

NEWSLETTER

AUTUMN 2017

NUMBER 91

FRIENDS OF THE WAITE ARBORETUM INC.

www.communitywebs.org/friendsofwaitearb

FORTHCOMING EVENTS

FRIENDS OF THE WAITE ARBORETUM EVENTS

Free Guided Arboretum walks

The first Sunday of every month
at 11.00 am.
Walks meet at Urrbrae House
on the lawn

Special History Month Walk Sunday May 7 at 11.00am

National Botanic Gardens and
Arboretum Open Day Sunday
28 May - Display in the Precinct
Garden

WHAT'S ON AT URRBRAE HOUSE

More details at:
[http://www.adelaide.edu.au/
waite-historic/whatson/](http://www.adelaide.edu.au/waite-historic/whatson/)



Patron: Sophie Thomson

President: Beth Johnstone OAM, **Vice-President:** Marilyn Gilbertson OAM

Secretary: Johanna Crosby, **Treasurer:** Dr Peter Nicholls

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Committee: Erica Boyle, Dr Wayne Harvey, Terry Langham, *add other members,*
Dr Kate Delaporte (ex officio)

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Photography: Erica Boyle, Eileen Harvey, Jenny Birvé



Cassia fistula Golden-shower Tree
#500

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President's Annual Report

As we prepare for the twenty second Annual General Meeting of this community committee, and say farewell to a well known Curator, we take some time to reflect on the reason why so many people have worked at meeting the basic requirements included within our constitution: viz

1. to foster interest in the care and use of the Waite Arboretum.
2. to raise funds for the development and promotion of the Waite Arboretum.

Over the past twenty-three years many people have worked hard to pursue those goals and in doing so, have left some large shoes to fill.

The majority has been acutely aware of the value of trees within community places because trees give a better quality of life. Trees provide many services; they also give a sense of stability and serve both the present and future. So it seems clear that each person who has given their time, money and effort during the preceding years has done so for all those still to come. It is both an impressive record and a stimulus to continue.

In recognition of this, Honorary Life Membership Certificates have been awarded to all of those inaugural committee members who had not been acknowledged for other reasons. Honorary Life Membership is the only award that can be given by the committee and it is recognition for the good service given. The inaugural committee comprised: Tony Whitehill, Isabella Rawnsley, Anna Cox, Mary Tester, Barbara Crompton, Cate Paull, Tommie



The Hon. Martin Hamilton-Smith, Jennifer, Prof Mike Keller
Photo Keryn Lapidge, Waite Communications Officer

Siekmann, Barry Dangerfield, Jennifer Gardner.

A farewell function was held under the Pear trees for Dr Jennifer Gardner OAM on 21st February with many present to extend thanks and good wishes

for the future. Dr Mike Keller thanked Jennifer for her years of service and spoke of her commitment to her work. Her development of the Arboretum App was one highlighted achievement.

Dr Kate Delaporte continues in the capacity of Acting Curator and we are looking forward to hearing her speak at our AGM. Kate has a vast knowledge of eucalypts and she will impart some of that to us.

During the past year we have seen the completion of the Rose Garden pools with the elegant stainless steel covers designed and installed by Silvio Apponyi. The committee was grateful for the donation from the Rose Society to assist with this work. The pools were designed with a "bubble up" system, however the gardeners have reported some problems with accumulating algae and this is currently under examination and review.

The Waite Arboretum was registered for participation in the Inaugural National Botanic Gardens and Arboretum Open Day (across Australia and New Zealand) on Sunday 28th May.

The Editor of the Newsletters continues to delight the members with the high standard editions she produces for us each quarter.

Terry Langham has produced for the Curator a lengthy publication with photographs and a history of the many seats within the Arboretum as well as maintaining the Web Page with its multiple requirements.

The Bee Hotel and Labyrinth continue to be popular visiting spots within the Precinct, and the many volunteer gardeners continue to faithfully turn up each Tuesday to work in the Gardens with the enthusiastic and estimable Erica Boyle.

