



*Society for Growing Australian Plants
Cairns Branch*

NEWSLETTER

Newsletter No 239

April, 2024

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Kate and Colwyn's Place, 21 Scotia Close, Mt Sheridan, 20 April

Kate and Colwyn have offered their home for our next excursion. Meet at 12 noon for lunch as usual and it is highly likely that mosquito repellent will come in handy. Kate says it is fine to park on the grass and driveway.

Behind the house (through a gate in the back fence) is the lovely Skeleton Creek. Council has a concrete footpath that follows the residential sweep of Skeleton Creek, from its beginning at Hardy Road down to Idalia Road. This is a regrowth watercourse with native vegetation remaining.

If the day is wet, members are welcome to stay and look through Colwyn's air-conditioned studio, or sit on the back verandah and identify the local birdlife.



AGM and CONSTITUTION

Our AGM was a washout, attended by just four members due to floods and illness. On the bright side one of the four was Tony Roberts, who was able to establish that although that number was too few for a general meeting, our constitution does not say how many members need to be present for an AGM. Some office bearers had indicated that they were willing to continue in the role – none had said they would not, so here we all are again. BUT we now have to bring our constitution up to date so we will be having a short meeting this month.

ITEMS OF INTEREST from Rob Jago

Two recent articles published in *Australian Systematic Botany* may be of interest to some readers.

FOSSIL LEAVES

The first paper by Raymond Carpenter and Andrew Rozefelds describes a new fossil plant, *Megahertzia paleoamplexicaulis*, based on fossil leaves from Anglesea, and cuticular remains from Mount Hotham in Victoria. The only extant species of this genus, *Megahertzia amplexicaulis*, occurs in rainforests at Roaring Meg Creek, Mt Sorrow, to the west of Cape Tribulation and at Mt Hemmant, Noah Creek and Cooper Creek.

The paper can be downloaded at: CSIRO PUBLISHING *Australian Systematic Botany* Carpenter, R.J. & Rozefelds, A.C.: Leaf fossils show a 40 million-year history for the Australian tropical rainforest genus *Megahertzia* (Proteaceae): *Australian Systematic Botany* 36 (4): 312-321 (2023)

COOKTOWN IRONWOOD

The second paper, by Russell and Matthew Barrett, describes two new species of *Erythrophleum* that have previously been included with in *E. chlorostachys* (F Muell) Baill. Some of you may know Matt from visits to the Australian Tropical Herbarium at the Cairns Campus of James Cook Uni.

The paper can be downloaded at; CSIRO PUBLISHING *Australian Systematic Botany* Barrett, R.L. & Barrett, M.D.: Taxonomic revision of Australian *Erythrophleum* (Fabaceae: Caesalpinioideae) including

description of two new species: *Australian Systematic Botany* 36 (5): 401-426 (2023)

SOME SPECIMENS OF INTEREST HELD AT THE YALE HERBARIUM

A recent online search for possible isotypes, that is duplicates of the type specimen, of a local tree, *Elaeocarpus sericopetalus* F.Muell., revealed that two such specimens were held at the Yale University Herbarium at the Peabody Museum of Natural History, Department of Botany, New Haven, Connecticut, USA. This prompted me to wonder if there were any other possible isotypes or specimens collected from North Queensland that may be held at this institute. A search of their online database revealed that there were indeed a number of specimens of interest. The Yale Herbarium founded in 1864 by Daniel Cady Eaton has grown to house approximately 350,000 plant specimens. The following specimens may be of interest to local botanists.

JOHN DALLACHY

Several possible isotypes and other duplicate specimens collected by John Dallachy from Rockingham Bay are housed at Yale (YU). These specimens are all incorrectly labelled as having been collected from Rockingham Bay, Western Australia. All of Dallachy's collections housed at YU were collected at Rockingham Bay near Cardwell in North East Queensland. The Dallachy specimens appear to have been sent directly to the American botanist, Daniel Cady Eaton (1834-1895), at Yale University's Sheffield Scientific School by the German/Australian colonial botanist, Sir Baron Ferdinand Jacob Heinrich von Mueller (1825-1896), who was based at Melbourne.

The life of John Dallachy (1804-1871) and his botanising in the area around Cardwell 1864-1871 is well documented in two papers by John Leslie Dowe and Sara Maroske. Many readers will no doubt know John Dowe who is well known locally for his expertise on Palms and botanical history.

