

# BUDAWANGIA\*

AN E-NEWSLETTER FOR ALL THOSE INTERESTED IN THE NATIVE PLANTS OF THE NSW SOUTH COAST

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*Aims: To connect those interested in the native flora of the NSW South Coast, to share up to date information on the flora of the region and to broaden the appreciation of the region's native plants.*

## Editorial

The first month of spring was mostly dry and warm; certainly we experienced some excellent spring days of sunshine. This 42<sup>nd</sup> edition represent 3.5 years since the first edition of *Budawangia*; today, the newsletter is sent out directly to about 200 people, and I know it is passed onto many more. This edition contains an article on 'dry rainforest' as some people have trouble with this terminology. The piece on dry rainforest begins of series of articles on the restricted and rare plant communities to be found in the region. While covering very small areas in total these are interesting and important ecological systems; many are listed as 'endangered ecological communities' in NSW.

The edition also contains a new mystery weed and a piece on rainforest in Canberra (yes there is some). There is also an update on some fern taxonomy as part of my South Coast fern study. A note on some results from the weeding activity at Minnamurra Rainforest, a report on the possible demise of the genus *Budawangia* and another note about white-smut fungus and Mistflower finish off the edition.

Signs of spring are everywhere this month;

- Red Cedar trees are producing their new pink leaves, making them obvious along the escarpment;
- paddocks are turning yellow with Fireweed *Senecio madagascariensis*;
- Cattle Egrets are congregating in the grazing paddocks in preparation for their department northwards;
- the sound of the migratory Clamorous Reed Warbler can be heard coming from the reedbeds;
- asparagus in our veggie garden is beginning to send up shoots (yum);
- the Tree Martins have arrived on the tablelands;
- many rainforest trees near the coast are in early bud, while the fragrance of flowering *Pittosporum undulatum* is everywhere.

A reminder to readers that a free plant identification service is available by sending a photograph, scan or specimen of the plant to me; contact information is shown on this page.

I would be pleased to receive appropriate articles, however small, on interesting observations, new discoveries, plant name changes, etc., up to two A4 pages, including some photographs. Deadline is one week before the end of the calendar month.

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All photographs ©Kevin Mills 2015, unless otherwise stated.

\* *Budawangia* is a monotypic, endemic genus restricted to the Budawang Range on the western edge of the South Coast region. The genus was named by Telford in 1992; the species *Budawangia gnidioides* (Ericaceae) was previously *Rupicola gnidioides*.

## Dry rainforest?

A contradiction in terms? Not really. There is a suite of minor rainforest types that can be termed 'dry rainforest'. The characteristics of such rainforest in our region are that it grows in low rainfall areas or on hot, dry and usually rocky sites. The key is that moisture availability is tenuous for much of the year, which leads to a particular type of forest containing mainly the hardiest of rainforest species. Trees are usually restricted to a few species and the understorey is often very open with little to no ground cover.

In this article, I am only going to deal with Ironwood Dry Rainforest; other types could be the subject of future pieces. Structurally and floristically this rainforest is of low diversity. This Ironwood forest growing on a dry western-facing slope near Albion Park (photo at right) is on a steep slope and the trees are nearly all *Backhousia myrtifolia* and are not very tall. In this situation only the hardiest plants can survive the very dry conditions of summer. Eucalypts are nearly always present, towering above the closed canopy of the Ironwoods.



The photo at left shows an Ironwood Dry Rainforest in a deep gully in Morton National Park. Here, the trees are quite tall because of the more sheltered location and deeper gully soils. However, the site is still a very dry environment as rainfall is quite low. Species diversity is very low and only hardy species are at all common. Ferns are mainly the common hardy species, except perhaps a few along the creek should one be present.

## Mystery Weed

The mystery weed this month is a wetland species.



## Rainforest in Canberra?

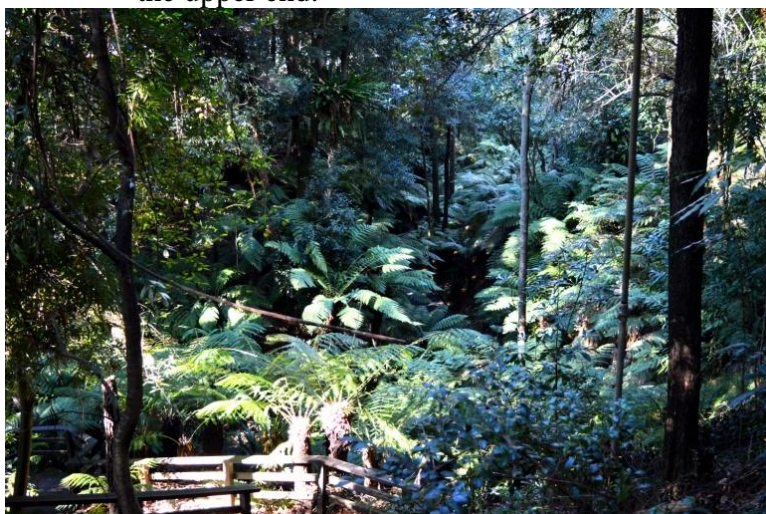


Well, yes. Many readers may already know about the rainforest gully in the National Botanic Gardens in Canberra. This ambitious project has developed a rainforest in a small gully near the visitor facilities in the Gardens over several years. The accompanying photographs may look like shots from the Illawarra Rainforests, but they are part of the rainforest at the Gardens in Canberra.

