and the magnificent Oamaru Public Gardens with beautiful displays of cool temperate zone plants and fine specimen trees. I visited two large commercial nurseries also, one entirely under glass, producing plants that we would grow in the open. My last day was spent driving to Christchurch via hydro schemes, dams and lakes, snow capped Southern Alps and rich farming country in the lower areas. On arrival I had time for a hurried late evening visit to the Christchurch Botanic Garden which has some huge and impressive specimen trees and a fine, well maintained plant collection. I flew back to Australia early the next morning with stunning views of the snow covered Southern Alps, a fitting farewell to New Zealand after an amazing Congress and a brief visit to this diverse and beautiful land.

Goldfields Bottlebrush



*Melaleuca
coccinea*
A.S. George

Melaleuca coccinea is a bushy shrub, from Western Australia, which has narrow to broadly ovate leaves, and spikes of bottlebrush-like flowers from September through to November. It can reach a height and width of up to two metres, however, regular pruning is required to maintain a bushy growth habit. As flowering occurs on the older wood of the plant, heavy pruning may deplete the next year's flower heads.

Because the flower heads occur on the old wood, plants are sometimes 4-5 years old before flowering begins. It grows best in semi-arid and warm temperate regions but also adapts to cooler climates. It needs a well-drained soil in full sun, is tolerant of summer drought and can also tolerate frost. The flowers are attractive to nectar-feeding birds. Propagation should be from seed, or cuttings of very young growth, otherwise results can be very unreliable.

Friends News



Ruth with the Rangers at Nepabunna Aboriginal Community

Two Friends Ruth Sheldon and Chris Nayda went to Nepabunna (east of Copley in the Northern Flinders Ranges) to help the local Adnyamathanha people to propagate and grow seedlings of local vegetation. They were very warmly received and given a lovely lunch and many seedlings were potted up and cuttings put in pots. They helped with pruning plantings around the town as well and have been invited back next year. The plants propagated will then be planted at Nantawarrina Indigenous Protected Area in the Northern Flinders Ranges approx one hour southwest of Arkaroola.

Nantawarrina is being developed as a tourist venture. For more information nepabunnatourism.com.au is well worth looking at. Ruth and Chris then conducted a field trip to Arkaroola collecting seeds and cuttings for the AALBG and were given some *Acacia araneosa* (Spider Wattle), unique to Arkaroola and grown from seed there, to plant at the AALBG.

Recently, despite heat and a fly plague, a very successful Spring Gardening Expo was held at the AALBG, attracting many hundreds of visitors. Guest, Mr. Dean Nicole, launched his book 'Native Eucalypts of South Australia.' Mr. John Zwar and Mr. Dean Nicole presented talks and many and varied questions on native plants and the general garden were answered. The Friends Group has assisted the City Council which operates the AALBG with the cost of a large solar power installation which will substantially reduce the electricity costs of running the Garden's Visitor Reception Centre. Friends have also assisted with selling plants produced at the AALBG Nursery at a regional Field Day in the Riverland, and elsewhere, and staff and volunteers participated in a grafting workshop so that they may commence growing various forms of Desert Lime, *Citrus glauca*, on specific Citrus grafting stock in the Nursery to be utilised in the Garden.

AridSmart® EXCLUSIVE SHOPPING EVENT

Monday, December 2 from 6pm-8pm
at the Australian Arid Lands
Botanic Garden Gift and Garden Shop

Exclusive Christmas shopping event for
Friends and AridSmart Club members -
unique range of gifts, special discounts,
and free tea, coffee and wattleseed biscuits.

Call 8641 9116 to register your
attendance. Please feel free to
bring a friend.

Birdtalk from the garden

One pair of our resident Mulga Parrots (*Psephotus varius*) has been very successful in producing a clutch of six young which is indeed not normal for this species.

In early October a small flock of Black Honeyeaters (*Certhionyx niger*) moved into the Garden to the delight of birdwatchers. One of the pairs has commenced nesting and we look forward to young being reared in the Garden. Accompanying the arrival of these birds is a small group of White-winged Trillers (*Lalage sueurii*).

Mulga trees have now set seed and this has proved to be an opportune time for the Little Corellas (*Cacatua sanguinea*) and Galahs (*Eolophus roseicapilla*) to feed on the seed in its green form.

Recently Birdwatchers Ian and Jill Brown from Brisbane Queensland visited the Garden and this is what they had to say about their experience in the Garden.

'It is certainly a very popular place for visiting birdwatchers, and many of the people we know in Qld. have gone to Port Augusta specifically for AALBG and the Banded Stilts at Bird Lake. AALBG offers a safe and easy environment, and has a better concentration of species because of the plantings and access to permanent water. Many birders, as you can imagine, are also interested in plants and other wildlife, so the whole package at AALBG is a bonus.'

Brian Reichelt



Galahs eating Mulga seeds



Young Mulga Parrots



Female Black Honeyeater



Male Black Honeyeater

Friends of the AALBG, Port Augusta Inc. Committee Members 2013-2014

- John Zwar ~ President
- Brian Reichelt ~ Vice-president
- Geraldine Davis ~ Honorary Treasurer
- Christine Nayda ~ Secretary
- Ronda Hall
- Julie Owen
- Joy O'Brien
- Robyn Place
- Peter Langdon
- Bernie Haase
- Ryan Hayward
- Deon Schumann ~ Council Rep.

The Australian Arid Lands Botanic Garden needs your support and you can help in many ways.

Volunteer at our working bees, or help in the nursery with propagating, every Wednesday morning, working alongside other like-minded people.

Take a guided tour of the Garden and be amazed by our arid plants.

Become a tour guide yourself.

Attend Friends quarterly meetings and hear some very interesting guest speakers on many different topics.

Help with fund-raising events at the Garden.

Encourage friends & relatives to join the Friends of the AALBG.

If unable to donate time or assistance perhaps consider a monetary donation.

Join or Renew Subscription



TO JOIN OR RENEW SUBSCRIPTION

Fill in this form and send with remittance to:

Friends of the Australian Arid Lands Botanic Garden Inc.

PO Box 2040, Port Augusta SA 5700

www.australian-aridlands-botanic-garden.org

PLEASE TICK: New Membership Renewal of Membership

NAME: Dr / Mr / Mrs / Miss / Ms:

Address:

..... Date:

Email Address:

Any donation will be gratefully accepted. Donations of \$2.00 and over are tax deductible.

Please make cheques payable to 'Friends of the Australian Arid Lands Botanic Garden Inc.'

Receipts will be posted. A SAE would be appreciated but not obligatory.

Enclosed is my:

Subscription \$

Donation \$

TOTAL \$

DIRECT DEBIT BANKING DETAILS

BSB: 035-065

Account No.: 164 604

Account Name: FAALBG

Reference: 'name of person banking'

Please notify by email to

friends@aalbg.sa.gov.au

MEMBERSHIP SUBSCRIPTIONS (annually)

Individual: \$15.00

Family: \$20.00

Institution / Group: \$20.00