

### FORTHCOMING EVENTS

The implications of COVID-19 and the Waite Arboretum.

The Arboretum remains open and accessible to the public. Please observe all SA Official Directives when visiting the Arboretum.  
[Covid-19.sa.gov.au](https://www.covid-19.sa.gov.au)

All organised tours have been cancelled for the near future. COVID-19 may last for at least 6 months in Australia. We will provide our members with updates when guided tours begin again.



As a Friend of the Waite Arboretum we are a member of the Australian Association of Friends of Botanic Gardens



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*Ficus benghalensis* Indian Banyan India #967 1946. The tree produces propagating roots which grow downwards as aerial roots. Once these roots reach the ground they grow into woody trunks. The giant banyans of India are the largest trees in the world by area of canopy coverage.

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## Arboretum Report. Dr Kate Delaporte

I am a creature of habit and the weather is important to me – looking back at July 2019 I started with a weather update! So, here we go... This winter is ... nice!? A combination of sunny days, with a hint of warmth, and rainy days, lots of rainy days. A bit more 'usual' if that's even a thing anymore. BoM indicates we are a little low on rain for July, but still close to average even at this point. A few more rainy days will see us in good stead, and I send out good vibes to Mother Nature and Huey to keep sending the rain through until about October.

The ground is green and lush and the trees are bare; in July the Arb looks quite opposite to January, the colours are upside down!

Lush greenness and rainfall means the usual crop of weeds, and the usual problems getting in and taking care of them. We are working through a major lower canopy lifting project at the moment, to lift the lowest branches up about 50cm so that work can be done beneath without impacting on the branches or leaves. With over 2000 specimens needing work, it is taking a while, but we will get there. Luckily the trees are not going anywhere, although, you may also notice that some trees are disappearing altogether. One of the primary roles of the Arb is to provide information on how different specimens live in our climate – and those that do not live well are removed, and their fate recorded. And we will replace with new specimens over the coming years.

A short piece on a special project.

### The Waite Arboretum Solarisation Trial, by Marne Durnin

We would like to have more perennial native grasses and herbs in the Waite Arboretum. However, the soil in the Arboretum is full of the seed of fast growing annual grasses and broadleaf weeds. The native grasses suited to the Arboretum have slow seedling growth and are easily outcompeted by these weeds. So, we are running a trial to learn more about alternative weed control methods.

One effective way to reduce annual weeds and their seeds is to cover the soil with polyethylene plastic at the height of summer; a method known as "solarisation". This heats the soil and kills weed seeds providing an opportunity for native grasses to establish. However, polyethylene is not recyclable in South Australia, so we are also testing a new compostable film to see if it is an effective alternative. It is made from a resin called "Mater-Bi" and manufactured in Adelaide by Biobag World Australia.

In a randomized block trial in the Waite Arboretum starting in February 2020, we tilled and then covered four 1 m<sup>2</sup> plots with polyethylene and four with BioBag's compostable film for 39 days. A further eight plots were used as controls to help us measure how effective the solarisation was. Of these, four controls had no treatment and four were tilled. All 16 plots had a soil temperature logger, buried at 5 cm, that recorded the soil temperature every 30 minutes. The Trial Site is located in the Central Arboretum, between the *Celtis africana* #752 and the *Celtis philippensis* # 751.



Research student Marne Durnin (background) with native grass specialist Ellen Bennett, reviewing the Solarisation trial in the Waite Arboretum.

In May, we recorded the weed species present on the plots and their abundance as well as the percentage of bare ground. All plots except the nil treatment controls were then sprayed to remove surface weeds and later native grass seeds were sown into the plots. These were Weeping rice grass (*Microlaena stipoides* var. *Burra*), White top wallaby grass (*Rytidosperma caespitosum*) and Knead wallaby grass (*Rytidosperma geniculatum*). The grasses have now emerged and we will measure their establishment in November 2020 and again in May 2021. Results of the trial will be disseminated as a peer-reviewed article and, following publication, summarised in the subsequent FWA Newsletter.

The trial plots are managed by Nick Timbs with supervision from Dr. Kate Delaporte, Curator of the Waite Arboretum. Marne Durnin (a Masters by Research student working on native grass establishment) helps with trial design, vegetation surveys and native grass selection under the supervision of Professor Petra Marschner from the Soils Discipline in the School of Agriculture, Food and Wine. Sam Benda, a student of the University of Adelaide studying a Bachelor of Agricultural Science, is assisting Nick and Marne, and learning valuable research skills in the process.