The gardeners are conscious of the time in relation to the 2021 19th World Federation of Rose Societies Convention to be held in Adelaide.

We once again collaborated with The Friends of Urrbrae House and the Conservation Reserve group to hold a Film Event on 22nd January. The film shown was *United Kingdom* based on the true story of Seretse Khama and Ruth Williams, he from Botswana and she from England, and the efforts of the then British Colonial Office to interfere in their lives. It was held in the Capri Cinema and it was very disappointing to be told when we arrived to set up, that there would be no organ playing prior to the movie. Several raffles were held with one prize given back by a generous donor to be raffled once again. We will examine the possibility of repeating this effort again later this year.

Some of the current committee members will retire at this Annual General meeting and Robert

Boardman has already done so. We thank him most sincerely for his efforts. Bob was always meticulous in reading his briefs and was vigilant in making sure that procedures went smoothly. We are always exploring ways of attracting new members to the committee. Meg Butler, our valued Secretary has indicated her intention to take more time for her own activities and will resign at this meeting. She will be missed.

As you can see from the contents of this report, your committee continues to work for the benefit of the Arboretum. It remains for me to thank them all, most sincerely, for all of their efforts. Thanks also to all of those members who support our efforts and recognize the value of the Peter Waite legacy. As Dr Greg Moore, the chair of TREENET has said "we need to plant trees for future generations". If we can't do that as individuals, at least we can support those who do.

Beth Johnstone OAM

Arboretum news - from Dr Kate Delaporte

Finally, we have Summer. I'm not a huge fan of the heat, and I survive summer each year, knowing that it leads to Autumn and to Winter and to Spring. The cycle continues. This summer has not reached the extreme heat of some, and we have had frequent downpours, keeping the plants looking well. The extended period of 6 weeks with little rain has caused some stress, and we have ramped up the watering on some areas to compensate.

The highlight for me since taking up the Acting Curator role was the wonderful farewell for wonderful Jennifer. A pleasantly warm afternoon spent under the shade of the pear trees, overlooking the Sun Garden, 20th Century Rose Garden and the Arb to the sea, with dear friends and colleagues. What a fitting farewell! Jennifer continues to play an active role in the Arb and Gardens, stepping in as a Tuesday morning volunteer, with her first task to reinvigorate the Labyrinth. Jennifer will continue to be a big part of the Arb community and I value that enormously.



A big fat spider in the NE Arb, as big as a (small) mouse! Photo Kate Delaporte

In the Arb itself, the native grasses have done tremendously well with the summer rains. The *Chloris truncata* has colonised large areas, enabling the maintenance of a green swathe, particularly through the Central Arb. We are encouraging the spread of this grass, as it is native, grows and sets seed in both summer and



Corymbia citriodora in Walter Young, a different perspective. Photo Kate Delaporte

winter (but no prickles!) and will effectively outcompete the introduced weeds that plague the site. We observed that after mowing and rainfall, the seed heads were up and flowering again within a few weeks, which was very encouraging. Every season provides us with a chance to observe and gather new information about the way things grow, naturally establish, and how we can find the balance between "cultivation" and natural systems.

In February Jennifer, Erica and I headed to the city to attend the FBGA talk by Dr Lucy Sutherland, the new Director of the Botanic Gardens of South Australia. It was a wonderful and inspiring presentation and I extended an open invitation to Lucy to visit the Arboretum and discuss the development of closer collaboration between the two entities.

In other botanic garden news, the 8th BGANZ Congress, 22-25th October 2017, will be held in Adelaide hosted by the Botanic Gardens of South Australia. The theme is "Preservation: Exploring and Adapting", and underlies the need for adaptation of botanic gardens in their ongoing environment and the ever-changing attitudes of the community. This covers both the natural, cultivated and political environment, and the required strategies to ensure that the preservation of endangered species can continue.