Dowe, J.L. & Maroske, S.: John Dallachy (1804-71): collecting botanical specimens at Rockingham Bay: *Historical Records of Australian Science* 31 (2): 101-117 (2020) online at; HR19013.pdf (csiro.au)

Specimens at Yale collected by John Dallachy:

*YU065671 Probably a specimen of *Tabernaemontana pandacaqui* Lam. Labelled as *Tabernaemontana orientalis* Benth.

*YU066213 Possible isotype of *Tristaniopsis exiliflora* (F.Muell.) Peter G. Wilson & J.T. Waterh. Labelled as *Tristania exiliflora* F.Muell.

*YU068771 A specimen of *Aphananthe philippinensis* Planch. A possible isotype of *Taxotrophis rectinervis* F.Muell.

*YU069070 Possible isotype of *Euonymus australiana* F.Muell.

*YU069082 Possible isotype of *Davidsonia pruriens* F.Muell.

YU069083 Possible isotype of *Pullea stutzeri* (F.Muell.) Gibbs collected by John Dallachy at Dalrymples Gap, Rockingham Bay, Queensland. Labelled as *Callicoma stutzeri* F.Muell.

+YU069085 Possible isotype of *Gillbeea adenopetala* F.Muell..

+YU069086 Possible isotype of *Karrabina biagiana* (F.Muell.) Rozefelds & H.C.Hopkins c

YU069087 Possible isotype of *Karrabina biagiana* (F.Muell.) Rozefelds & H.C.Hopkins collected by John Dallachy from the Seaview Range, Rockingham Bay, Queensland.

+YU069088 Possible isotype of *Elaeocarpus foveolatus* F.Muell.

+YU069089 Possible isotype of *Elaeocarpus foveolatus* F.Muell.

+YU069090 Possible isotype of *Elaeocarpus foveolatus* F.Muell.

+YU069091 Possible isotype of *Elaeocarpus foveolatus* F.Muell.

+YU069092 Possible isotype of *Elaeocarpus sericopetalus* F.Muell.

+YU069093 Possible isotype of *Elaeocarpus sericopetalus* F.Muell.

+YU069098 Possible isotype of *Sloanea macbrydei* F.Muell.

+YU069099 Possible isotype of *Sloanea macbrydei* F.Muell.

* Mueller is incorrectly cited as the collector. + collected by John Dallachy at Rockingham Bay, Queensland.

FRANCIS M. HUEBER

YU051714 A specimen of *Endiandra cowleyana* F.M.Bailey collected by Francis M. Hueber at The Boulders, Babinda Creek near Babinda 2 March, 1970. Queensland, Australia.

Francis Maurice Hueber (1929-2019) was an American botanist and palaeobotanist who worked for many years at the Smithsonian National Museum of Natural History, Washington DC. Hueber specialised in Devonian plants and visited Australia on at least two occasions. Two other specimens collected by Hueber at The Boulders are held at the United States National Herbarium, Smithsonian National Museum of Natural History, Washington DC (US).

US2596490 *Polyscias australiana* (F.Muell.) Philipson

US2596494 *Polyscias mollis* (Benth.) Harms labelled as *Polyscias macdowallii* (F.Muell.) Domin

FIGS

Figs are an interesting group of plants that enjoy an especially intricate relationship with their pollinators, fig wasps. This relationship is so fine-tuned that, if the pollinators do not carry out their part of the symbiosis, they are removed from the gene pool.