Our volunteers and Friends are back working hard in the Gardens and Arb; the place is buzzing again. Jennifer Gardner OAM and Marian Mc Duie have been thrashing around along the Water Course, using special SBAS receiver to locate and plot all the palm and cycads. As always, I am fortunate to have Jennifer so willing and able to continue to provide the Waite Arboretum with her time and expertise!

Kate, 15 July 2020

Volunteering in the gardens again! Photo EB





## Report from the President. Dr Wayne Harvey

While circumstances have interrupted many of our plans, the FWA management committee has been determined to keep up a busy schedule during our 25th year and celebrate the milestone in other ways. We have been working on a number of activities designed to make a significant contribution to the Arboretum. This Newsletter details some of those activities and will show the Arboretum continues to be a source of history, achievement and learning.

The University will provide us with a limited number of *Dracaena* plants raised from the mature stock in the Arboretum. Our logo is based on the shape of this distinctive plant. We will make these potted *Dracaena* plants available to FWA members who are able to make a particular donation to the Friends. Members receiving a *Dracaena* will also receive a metal keyring especially made for the 25-year celebrations.

FWA members have a chance to mentor University students studying horticulture at the Waite campus, passing on skills and insights into aspects of plant management. This is a great opportunity for the students and volunteers to work alongside each other and for our members to transfer some practical tips to the students to complement their University studies.

The Management Committee has made another cash donation to the University to assist in the maintenance and improvement of the Arboretum as a facility for the whole community. This year we have donated \$10,000 and look forward to working with the Curator and her team in helping to realise some of their plans. The FWA Management Committee welcomes Michelle Steinberg and Geoff Turner to fill casual vacancies on the Committee. Our 2019 AGM will be held later this year and will include an invitation for further nominations from our members.

The Waite campus is home to several sculptures by Silvio Apponyi, some of which are within the Arboretum. Silvio was included on this year's Queens Birthday Honour List with an award of OAM for his services to the visual arts. We congratulate Silvio on this achievement and are delighted to be associated with the diverse works in stone and metal created by him over the years.

We also celebrate the contributions of two champions of the Arboretum who are no longer with us. Dr Brian Richards AO was married to Beth, our immediate past President, and our sympathies are extended to Beth and her family for their loss. Brian was a valued and reliable volunteer over many years. He was always available to help, often behind the scenes, at FWA functions.

Marion Wells was the great-grand-daughter of Peter Waite. Marion was a Foundation and Life Member of the Friends of the Waite Arboretum and the Inaugural President of the Friends of Urrbrae House. She was a staunch supporter of Urrbrae House, the Gardens and the Arboretum, rarely missing events and fundraising occasions.

July 2020



*Jubaea chilensis* Chilean wine palm ARECACEAE #392 Chile 1928

*Jubaea* is a mono-typical genus, that is, there is only one species of *Jubaea* though it is closely related to the widely known *Butia* and to the rare *Jubaeopsis* of South Africa, to which it is in many ways similar. *Jubaea* is essentially a non-tropical palm, preferring mild summers and cool winters for optimum growth. Its tolerance of frost is surprisingly high; in fact it is probably the most frost-tolerant feather leaved palm.

It is a monoecious palm, that is, a single tree is capable of producing fruit and viable seed, but it won't flower until it is some 50 - 60 years old, when many short inflorescences appear, rather hidden amongst the leaf bases. These produce large clusters of spherical, yellow fruits 4 - 5cm in diameter. These ripen in the autumn, with a soft pulp, and inside is the grey, stony, very hard endocarp (seed), with three distinctive germination pores rather like the 'eyes' of a coconut. The endosperm (kernel) is edible and tastes just like that of a coconut too. In Chile, where *Jubaea* is endemic, it is called 'coquito' which means 'little coconut', and the fruits are sold on the local market, and also exported. *Jubaea* is rare today, due to formerly excessive tapping for its sugary sap, which involved killing the tree.

Tobias Spanner profiles the Arnold Schwarzenegger of the palm world. Tobias Spanner, Tizianstr. 44, München 19, Germany Chamaerops No. 4, published online 23-11-2002



## University of Adelaide Student Horticulture Internships. Dr Kate Delaporte.

Members of the FWA with skills and experience in plant management, and a willingness to mentor students, can make a contribution to the academic programs of the School and to the care and maintenance of the Arboretum.