From their website: "How do we ensure proper connection with the public and their engagement? How do we inspire younger generations, friends, and volunteers to gain their vital support, which is an integral part of all botanic gardens? How do we safeguard our commitment to botany, science and conservation, horticulture and internal and external education?" (All questions I have asked myself since taking on the Acting Curator role!)

Waite Arboretum will be hosting a tour during that Congress, please let me know if you are available to assist in the management of the visitors.

<https://kaigi.eventsair.com/QuickEventWebsitePortal/bganz-congress-2017/info>

We have also attended a number of workshops on urban forests and how to encourage the intelligent use of trees and plants in our cities. People will live in cities, but people need plants and trees to be happy and healthy. The Waite Arboretum continues to play an important role in providing information and resources to the planners and plant growing community.

Finally, I thank you all for your encouragement and support during the time of transition. As I am only in an Acting capacity, I am not here all the time, and I have other research interests (still plants, still native, still Waite) but this takes me away from the Arb and the volunteers all too frequently. Please do not hesitate to come to me, contact me, should you have any issues of queries or thoughts on new directions for the Arboretum. The door is always open (figuratively), as are my ears and my mind.

Kate Delaporte

AGM Monday April 10 7.30 pm

Guest Speaker Dr Kate Delaporte

Gumnuts revisited: a continuing and consuming passion.

Sometime in the 80s, the seed for my plant passion germinated. I grew up on a small farm in the SE of SA, surrounded by isolated patches of remnant stringy barks and *Xanthorrhoea*, with a large garden full of natives, thanks to the wonderful gifts from our great family friend Mr Ken Stuckey. I didn't realise how special our native plants were, until I grew up and began working in the industry. I spent 4 years working for the Stuckey family at their commercial flower enterprise at Furner. This grounding lead me to the University of Adelaide, to work with Professor Margaret Sedgley, beginning with *Banksia*, and then moving to eucalypts.



Eucalyptus macrocarpa. Photo Kate Delaporte

Like most Australians, I'd never really thought much about eucalypts. They are simply the backdrop, the



Mixed eucalypt. Photo Kate Delaporte

muted colour, the koala trees, that make a mess and don't provide "proper" shade. My preference was for the showy Proteaceae: *Banksia*, *Grevillea*, *Hakea*, *Dryandra*. And then the opportunity came to work on eucalypts, through the Playford Trust Scholarship in Horticulture, which I was awarded in 1996. And so began a continuing and consuming passion!

The University of Adelaide's Ornamental Eucalypt Development Program, or OEDP for short, aims to produce eucalypts (from *Eucalyptus*, *Corymbia* and *Angophora*) suitable for the urban forest. This means small enough to go under power lines, not drop branches or seed pods or be generally "messy", provide shade, not get into utilities, not damage houses, but look amazingly beautiful all year round! A tall order, but not impossible. With over 700 species from all corners of Australia, there is a lot of scope to find species to work with. So much diversity, so much beauty!

The program uses classical plant breeding to hybridise between selected plants, to produce new seed, that hopefully, will combine the desired characters of the seed parent (mum) and the pollen parent (dad). The process can take as little as 3 years, but usually 5, and 10 years is needed to see the true qualities of the resulting hybrid plant. Many eucalypts hybridise readily, it's part of their inherent ability to adapt quickly to changes in environment, and has resulted in them being the predominant tree genus in Australia. So, there is usually a good chance something will come from the cross.

Over the last 20 years, the OEDP team has conducted thousands of controlled crosses, produced thousands of seed, and many hundreds of hybrids, a lot of which are planted in the Laidlaw Plantation. A significant proportion of the seed is stored, waiting for the opportunity to grow. Of the trees in the plantation, almost all could easily find their way into our gardening culture, and indeed, a couple have.

The trouble with eucalypts is that they do not respond well to conventional methods of propagation, so the program has been exploring the method of micro cuttings in vitro, with varying degrees of success. It is a challenge, but one that must be met if we are to find an Australian alternative to the exotic species that fill our streets. I shall continue, and with passion!

