Coffs Harbour Group NEWSLETTER No.155: May 2022

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APS Coffs Harbour Membership

We warmly welcome our new member:
Sally Hawkins

APS NSW Website
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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

Poisonous Australian Plants
Phil O'Shea

Roughly 60 percent of the poisonous plants known in Australia are native.

The first people who came to Australia thousands of years ago would have had to learn what was and what wasn't poisonous. The Aborigines had learned how to detoxify certain poisonous plants for use as food and to use poisonous plants for stupefying fish and game animals. They also used several poisonous plants as narcotics or stimulants or for medicinal or cultural purposes. Ludwig Leichardt's diaries record that he spent a lot of time learning about edible and poisonous plants from the aborigines he met during his expeditions.
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Unfortunately in much of southern Australia a lot of Aboriginal plant knowledge did not survive and the Europeans had to find out about poisonous plants by trial and error.

The literature on poisonous plants is far from definitive and it seems that there is enormous variability in toxicity due to genetic differences, environment, stages in life cycle and time of the year. It is believed that plants have developed chemicals as a defence mechanism against insects and vertebrates and to reduce competition from others of their species and other species. The production of poison has a cost to the plant in the form of expenditure of energy and therefore must have a benefit to the plant. Some plants will develop more poison in certain seasons and in more palatable parts such as new growth. Others have only there seed as poison to ward off insect attacks. Evolution goes on though and insects adapt to the poison sometimes using it as a defence against predators.

Many of these chemicals are poisonous due to a variety of factors. In some plants it is the seed that is poisonous and in others it is the leaves or both. In some cases the plants may have developed a poison as a protection against a species that no longer exists. In some cases it is a bacteria, which enhances or releases the poisonous compound.

Cycads and zamias are ancient plants, which have a cocktail of toxins which nerve damage, liver damage and cancer. James Cook and other explorers found this out first hand, but the aborigines used the same plants as food by leaching and baking the crushed seeds.

The plight of Burke and Wills is well documented and their demise was probably hastened by their consumption of nardoo seeds. An aquatic fern, *Marsilea drummondii*, contains thiaminase, which destroys vitamin B in the body. They may have prepared it by grinding and mixing it with water and not baking it as the local aboriginal women did.

Cyanide is present in variable amounts in many Australian plants in the form of Cyanogenic glycosides. In a 2006 study of 400 rainforest trees and shrubs in North Queensland 4.5 % of species were found to contain cyanide. There are hundreds of different Cyanogenetic glycosides. When the plant is ingested, the digestive process releases the Cyanide molecule (which is Carbon triple bonded to Nitrogen) into the bloodstream. The cyanide molecule is extremely reactive and rapidly attaches itself to molecules, which carry oxygen to cells. This in turn blocks transfer of energy to cells.

Photos: Florabase WA

Some plants with appreciable cyanogenic glycosides include *Acacia binervia A, cheeli, A. longifolia, A. oswaldii, Eremophila maculata* (120 grams of leaf may kill a 30 kg sheep, *Alocasia macrorrhiza* , *Polyscias australiana, Eleaocarpus sericopetalus, Cleistanthus myrianthus, Flagellaria indica, Clerodendron greyi, Beilschmiedia collina, Opisthiolepsis heterophylla, Cardwellia subliminis, Prunus turneriana Dianella intermedia, Dianella tasmanica and Lomatia sialfolia .*

*Abrus precatorius (*Gidgee- Gidgee) is a scrambling vine found in Northern Australia and contains Abrin, one of the most powerful poisons known. *Triunia youngiana* (Spice bush) is a rainforest shrub found locally in Dorrigo National Park. Its fruits are highly toxic resulting and affect the heart rate.

Taberaemontana pandacaqui is in the same family as oleander. The fruit is considered highly poisonous possibly containing Cardiac glycosides. Affects heart muscle by interfering with sodium and potassium. Leaves, sap bark and roots have been used in folk medicine. It is a member of the Apocynaceae family

which includes deadly plants such as *Nerium* oleander and *Adenium obesum* (Desert Rose)., they have potential medical benefits but as a plant they can be dangerous. They have been used for hunting animals. There are over 20 plants containing Monofluoroacetate (commonly known as 1080 poison). This chemical when ingested prevents energy transfer between cells and has no antidote. It occurs mainly in South West Australian *Gastrolobiums* but is also found in *Gastrolobium grandiflorum,* which occurs throughout northern Australia. Monoflouroacetate also occurs in *Acacia georginae* in the Northern Territory and Western Queensland.

