



Association of Societies For Growing Australian Plants

Banksia Study Group Newsletter

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Dear all,

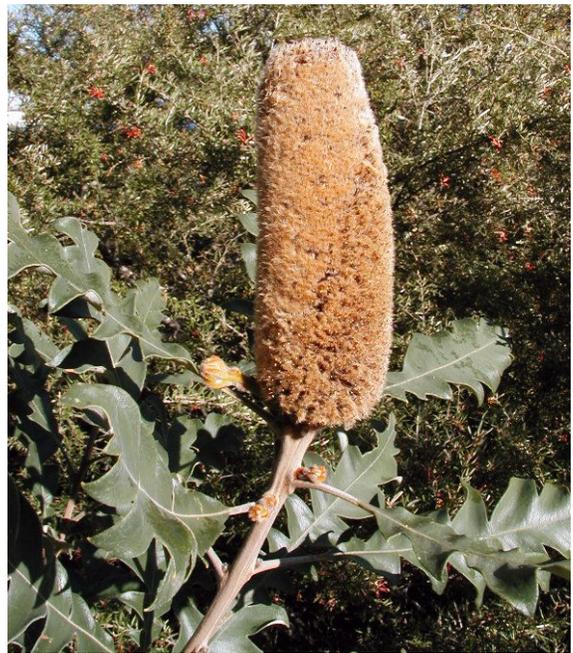
Yes I know this newsletter is about 9 months late but on the upside I will be able to get another out before June, making two for the financial year. I have spoken with Kevin Collins who tells me the new Banksia book is coming along steadily and finalising images and text as I write this, with the last details being added in the next week or so. It should be available in spring.

Rare & Threatened Banksia #11 – *Banksia solandri*

The Stirling Range Banksia (*Banksia solandri*) is a species of woody shrub restricted to the vicinity of the Stirling Ranges National Park in southern Western Australia. Highly vulnerable to *Phytophthora*, it is not commonly seen in cultivation, though has been readily grafted onto the versatile *B. integrifolia*.

Description: It grows as a shrub to 4 metres, without a lignotuber. The bark is thin, smooth or lightly fissured. Stems are initially finely hairy but becoming smooth. The leaf margins have 2–9 rounded-triangular lobes each side, while the leaves themselves are obovate-cuneate, 10–30 cm long and 4–12 cm wide, upper sides are finely downy, glabrescent except wool in pits on lower surface. The inflorescences are 4–16 cm high and smell strongly sweet and musky – my impression was of a mixture of coconut, cherry and musk. Individual flowers are brownish purple; styles cream. Flowers persist on old spikes. Follicles many, elliptic, 10–18 mm long, 3–8 mm high, 4–8 mm wide; valves smooth, hirsute. Seed cuneate, 20–23 mm long; seed body obovate, 9–12 mm long, 5–6 mm wide, smooth inside, slightly rough outside; wing 10–12 mm wide

(in cultivation, Brendon Stabl's garden, Colac – September '04)



Taxonomy: Named in honour of Daniel Solander, it was described by Robert Brown in his *Supplementum Primum Prodromi Florae Novae Hollandiae* in 1830, from material collected by William Baxter near King Georges Sound. James Drummond collected material in 1847 from Mondurup in the Stirling Ranges and wrote:

"About the height of 2,000 feet I found, first making its appearance, a splendid Banksia, with leaves more than nine inches long, and about five wide, irregularly jagged and sinuated like those of an English Oak. To this noble shrub I have given the specific name of *Hookeri*. From the remains of the flowers, they appear to have been scarlet."

The name *Banksia hookeri* was subsequently considered a variety (*major*) of *solandri* before being reclassified as a synonym. *Banksia solandri* has always been regarded as most closely related to *Banksia grandis* in the Series Grandes, and more recent molecular studies support this arrangement.

Distribution and habitat: *B. solandri* is restricted to the Stirling Ra., W.A. Grows in rocky soil (metasandstone) on steep slopes and in gullies in kwongan, sometimes in woodland. The species occurs in the same region as the closely related *B. grandis*, with no intermediate forms seen. Many individual populations are small, containing less than 100 plants each. However, in areas of healthy vegetation some large populations of thousands of plants still persist. Kevin Collins reports seeing the inflorescences being covered in moths at night.

