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Australian Native Plants Association (Australia)



Banksia Study Group Newsletter

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Planned new dedicated banksia garden for ANBG.

Planning is underway for an exciting new banksia garden to be opened in 2020.

For those who like to plan ahead, a trip to the Australian National Botanic Gardens (ANBG) in Canberra may be in order in 2020, for the opening of the new banksia garden.

The garden has evolved from the idea that it's time for ANBG to celebrate and dedicate a memorable new garden to co-inside with its 50th birthday in 2020. What could be more memorable than Banksia?

The focus for the garden is to show a wide range of species originating from many areas across the country. It is planned to have the design, mix and combination of species, materials and interpretation captured in an engaging way celebrating the significant and memorable elements of all things Banksia.

As there will be many bizarre and fascinating species (many with special needs) on display, there will also be a strong emphasis placed on how to achieve success with “how to do” options available for the public.

Whilst we don’t want to give too much away at this stage, there is much innovative and creative work underway behind the scenes incorporating specialist cultivation and propagation trials. Much consideration is being given to the materials and structures that may be used in the garden itself, all feeding into the story book narrative of banksias.

The planning, development and preparation underway for the garden has become a truly collaborative effort with the ANBG team being backed up with the guidance, support and advice from many specialists including Kevin and Kathy Collins, Phil Trickett and Catriona Bate, the friends of ANBG and Alex George as part of the ANBG banksia working group. This fits well with ANBG’s approach to have the garden as a co-owned and co-developed partnership project that will help deliver the goal to connect people better with this memorable group of plants.

For those who would like to contribute ideas and feedback, or find out more about the garden, please contact Dave Taylor at the ANBG. (david.taylor@environment.gov.au)

Some sneak preview images.



Figure 1. Mixed banksia species growing in sandstone rubble over sand.



Figure 2. *B. lanata* in sandstone pipe mix.



Figure 3. Containerised banksias in nursery.



Figure 4. Potted, grafted banksias, brownii, coccinea & vincentia.

Author: Dave Taylor

Feature Banksia this issue: Banksia ornata.

The name is derived from the Latin word *ornatus* (decorated) referring to the attractive leaves and flowers. This species was collected by Ferdinand Mueller at Willunga, S.A. in 1852.

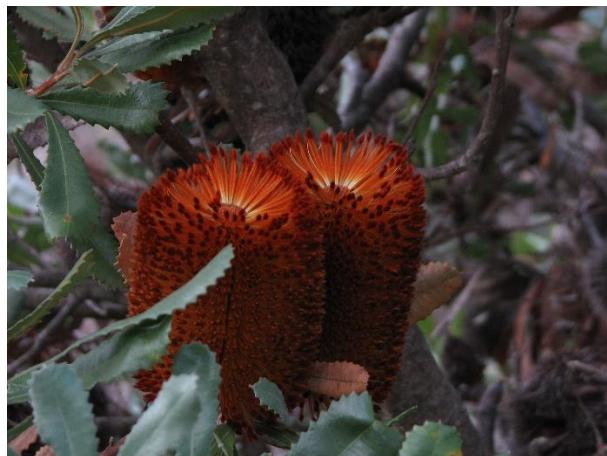
The indigenous tribes of its growing range used the open inflorescences immersed in water to make a delicious nectar drink. *Ngarrindjeri* people from the lower Murray River, S.A., called the banksia species *Yelakut*. *Wadjelas* sometimes refer to it as the “desert banksia”. The flowers are good for honey production and the pollen is high in protein.

It is typically a 3m, non lignotuberous, tall shrub but has smaller coastal forms. Often sprawly in coastal environs and taller in protected inland sites, it is primarily found in south east S.A., Kangaroo Island, southern Eyre peninsula and extends into Victoria near the Grampians and Big & Little deserts.

It is a bushy fast-growing shrub that prefers deep sand or sandy quartzite loams. It is not often spoken off in cultivation despite being relatively hardy and very showy with many colour variants. They grow very well in deep acidic grey sand at Mount Barker, W.A., in a cool temperate climate. They don't tolerate heavy frosts or high humidity and prefer open sunny sites.

It is grown easily from seed and flowers late Autumn-Winter and sometimes into early spring. I think it is well worth growing in a large pot with staged progression from a smaller pot annually doubling the container size. This tends to bonsai the plant and results in a very floriferous plant 1m tall and 1.5m wide. Inflorescences are predominantly terminal with some flowers on short stems on older wood.

Kevin Collins.





B.ornata – various colour forms at Banksia Farm Mount Barker. W.A.

Pictures 1 and 2 courtesy Andrew McDougall. S.A.

Banksia vincentia: a regional partnership to help save the species

Since the article on this species in the last edition, we thought a follow up on what the South- East NSW Bioregion Working group is doing to help secure the future for this species would be timely.

Following valuable early work in collecting, propagating and cultivating this species, the South-East NSW Bioregion Working group has started thinking strategically about how best to secure this species, drawing upon capacity and expertise within the group and by seeking resources and support from state and commonwealth agencies to leverage the effort.

To recap, there was ever only 14 *Banksia vincentia* plants found in the wild, confined to a very small area that measures approx. 60 meters across. Due to *Phytophthora cinnamomi* and wildfire going through the site over the last few years, the species unfortunately now only counts 4 live plants in the wild.

On the positive side, genetic material from 8 plants was collected some years back. This material is now spread over a number of institutions and nurseries, enabling us to work on some serious conservation programs.

The outcome so far

With support from the NSW SOS program the working group is aiming to secure the conservation of the species in the wild. Several actions are being undertaken to achieve this aim; broad-scale survey for new populations, of which none has yet been found; genetic investigation of the diversity within the species and to confirm its status within the Banksia genus; development of an ex-situ population and long-term seed storage; create new populations and augment the existing population through translocation, trials of which have been successful; securing appropriate tenure and management over the wild population; and, investigating the susceptibility to and threat posed by the pathogen *Phytophthora cinnamomi*.

