

APS EAST HILLS GROUP NEWSLETTER



September 2020

**NEXT EHG MEETING:
THERE WILL BE NO EAST HILLS GROUP GENERAL MEETING
IN SEPTEMBER 2020.**

WELCOME to the September 2020 edition of the APS East Hills Group Newsletter.

As our President has told you in his recent email, we are not meeting – even by Zoom – in September. At this stage, it looks as if our October meeting will be via Zoom on a night other than our usual meeting night to avoid clashes with other APS NSW Groups who also use Zoom. Alternatively we could hold a daytime outdoor meeting in a park, weather permitting. Please let the President know your thoughts.

In place of our September meeting, you can read this newsletter to take a walk with Karlo in Georges River National Park and visit Johnson Park in Dulwich Hill with Chris King. You can also read about Grass Trees (*Xanthorrhoea*), including various members' experiences with them in the garden and in the bush. Thank you everyone for your contributions!

For the next newsletter, perhaps you would like to send in a few words and a photo of an Australian native plant that you are growing or have seen for the first time?

I hope you enjoy the newsletter. Stay well!

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FROM OUR AUGUST MEETING
APS EAST HILLS GROUP MEETING – WEDNESDAY 5 AUGUST 2020

Our August meeting was held using Zoom, only a short one, beset with a few technical difficulties. Nine members joined the meeting and there were four apologies. It was a pleasure to have Karl Schurr with us for the first time since his encounter with Covid-19, and interesting to hear a little from him about his recovery. We had one presentation, 'Bulahdelah in Spring', by Dorothy Luther about re-emerging native flora on a friend's property. Two other presentations were stopped early (Chris King and Graham Fry) or not started at all (Jan Douglas) because of technical difficulties. We hope next meeting will run more smoothly!

A WALK IN GEORGES RIVER NATIONAL PARK

Karlo Taliana

For the past eighteen months or so, Karlo has been walking in Georges River National Park two or three times a week, more often in the part north of the Georges River, as that is nearer to home. Recently, Karlo drew on his extensive knowledge of the Park in leading a walk there for Oatley Flora and Fauna Conservation Society. Here's his short account.

I was privileged to be asked by OFF to lead a 3-4 hour walk through the local bushland at Picnic Point, an area I have become quite familiar with over the last couple of years. About a dozen members attended and it was a beautiful clear day (Sunday 2nd August 2020), although many tracks were still wet underfoot after the heavy rains from earlier that week. Much of our time was spent in the heath areas where many of the local pea flowers were starting to colour up the bush – these included *Dillwynia retorta*, *Mirbelia speciosa*, *Gompholobium pinnatum*, *Phyllota phyllicoides*, *Hovea heterophylla*, *Hardenbergia violacea*, *Pultenaea villosa* and *Daviesia acicularis*, the last being quite rare in the area with only a single known plant remaining. (All these plants are pictured below.)



Above (L to R): *Dillwynia retorta*, *Mirbelia speciosa*, *Gompholobium pinnatum*, *Phyllota phyllicoides*, *Hovea heterophylla*

Below (L to R): *Hardenbergia violacea*, *Pultenaea villosa*, *Daviesia acicularis*



We also came across several ground orchid species, including *Pterostylis concinna*, *Pterostylis acuminata*, *Pterostylis longifolia*, *Pterostylis oblonga* and *Diuris maculata*.

Some of the smallest plants and yet the most interesting seen were carnivorous species, two of which I'll describe in more detail.

The first is ***Drosera glanduligera*** (Pimpernel Sundew), the least common of our five local sundew species, being more commonly found in Tasmania, south-eastern Australia and south-western Western Australia. With more recent rainfall this year, there have been a higher number of reported sightings of this species across Sydney where, according to the experts in native carnivorous plant groups, it's considered uncommon. *Drosera glanduligera* (pictured below, left) is only a tiny plant with a base rosette of leaves to 4cm diameter in good conditions.



But to make up for this small size, it grows 'catapult tentacles' on the outer edges of its base leaves (see above, right). These are longer than most of the other tentacles, and when they are triggered by a crawling ant, the insect is catapulted towards the centre of the leaf where sticky tentacles await. This action occurs within just a few milliseconds. Soon after the prey becomes stuck in the sticky mucilage, it is immobilised and the digestion process begins.

