

Coffs Harbour Group NEWSLETTER No.156: August 2022



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APS Coffs Harbour Membership

We warmly welcome our new member:

APS NSW Website

www.austplants.com.au
Keep up-to-date with news, program of outings and meetings via our pages:
www.austplants.com.au/Coffs-Harbour

2022 ANPSA Biennial Conference

Australian flora - past present future

September 10th to 16th
Kiama

Register here ([Humanitix site](#))

More information here: <https://www.austplants.com.au/ANPSA-Biennial-Conference-2022>

Next ordinary meeting of the APS on Tuesday 9th August in the Display Room, 10.00am - 1.00pm.
Please bring plant samples for identification and discussion.

Doug Binns Talk- Apocynad Vines Significance

“Apocynad vines are vines which belong to the family Apocynaceae. Although relatively few native species could be called showy, some species have attractive flowers and the flowers of all species are interesting, especially when examined in close-up. Some species are uncommon, and a few are listed as threatened. Very few native species are in cultivation. For most native species, knowledge of their ecology and cultivation requirements is very poor. I hope to raise awareness so that at least some of those who attend the meeting are inspired to make and share observations to improve knowledge about the cultivation of these vines.”

We just received news of the recent death of a long-time member of the local APS group-Judy Cooney from Hat Head.

Judy had been in poor health for probably the last 2 years with Parkinsons Disease and died at Kempsey Hospital.

Before that, she was a regular attendee at APS meetings and outings and served on the committee. She was a keen bird watcher, and an active environmental crusader in the area, especially around Bellingen.

Unusual locals No 1 *Doryanthus excelsa* or Gynea Lily Gwyn Clark

This will be a series on unusual locals that grow at my place which is on sandstone country. Unusual doesn't mean they are rare in the area tho' they may be. This is the first in the series. First, I will tell you a little about myself and where I live.

My name is Gwyn Clarke, and I am 83. I have been a member of the Australia Plants society for over fifty years. We have lived on our present property for 13 years and before that we spent 45 years in Canberra. We have owned the property we live on now for 38 years and have always been interested in the plants here and spent holidays checking them out. Our property is about 18kms NW of Glenreagh and 35kms SW of Grafton.

Most people will know the *Doryanthes excelsa* form the Sydney to Newcastle areas and we didn't think there was anything strange about to start with. We knew what it was and just took it for granted. Then I mentioned to a botanist friend that we had this plant growing on our block. His comment was- "but that is too far north, don't you mean *Doryanthus palmeri*". I said NO and described the plant. He decided he needed to check it out and he said you must bring me a specimen next time you are up in the area because that doesn't sound like *D. palmeri*". His idea of a specimen was a full flower head [rather like a cabbage in size], a full flower stem, [around 6-8 metres]. This was to cut into small lengths so that it would fit in a caravan fridge. Finally, the two full sized leaves just pulled from the ground and folded.

On our next trip we dutifully collected the specimen. Well, Geoff did, and what a task. It had to have the fridge itself, even shelves were removed and the flowerheads cut in half. In those days it took two days to drive to Canberra and tow a van, but the specimen was duly delivered to the Australian National botanic Gardens and flora of NSW was being written botanists were sent up to explore the area. It can be found described in Volumn 4 of Flora of NSW along with *D. palmeri* which is the only other member of the genus. The only difference between the southerly forms and this one appears to be it is longer in the flower stem. Maybe it grows with taller trees?

Originally it did not grow near the house site, but Geoff decided it would be nice to have one close to the house. Well, now we have one and it is flowering now. However, he had to dig one up and it is very important to choose the smallest plant you can find. Even then it will have grown a sizeable fleshy root. Each plant only provides one flower spike and then it dies. Fortunately, it quickly grows into a clump of plants which may flower singly or in a group. It is very large, but you may find you have space for one in your garden. It will need sandy soil with t some clay. We planted ours near the trench for; the septic tank and it has thrived and flowers regularly.



Images above. *Doryanthes palmeri* grows on exposed rocky outcrops in wet sclerophyll forest, on coastal ranges that are part of the Mt Warning caldera. That means it grows on volcanic soils, whereas *D. excelsa* grows in dry sclerophyll forest on sandstone derived soils. *D. palmeri* also has flowers up and down the stem whereas *D. excelsa* has its flowers in a single flowerhead. Both species grow in our area as cultivated plants provided you can find the space.

Pollination by Pseudocopulation

Margaret Hodgson

Pseudocopulation is another fascinating means of pollination. The *Ophrys* from Europe, northern Africa and the Middle East, *Cryptostylis* from Australia, *Trichoceros parviflorus* from Ecuador and *Oncidium henekenii* from the West Indies are examples.