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Reserve for Public Recreation and Preservation of Native Flora No. 87204. Coramba.

A.G. FLOYD, Research Scientist

In February 2022, the Coffs Harbour Group undertook a walk through the Coramba Nature Reserve. This is one of our regular walks. For our long-term members there is always something new to see and for those seeing it for the first time it is a revelation. To have such a densely packed rainforest reserve so close to Coffs Harbour, and so walker-friendly always makes it a joy to undertake.

Alex Floyd's report was provided by John Ross, who over the years has added his own annotations and additions to enhance the species list. Hopefully others who may have the same document and have made similar additions might check them against this list and we can get the most complete plant list of the Coramba Nature Reserve as possible. (Rob Watt)

Last century the rich alluvial flats of the Orara River downstream from Karangi and Coramba carried considerable areas of very tall dense luxurious rainforest. The first white men to work here were the cedar cutters who found and felled the highly prized red cedar trees. Later, farmers cleared the remaining trees to make way for pastures on these rich soils. So extensive was this clearing, that today it is difficult to imagine how the valley must have looked just over 100 years ago.

Fortunately, one small area still remains as a reminder of the past, being situated on the southern bank of the Orara River beside the old Coramba showground which is now used as a sports ground. This was notified on 6th June 1969 as R 87204 for Public Recreation and Preservation of Native Flora.

I first inspected this small rainforest remnant in March 1957 and recorded the plants occurring therein. I revisited the area in April 1977 and was generally pleased with the health of the forest.

This rainforest contains many trees of considerable interest such as, good specimens of red and white cedars, massive, buttressed yellow carabeens and magnificent white booyongs. Other commercial timber trees preserved here are sassafras, oliver's sassafras, jackwood, pepperberry, blueberry ash, red ash, black apple, and white beech. Along the riverbank occurs species of trees with tough trunks and branches that bend with the floodwaters but do not break. Typical trees are water gum, giant water gum, black bean, and brush cherry (known by the aborigines along the coast as "woolgoolga").

As I have said earlier, the forest is in reasonably good condition except for the very dense fringe of both the large and small-leaved privets around the edge. These introduced weeds are a major pest in the Orara valley because of their prolific fruiting (the seeds being carried great distances by the birds that fed on them), dense root system and ability to sucker from every small root left in the ground. Eradication would be both impractical and unwise in this situation as the privet is now effectively sealing the rainforest edge against exposure. However, the great danger lies within the forest when an old tree eventually crashes to the ground and leaves an opening. Normally the young tree seedlings present would quickly plug the gap and eventually grow into tall trees; but if they are not present, a privet thicket would be the end result.

Although this reserve has a good fence along the southern boundary, cattle are gaining entry at some points and are grazing and trampling the seedlings within. The total exclusion of cattle is essential to the long-term survival of this unique remnant lest it degenerate into a haven for weeds as has tragically happened at Wingham Brush near Taree and is threatening the island at Bellingen and Susan Island at Grafton.
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SPECIES LIST – FLORA RESERVE ADJOINING CORAMBA SHOWGROUND

H C Hayes,
A G Floyd 13/3/57, A G Floyd 17/4/77

TREES
Riverine Fringing Forest
Dominant Storey:

Lauraceae	*Cryptocarya obovata*	Pepperberry	C
Elaeocarpaceae	*Elaeocarpus obovatus*	Blueberry Ash	O
	Sloanea australis	Maiden's Blush	O
	Sloanea woollsii	Yellow Carabeen	C
Myrtaceae	*Rhodamnia argentea*	White Myrtle	R (N corner)
	Syzygium francisii	Giant Water Gum	C
	Tristania laurina	Water Gum	VC
Verbenaceae	*Gmelina leichhardtii*	White Beech	R

Understorey:

Moraceae	*Ficus coronata*	Creek Sandpaper Fig	O
Proteaceae	*Helicia glabriflora*	Pale Oak	O
Lauraceae	*Endiandra muelleri*	Green-leaved Rose Walnut	R
Escalloniaceae	*Polyosma cunninghamii*	Featherwood	R
Euphorbiaceae	*Croton verreauxii*	Green Native Cascarilla	R
	Mallotus discolour	Yellow Kamala	R
	Baloghia inophylla	Bush (brush) Bloodwood	(S E corner? John)
Sapindaceae	*Elattostachys xylocarpa*	Short-leaf Beetroot	R
	Mischocarpus pyriformis	Brush apple	R
Myrtaceae	*Syzygium australe*	Brush Cherry	C
Ebenaceae	*Diospyros pentamera*	Grey Persimmon	R
Rhamnaceae	*Emmenosperma alphitoniodes*	Yellow Ash	

Alluvial Flat Forest
Dominant Storey:

Monimiaceae	*Daphnandra micrantha*	Channel-leaf Socketwood	C
	Doryphora sassafras	Sassafras	O
Lauraceae	*Cinnamomum oliveri*	Oliver's Sassafras	VC
	Cryptocarya glaucescens	Jackwood	VC
	Cryptocarya obovata	Pepperberry	VC
	Cryptocarya microneura	Murrogun	R
Cunoniaceae	*Ceratopetalum apetalum*	Coachwood	R
Mimosaceae	*Acacia melanoxylon*	Blackwod	O
Meliaceae	*Melia azedarach var. australasica*	White Cedar	C
	Toona australis	Red Cedar	C

Rhamnaceae	*Alphitonia excelsa*	Red Ash	O

Elaeocarpaceae	*Elaeocarpus obovatus*	Blueberry Ash	C
	Sloanea woollsii	Yellow Carabeen	VC
Sterculiaceae	*Heritiera trifoliolata*	White Booyong	C
Sapotaceae	*Planchonella australis*	Black Apple	O
Boraginaceae	*Ehretia acuminata*	Koda	C
Urtaceae	*Dendrocnide excelsa*	Stinging Tree	R (John)
Anacardiaceae	*Euroschinus falcatus*	Pink Poplar	Seedlings NW corner? John 1/2001
Moraceae	*Ficus macrophylla*	Moreton Bay Fig	John 1/2001

Understorey:

Rutaceae	*Acronychia oblongifolia*	White Lilly Pilly	R (John)
Euphorbiaceae	*Mallotus philippensis*	Orange komala	0 (John)-NW corner

Palmae	*Archontophoenix cunninghamiana*	Bangalow Palm	O
Moraceae	*Ficus cornata*	Creek Sandpaper Fig	C
Lauraceae	*Cryptocarya meissneri*	Thick-leaved Laurel	C
	Endiandra discolor	Domatia Tree	R
	Neolitsea dealbata *Beilschmiedia sp.* eliptica or obtusifolia? Both found in local area	White Bolly Gum Common name of e*lliptica* is Gray Walnut, obtusifolia is Blush Walnut	VC Floyd has both in Bongil Bongil NP
Meliaceae	*Dysoxylum? rufum*	Hairy Rosewood	R
Sapindaceae	*Diploglottis australis*	Native Tamarind	O
Akaniaceae	*Akania lucens*	Turnipwood	VC
Elaeocarpaceae	*Sloanea australis*	Maiden's Blush	C
Sterculiaceae	*Brachychiton acerifolium*	Flame Tree	R
Myrtaceae	*Syzygium austral*	Brush Cherry	
Myrtaceae	*Rhodomyrtus psidioides*	Native guava	C
Araliaceae	*Polyscias murrayi*	Pencil Cedar	O
Sapotaceae	*Chrysophyllum pruniferum*	Rusty Plum	R
Oleaceae	*Notelaea longifolia*	Large Mock-olive	R
Surianaceae	*Guilfoylia monostylis*	Solo Tree, Shrub Ooline	
Quintiniceae	*Quintinia verdonii*	Grey Possumwood	
Cornaceae	*Alangium villosum subs polyosmoides*	Black muskheart	South of break, in halfway 1/2003

SHRUBS
Riverine Fringing Forest

Capparidaceae	*Capparis arborea*	Native Pomegranate	VC
Papilionaceae	*Castanoepermum australe*	Black Bean	O

Alluvial Flat Forest

Palmae	*Linospadix monostachyus*	Midginbil	O
Proteaceae	*Orites excelsa*	Prickly Ash	R (John – seedlings

			seen 2/2001)
Winteraceae	*Tasmannia insipida*	Tasteless Pepper Bush	R
Eupomatiaceae	*Eupomatia bennettii*	Small Bolwarra	R
Capparidaceae	*Capparis arborea*	Native Pomegranate	VC
Pittosporaceae	*Hymenosporum flavum*	Native Frangipani	R
Mimmoaceae?	*Abarema sapindoides*	Snow-wood	C