Another carnivorous plant that has seldom been seen at Picnic Point is the Bladderwort, ***Utricularia oppositiflora*** (Three-lobed form) - see below left. Bladderworts are very unusual and highly specialised carnivorous plants that grow in wet environments. At the base of the flowering stem they have a network of leaves (below right) that contain bladder-like traps and these are at a lower pressure than the surrounding environment. When small aquatic animals (such as protozoa, mosquito larvae, etc) venture too close to the trigger hairs, the trap door is mechanically triggered. When this happens, the prey, along with the surrounding water, is suddenly sucked into the bladder. Once the bladder is full, the trap door closes again, with the whole process taking only 10-15 milliseconds.



-----THE END-----

A VISIT TO JOHNSON PARK IN DULWICH HILL

Chris King

Here are some photos of lovely *Olearia microphylla* (Bridal Daisy Bush) flowering in a small section of my local reserve, Johnson Park. This is a traditional park with big Figs and Brush Box around the edge and lawn in the centre. But a small corner was set aside for local native Sydney Turpentine Ironbark Forest vegetation as an offset for building the local light rail. A couple of these Olearias are flowering profusely at the moment [early August]. Robinson* quotes William Woolls who called it "the harbinger of spring" and Amy E. Mack who wrote that "its million stars make a milky way beneath the trees".

*Field Guide To The Native Plants of Sydney by Les Robinson, 2003, p.139.



Last month, I asked members to send me words and pictures about Xanthorrhoea (Grass Trees) to include in the September newsletter. There was a great response! Here then are our feature stories on Xanthorrhoea! – Editor.

GRASS TREES - XANTHORRHOEA

Jan Douglas

Xanthorrhoea – Grass Trees – what do we know about them? Their genus name is hard to spell, and unusual: not many genera start with X! Apparently the genus name comes from Ancient Greek and means 'golden flow', a reference to the resin – probably not the feature most of us think of first when we think about Grass Trees. On the other hand the common name 'Grass Tree' does paint something of a picture, even though (as many have pointed out before now) Grass Trees are neither grasses nor trees. And of course not all Grass Trees have trunks, even in maturity, and so look much more like grass than trees! (And for now I am going to ignore the fact that the common name, Grass Tree, is used for plants other than *Xanthorrhoea* species.)

So if Grass Trees are not grasses and they're not trees, what are they? The genus was named in 1798 by J. E. Smith* and falls in the family Xanthorrhoeaceae or the sub-family Xanthorrhoeoideae (depending on your reference source). Grass Trees are monocots. They are perennials.

*This simple statement hides a more interesting and complicated story – see the paper by Nelson and Bedford listed at the end of this article.

An individual plant may or may not have a trunk depending on its species, its age and the growing conditions. Trunks of Grass Trees are made up of old leaf bases combined with another layer of tissue. Water and nutrients are transported inside the trunk by aerial roots, so their structure is very different from the trunks of trees like Eucalypts and Wattles. Grass Trees are generally regarded as slow growing, but this too is variable. However, it is true that some individuals are hundreds of years old.

All *Xanthorrhoea* species have their flowers grouped on a cylindrical flower spike, the bare stem of which is called the scape. The photos below show that on the large Grass Tree in our garden (probably *Xanthorrhoea johnsonii*), the scape elongates considerably before the flowering part of the spike is fully formed. Compare this with the development of the flower spikes of the *Xanthorrhoea* in Marie and Des's back yard (page 8).



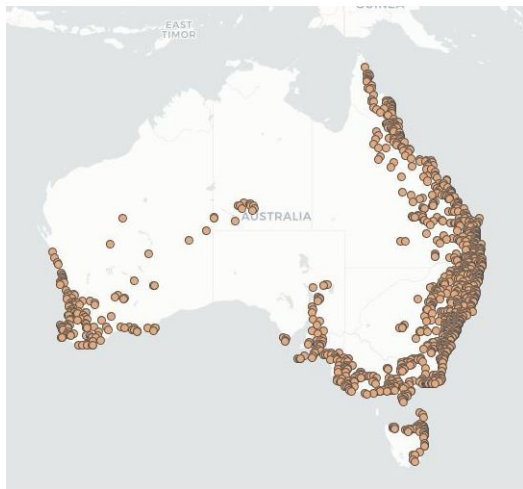
Grass Tree species are very variable in size. The smaller ones may be less than a metre tall, but apparently some trunked specimens have been recorded at 5m! In 2017, along the Corn Trail Walk on the NSW South Coast, Dave and I saw some very large specimens – see the photo of the broken flower spike at left below. Whether they survived last Summer's bushfires I don't know. The other large specimens pictured below are at the Australian National Botanic Garden in Canberra (centre) and in Western Australia (right).