Kate Delaporte

FWA COMMITTEE ELECTION

The President announced the following nominations for the new Committee:

Beth Johnstone, Eileen Harvey, Marilyn Gilbertson, Peter Nicholls, Ron Allen, Dr Wayne Harvey, Terry Langham, **new nominations** and Dr Kate Delaporte (*ex officio*). As there were no further nominations those named were elected.

Subsequent to the AGM, the new Committee met to elect the office bearers: Beth Johnstone, (President), Marilyn Gilbertson (Vice-President), Johanna Crosby (Secretary), Peter Nicholls **and new person** (Treasurer), Eileen Harvey and Jenny Birvé (Editors) with Ron Allen, Dr Wayne Harvey, Terry Langham **new people** and Dr Jennifer Kate Delaporte (*ex officio*) forming the rest of the Committee.

Reminder from the Treasurer

Membership subscriptions for 2017 were due on the January 1st. Please renew as soon as possible
Individuals \$20, Families \$25.00

Film Fundraising Event

A big crowd attended the film event held on Sunday 22nd January at The Capri Theatre in support of the three Waite Precinct Friends groups. The film, "A United Kingdom" was excellent and enjoyed by all. Regrettably, theatre management was unable to secure the services of a volunteer to play the Wurlitzer Organ before the screening of the film which was a big disappointment for our Friends. We apologize for this but being volunteer organisations ourselves, we understand how such problems can arise.

We sold 151 tickets as well as many raffle tickets. In addition some donations were made. The total funds raised were \$1,440. Thank you to everyone who supported the event.

It was pleasing to work closely with the other Friends groups and we look forward to future joint activities.

Marilyn Gilbertson OAM



MGS group. Back: Marilyn Kuchel, Jocelyn Deane, Anne -Marie Holland, Jo Hoskins, Trevor Nottle, Jenny Bruse
Front: Mark Barnett, Craig Deane, Lynn Elzinga-Henry, Jennifer Gardner.

Mediterranean Garden Society Working Bee

The third Sunday of February, the Mediterranean Garden Society - Working Bee visited the Garden of Discovery. Despite the rainy morning, our MGS friends met at 9am to work hard on their gardening duties until midday.

It was the first Working Bee of the year. And it was also a special day as it was the last activity of this group having Dr. Jennifer Gardner in her role of Curator of the Waite Arboretum and Gardens



Adrienne Ralph with her puppy.



All the weeding and pruning of the day.

before her retirement. To end the day a friendly and relaxed morning tea was shared and a nice shot pictured the moment.

We really appreciate the help, enthusiasm, and commitment of the Mediterranean Garden Society members whose work is so necessary to maintain the beauty and harmony of our enchanted Garden of Discovery.

The coming MGS - Working Bee activities have been already scheduled for May 28, August 27, and November 19. If you are interested in participating, please contact me at:

arboretum@adelaide.edu.au for more information.

Erica Boyle, Waite Arboretum Officer

FRIENDS OF THE WAITE ARBORETUM NEWS

Farewell to Dr Jennifer Gardner OAM

On February 24th Dr Jennifer Gardner's retirement party was held under the Pear Trees in the company of members of the Friends of the Waite Arboretum, Friends of the Conservation Reserve, Arboretum guides, volunteers and colleagues. Professor Mike Keller outlined some of Jennifer's many achievements during her 30 year tenure as Curator. These include establishing the FWA and FWCR, her pivotal role in setting up TREENET, her transformation of the Urrbrae House Gardens, being the driving force for the renaissance of the historical precinct and the opening of Urrbrae House to the public and her development of the Arboretum app.