This has been combined with support from the commonwealth which will enable the establishment of ex-situ plant production orchards at both the ANBG (in pipes) and Booderee Botanic Gardens (in ground), the implementation of a grafting program and the production and banking of seed from the orchard for future translocations and research.

As far as the seed orchard at the Booderee Botanic Gardens is concerned, the aim is to produce 800 plants over 2 years, subsequently planted for future seed harvesting. We are well into the first year of producing plants from cuttings, and happy to report that the success rate is beyond our expectations. This year we have used honey, rather than conventional hormones in the propagation process, and there appears to be little doubt that honey leads to higher strike rates.

As an aside, ANBG and Booderee are running a controlled fertiliser trial on the species due to some toxicity issues in the past. We suspect the species is highly intolerant to phosphorous, in even small amounts. It is hoped the trial will establish what application levels of fertiliser, including phosphorous is deemed safe to avoid toxicity, which in the past has led to close to 100% death rates at tube stock stage.

Seedbanks are also an integral part of the preservation. There are 450 seeds stored (from three collection events) at the Australian Botanic garden at Mount Annan and a further 100 seeds stored at the millennium seedbank, royal botanic gardens, Kew. U.K.



Growing media being pasteurised and prepared for seed orcharding

SE NSW Bioregion working group –Is a group of Botanic Gardens working in partnership with the NSW Office of Environment and Heritage, and in collaboration with land managers and custodians, with the aim to improve the trajectory for, and knowledge of, the rare and significant flora and the biota they support, from the south-east bioregions of NSW (covering from south of Sydney to the Victorian border) It includes the following partner members:

Australian National Botanic Gardens
 Wollongong Botanic Gardens
 Booderee Botanic Gardens
 Eurobodalla Regional Botanic Gardens
 Australian Botanic Garden Mt Annan
 NSW Office of Environment and Heritage
 Illawarra Grevillea Park

Peterson, Stig.

John Baker's experience growing Banksias near Cambridge, U.K.

I live near Cambridge, our climate is pretty good for banksias except from December until end February when we can get over-night lows down to minus 5C, sometimes minus 10C and in real extremes (like 1980s) minus 14C with minus 9 daytime temperatures.

Since I have been growing banksias (motivated by a wildflower tour of WA and visiting Banksia Farm in Mount Barker) I have been relatively lucky with weather.

I have a greenhouse where I propagate, and house over winter, young and susceptible plants. The plants are kept through spring, summer and autumn in sunny positions on our patios near the house. As winter approaches the hardiest ones are moved up close to and in the most sheltered places next to our house. If severe weather threatens I try to insulate the pots (my experience of lows in 80s leads me to believe that roots are more susceptible to low temperatures than their foliage). I have large quantities of wind protection matting which I wrap around the tops of plants and the pots until weather improves.

All my plants are grown starting in 9cm pots and my oldest plant is in 75 litres.

I make my own planting mix; 40% moss peat, 20% composted bark, 20% washed lime free grit & 20% vermiculite.

I use slow release phosphate free fertiliser from a nursery specialising in proteas and incorporate 2 tablespoons into 20 litres of soil mix. I also apply soluble fertiliser from the same source a couple of times in the early growing season. For seed and cuttings, I use the same mix with some added sharp washed sand and very little fertiliser. I also apply fongarid to help with damping off problems. If plant health deteriorates, mainly evident with plants that have been in same pot for a number of years, I apply trace elements.

I water as little as possible by hand in late autumn through to early spring then gradually increase. When I am home I water with rain water as the tap water is alkaline. However, when I am away, my plants are watered by automatic computer controlled drip system, for about 6 weeks of summer. In summer I will water every 3rd day if dry but otherwise dependent on weather. I feel it is better to underwater and good drainage in pots is essential.

Interestingly, although I position my plants for maximum sun, they mainly flower late summer and autumn and even coming into winter (the photo I showed you of *paludosa* and *integrifolia* flowering outside my front door was taken this week and we are now into winter). The seeds you sent me early this year, had reasonable success with about 70% average germination. There is variation between species from 100% down to 25% and some not growing. Some damped off easily. I have to germinate during our spring to get good strong plants to survive over winter.

Sorry if I have gone on a bit but in England you're pretty much on your own talking about banksias! Any information and news about banksias is very welcome.

I also have *dryandra praemorsa* growing. These flower early, and profusely in the spring and I have collected and raised plants from my own seed. (bit of a scruffy plant). I always over-winter these plants in my greenhouse (temperature set at +3C)

The two photos following are: 1. a selection of seedlings raised from seed received earlier this year.
 2. *B. integrifolia*, the first plant I raised from seed acquired from you around 15 years ago. This was flowering unusually in our summer, around 7 years ago when the plant was around 8yrs old. I have grown and flowered cuttings off this original plant.

Regards and best wishes.

John Baker.



Figure 1. Banksia seedlings.



Figure 2. *B. integrifolia*.

Mysterious wood formation on the outside of the original trunk of *B. coccinea*.

Discussion about trying to ascertain what may have occurred, led to Michaela Eder from the Department of biomaterials in Potsdam, Germany, offering to investigate. She works for the Max-Planck-institute of colloids & interfaces and said she would investigate the wood fibre structures using uCT scans in an effort to better understand the structures and hoped it may give a clue to how this can occur.

This bizarre phenomenon was discovered at Banksia Farm, 1998 when I, cut down some dead and ailing *B. coccinea* plants which were around 15 years old. They had severe borer infestation in the trunk which was ring barking the plant. It somehow, maybe through fissures from the cambium, grew new wood and bark outside the original trunk as a survival mechanism. Kevin Collins.