In the whole of Australia, there are about 30 species (twenty-nine accepted names are listed on The Plant List (<http://www.theplantlist.org/tpl1.1/search?q=Xanthorrhoea>)). *Xanthorrhoea* grow naturally only in Australia, and occur in every state and mainland territory.

Below is the distribution as shown on the Atlas of Living Australia

(<https://bie.ala.org.au/species/https%3A//id.biodiversity.org.au/node/apni/9623818>).



NSW Flora Online lists thirteen species and six subspecies of Xanthorrhoea as occurring naturally in NSW – see below. Some species are known to form interspecific hybrids – sad news for those of us who would like to be able to identify Grass Trees to species level!

Xanthorrhoea acaulis
Xanthorrhoea arborea
Xanthorrhoea australis
Xanthorrhoea concava
Xanthorrhoea fulva
Xanthorrhoea glauca
Xanthorrhoea glauca subsp. *angustifolia*
Xanthorrhoea glauca subsp. *glauca*
Xanthorrhoea johnsonii

Xanthorrhoea latifolia
Xanthorrhoea latifolia subsp. *latifolia*
Xanthorrhoea latifolia subsp. *maxima*
Xanthorrhoea macronema
Xanthorrhoea malacophylla
Xanthorrhoea media
Xanthorrhoea minor
Xanthorrhoea minor subsp. *lutea*
Xanthorrhoea minor subsp. *minor*
Xanthorrhoea resinosa

Grass Trees grow in woodland and heathland, usually in soils that are free-draining and low in nutrient. They have symbiotic associations with mycorrhiza in the soil. They are susceptible to infection by *Phytophthora cinnamomi* and this is a serious environmental problem in many areas of Australia. (See also Carol's article below.)

Grass Trees are popular garden plants, available from nurseries (see photo above) and are mainly harvested from the wild, under licence. However, it's also possible to grow your own from seed and obtain an attractive plant in just a few years, depending on the species. See Marie's story below for a striking example of quick growth! I have successfully grown Grass Trees from seed, in particular *Xanthorrhoea macronema*, a small species without an above-ground trunk but with a lovely flower spike.

Grass Trees are generally regarded as resistant to bushfire, and most of us have seen mass flowerings of Grass Trees after fire – see Kate's and Carol's articles below. However, fire is not always good news for Grass Trees – we lost all three of the large naturally-occurring Grass Trees on our block in Lugarno after an official controlled burn that wasn't as controlled as it should have been.

Most of us know, I guess, that flowers of Grass Trees have been used to make a drink (by soaking the flower spike in water) and that the resin from Grass Tree has been used as a glue. I didn't know that the resin has also been used in the manufacture of picric acid, for making early gramophone records and for waterproofing canoes and drinking vessels.

The articles below share some of our members' experiences with Grass Trees. Clearly, many of us are fond of Xanthorrhoeas, in the garden and in the bush!

References and further reading:

Atlas of Living Australia <https://www.ala.org.au/>;
<https://bie.ala.org.au/species/https://id.biodiversity.org.au/node/apni/9623817#overview>

Bush Heritage Australia fact sheet <https://www.bushheritage.org.au/species/grass-trees>

PlantNET NSW Flora Online <https://plantnet.rbgsyd.nsw.gov.au/floraonline.htm> ;
<https://plantnet.rbgsyd.nsw.gov.au/search/indexsearch.htm>

'The Grass Tree – Its Uses and Abuses' Phil Watson 2004 Australian Plants Online
<http://anpsa.org.au/APOL33/mar04-5.html>

The names of the Australian grass-tree: *Xanthorrhoea* Sin. and *Acoroides* C. Kite
(Xanthorrhoeaceae) by E. Charles Nelson F.L.S.D and J. Bedford
<https://doi.org/10.1006/bojl.1993.1044>

The Plant List <http://www.theplantlist.org/tpl/search?q=>
<http://www.theplantlist.org/tpl1.1/search?q=Xanthorrhoea>

Wikipedia <https://en.wikipedia.org/wiki/Xanthorrhoea>

Xanthorrhoea: A review of current knowledge with a focus on *X. johnsonii* and *X. latifolia*, two Queensland protected plants-in-trade A. C. Boorsboom 2005
https://www.researchgate.net/publication/280496153_Xanthorrhoea_A_review_of_current_knowledge_with_a_focus_on_X_johnsonii_and_X_latifolia_two_Queensland_protected_plants-in-trade

GRASS TREES IN OUR GARDEN

Marie O'Connor

In our garden we have five Xanthorrhoea plants. Two are large feature plants, and three are young plants in half wine barrels in the back garden – we are patiently waiting to see how they develop. Both front- and back-garden plants are near water and I give them native plant fertiliser twice a year.