Jennifer Gardner, Marilyn Gilbertson and Cicely Bungey. Photo Meg Nicholls



Jennifer Gardner and Patron of the Friends of the Waite Arboretum, Sophie Thomson. Photo Keryn Lapidge



Kate Delaporte, Joern Nevermann, Michelle Wirthensohn. Photo Keryn Lapidge



Paul Stokes, Sylvia Piddington, Terry Langham, David Oates, Joan O'Loughlin. Photo Keryn Lapidge



FWCR Meg Robertson, Philippa Horton, Peter Bird, Peter Lang, Penny Paton. Photo Keryn Lapidge



Isabella Rawnsley, Anna Cox, Barbara Wheaton, Marion Wells. Photo Keryn Lapidge



Greg Johns, Viesturs Cielens, Sue MacArthur, Susan Phillips. Photo Keryn Lapidge



The gathering under the Pear Trees. Photo Keryn Lapidge



Erica Boyle, Khloe Xu, Aranka Holland. Photo Keryn Lapidge

Photography News

Two of the FWA photographs were selected as "fillers" for the Gardens Club of Australia Inc. 2018 Calendar! That's good news and a good way to advertise our beloved Arboretum. The deadline for the 2019 Calendar is October 2017. Details on photo topic, size etc. are explained on the Garden Club website. (www.gardenclubs.org.au/) Keep sending in your photos and maybe next time we'll win the big place and not a filler! Erica Boyle, Waite Arboretum Officer



FWA past President Henry Krichauff



New Volunteers

Many new volunteers were recruited during the last two months after our "Become a volunteer" recruitment campaign. Special thanks to Kerry James (University of Adelaide - Volunteer Program Coordinator), Kerryn Lapidge (Waite Research Institute - Waite Science Communicator) and to the Volunteering SA organization for helping us in this task.

And finally, a very warm welcome to all the new members of our energetic Tuesdays-volunteers-team!

Erica Boyle, Waite Arboretum Officer

Our Volunteers Outstanding 2016 Contribution.

As Waite Arboretum, Waite Conservation Reserve and Urrbrae House Gardens' Volunteer Coordinator I am delighted to bring some amazing numbers to share with you in this 91th FWA Newsletter edition!

More than 2649 volunteers contributed to the University of Adelaide 114,066 hours in dollar value equating \$3.8m. It is an outstanding performance and we are very proud to be part of these wonderful results.

In 2016 our nearly 130 hard-working volunteers contributed more than 3000 hours of service equating to a dollar value of nearly \$ 100,000!!

The contribution of our volunteers who demonstrate their passion for nature, research, conservation and environment through their dedicated and committed work undoubtedly make a big difference in our community.

On behalf of the University of Adelaide I am very glad to acknowledge the valuable participation and contribution of our many volunteer groups that dedicated their time and helped make 2016 another successful year:

- Friends Waite Arboretum Committee
- Waite Arboretum volunteers (NW corner)
- Waite Arboretum survey team
- Waite Arboretum guides
- Waite Arboretum School Program volunteers
- Waite Arboretum Promotion/Events volunteers
- Waite Arboretum and Urrbrae House photographers
- Friends Waite Conservation Reserve Committee
- Waite Conservation Reserve Working Bees
- Urrbrae House Gardens volunteers
- Palm & Cycad Society Working Bees
- Mediterranean Garden Society Working Bees
- Heritage Rose Society & SA Rose Society pruning Working Bees

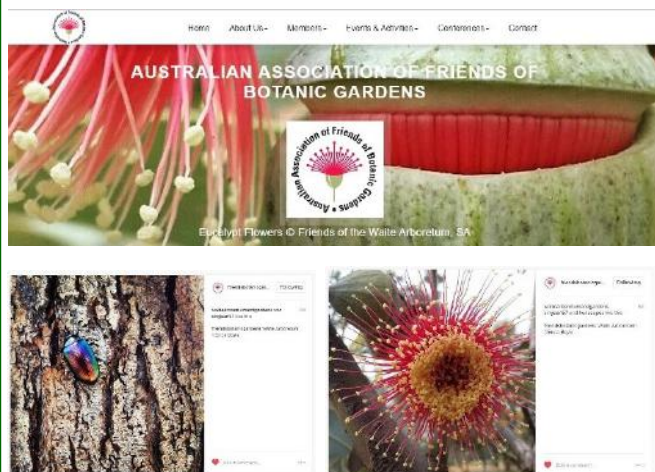
To all of you a BIG THANK YOU for bringing your energy and your talents to the Waite Historic Precinct!