Cultivation: It is not widely grown but generally grows okay in a Mediterranean climate in soil with good drainage. It makes for an attractive shrub with unusual foliage – green saw-edged leaves with bronzed undersides. The species is, however, very sensitive to *Phytophthora*, and will succumb in areas of humidity or poor drainage. However it can be readily grafted onto *Banksia integrifolia*.

Conservation: *Banksia solandri* is currently classified as **Priority Four - Rare:** taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors (though this could be argued otherwise in this case). These taxa require monitoring every 5–10 years.

Phytophthora dieback has had a severe impact on this species with some populations being significantly reduced in numbers and others becoming extinct. As the species occurs within two threatened ecological communities (TECs) in the SRNP several populations are sprayed (aerial application) by the fungicide phosphite and this has improved survival in dieback infested areas.

As it is killed by fire and regenerates from seed, fires at too-frequent intervals may eliminate populations. *Banksia solandri* starts flowering from about 5 years but takes some 7 years for about 50% of the population to flower. However, considerably longer is needed before the species has produced a good canopy stored seed bank, e.g. 12 years after fire there was only an average of one cone per plant in three population assessed. Thus the species is vulnerable to too frequent fire.

Mt Bass Trail, Royal National Park

This track in the Royal National Park, south of Sydney, was suggested to me as a place to see a Southern Emu-wren and Variegated Fairy-wren, so I duly went one spring day. I saw no wrens but have bookmarked the place to check out one autumn as there was lots to see banksia-wise to whet my appetite. The track itself lies in a north-eastern section of the park. To get there one drives on Sir Bertram Stevens Drive southeast of Audley toward Stanwell Park, and take the Bundeena Drive to Bundeena. Approximately 1 km past the turnoff there is a small parking area on the left and a gate. A fire trail leads off through low heathland. The first 200m or so contains regrowth of *Banksia ericifolia* after bushfire, as well as shrubs of *B. marginata* and *B. oblongifolia*. Small stunted trees of *B. serrata* dot the landscape, some providing interesting natural bonsai-like forms. Further along on the south side of the track there are some denser stands of *oblongifolia* with some larger leaved plants – intermediate forms with *B. robur* after which there is a wetter heathy area dotted with low *robur* shrubs less than a metre high. The only inflorescences I saw at this time (mid September) were some mature *marginata* beginning to turn brown, while some *robur* buds were just peeping through.

Two unusual *Banksia* plants - Alex George, Kardinya, W.A.

Murdoch University, in Perth's southern suburbs, first opened its doors to students in 1975. It is sited on consolidated sand dunes of the Swan Coastal Plain, about where the Spearwood and Bassendean Dune systems meet. For the previous 50 years it had been the site of the Somerville Pine Plantation, though a few original native plants managed to survive through this period. These include *Banksia grandis*, *B. attenuata* and *B. menziesii*. There are some *B. littoralis* in an uncleared swamp towards the south side of the campus. Apart from a few courtyards, subsequent landscaping in areas cleared of pines has been with Western Australian plants, with varied success. The very centre of the large campus is designated Banksia Court, and about 40 species of *Banksia* (mainly western but with a few eastern species) were planted there in the 1980s and early '90s. Due to lack of resources the Court became rather run down, though a significant number of these plantings remains and moves are afoot to revamp the area, still with *Banksias*. Successful species have been *ashbyi*, *baueri*, *blechnifolia*, *grossa*, *media*, *lanata*, *littoralis*, *petiolaris*, *prionotes*, *repens*, *sceptrum*, *speciosa* and *victoriae*. A single plant of *dentata* is very healthy though still only 2 m tall and yet to flower.

Banksias have also been included in other mixed plantings around the campus, including a fine *B. lullfitzii*. Recently I stopped to photograph some plants of the shrubby form of *B. menziesii*, just coming to their peak early flowering. On one plant with about 30 flowering spikes of the medium pink colour form, I noticed a single spike of almost pure yellow flowers. There was just a hint of pink near the base of the uppermost perianths. The adjacent stem arising at the same node of this branch also had an inflorescence just about to open, but it had the medium pink colour of the other spikes on the bush. This is the first time that I can recall seeing two spikes of distinctly different coloration on one plant of *Banksia*. I have marked the stem and will watch to see if it produces another yellow inflorescence next year.