These orchids practise a sexual deception on the males of many species of insects. Rather than produce a sweet nectar, the orchid produces a volatile secretion, the aroma of which is like that of a particular female wasp or insect. The flowering time of these orchids coincides with the emergence of the male of the species. By nature, the female is a week or two later emerging from pupation, so leaving the male without a mate. The males are attracted to the source of the sexual aroma, prompts the male to approach the orchid, headfirst or injecting its tail under the base of the labellum, to try to copulate.

In Australia along the east coast and nearby mountains, late November and early December witness the common male Ichneumon Wasp *Lissopimpla semipunctuata* frustratingly trying to copulate with the various species of the genus *Cryptostylis*. Not so noticeable is its cousin *L. excelsa*. during this period the male frantically seeks his mate and is deceived into believing that the flowers are the female of his species. During this pseudocopulation the pollina is firmly attached to the wasp and carried to the next flower.



Image above. *Caleana major*, Large Duck Orchid
Photograph by Margaret Hodgson



Image above. *Peterostylis woolsii*, Long-tailed greenhood, photograph by Margaret Hodgson

Vulnerable Plant Species Along Star Creek, Orara State Forest Janice Fitzpatrick, February 2022

In Spring of 2021, the wet conditions brought an amazing flush of native plant growth in the area just west of Coramba, along the Star Creek which is surrounded by the Orara West State Forest. The area closest to the creek (along the ridge above the creek) was last logged about 4-5 years ago. While walking in the area we came across several vulnerable species that were visible because of their profuse flowering and fruiting.

The 3 plants described in this article area all listed as vulnerable in NSW.

Orara Boronia (Boronia umbellata).

A few years ago, Ben Henderson (local APS member) identified one of these plants flowering beside the Star Creek crossing, so we knew there could be more in the area. The Atlas of Living Australia didn't show any recording of this species in the Star Creek area, so it was exciting to locate several flowering plants alongside the track some kilometres from the creek crossing. Then on a separate walk, a patch of over 15 flowering plants was located further along, in an area about 10m wide that the loggers had cleared from the ridge down to the track some years ago. The regrowth was dense and if the boronia hadn't been flowering, it would have been hard to see.

[https://plantnet.rbg Syd.nsw.gov.au/cgi-](https://plantnet.rbg Syd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Boronia~umbellata)

[bin/NSWfl.pl?page=nswfl&lvl=sp&name=Boronia~umbellata](https://plantnet.rbg Syd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Boronia~umbellata)

<https://bie.ala.org.au/species/https://id.biodiversity.org.au/node/apni/2913684>

The find was reported to Paul Sheringham, botanist with DPIE Environment, Energy and Science including NPS, based in Coffs Harbour. Paul is the leader of the Orara Boronia Saving Our Species group and loaded the information to the NSW BioNet atlas.

NSW Dept Environment and Heritage has a Management Plan for Boronia umbellata - see

<https://www.environment.nsw.gov.au/savingourspeciesapp/ManagementSite.aspx>

The management efforts are concentrated in Bagawa Forest, of which Orara West State Forest appears to be the most southerly part.



Ricinocarpis speciosus

Reference information about this plant can be found in the following website referenc

<https://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Ricinocarpos~speciosus>
<https://apps.des.qld.gov.au/species-search/details/?id=14088>

The Atlas of Living Australia shows a couple of plants identified in Coramba, but none further west in the Orara State Forest, where several plants were found on walks in Spring 2021. The 5 flowering plants we located grew along the Star Creek track, in more shaded areas than the *Boronia umbellata*, although in one place we found a couple of plants of each species adjacent to each other.

Rowan McCabe identified the plants from photos which was helpful. *Ricinocarpis pinifolius* (wedding bush) is more common and grown commercially (it grows in the Red Rock heathland) but *R. speciosus* is just as attractive – its distribution appears to be much more limited.



Niemeyera whitei (Rusty Plum)

Reference information and Management Plan:

<https://www.environment.nsw.gov.au/savingourspeciesapp/project.aspx?ProfileID=10044> **Error!**

Hyperlink reference not valid.

In previous years we'd seen a few plum-like fruit on the ground while walking up Star Creek, but last year produced a bumper crop! There were dozens of fruits on the ground over several kilometres of the track, which made it much easier to see how widespread the trees are in this area. The Species Management Plan shows that the Rusty Plum has been identified in this area of the Orara West State Forest, but again most the planned actions for protecting the species are yet to begin.