Hope you have enjoyed as much as we do, all the precious time invested in this magnificent environment so connected to Mother Nature.

I look forward to having another great year together!

Erica Boyle, Waite Arboretum Officer

Waite Arboretum Featured by AAFBG



Photos of the Waite Arboretum have been featured in the AAFBG (Australian Association of Friends of Botanic Gardens Inc.) new Website Cover Photo and also in the AAFBG Instagram account. See: www.friendsbotanicgardens.org/

Erica Boyle

Nettie's 91st birthday



Nettie (centre) flanked by her three sons - Andrew, Chris and Angus and one of her two daughters - Jo and surrounded by her grandchildren and other family members. Photo Jennifer Gardner

Last Sunday the Davidson family celebrated the 91st birthday of their matriarch with a picnic lunch at Torb's seat in the NW Arboretum.

Nettie is a long-standing FWA and the University's oldest volunteer and comes every Tuesday morning to work in the Urrbrae House gardens. Her late husband Torben volunteered for many years in the Arboretum and gardens every Tuesday until he died at the age of 91, three years ago. Nettie then took his place and carried on the tradition. Jo's husband, Steve Killick, (seated far left) is the sculptor of the magnificent carved seat.

Jennifer Gardner

Our wonderful new Tuesday group volunteers



Paul Stokes with some of the many *Clivia miniata* he brought in and planted in Sensory Garden.



Margaret Horgan and Pat Flint mulching the rose beds.



The result of the volunteers' hard work.



Jennifer Gardner weeding the labyrinth

Cupressus chengiana* var. *jiangeensis



Tree #1024



Tree #1029

Look to the right as you enter the Waite Arboretum through the Fullarton Road gate and you will see a row of seemingly unremarkable young conifers. To my daughter, a student who attends the high school across the road, and who represents many Australians in this context, they are 'sort of Christmas trees', but at the end of the row is an individual (tree #1024) that is distinctly different. The dense, dark green foliage hangs off lower limbs that dip to ground level before curving up like the bow of a dragon boat. The upper limbs reach skyward, but the branchlets droop, slightly weeping.

This small tree has plenty to weep about. It is a rare species - in fact it would be difficult to be more rare. Described as 'arguably the most threatened gymnosperm on Earth', its population in its natural habitat is one. To have it growing here across the road from the No 13 bus stop, with the charge of traffic up and down Fullarton Road is an honour that almost everyone will miss.

It is labelled *Cupressus jiangeensis* (Family Cupressaceae), #1024 and was acquired by the Arboretum in 1993. It was grown from seed collected in the wild by botanist by LC Wang (Waite Arboretum records) and propagated at the Mount Lofty Botanic Gardens. Now the story becomes complicated. Records show that this specimen is the second of two; the first of which died. However if you continue south along the row you will find another tree labelled *Cupressus jiangeensis*; tree #1029, also from 1993. Is this the one that was supposed to have died or is it a replacement? The records are silent on the matter. Tree #1029 has a rather different habit, the branchlets are shorter and less drooping. It would probably require DNA analysis to determine exactly what the trees are and their provenance.

The trees' full taxonomic identification is *Cupressus chengiana* S.Y. Hu var. *jiangeensis* (N. Zhao) Silba. The varietal name *jiangeensis* comes from the pinyin (standard Romanised Chinese) name 'jian ge bai mu'. *Cupressus chengiana* is one of five major groups of conifers of the eastern hemisphere of which *C. jiangeensis* is considered a variety.

However, it is 'so distinctive' as to support specific recognition.

The wild tree was found by the botanist N Zhao, in 1978, at an altitude of 2,800 m on the escarpments of Longmen Shan, Jiange Xian, northern Sichuan province in south west China. He described it as a 'tree to 27 m tall; leaves green, female cones ovoid to 12 mm, scales, 12, seeds yellowish brown'. (*Phytologia*, 1981). It is now protected in Jianmen Shudao National Park, and the taxon is protected by law.