Students enrolled in the Bachelor of Agricultural Science program in the School of Agriculture, Food and Wine (Waite Campus) are required to complete an industry practicum of 450 hours throughout their three years of study. This 'horticulture internship' provides students in the Agricultural Science program with practical tuition and vocational experience in plant cultivation, pest management, pruning, weed identification and management, and general garden and tree care. The internship is designed to encourage an interest in horticulture and arboriculture as a career and can be completed at a rate of 2 hours per week for each Semester of lectures.

Small groups of students will work in the Arboretum (and adjacent gardens) under supervision from University staff at a time that does not compromise their schedule of lectures, tutorials and other structured educational sessions at the University. In addition to the academic supervision, each student will require a mentor to work alongside them in the Arboretum. The mentor will provide an additional level of skill and ensure the work of the students is done in a safe and careful manner.

A coordinator from the FWA will ensure all horticulture students working in the Arboretum are accompanied by a volunteer mentor at all times. FWA members must be prepared to commit 2 hours per week (Monday to Friday) for each week of a teaching Semester, and be assigned to a roster.

Members interested in mentoring students in this program are invited to contact FWA's Geoff Turner to register their interest ) and to be added to the roster.

[geoffturnercando@hotmail.com](mailto:geoffturnercando@hotmail.com)

July 2020



Horticulture students in the Urrbrae House rose garden. Photo EB

## The garden volunteer program has reopened!

Erica Boyle

We are very glad to inform that the Waite Arboretum and Urrbrae House Gardens volunteer program has reopened after 14 weeks of suspension due to COVID-19. It has been a very long period but we are happy to have the volunteers back! The program has been readapted to comply with all the safety measures needed to assure the volunteers, staff and members of the public are safe. Some restrictions are still in place, especially in the number of volunteers attending every session, social distancing, hygiene protocols and spacing limitations.

Everybody is happy to be back and we are especially thankful to the volunteers to accept the conditions and new guidelines of the program. One thing we all miss is our elevenses! Due to spacing limitations, our typical morning teas in the Volunteers' Room are no longer a possibility. We will try to find the way to still keep the tradition in place and have from time to time a cuppa in the gardens. At the wonderful morning tea we shared on the 14<sup>th</sup> of July when the new Head of School of Agriculture, Food and Wine at the Waite Campus, Professor Martin Cole and his wife Brenda came to say hello and thank the volunteers for their contribution to the University of Adelaide.

Professor Martin Cole is an internationally recognised food scientist with expertise in food safety, food trends and innovation, processing and nutrition, and the translation of science into community and commercial outcomes. Prior to joining the School in October 2019, Martin has held positions including Director of CSIRO Food and Nutrition, and Director of the US National Center for Food Safety and Technology, the largest and most successful centre of excellence of the US Food and Drug Administration (FDA).

For more information about Martin Cole: <https://www.adelaide.edu.au/newsroom/news/list/2019/10/30/food-scientist-is-new-head-of-agriculture-food-and-wine>

The Waite Arboretum guided tours are still suspended and we are hoping to reopen them again in the near future soon.



The visit of the new Head of School of Agriculture Food and Wine, University of Adelaide Professor Martin Cole, talking to the Arboretum and Garden volunteers.

## Dragon Tree Seedlings



Seedlings for sale—*Dracaena draco* subsp *caboverdeana*



Thanks to Terry and Rob for installing the BBB sign. Photo EB.

This year is the 25<sup>th</sup> anniversary of the Friends and we are very happy to announce a partnership with the University that will help celebrate this milestone.

Members have the opportunity to have their own Dragon Tree plants grown from seeds collected from the plants growing in the Arboretum. The University has conducted germination trials of seeds collected from the specimens in the Arboretum and has offered to make these seedlings available to the Friends. There are about 40 potted seedlings of *Dracaena draco capoverde* (40 cm high) and 40 of *D. ombet* ssp. *shizantha* (20 cm high).

Dragon trees are endemic to North Africa and the islands off the north coast of Africa and Arabia. They grow well in Adelaide and surrounding areas. Many healthy plants can be seen in private gardens and public areas around town. The most obvious are those planted along the Western boundary of Government House. A healthy specimen can also be seen at the Britannia Roundabout, on the grounds of Victoria Park. Dragon Trees have a spreading geometric canopy, are slow growing, hardy and can be kept in large pots for several years. The Friends are offering young potted Dragon Tree plants to our financial members in exchange for a donation to the Friends of any amount greater than \$50. These are not commercially produced plants but raised directly from Arboretum specimens. Members taking up this offer will also receive a FWA 25 Year commemorative key ring.