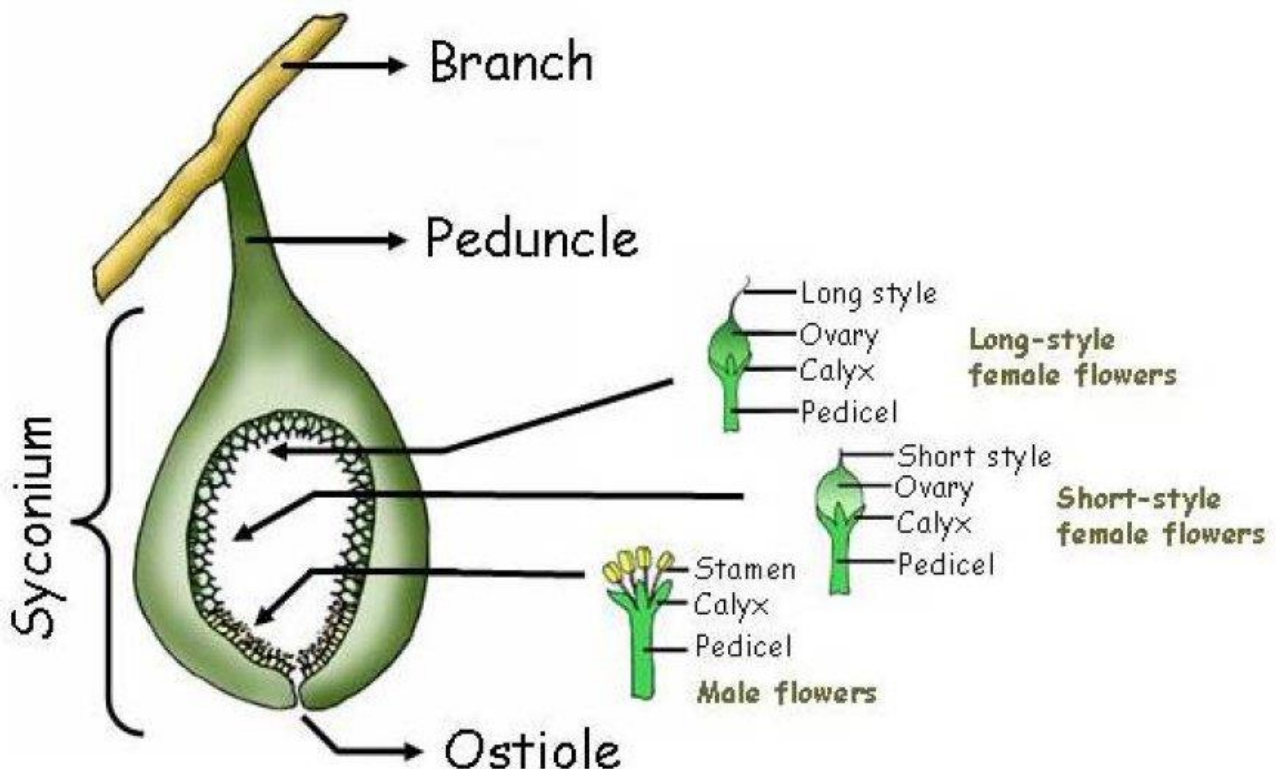
Figs are plants in the genus *Ficus*, family Moraceae. Locally we have at least 15 native fig species occurring on Mt Whitfield and 26 in the Cairns area. These trees, shrubs and vines are characterised by their inflorescences, syconia (fig fruit or figs). A syconium is a modified receptacle that swells, and hollows. Very simple flowers form inside the syconium. At the bottom is an entry hole (ostiole) that is covered with interlocking bracts. Each fig species has its own unique species of pollinating fig wasp, and the arrangement of the ostiolar bracts can inhibit the entry of wasps of the wrong species.



Syconium section showing flowers and ostiole (Gubin Olexander)

SIMPLIFIED LIFE CYCLE

Egg-bearing female fig wasps are attracted to their mutualistic fig by a pheromone emitted by receptive syconia. The wasp must first negotiate the ostiole. In the process, she loses her wings. She then searches for female fig flowers to lay her eggs into. Female fig flowers are of two types, long-styled and short-styled. Due to the length of her ovipositor the wasp is only successful in laying eggs in short-styled fig flowers. The long-styled flowers are often pollinated with pollen she is carrying from the fig she was born in. After laying her eggs, the wasp dies.



Male, Short Styled and Long Styled fig flowers.

The eggs and larvae develop within the ovaries of the short-styled fig flowers. Male wasps are born first. They are wingless and blind. Their first act is to find female wasps, still within the fig ovaries, and mate with them. Their last act is to burrow holes to the outside world for their pregnant sisters to escape through, then they die.