C. jiangeensis is typical of the majority of conifers in that it is evergreen and monoecious (both male and female sexual parts are on the same tree). The Waite specimens are densely foliated and both are roughly cone-shaped. The foliage hangs to ground level concealing the trunk, and with this broad curtain it is easily as wide as it is tall. According to the American Conifer Society this variety should stand about 4.5 m at 10 years (2013). At the end of 2015 the Waite tree was about this height, but more than double the age. Perhaps this slow growth is natural; or it might be that growth is retarded by the solid clay, low rainfall and extreme summer temperatures of the Adelaide plains - a far cry from the conditions of its parent tree.



Tree#1024 Foliage and cones

The wild tree grows in the earthquake riven Longmen Shan - the Dragon's Mouth mountains. These remarkable mountains are the result of 50 million years of vertical slippage along the Longmen Shan fault, and rise, in the space of 50 kilometres from 600 m to 6,500 m. The soil is typical of subalpine coniferous forests: acidic, infertile, leached and shallow. At altitudes above 2,000 m, the average annual rainfall is about 500 mm (falling in summer), while in winter the region is under heavy snow. Temperatures range from mild to freezing.

There is very little taxonomic information available for *C. jiangeensis*, apart from Zhao's original entry in the journal *Phytologia* (1981) and an entry in Aljos Farjon's *A Monograph of Cupressaceae and Sciadopitys* (2005).

The tree was found east of coniferous and deciduous forests dominated by *Cupressus chengiana* var. *chengiana*. The two varieties differ in the shape and colour of the seed cones and the number of scales.

C. jiangeensis is listed as critically endangered, and perhaps unnecessarily, the IUCN cites its main threat as being 'its population size'. Climate change, disease, environmental contamination and (or) destruction of habitat could all too easily render the variety extinct; or it could simply die. Whatever its chief threat, this tree has no margin for error and it is 'condemned to disappear from nature in the near future'.

A number of arboreta and botanic gardens have propagated specimens, but IUCN notes 'fewer than 50 mature individuals of this variety' exist. Kew Gardens (UK) has five, 'kept in the behind-the-scenes nurseries'. The Royal Botanic Gardens, Edinburgh has one cultivated specimen from China and six specimens from wild seed (collected by LC Wang in 1990). I believe specimens have been cultivated at the Mendocino Coast Botanical Garden, in California, (American Conifer Society, 2013) but have not been able to verify this. Mt Lofty Botanic Gardens currently has four specimens; however, only one of these has secure identification (accession number W911914).

Although China is ranked third in the world for plant diversity, behind Brazil and Columbia it also holds the lamentable world record for its abundance of endangered taxa, with almost half the endemic conifers of mainland China classed as threatened. This alarming figure is made more grave by the finding that from 3000 to as many as 5000 species (i.e. 20 % of the total flora of China) is threatened with extinction. *C. jiangeensis* is a clear example of this. *Abies beshanzuensis* var. *beshanzuensis*, a fir tree of Eastern China of which only three individuals remain in their natural habitat, is another.

Many of these species are tiny, relict populations, considered "naturally rare" - the result of prehistoric extinctions (or 'glacial refugia') that reduced widespread populations to isolated pockets of survival. Extinction of tiny populations is the natural consequence of disease, environmental change or ordinary demise; but destructive human interference push such taxa over the brink, raising the question of how many such plant taxa populations in China (and around the globe) are lost without the chance of research that might otherwise have protected them.

Angela Brennan

Puzzle Resolved by Dr Wayne Harvey

There were two seed sources: A2003 and A2004, both labelled *Cupressus jiangeensis*. They were collected from the wild in China by different collectors 4 weeks apart. Each seed source was used to raise 3 seedlings by Adelaide Botanic Garden in 1993. Trees 1024 and 1029 are from seed

sources A2004 and A2003 respectively. It is likely that seeds A2004 and A2003 were sourced from different trees. This may explain the different habit and appearance of trees 1024 and 1029.