BACK GARDEN

The back garden Xanthorrhoea was given to us in 2010 by Hugh and Elizabeth Starkey (Cougall Park Bed and Breakfast <https://www.cougallpark.com/>) who propagated it from the local Grass Trees in their area, close to the Border Ranges National Park. At that stage the plant had only six leaves, it was that young. But only eight years later (2018) saw the first flower spike. It ended up growing to 4.5 metres! I was so excited, and shared my joy with others. Then 2020 brought us a double treat: in early July it produced two flower spikes which at the time of writing (early August 2020) have reached 2 metres in height and are still growing.



2018: Back garden: First flower spike (O'Connor photos)



2020: Back garden: Twin flower spikes.
Left: about two weeks old; Right: About five weeks old (O'Connor photos)

FRONT GARDEN

This plant was bought from Phil Keane (Australian Plants R Us, <http://www.facebook.com/ausplants>) at a Sutherland APS meeting about 15 years ago when Des was building the front garden. The plant was already over 20 years old at the time. It is a key feature in the front garden. I think it is *Xanthorrhoea glauca*. Over the years I have watched as it has grown and has produced four small new shoots at its base . This year, to our delight, it has produced its first flower spike which (early August 2020) is still growing.



Left: Spike at three days old (O'Connor photo)

2020: Front garden: First flower spike

Right: Detail of spike at about five weeks old (J Douglas photo)



GRASS TREES IN MY GARDEN

Carol Drew

Carol gardens on a large sloping block with remnant bushland. Here she shares some of her experiences with Grass Trees over the years.

In 2007, I burned my seven grass trees (after getting approval from the Fire Brigade) as they were looking messy and untidy. They were growing naturally in my backyard in Lugarno.



The next year, they were looking magnificent, with new foliage and all had flower spikes .



But in 2009, four of my Grass Trees fell victim to Phytophthora, and couldn't be saved. My next door neighbour also lost her two, as did a gardener three blocks up.

I have tried growing replacements from small plants, but the rabbits keep eating them, so I have given up on that idea.



Six weeks ago I decided to give the remaining three Grass Trees another burn, as I was having a good clean up around them.



And this is the regrowth today. I expect they will power on once the warm weather arrives.

GRASS TREES IN THE GRAMPIANS

Kate Porritt

These photos, taken in September 2014, show Grass Trees in the Grampians (Gariwerd) in Victoria after bushfires in the previous Summer. I don't know which species they are. The shapes are interesting. Tony is in the photo only to indicate the height of the plants. We were told that their height was more likely to show the number of bushfires endured rather than the age of the plant, but I haven't verified this. The photos also show that Grass Trees are one of the earliest to show green after fires.

[Two species of Grass Tree found in the Grampians are *Xanthorrhoea minor* and *Xanthorrhoea australis* - Editor.]





[Two species of Grass Tree found in the Grampians are *Xanthorrhoea minor* and *Xanthorrhoea australis* - Editor.]

GRASS TREES – A CAUTIONARY TALE

Dorothy Luther

I can't find a picture of the Grass Tree I had in my garden, though I know I had some photos of it, maybe prints. I was very proud of it because it actually flowered - twice. I set fire to the dead leaves around it and it produced a flower stem with a small number of actual flowers. It was very hard to explain to my Vietnamese flatmate why I was so excited about a brown stick with a few measly looking little yellow blobs! I still have the flower stem with a few pods to prove the story (see photo!) It was moved/ killed in the backyard blitz by the 'expert' gardeners.



COMING EVENTS

Because of the Covid-19 outbreak, face-to-face meetings are restricted. Some meetings are being held on-line, using Zoom. For details of coming events, please see the APS NSW newsletter (which you should be receiving by email at the end of each month).

East Hill Group will not meet in September. Options being explored for an EHG meeting in October include a Zoom meeting on a night other than our normal meeting night or a daytime outdoor meeting in a park (weather permitting). Please email or phone our President with your preferences and suggestions (contact details are below).

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