Consider also purchasing a hand-made apron with the *Dracaena* logo to accompany your *Dracaena* plant and keyring. Aprons are available for \$25.

Contact our Secretary at [crosby\\_jo@yahoo.com.au](mailto:crosby_jo@yahoo.com.au) to express interest in this opportunity and to reserve a *Dracaena* plant for yourself.



## Order of Australia Sculptures in the Arboretum

Silvio Apponyi is an Australian sculptor based in Balhannah in the Adelaide Hills, SA. Silvio has been sculpting for around 40 years. His style has developed over these years, from entirely abstract creations including larger pieces with astonishing detail and realism. His main inspiration is Australian fauna and he hopes to draw attention to these unique and often threatened species. In his self built studio Silvio creates his sculptures using a variety of mediums including wood, Australian granites, marbles and bronze. His work is featured in many private collections overseas and in Australia.

Silvio's Rose Petal Grill designs can be found over each of the three ponds in the 20th Century Rose Garden.

Shrimp, the Scottish terrier sits at the feet of the Peter Waite sculpture in the Waite Arboretum and the Rams Head is located on the lawns of the University of Adelaide Waite Campus.



Sculptor (Albert) Silvio Apponyi was awarded a Medal of the Order of Australia for services to the visual arts as a sculptor. The Waite Arboretum and the University of Adelaide has a wonderful collection of his sculptures. <http://www.apponyi.net/>



'Aries' S. Apponyi (1981) Photo WH

'Shrimp' S. Apponyi (1999) Photo JB



'Rose Petals' pond grills (2016) S. Apponyi Photo EB



## In Memoriam

The Friends of the Arboretum are saddened to hear of the passing of Marion Waite Wells and Dr Brian Richards.

**Vale Marion Waite Wells**, is great-grand-daughter of Peter Waite. Marion was a Foundation and Life Member of the Friends of the Waite Arboretum and the Inaugural President of the Friends of Urrbrae House. She was a staunch supporter of Urrbrae House, the Gardens and the Arboretum, rarely missing events and fundraising occasions. She was a woman of great dignity and poise. Our condolences to her family.

Former FWA volunteer **Brian Richards AO**, who died on 15 June this year, was a respected CSIRO soil scientist and geomechanical engineer. With a first-class Honours Bachelor's degree and Doctorate in engineering from the University of Adelaide – and a Master's from the University of California, Berkeley – he travelled the world for work. However, he returned to his home state of South Australia in 2007 after retiring.

During a career focused on unsaturated and swelling soils, Brian worked on mine rehabilitation, tailings dams, highways and much more. In the 1970s, he was one of a panel of experts to advise the Hong Kong government on how to prevent further deadly landslides – a project still in evidence today in the plaques of registration on every Hong Kong slope.

In the 1990s and 2000s, Brian was the recipient of two Alexander von Humboldt Foundation fellowships in Germany. As part of this, he spent years in Kiel mentoring young scientists in his field. He was awarded his AO in 2017 for services to soil science.

Brian was a keen arboretum volunteer, working particularly in the sensory garden for a number of years from 2008. He was a regular helper at FWA events, especially in the kitchen cheerfully working the dishwasher!

We will miss him.

**Seat of the Season. Terry Langham**

Jess and Dennis Chambers



The Chambers family shared a great fondness for the Waite Arboretum. During the previous months many people have enjoyed the Waite Arboretum, a unique and special place to visit, especially during these times of social isolation.



Nearby tree species:



*P. chinensis* Chinese pistachio #862 B8 ANACARDIACEAE China Japan, Philippines 1929. Dioecious, with separate male and female plants. The fruit is a small red drupe, turning blue when ripe, containing a single seed. It is a popular choice for street trees in urban settings because it is very drought tolerant and can survive harsh environments.