Also on the campus I have found a *Banksia grandis* with an unusual foliage form. In contrast to the typical rather stiffly spreading leaves, on this one they are strongly curved downwards so as to be almost pendulous. The tree is about 5 m tall and has flowered but not set fruit. It makes a striking foliage specimen.

***Banksia spinulosa* in Japanese Garden, East Gosford NSW**

On the way home from ASGAP we met some people at the Edogawa Commemorative Japanese Garden in East Gosford. Opened in September 1994 as a symbol of friendship between the sister cities of Gosford and Edogawa, it is a standard Japanese garden based on traditional 'Shuyu' (strolling style) garden design. One welcome feature was the use of several native plants including *Banksia spinulosa*, *Westringia fruticosa* and *Syzygium smithii* in a topiarised section. All were pruned nicely into aesthetically pleasing ball-shapes. The banksia (centre bush in photo), though not as neat as the others, still looked rather good and had been flowering profusely, with many old spikes within the bush.



***Banksia goodii* 'twins'**

Snippet from Ben Croxford proprietor of "Nuts about Natives" nursery at Karnup south of Perth. He has recently grown 10 *Banksia goodii* seed and produced 11 seedlings. One seed had two embryos and produced "twins". He has never seen this happen with banksias before but has had a *Leucodendron* seed produce two offspring.

Banksia Grafting update - Mark Ross Perth WA

Here are a few photos of some grafts of some Banksia grafts. All of these are using mature material. I have been trying this as to select forms for horticulture. There is too much variation with seed, also for hybrid selection and cultivation. The rootstock is *B. integrifolia*. The *B. audax* and *B. laevigata* ssp *fuscolutea* are top wedge grafts and the *B. caleyi* is a side graft.

B laevigata subsp *fuscolutea* (Grafted 13/12/06) (right)

Banksia audax (Grafted 13/12/06) (below)



Banksia caleyi (Grafted 3/7/07)

Miniature *Banksia attenuata*

During a recent botanizing trip out along the vermin proof fence north of Perth, I stumbled across a very small *Banksia attenuata*. The plant stood about 40cm high from the ground. It was very old and no fire has been through there for maybe 10 years or so. All of the plants around it were all quite dwarf in form but this one was quite an exception. The flowers were 50mm and none larger than 70mm and were also terminal, displaying them on top of the bush. The foliage was neat and tight. It was quite a nice, tidy little bush with much horticultural potential - rather showy indeed.



Miniature *B. attenuata* - flowers and new growth



Miniature *B. attenuata* - habit

***Banksia rosserae* flowers in cultivation.**

Kevin & Kathy Collins of Banksia Farm, Mount Barker W.A. have successfully grown *B.rosserae* plants which have surprised them by flowering at age six years grown in 200mm pots when the plants are just 40cms in height. One plant has six flowers initiating.

The plants are shrubby with four or five main branches and developing many small lower lignotuberous branches. Three of six plants in pots have flowers just visible at this time, however two planted out are slower and smaller and not yet producing flowers.

The pendant nature of the buds is an interesting development as initially the buds are at the tip of the mature, sometimes upright branches nestled between mature leaves. As the bud enlarges the basal stem of the bud elongates into a thin 4-6 cm long stem which bends downwards to support the pendent bud and subsequent flower head.

This appears to be markedly different from other pendant species that form flowers on the older already pendant branches or initiate very short flower stems from old wood on trunks and lower branches like for example *B. caleyi*.



(*B. rosserae* extending stem)



(*B. rosserae* developing bud)

Eastern Banksia Bonanza Tour - Kevin Collins.

I was very fortunate to be able to fly to Melbourne, Saturday the 1st of March, to attend the opening of Celia and Andrew Rosser's new Banksia Café/Gallery at Fish Creek near Foster and Wilson's Promontory. A large gathering of Banksia enthusiasts and friends enjoyed a wonderful afternoon. What a beautiful gallery which does great justice to Celia's Banksia Artworks. A beautiful addition is Andrew's use of *B. integrifolia* in framing for the paintings, the counters and even doors. He has also used some *B. serrata* timber.