Figure 1. *B. coccinea* trunk.

(original bark separating from wooden core).



Figure 2. *B. coccinea* trunk.

(larger layers of new wood on one side of trunk).

Stem of Banksia coccinea – fibre structures.

To get a 3D view of the wood anatomy we took a small piece of the inner part of the stem and scanned it with μ CT. Unfortunately, the CT scan of the wood, embedded in the bark was not successful. The images below show undulating fibrous tissue around high amounts of wood rays.

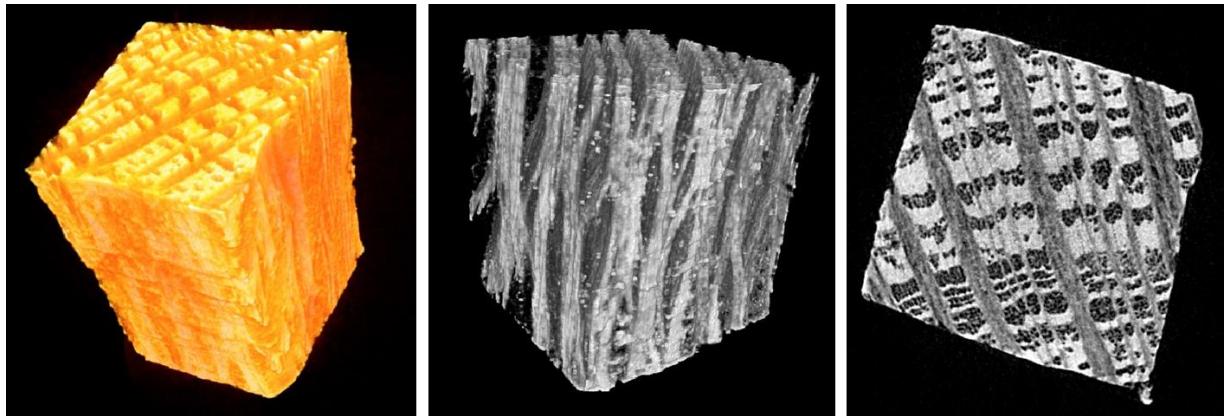


Figure 1 μ CT images of a piece of “normal” Banksia coccinea wood – whole block, thresholded fibres and a cross section

Furthermore, the dataset allows us to cut in any direction to get a better idea about the internal wood structure (Fig. 2).