Cupressus chengiana var. *jiangensis* is an accepted name in the systematic literature of the genus.

Cupressus jiangensis is an accepted synonym of *Cupressus chengiana* var. *jiangensis*. (Note the accepted spelling of *jiangensis*)

Reviewers of *Cupressus* note that numerous species occur in the wild in small isolated pockets and often grow in poor soil conditions. These factors lead to variations in morphology and the tendency to recognise varieties and subspecies. However, some reviewers recommend erring towards a conservative approach and reducing the number of varieties and subspecies. The genus has similarly been the topic of debate on the case for subgenera. (See, as an example, Aljos Farjon 2005).

A recent statistical analysis of DNA of some species has resulted in *C. chengiana* and *C. jiangensis* being regarded as two related but distinct species (Mao et al 2010). (Note spelling of "jiangeensis" by Mao)

The origins of the Waite specimens and the current views on the systematics of *Cupressus* suggest that #1024 can be regarded as *C. jiangensis* and #1029 can be regarded as *C. chengiana*.

Wayne Harvey

Welcome to new Arboretum Guide



Arboretum walk, February 5th. Guide Dr Barbara Radcliffe.

The FWA welcomes new Arboretum Guide Linda Blake.

The Arboretum Guides take free walks on the first Sunday of every month at 11am and at other times and dates by request. Walks on specific topics or for special interest groups such as garden clubs can be arranged by Email: friendswaitearboretum@gmail.com or by Phone: (08) 8313 7405 on Tuesdays and Thursdays.

AUTUMN IN THE ARBORETUM



Capparis mitchellii, Native Orange
CAPPARACEAE #222. Large white
flowers are followed by green egg-
shaped fruit which ripen, soften and
become fragrant. Fruit is high in
Vitamin C. Origin arid Australia



Cassia fistula, Golden-shower Tree
FABACEAE #500 The gum, seeds and bark
are used medicinally. The fruit is a long indehiscent cylindrical pod with
numerous seeds with a pungent odour. Origin India



Eucalyptus pyriformis, Pear-fruited
Mallee MYRTACEAE #1926A A small
tree with attractive ribbed fruits and
large red or cream flowers. Origin WA



Gmelina leichhardtii, White Beech,
VERBENACEAE #152B White Beech is
an uncommon fast-growing rainforest
tree that was heavily logged in the
19th and 20th c. Origin NSW, Qld



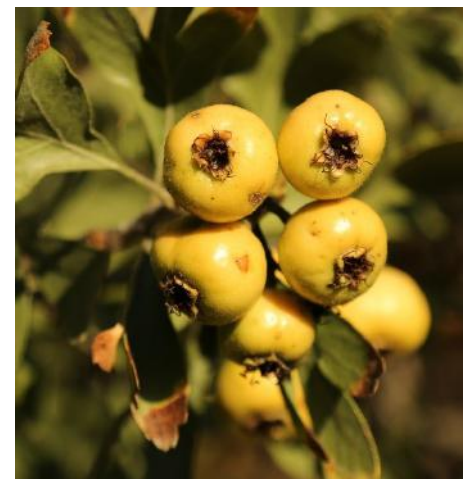
Eucalyptus pleurocarpa, Tallerack
MYRTACEAE #1922A Decorative
mallee with white, waxy leaves, buds,
fruits and stems. Origin WA



Brachychiton discolor, Lacebark Tree
STERCULIACEAE #245 Over 30
species of *Brachychiton* grow from
the rainforest to dry areas of
Australia. Origin NSW, Qld



Quercus engelmannii, Engelmann
Oak, Mesa Oak FAGACEAE #446A
Classified as an endangered species
and possibly the most imperilled of all
the tree Oaks. Origin California



Crataegus azarolus, Azerole
ROSACEAE #1142A Traditional
medicinal uses. The edible fruit is
high in sugars. Origin Mediterranean