Summary

Finding where to record the location of these vulnerable plants was not easy – the Living Atlas of Australia was recommended as the best place to report them, but I found the process for loading the information difficult to do. Paul Sheringham (DPIE in Coffs Harbour) was very helpful and loaded the information for me.

If anyone has advice on the best way to record sightings of vulnerable/threatened species, it would be very welcome

Translocation of *Eidothea hardeniana* (Nightcap Oak) by Rob Watt

Recently the NSW Department of Planning, Industry and Environment released a small update to environmental protection work being undertaken by it on the North Coast of NSW. Many may have missed it without noticing its significance to our Group. Here is why you may want to know more.

The *Eidothea hardeniana* (Nightcap Oak) occurs only in New South Wales and when in 2004 a national recovery plan was published it was then known from one population of about 100 adult plants and about 84 juvenile/seedlings in the Nightcap Range just north of Lismore. It is a tall rainforest tree in the Proteaceae family and while the largest specimens are up to 40m tall, mostly they are smaller. The bark is grey and slightly flaky. With fine horizontal crinkling. The tough leaves are paler on the underside. Adult leaves are dark green, smooth along the edges, and have distinctive pale veins. New growth tends to be bronze red. Leaf stalks 8-15mm long. The flowers are creamy-white and are in compact head, October to November. The globular fruit are 3.5-4.0 cm long, green maturing to dull golden yellow, ripe February to March.

The plant's names have been taken from *Eidothea*, one of the three daughters of Proteus in Greek mythology, and *hardeniana* after **Gwen Harden** whose career, as Alex Floyd notes, has been devoted to the greater appreciation of the NSW flora, particularly the rainforest. She is also, of course, a member of the Coffs Harbour Group.

First located in the 1950s, samples were sent to the Queensland Herbarium in Brisbane where they were incorrectly identified as belonging to the Corynocarpaceae, a plant family only distantly related to the Proteaceae. It was not for another 40 years that Robert Kooyman, when conducting work for the National Parks and Wildlife Service on rare and threatened plant species in the Wildcap National Park, once again came across the mature tree that sprouted juvenile leaves from the base. But he soon found dead wood on the tree that revealed the distinctive grain of the Proteaceae. This was all collected and sent to the Royal Botanic Gardens Sydney where the Principal Research Scientist Dr Peter Weston was able to confirm the plant as an *Eidothea*.

Almost immediately botanists recognized the need to do something to assist its survival. But it was not merely low numbers of mature trees and juveniles. Their vulnerability was compounded by the fact that all the plants were in a single creek catchment and within a couple of kilometres of each other. To this end, pursuant to the Nightcap Oak being listed as critically Endangered on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and Endangered on the NSW *Threatened Species Conservation Act 1995*, a recovery plan was put into operation.

Fast forward to 2019-2020 – the headlines on ABC News: **“Gondwana-era rainforest stand of nightcap oak devastated by unprecedented bushfire” 18 January 2021**. Notwithstanding the best attempts to keep them safe, thinking that in a rainforest to have sufficient protection, the drought of late 2019 meant that a lightning strike on Mt Nadia, within the Nightcap National Park, in November set the rainforest alight and the over 6,000 hectares were destroyed, including the area of *Eidothea hardenianas*.

For months it was believed that there had been wholesale destruction of the species. But any attempt of finding out the extent of the damage was restricted to a very small group of persons. One of them was Dr Robert Kooyman who had been involved in their discovery and who now feared that the tree could not survive the fire. For months he had been visiting the trees regularly collecting data for the NSW National Parks and Wildlife Service. And by mid-June there was hope. In a news story of 15th June 2020, of the 125 fully grown nightcap oaks that had up to that stage had been identified, official numbers were that less than a fifth of the total population had been killed by the bushfire. And that ruby red shoots were sprouting from the blackened stumps of even the most damaged trees which gave great hope for the future.

That same ABC news story noted “A spokesperson said its efforts to better understand the biology of the nightcap oak, and the impact of fire, would feed into an action plan which could include a propagation and translocation program for the species.”

Returning now to the most recent publicity of the fate of this extraordinary survivor. It can be found on the internet at:

https://www.environment.nsw.gov.au/news/nightcap-oak-translocation?utm_medium=email&utm_campaign=Naturescapes%20June%202022&utm_content=Naturescapes%20June%202022+CID_72c400821d87c2a6594198da6206cba0&utm_source=Campaign%20Monitor&utm_term=Read%20more

And what we learn from this 10 May 2022 update is just how the translocation of plants is being carried out – including a mixture of plants raised from seed together with the propagation of the plant using vegetative cuttings. This work is being based on the result of a genetic study

undertaken by the Royal Botanic Garden Sydney. As they note: “Plants grown from cuttings will supplement those grown from seed to provide a genetically representative planting at each of the eight translocation sites.” The articles spell out the way and times seeds were collected to ensure genetic diversity at each of the eight translocation sites in the Nightcap and Mount Jerusalem National Parks.