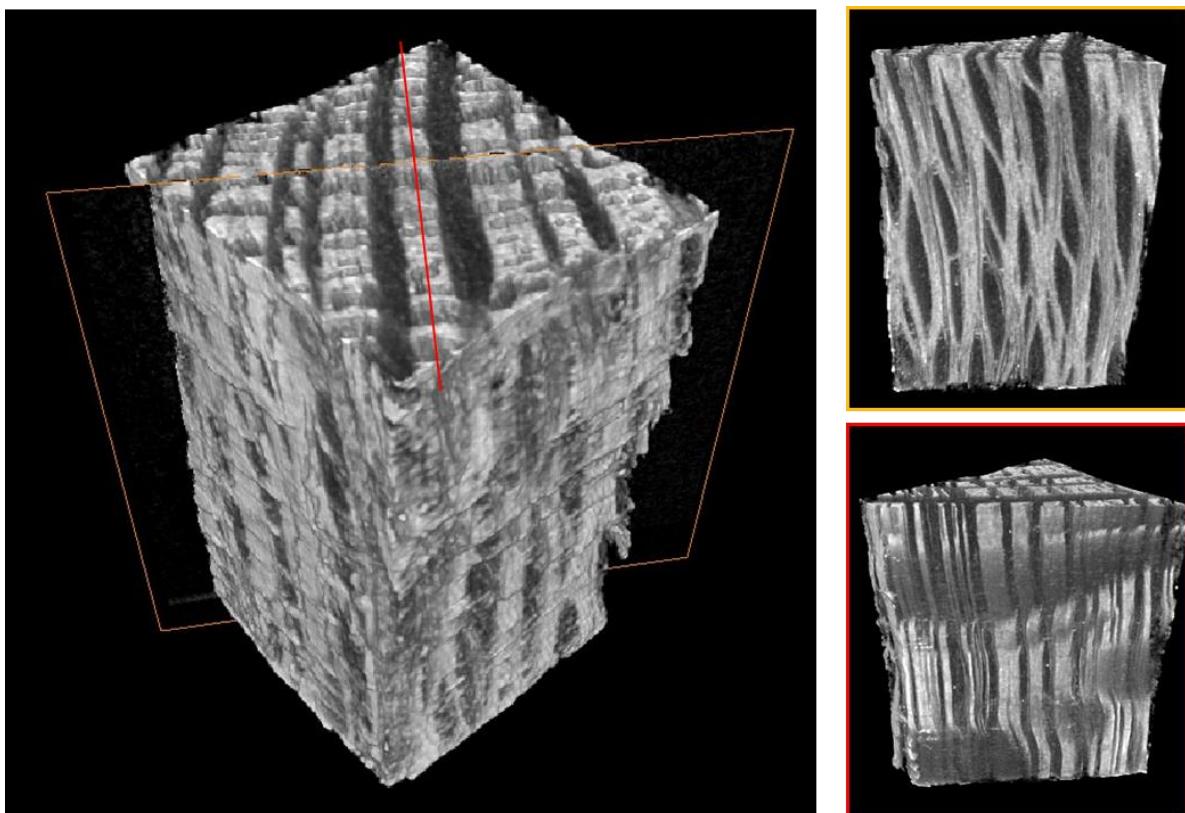


Figure 2

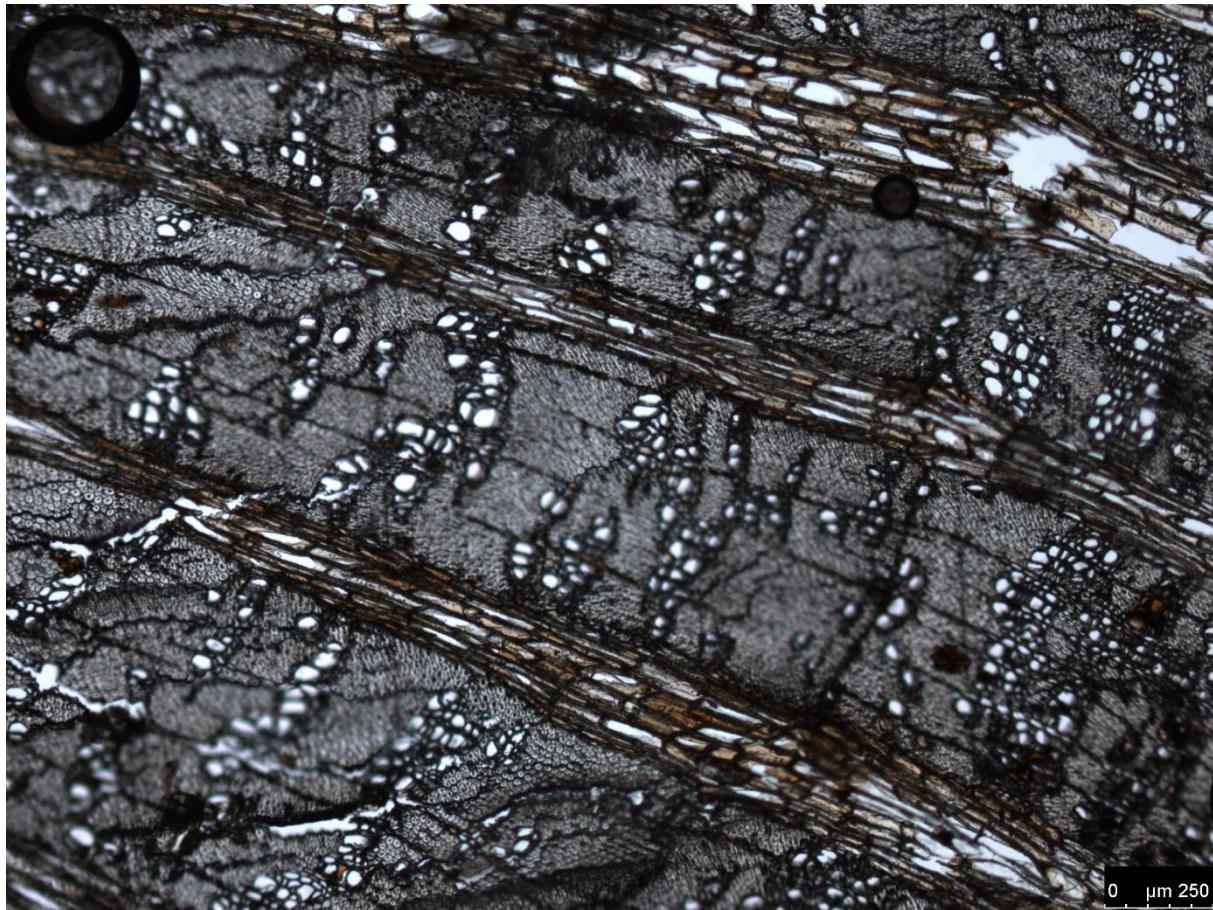
μ CT, 2 cutting directions

Light micrographs of cross sections of the “normal” wood showed alternating layers of large vessels and very dense fibrous tissue, again in between many massive wood rays (Fig. 3). We could not detect defined growth rings (this has also been described by M. Chattaway in 1948), the other wood features seem also to be similar to the ones described by M. Chattaway.



Figure 3 micrograph of a cross section of “normal” wood

Interestingly the wood embedded in the bark seems to have very similar features, except that the fibres are oriented in more or less any direction. This can even be seen in the micrograph below (Fig. 4). Since all cell types of the “normal” wood was found in this region too, we can speak about “real” wood. The cracks in the slice are either caused by drying or are cutting artefacts.



– micrograph of a cross section of wood in the bark

Furthermore, we were interested if the ultrastructure of the cell wall and the cellulose orientation in the wall has changed. For this reason, we did some x-ray experiments on both tissues. Fig. 5a shows the basic setup, one uses an X-ray beam, shines it through some sample and certain features scatter the beam and create a scattering image on a detector. In our case we investigate scattering coming from cellulose. In Fig. 5b you can see a sample holder with 2 pieces of your Banksia. Fig 5c shows a scattering image and the peak of interest. The width of this peak gives us an idea about the cellulose orientation. Here I would estimate a cellulose fibril angle of $\sim 15^\circ$ to the longitudinal cell axis. So far, we only did a qualitative analysis, since the fibrous tissue with its thick cell walls (which gives most of the signal) is not well aligned vertically and horizontally. This complicates a quantitative analysis considerably.