The next day I drove to Mallacoota to rendezvous with Phil Trickett and Catriona Bate from Canberra. Our plan was to drive to Shipwreck creek and look at the latest described species, *B. croajingolensis*. Unfortunately the road had been closed so we opted to drive to Green Cape and look at banksias there. What a banksia bonanza. A very fascinating area with *B. serrata* apparently in the midst of evolutionary development or nightmare and not sure how to settle. Plants ranged from 5m and upright to 0.5m and very prostrate. Others had a cascading habit with layering branches. Yet others 1m, stunted upright, and opened branched.



B. serrata, stunted habit at Green Cape

Foliage colour varied as did leaf size and inflorescence colour. Some blooms were pale yellow/gold whilst others were grey or grey with tan upper pistils. No two plants appeared identical, and often, were growing side by side. The *serrata* were growing amongst a low 0.5m tall form of *B.paludosa* with occasional clumps of 2m tall *paludosa*. The country was sandy undulating coastal heath with banksias being the dominant species. On the southern windy coastal side of the Cape there were *B.integrifolia* var. *integrifolia* from to 0.3-0.5m in trunk with gnarled fissured bark. Some very exposed trees had lent down with the wind, but appeared not to have evolved to be prostrate.

Inland as we returned to Mallacoota we passed some *B. spinulosa* var. *cunninghamii*. (B. *croajingolensis* showing flowers opening from top)

The next day, alas the road was still closed so we went to Plan B.yes to walk the 7kms to the site. This was an added bonus as we saw various forms of *B. marginata*. One barely 0.3m high, just protruding from the top of the coastal heath grasses. Others were around 2m high.

On approaching Shipwreck creek we found a patch of another interesting low banksia which was only in early bud and had *paludosa* type foliage. I thought I had found another patch of *croajingolensis* but could not prove it without an open flower. Bill Molyneux, discoverer and describer of *croajingolensis*, later assured me that it is not *croajingolensis* but a possible new variant requiring further investigation. If *paludosa* it would be the only population occurring in Victoria and increase the species count for that state to 8, matching NSW.

Once we had crossed the mouth of the creek we quickly found the *croajingolensis* site and were thrilled to find some early flowers (open) confirming its identity with its acropetalous flowering sequence.



(B. *croajingolensis* habit - below)

The area was bordered with higher shrubs of *serrata* and *marginata* with a few intermediate 1.5m shrubs that could be hybrids of *marginata* and *croajingolensis*?. As they are all growing together. On our return we saw people on bicycles and elderly folks at the river-mouth. Yes!! the road was opened shortly after our departure.

From Mallacoota I returned to Canberra with the others. Next day I was them treated to a house garden tour at Phil's. There was not a square metre of the garden that was not planted with predominantly *Banksia* & *Dryandra* or that was not crammed with potted and grafted specimens.



Phil showed me some well established and thriving *brownii*, *occidentalis* and *solandri* grafted on *integrifolia* rootstock, planted in the gardens as well as many other promising grafted specimens. Very vigorous and healthy plants of *D. longifolia* subsp. *archeos* onto *B. integrifolia* were one of Phil's exciting achievements.

Later that day we toured the Canberra Botanic Gardens where *B. integrifolia* 'Roller Coaster' is used as a key feature plant. Most eastern species were well represented with some excellent *B. aemula* full of flowers, a healthy *aquilonia* and some fine *conferta*. The *B. plagiocarpa* is well aged but struggling. *B. canei* is interestingly grafted onto *integrifolia*. The finest grafted specimens are some almost 40 year old *B. speciosa* on *integrifolia* which were flowering well.

A further 10 or so western *Banksias* were seen in varying states of health. *Oreophila*, *blechnifolia*, *repens*, *petiolaris*, *epica* and *media* were amongst the healthiest.

Later that day I flew back to Perth. A whirlwind trip with heaps of *Banksia* highlights.

Old Banksia Study Group Newsletters

The first eight newsletters from my time as leader of the group are available at <http://anpsa.org.au/banksSG/index.html> on the internet, on the national website of the 'Society. Newsletters from the year just completed will go up there regularly.

Seed Bank

If you have a large excess of seeds, consider donating some to your local seed bank (or even another state!) as banksias are popular and the Regional seed banks rely on donations. Alternately, why not let me know and I can leave a memo in the next newsletter.

- Nindethana Seeds (08) 9844 3533
- Banksia Farm (08) 9851 1770 phone/fax
- Your Region seed bank will usually have a selection of species

If you are unable to find a particular species, please contact me and I may have some ideas.