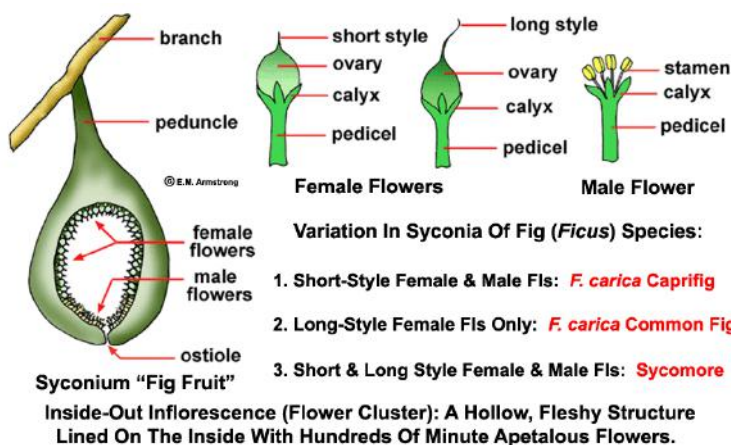
Fruit and leaves *P. chinensis*. Photo EH

**Figs in the Waite Arboretum Winter. Jenny Bivré**

We have 21 Fig trees in the Arboretum and they are looking very healthy in response to this much needed rain. They range in age from one hundred and twenty seven years old (*Ficus macrophylla* 1893) to ten years of age (*Ficus auriculata* 2010).

I am not sure why the early Garden Curators in Adelaide originally planted Fig trees, but I like to think they knew what a unique and important species they are. *Ficus* is a large genus of about 800 species found mostly in India, Malaysia, Polynesia and New Guinea. One species extends to central Australia, *F. brachypoda*. They are highly regarded in Australian Indigenous Communities and in many cultures around the world. There are about 40 species in Australia, mainly in tropical regions.

Figs are called keystone species. According to Michael Shanahan 'Gods, Wasps and Stranglers', they support biological systems including mammal, invertebrate and plant. There are always figs fruiting somewhere in the world and migrating birds depend on this fruit. They have a crazily complex way of reproducing which is reliant on a wasp unique to each fig species. The idea of so many plant and animal species relying on figs for their survival creates a fantastic story in biology. Much of this marvellous story is described in Michael Shanahan's book.



The Fig Flower

<https://www2.palomar.edu/users/warmstrong/pljun99b.htm>



Female Fig pollinator wasp, Family AGAONIDAE

When she lays her eggs inside the flowers, pollination occurs with pollen from the last fig she visited. The males spend their entire yet short lives inside the fig, where they mate with females and die soon after.

[australian.museum/learn/animals/insects/fig-wasps/](http://australian.museum/learn/animals/insects/fig-wasps/)

## Fig species MORACEAE in the Waite Arboretum



*Ficus sur* Cape fig #975 1957. This is a widespread Afrotropical species of cauliflorous fig. The figs are edible and utilized in fresh or dried form by native people in many regions.



*Ficus watkinsiana* Green-leaved Moreton Bay fig #896 NSW QLD 1938. A strangler fig, with edible fruit. Leaves elliptic with long petioles (4-7 cm). The receptacle turns dark purple with pale spots and has a prominent nipple and is called the Nipple fig.



*Ficus coronata* Sandpaper fig #177 QLD, NSW, VIC. NT 2003. The fruit is succulent but covered with bristly hairs. *Ficus coronata* serves as a food plant for the caterpillars of the Queensland butterfly or Purple Moonbeam (*Philiris innotatus*), the Australasian Figbird (*Sphecotheres vieilloti*), Green Catbird (*Ailuroedus crassirostris*), Olive-backed Oriole (*Oriolus sagittatus*), Topknot Pigeon (*Lopholaimus antarcticus*), and Grey-headed Flying Fox (*Pteropus poliocephalus*).



*Ficus elastica* 'Decora' Broad-leaved Indian Rubber Tree. #895 1962. Native to eastern parts of South Asia. The fruit is a small yellow-green oval fig 1 cm long, barely edible; these are fake fruits that contain fertile seeds only in areas where the pollinating wasp is present.



*Ficus retusa* Malay Banyan #973 SE Asia 1947. It has a grey to reddish bark dotted with small, horizontal flecks, called lenticels, that are used by woody plant species for supplementary gas exchange through the bark.



*Ficus sycamorus* Egyptian Sycamore #876 1973 Tropical and S Africa. In tropical areas where the wasp is common, complex mini ecosystems involving the wasp, nematodes, other parasitic wasps, and various larger predators revolve around the life cycle of the fig. The trees random production of fruit in such environments assures its constant attendance by the insects and animals which form this ecosystem.