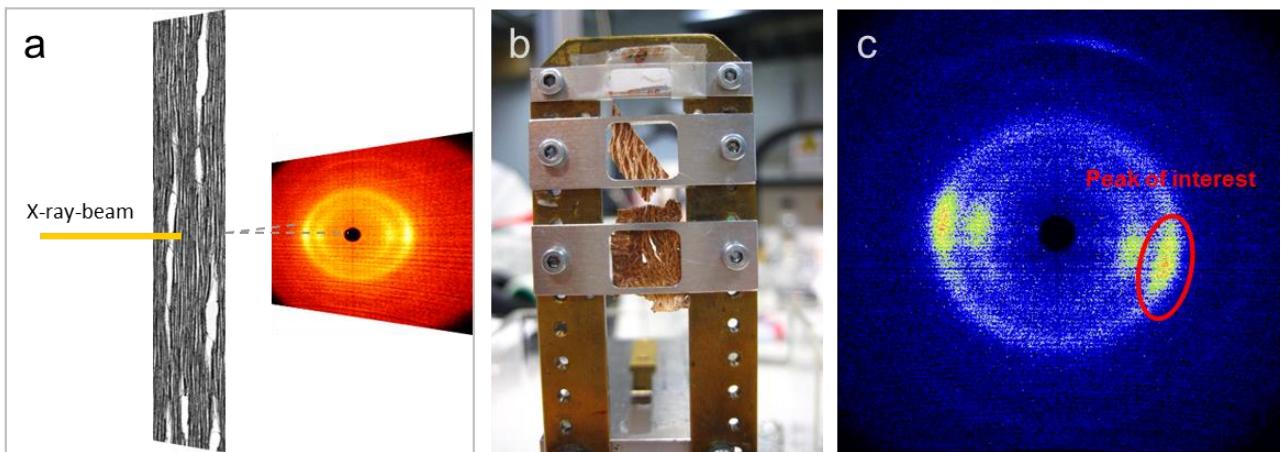


Figure 5 (a) schematics of X-ray scattering, (b) sample holder with samples, (c) scattering pattern

Fig. 6 shows the scattering images at different sample positions. The yellow-red-black-orange image is a so-called nanography, helpful to orient oneself on the sample. What the scattering pattern show is similar cellulose fibril orientation throughout the sample but we can also see that the fibre orientation changes (the peaks are at different positions). The scattering image 012 shows basically 2 rings but no clear reflexes, probably we measured in the rays (it is not so easy to always find the exact position). This also happened for the wood in the bark. In Fig. 7 scattering images 001, 003, 005, 007 and 008 gave all the same signal (no preferred orientation, therefore probably ray tissue). The other scattering patterns look similar to the ones for normal wood which means that on the ultrastructural level no pronounced differences between normal wood and bark wood could be found.