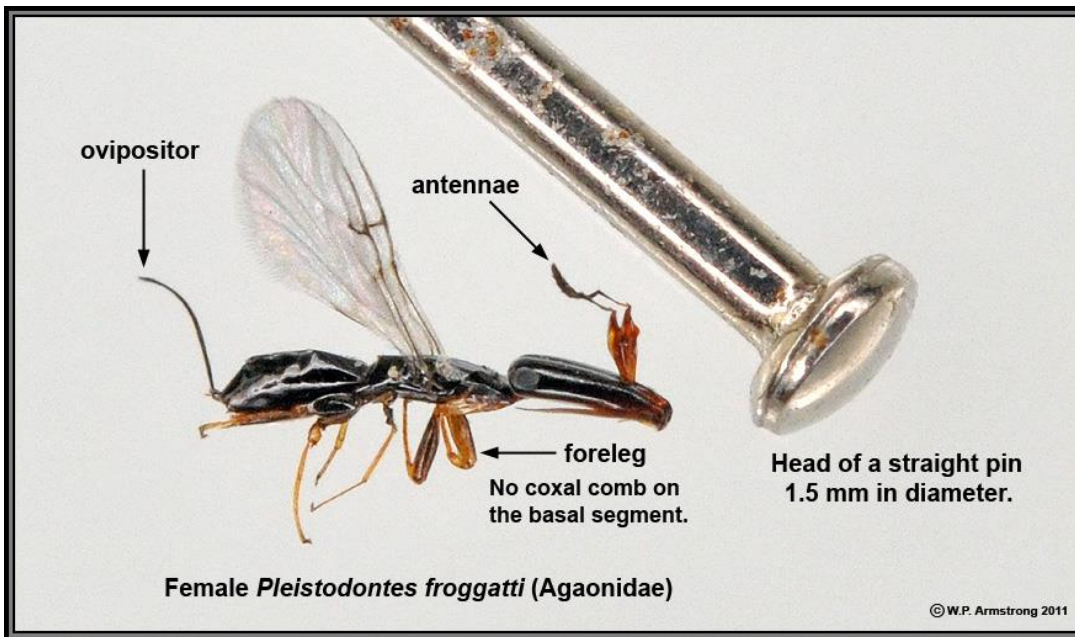


Fig Wasp from Moreton Bay fig (WP Armstrong)

The females emerge from their flowers and pick up pollen while making their way to the exit holes. Once outside they search for a receptive fig into which they can lay their eggs, and the cycle starts over.

In true Darwinian style, if a female wasp fails to pollinate the long styled flowers within the fig, the syconium is aborted, ending the wasp's chance of reproducing.

Figs are regarded as keystone species. They need to fruit regularly to keep their pollinator wasp populations viable and, in doing so, provide a reliable source of food for frugivores. Should we lose a pollinating wasp the associated fig species would die out.

As indicated above this is a simplified version of fig sex. In reality there are other variations, such as syconia containing only long-styled female flowers, male and short styled flowers, and some with flowers that do not require pollination at all.

So next time you eat a fig think of the sacrifices the wasps made and oh, what was that crunch?

ROBIQUETIA GRACILISTIPES Don and Pauline Lawie



Photo:

Patsy
Penny

Don: I do not know of a common name for this rainforest orchid endemic to the wet tropics of north Queensland. I do know that the genus was named after a French chemist who lived in the 17th to 18th centuries. As a chemist myself I fully approve of the naming.

R gracilistipes is usually encountered (in my experience) not far from flowing water at altitudes up to about 300 metres. The

adjective to describe it is “fat” – fat stems, fat leaves, fat roots attaching the plant to its chosen host, about which it is not particular. *R gracilistipes* is a gregarious orchid which likes to grow in a broken canopy where there is plenty of light. Often, when there is a contest for a preferred site, a large plant will be ejected and fall to the forest floor. Dockrill says that that is because the roots are brittle. During my walks around the mountain (the Graham Range, north-east of Babinda) I made a habit of picking up fallen plants and stuffing them into a creek-side tree fork (a habit inculcated in me by Len Lawler) and they took very well there. I probably took a few home as well for Pauline to attach to a backyard tree already covered with various orchids and hoyas. The above is my roundabout way of introducing these stunning photos.

Pauline:

The unknown polinator of *R gracilistipes* is exceedingly zealous as every flower produces a capsule .



Photo: Pauline Lawie

Camphor laurels are weeds in cooler climates, but they are great hosts for epiphytes (and any nearby scramblers) so I planted one up behind the house. When one overloaded branch snapped I rescued orchids in the order of their importance to me, so the *R gracilistipes* were neglected for some time.

When rescued they languished in my shade house until Patsy and I got our act together when she took them home to be placed into the large *Alstonia scholaris* in the middle of the reveg area our Branch helped to extend in June, 2023.



Photo: Patsy Penny

They are obviously enjoying the W-e-t Season which has given us just 11 days without rain so far this year.



Photo:

Jack Penny



Photo:

Jack Penny

Don had to have the last word. The name of our local *Robiquetia* is “gracilistipes” meaning “slender stem”. This is a bit of fun from the taxonomists in the same vein as “*Polyscias mollis*, the stem of which is covered by sharp prickles.