First planted in the 1960s, the species are arranged to represent rainforest types along the east coast of Australia. Tasmanian rainforest is planted at the lower end of the gully and mountain rainforest of northern Queensland at the upper end.

The most important thing in sustaining the rainforest during the Canberra summer is some 2,000 fine mist sprays installed throughout the gully. These sprays maintain a high humidity of over 80% and result in an annual rainfall of about 1,200 mm, compared to the natural rainfall for Canberra of about 655 mm.

The rainforest gully and the Gardens are well worth a visit, no matter how many times you have visited.



## South Coast Fern Study - Update

Part of my fern study is to check current taxonomy. Below are a few changes from recent literature, which has not yet been changed on the herbaria web sites of either NSW or Canberra.

Old Name	New Name	Common Name
<b>Blechnaceae</b> (water ferns)		
<i>Blechnum indicum</i>	<i>Telmatoblechnum indicum</i>	Swamp Water Fern
<i>Doodia aspera</i>	<i>Blechnum neohollandicum</i>	Prickly Rasp Fern
<i>Doodia australis</i>	<i>Blechnum parrisii</i>	Common Rasp Fern
<i>Doodia caudata</i>	<i>Blechnum spinulosum</i>	Small Rasp Fern
<i>Doodia linearis</i>	<i>Blechnum lineare</i>	Rasp Fern
<b>Dryopteridaceae</b> (shield ferns)		
<i>Lastreopsis acuminatum</i>	<i>Parapolystichum acuminatum</i>	Shiny Shield Fern
<i>Lastreopsis microsorum</i>	<i>Parapolystichum microsorum</i>	Creeping Shield Fern
<b>Thelypteridaceae</b>		
<i>Christella dentata</i>	<i>Cyclosorus dentatus</i>	Binung Fern

## Fern References

- Labiak P. H., Sundue M, Rouhan, G. & Moran, R. C. (2014). New combinations in *Lastreopsis* and *Parapolystichum* (Dryopteridaceae). *Brittonia* 67(1): 79-86.
- Perrie, L. R., Wilson, R. K., Shepherd, L. D., Ohlsen, D. J., Batty, E. L., Brownsey P. J. & Bayly, M. J. (2014). Molecular phylogenetics and generic taxonomy of Blechnaceae ferns. *Taxon*, 63; 745-758.
- Rothfels, C. J. *et al.* (2012). A revised family-level classification for eupolypod II ferns (Polypodiidae: Polypodiales). *Taxon* 6(3): 515-533.
- Smith, A. R. *et al.* (2006). A classification for extant ferns. *Taxon* 55(3): 705-731.

## Removing Lantana does promote good rainforest colonisation at Minnamurra

A recent inspection of some areas weeded over the past year near the picnic area at Minnamurra Rainforest (moist site) and on the ridge adjacent to the walking track (dry site) found that there was exceptionally good regeneration of native species in both areas. Colonising native plants observed since the weeding in the moist area show the best regeneration; these species include nine tree species, eight climbing species and 10 understorey species. The dry area on the other hand has been much slower to respond, nonetheless six trees, one climbing vine and six other species were found.

The photos below show the areas, which were originally covered in Lantana thickets. The discovery of the rare tree *Daphnandra johnsonii* in another Lantana patch nearby was reported in *Budawangia* of July 2015.



View across dry ridge top weeding area.



Looking downstream along the river-side weeded area.

## Vale *Budawangia* ?

The September edition of the journal *Australian Systematic Botany* contains a paper by an omnibus of authors on a reappraisal of the genus *Budawangia* (Ericaceae). Their conclusion, based on genetic studies with *Epacris*, is that the genus is not distinct from that genus so that it should be discarded. As a result, the taxon would be placed in *Epacris*. While still a restricted species in terms its distribution, the region may have lost an endemic genus. It remains to be seen if this treatment is completely accepted by botanists and whether in future the genus is resurrected. The newsletter will, no matter the outcome, retain the name in memory of this endemic taxon and the mountains bearing the name.

## Reference

- Quinn, C. J., *et al.* (2015). A reappraisal of the generic concepts of *Epacris*, *Rupicola* and *Budawangia* (Ericaceae, Epacridoideae, Epacrideae) based on phylogenetic analysis of morphological and molecular data. *Aust. Systematic Botany* 28(1): 63-77.

## Continuing success with Mistflower Smut Fungus

Les Mitchell (Kangaroo Valley) has sent in some more photographs of from his property regarding the war against Mistflower. Les writes “I thought you might be interested in dramatic evidence of the white-smut fungus' continuing suppression of Mistflower on the Budderoo property in Upper Kangaroo Valley. The two photos, July 2010, 10 months before the release of the fungus and September 2015, tells a wonderful story of successful biological control. It would seem that the wet Augusts of 2014 and 2015 have really contributed to its success as the bio-agent appears to be most effective during wet winters.”



July 2010



September 2015