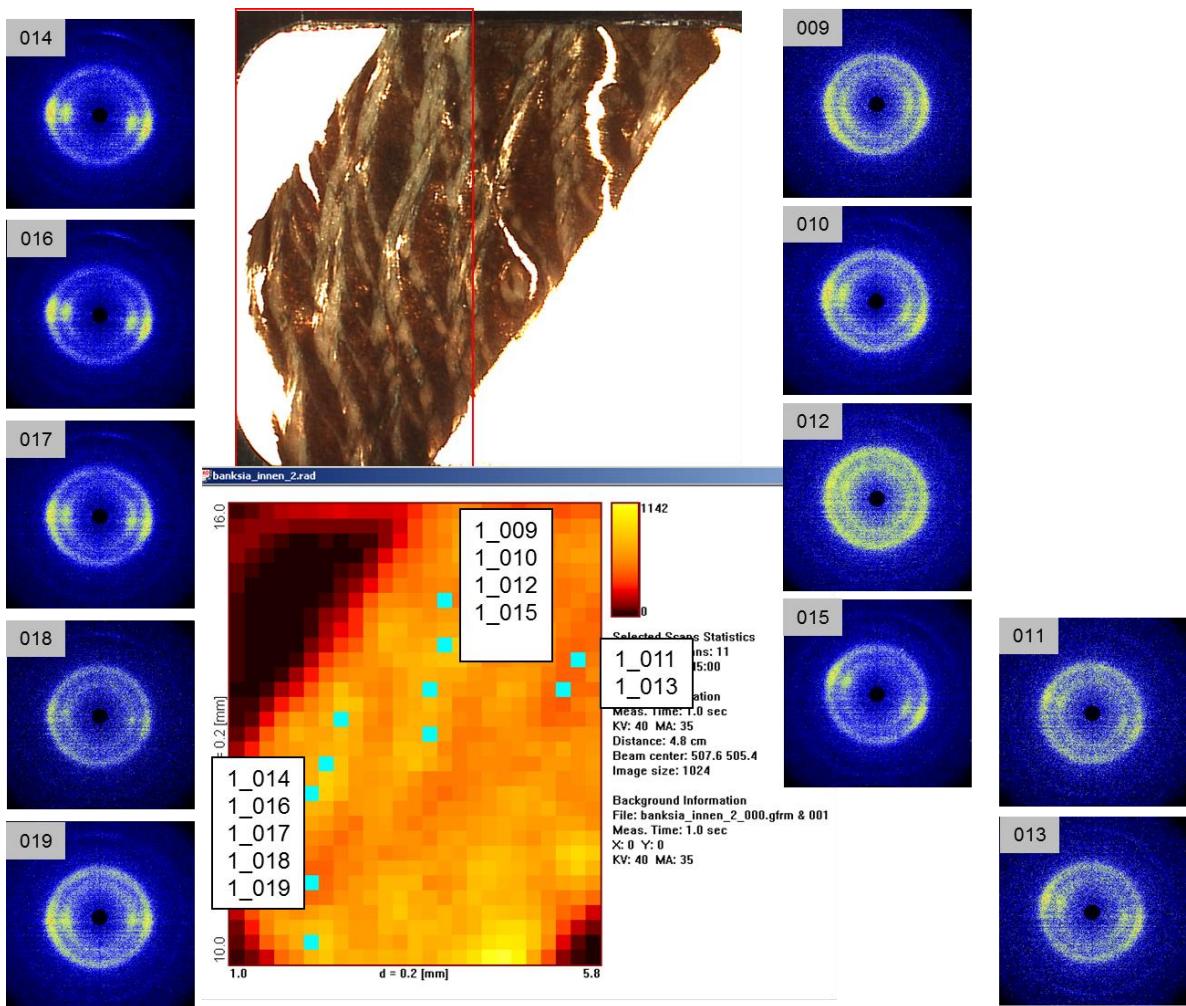


Figure 6 scattering patterns of “normal” wood

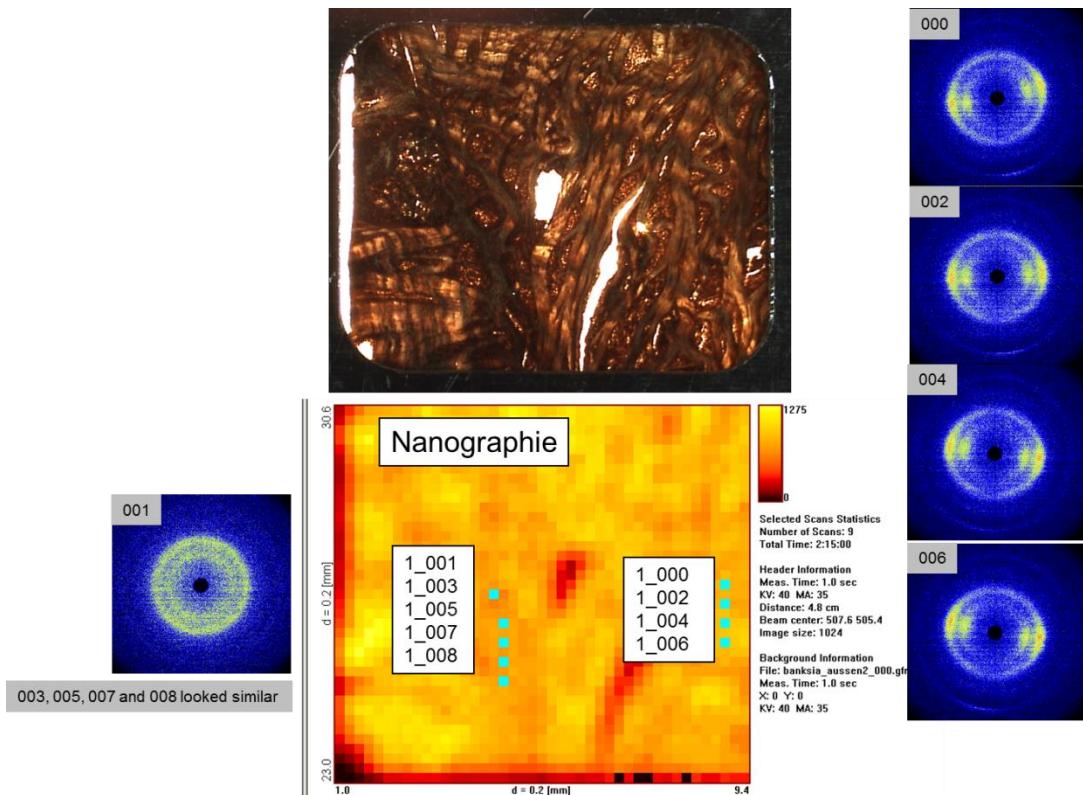


Figure 7 scattering patterns of wood in bark

What we could see on this one disk is that wood with all types of cells has been formed, embedded in bark. The fibre orientation in this tissue changes dramatically within small distances. But also in the woody stem itself the fibre direction is not very uniform.

Based on this one disk I am not too sure if some meristematic cells of the cambial ring survived since some of this outside wood is very close to the internal wood and it could be that there was still a connection. If there were connections, they might get lost due to drying and resulting shrinkage. Another option could be that sleeping buds or cork cambium got active and took over and formed wood. This could be if the plant had epicormic buds. I believe coccinea does not.? Further investigation is required to ascertain how it managed to grow the new wood tissues outside the original bark & trunk.

Author: Michaela Eder.

Brendon Stahl – members garden, Elliminnyt. VIC.

Banksias at 248 Pound Road, Elliminnyt.

After nineteen years at our Deans Marsh property of fourteen acres, where we had sandy soil and we were able to grow most Western Australian banksias, we moved to our Elliminnyt property of one acre, four years ago.

I purchased some soil to slightly raise the garden beds and I planted some of my favourite banksias along with other native plant species. A lot of the banksias did not survive so I have since made two raised beds to

grow banksias. One bed was soil extracted to create foundations for a carport so was the normal heavier soil existing at the property. In this bed I have planted banksias *baxteri* (has flowered last two years), *prionotes* (in bud), *coccinea*, and *speciosa*.

Another raised bed (six sided as requested by the management), filled with sandy loam, has been planted with banksias *praemorsa* (yellow flowered form), *menziesii*, *grandis*, *speciosa*, *occidentalis*, *brownii*, and *baueri*-Ginger form. At this stage they are growing well.

Other banksias planted in the slightly raised beds are *blechnifolia* x 2, *ericifolia* x 2, *ericifolia* (Giant Candles), *integrifolia* (Sentinel), *integrifolia* (Roller Coaster), *marginata* x2, *paludosa*, *spinulosa*, and *spinulosa* (Birthday Candles).

I have also planted banksia *robur* x 2 in the normal heavy soil, to see how they survive.

I propagated several banksia *serrata* plants from seed, which I am yet to plant in the garden.

Brendon Stahl



Figure 1. Banksias *speciosa* and dwarf *grandis* in raised bed.

Figure 2. *B. prionotes*.Figure 3. *B. coccinea*.Figure 4. *B. brownii*.