An interesting feature of the material you can download from the internet set out above, is an interview with Justin Mallee, a project officer, NPWS, who also shows the country that these trees are being translocated to. I recommend downloading and seeing the information contained in the updates and this video.

The easiest way of reading the **ABC material** from early and mid 2020 referred to above, is to use the links set out on Wikipedia under the heading of the species. But also see what the **Big Scrub Landcare group** were doing in mid 2021: <https://www.bigscrubrainforest.org/first-nightcap-oak-planting-undertaken-to-disperse-species-and-reduce-threat-of-fire/>. Quite inspiring.

As soon as conditions are once again safe, the Coffs Harbour Group should think about visiting the site and see exactly how this project is being undertaken. An opportunity to re-establish contact with our Northern River member



Image left: Gwen Harden

REPORT on APS OUTING SUNDAY JULY 24 to URUNGA WETLANDS Janice Fitzpatrick

Background Information.

www.industry.nsw.gov.au/data/assets/pdf_file/0016/142720/Urunga-Wetlands-fact-sheet.pdf

This brochure from NSW Department of Industry gives you a good overview of the project to remediate the wetlands – we were surprised to learn the expected life of the containment site is only 100 years!

<https://www.scs.nsw.gov.au/soil-conservation-services-projects/urunga-wetlands-rehabilitation>

This Soil Conservation Service website has an interesting video that shows the amount of work that was done to remediate the site – it’s a few years’ old now so it is good to see how much the plants have grown in just a few years.

The Outing

A small group us met at the Wetlands carpark on the South side of Urunga and wandered over the containment mound and onto the boardwalk, noting how much the plants had grown both in size and diversity since our last visit several years before (which was led by Rowan McCabe who had done planting there).

Several species were doing particularly well – *Melastoma malabathricum* (Pink lasiandra), *Lomandra longifolia* (mat rush), *Melaleuca quinquenervia* (Broad-leafed paperbark), *Cordyline stricta* (narrow-leafed palm lily) and *Gleichenia dicarpa* (Coral fern or Tangle fern). A full list is provided below thanks to Craig Henderson.

We also noted the appearance of some weeds especially along the sides of paths – but overall the plants of the wetlands appear in very good health and thriving. There were several species of water birds and the flowering wattle (*Acacia longifolia*) was covered with bees.

The walk around the wetlands took us over an hour and we then drove to the Bongil Bongil picnic area off Williams Rd for lunch – probably not a lot to say about this area of flooded gums and blackbutt.

Species list for Urunga Wetlands (from Craig Henderson)

Botanic Name	Common name	Botanic Name	Common name
<i>Melastoma malabathricum</i>	Pink lasianda	<i>Parsonsia sps</i>	Silkpod vine
<i>Tristaniopsis laurina</i>	Water gum	<i>Ficus coronata</i>	Sandpaper fig
<i>Lomandra longifolia</i>	Mat rush	<i>Hibiscus tiliaceus</i>	Cottonwood hibiscus
<i>Melaleuca quinquenervia</i>	Broad-leafed paperbark	<i>Eucalyptus robusta</i>	Swamp mahogany
<i>Casuarina glauca</i>	Swamp she-oak	<i>Notelaea longifolia</i>	Large mock-olive
<i>Jagera pseudorhus</i>	Foambark	<i>Synoum glandulosum</i>	Scentless rosewood
<i>Nymphoides sps</i>	Waterlily	<i>Gahnia clarkei</i>	Tall sawsedge
<i>Gleichenia dicarpa</i>	Coral fern	<i>Hibbertia scandens</i>	Climbing guinea flower
<i>Acacia fimbriata</i>	Fringed wattle	<i>Cyathea sps</i>	Tree fern
<i>Acacia longifolia</i>	Golden coast wattle	<i>Brachychiton acerifolius</i>	Flame tree
<i>Acacia irrorata</i>	Green wattle	<i>Pittosporum undulatum</i>	Sweet pittosporum
<i>Cordyline stricta</i>	Narrow-leafed palm lily	<i>Guioa semiglauca</i>	Wild quince
<i>Glochidion fernandi</i>	Cheese tree	<i>Billardiera scandens</i>	Common appleberry
<i>Hovea acutifolia</i>	Pointed-leaf hovea		

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