Ben & Ros Walcott, members, Red Hill, Canberra. 2017.

Ben & Ros reported that 2017 weather had not been kind for their banksias with many losses. They have experienced a dry winter with frost after frost and down to -9 degrees one day.

A surprise performer however was their banksia "Yellow Wing", a registered Austraflora cultivar of *B. ericifolia* (Giant Candles) X *B. spinulosa* var. *collina* (Carnarvon Gold).

It has terminal flowers from Autumn to Winter and is popular with birds and bees alike. Parrots love the seeds. It thrives in full sun or part shade and is suitable for screening or a specimen plant. Ros Walcott.

It also grows well in deep acid sand in Mount Barker W.A. in a cool temperate climate.

It grows readily from cuttings and produces some seed. Seed grown plants are not yet old enough to see whether they grow true to type or reflect one or other of the parents. Kevin Collins.



Figure 1. Banksia "Yellow Wing". (planted 2006).

Paul Kennedy, member, growing Banksias at Colac. VIC.

I originally started growing Banksias 44 years ago on a quarter acre block at Heathmont at the foot of the Dandenong Ranges. The soil was about 200mm of loam over clay. I grew some of the WA species such as *prionotes* and *elderiana* under the eaves of the house facing north and they survived as I had put a deep cut off drain filled with blue metal screenings along that side of the house. The rainfall was 1000mm per year. The eastern species of Banksia all did well out in the front of the house where I had added some extra sandy loam. In all I probably had about 30 species growing there.

After thirty years at Heathmont, retirement from work saw us think about creating an arboretum of Australian plants and hence the 36 acres of land we had at Strathmerton near the Murray River was finally developed into our dream property. The land was relatively flat but the two wide low rises between the clay pan were 20m deep sand hills formed as sand bars millions of years ago when the Murray River wandered across its flood plain. The PH was perfect about 6.5. The long-term rainfall was 450mm but we seldom saw that over 17 years, the average being closer to 350mm. After building a house we set about planting a whole range of Australian plants, majoring in Hakea, Banksia, Eucalypt and a host of other genera. At first, I could hear the locals saying we did not know what we were doing as the sand hill did not produce much grass for the dairy farmers. However, as time went on the greenery of the natives created a totally different vista and when they saw the flowers they came convinced we knew what we were doing.

The Banksias thrived on the sand hill, drainage was perfect and about 1.5m down the sand hill remained moist even during the hottest of summers. Water flowed in from the nearby irrigated paddocks and it was like a big sponge. We did a lot of watering in the initial stages to keep them going over summer but once the roots got down they thrived in the summer heat. I think we grew around 70 species of Banksias but there were some from the south west of WA where the heat was just too much for them to survive. Some of these were *ilicifolia* and *brownii*, however at Colac these grow beautifully in the cooler summers. Banksia *ashbyi* was probably the most outstanding, its large orange flowers were a magnet for the blue faced honey eaters which sat atop the flower and ran their beaks through the flower seeking nectar. All the plants we put in we looked at where they came from in relation to soil and climate and tried to replicate as close as possible. Frosts were frequent initially but as the trees grew up the micro climate changed and we seldom experienced a frost.

As we became older the energy levels decreased and the watering regime over summer to keep many plants surviving became a big task. After all we had planted species from the tropics to the bottom of Tasmania. With great disappointment we left Strathmerton in 2013 to start again on an acre block at Colac.

Colac has a rainfall of about 800mm, we tend to get rain in all months but in Spring the rainfall can be upwards of 100mm which saturates the soil. The climate is cool temperate with winters quite cold and seldom many really hot days of around 40 degrees C in summer.

We can get a couple of frosty days but usually not less than - 3 degrees C. The wind from the west batters the plants and until we get some taller shrubbery protection staking of some plants will be necessary.

The soil is sandy loam to loam, approximately 900mm deep over lying a heavy clay. The PH is about 6.5. The block has a slope of 1 in 60 so water can get away to Council drains on two sides. However, because of those heavy rains in Spring I decided to raise all the beds by upwards of 0.5m by digging drains on either side of the garden beds.

This has worked very well as I believe the upper roots of a plant need to be in a well-drained situation. The Banksias have grown very rapidly in Colac, due probably, to adequate moisture from above. Some supplementary watering is done in prolonged dry periods using a hand-held hose. This year has been a very difficult year as to when to hand water the newer plants. We had a big wet in May and then again in September and November with virtually no rain in October and December. Usually when the grass shows signs of not growing, then it is time to start watering the plants. Some of the taller Banksias are now over 3m and have their roots well down.

In respect to my Banksia list of December 2016 I have lost *goodii*, *sceprium* and *violacea*. Goodii because it was not protected enough from the cold weather, *sceprium* because the roots were twisted and

violacea for causes unknown. I have replaced *sceprium* (December 2017), and added *lullfitzii*, *ashbyi* ssp *boreoscaia*, *gardneri* ssp. *gardneri*, *gardneri* ssp *hiemalis*, *victoriae* and *oreophila*.

I have at present 70 species in the ground. Mike has been successful in germinating 30 of the 33 Banksia species you sent me, so with a bit of luck this autumn I should be close to having nearly all of them.

Growth in the past year has been steady, the taller species putting on 1m in height and 0.5 to 1m in width. The medium sized shrubs about 0.5m in height and width. The prostrate species about 0.5m in width. The outstanding species have been *brownii*, *burdettii*, *caleyi*, *laevigata* ssp *laevigata*, *occidentalis*, *coccinea*, *speciosa* and *ilicifolia*. All species I had recorded as flowering previously have flowered again and *caleyi* (Dec.17), *coccinea* (Sept17), *hookeriana* (Sept. 17), *laevigata* ssp *laevigata* (Dec.17), *menziesii* (Oct. 17), flowered for the first time.

Paul Kennedy.

Pictures of various Banksias in our garden.



Figure 1. *B. pilostylis*.



Figure 2. *B. plagiocarpa*.



Figure 3. *B. saxicola*



Figure 4. *B. coccinea*.



Figure 5. *B. prionotes*.



Figure 6. *B. menziesii*

Editor's Note.

Paul is an avid proteaceae enthusiast. He has been leader of the ANPSA Hakea Study Group for many years and despite reducing his garden size has replicated the collections he previously had at Strathmerton and about to surpass them. He is well on his way to a complete arboretum of the genera, former banksia, and hakea. He, like many other collectors/growers, doesn't accept the inclusion of Dryandra in Banksia.

He has 158 of the 169 Hakea species established with a further 6 species at seedling stage.

Of the 128 Banksia (69 Sps & 24 infra generic taxa), Paul has 93 established and 33 at seedling stage.

ie 126 of 128 taxa. An amazing achievement.

Follow-up on *B. spinulosa* “Pongy”.

Judy Geary from Bega Garden nursery kindly responded to my article in the last newsletter.

I was trying to locate the original provenance of a smelly banksia *spinulosa* var. *spinulosa* I have growing in my arboretum at Mount Barker in southern Western Australia.

She informed me that she has similarly discovered a banksia, a form of *spinulosa* var. *collina*, which has flowers that similarly smell like dead carrion.

Her plant originated from a nursery seedling from Western Sydney near the Hawkesbury River. Unfortunately, she doesn't know it's provenance but assumes it to be a local species of that region.

This plant was found to be sterile but produced a mass of showy yellow inflorescences which she believed warranted it to be registered with PVR. She did this and named it "Golden Lighthouse".

It is reproduced from cuttings but was never pursued commercially. It has horticultural potential, as like *B. vincentia*, it grows well in heavy moist soils. Judy Geary.

Members, please keep your noses to the spinulosa complex blooms.

This is confirmation that maybe various provenances have evolved to have different odours to attract blow flies or similar. No natural provenances of banksia, with dead meat (carrion) smelling inflorescences, have yet been recorded. Editors.

Jo O'Connell, "Australian Native Plants Nursery", Ventura, CA. USA.

It is with regret that I pass on the sad news to our members, that Jo, one of us, and her partner Byron were burnt out in the nasty Californian bushfires of this November/December.

They were personally not injured but lost their house, seed, reference books, records, building and their nursery. Many messages of support are being sent and others have donated seed and financial assistance through an online fund-raising effort by friends. They intend at this stage to rebuild in true Aussie style and start over again.

Our thoughts and love are with you both. Trust you can stay strong and create an even better nursery and facility to that of your wonderful past establishment.

Wishing you every success for the rebuild and the future. Anyone wishing to convey a message of support. <mailto:jo@australianplants.com>

If you would care to offer any financial assistance see the article attached below.
Kevin Collins.

P.S. to access the link. Press Ctrl & double click on link.

From the Editor.

AUSTRALIAN NATIVE PLANTS FIRE FUND



Hello! We are Molly Perry and Camilla Becket, Ojai residents and friends of [Australian Native Plants](#), a treasure that burned in California's Thomas Fire.

This landmark nursery, established and managed by Jo O'Connell and Byron Cox for the past twenty-five years, has been totally devastated. Despite heroic efforts by firefighters, friends, and neighbors, a massive blaze destroyed Jo and Byron's office and precious home.

In addition to destroying their personal belongings, the fire burned Jo's seeds, her extensive reference library, and her collection of Australian artifacts and botanical prints. A horticultural treasure trove was converted to ashes.

In true Aussie style, Jo and Byron are resolved to rebuild, but they will not be able to do so without the support of plant lovers, customers, and friends. Australian Native Plants is a much-loved resource to gardeners, horticulturalists and garden designers across the United States and Australia. Jo is especially respected as a member of the Ventura, Ojai and Santa Barbara communities.

Please support our urgent efforts to rebuild this botanical gem. Funds will be used exclusively to restock seeds and all the materials required for growing and running Jo's business--for example, pots, soil, irrigation, shade houses, books, reference materials, a desk, a computer and other office supplies.



[Click here to donate to our GoFundMe campaign to rebuild and restore Australian Native Plants Nursery.](#)

We cordially welcome new members since Newsletter, Issue 21. Winter 2017.

Margaret Pieroni.

Dave Morrison (H.B.G. Tasmania.)

Norman Hulands.

Graeme Ellis.

Glenda Veitch.

ANBG Canberra - library.

Hans Greisser.

Ian Cox.

Geoff Watton.

Stephen Lenghaus.

Hunter Region Botanic Gardens.

Keilor Plains Aust. Plants group.

Don & Joy Williams.

Financial Statement.

Balance to 30th December 2017.....\$ 1,272.47.

ANPSA Biennial Conference Hobart 15th to 19th January.

Kathy & I will be attending the conference as study group leaders and will have a veranda display and running a video presentation throughout the week.

We will also, as part of a study group leaders' session, **11am to 11.50am on Wednesday the 17th** be giving a short talk by way of introduction, explaining the goals and aspirations of the group, and talking about some exciting new banksia projects underway.

We look forward to meeting some of our members and enjoying the exciting programme scheduled for the week.

Kathy and I wish to extend our very best wishes for a safe, healthy and exciting banksia year for 2018. Thank you all for your ongoing contributions which make the newsletters interesting. Trust everyone had a relaxing and fun family time over Xmas.

Kevin & Kathy. (leaders).

Newsletter Issue, numbering.

We the editors wish to inform you that the Winter newsletter 2017 was incorrectly printed as Issue 20, it should have been Issue 21.