Euphorbiaceae	*Cleistanthus cunninghamii*	Cleistanthus	O
Sapindaceae	*Alectryon subcinereus*	Wild/native Quince	R
	Sarcopteryx stipitate	Steelwood	R
Myrtaceae	*Syzygium corynanthum*	Sour Cherry	R
Cleaceae	**Ligustrum lucidum*	Large-leaved Privet	VC
	**Ligustrum sinense*	Small-leaved Privet	VC
Apocynaceae	*Ervatamia angustisepala*	Banana Bush	O
Petermanniaceae	*Petermannia cirrhosa*	Petermannia	
Ranunculaceae	*Ranunculus plebeius*	Forest buttercup	
Araceae	*Gymnostachys anceps*	Settler's Flax	
Asphodelaceae	*Geitonoplesium cymosum*	Scrambling lily	

HERBS

Araceae	*Alocasia macrorrhizos*	Cunjevoi	C
Commelinaceae	*Commelina cyanea*	Blue Commelina	
Commelinaceae	*Pollia crispata*	Pollia	
Commelinaceae	*Tradescantia fluminensis (syn T. albiflora)*	Wandering trad.	
Araliaceae	*Hydrocotyle tripartite*	Pennywort	
Polygonaceae	*Periscaria hydropiper*	Water pepper	Low flood channel
Colchicaceae	*Tripladenia cunninghamii*	Bush lily, Kreysigia	

VINES

Palmae	*Calamus muelleri*	Lawyer Cane	C
Araliaceae	*Cephalaria cephalobotrys*	Climbing Panax	
Araceae	*Pothos logipes*	Pothos	VC
Flagellariaceae	*Flagellaria indica*	Bull Cane	O
Smilacaceae	*Ripogonum discolor*	Two-tone Supple-jack	VC
Piperaceae	*Piper novae-hollandiae*	Pepper Vine	C
Moraceae	*Maclura cochin-chinensis*	Cock Spur Thorn	O
Moraceae	*Malaisia scandens*	Burny Vine	R (see *Trophis scandens* Fl NSW Supp to vol. 1 (2000)
Ranunculaceae	*Clematis glycinoides*	Erect Clematis	R
Menispermaceae	*Legnephora moorei*	Grey Round-leaf Vine	VC
Vitaceae	*Cissus hypoglauca*	White-leaved Watervine	O

	Cissus antarctica		
Ripogonacea	*Ripogonum album*	White Supplejack	
OR	*Ripogonum brevifolium*	Small leaved Supplejack	
Cucurbitaceae	*Zehrenia cunninghamii*	Slender cucumber	
Apocynaneae	*Pardonsia velutina*	Hairy Silkpod	
Primulaceae (formerly in Myrsinaceae)	*Embelia australiana*	Embelia	
Bignoniaceae	**Macfadyena unguis-cati*	Cat's Claw Creeper	
Asteraceae	**Delairea odorata* (formerly *Seneca mikanioides*)	Cape Ivy	
Fabaceae	Austrocallerya australis	Blunt Wisteria	Syns *Callerya australis*, *Millettia australis*
Rubiaceae	Gynochthodes jasminoides (syn Mo*rinda jasminoides*)	Sweet Morinda	

EPIPHYTES

Aspleniaceae	*Asplenium nidus*	Birds Nest Fern	O
Orchidaceae	*Dendrobium gracilicaule*	Spotted Orchid	O
	Dendrobium tetragonum	Tree Spider Orchid	Tree fall 2/2001 John
	Dendrobium linguiforme	Thumbnail or Tick Orchid	
	Rhinerrhiza divitiflora	Raspy Root Orchid	Fallen branch 12/2000 John
	Pseudovanilla foliata	Great Climbing Orchid	
	Epipogium roseum	Drooping Orchid	
	Dockrillia sp. teretifolium or fairfaxii?	Rat's Tail Orchid	Syn *Dendrobium. (*Small plant fallen 5-03) John
Santalaceae	*Notothixos cornifolius*	Kurrajong mistletoe	Hosts are almost exclusively species of family Sterculiaceae.

FERNS

Pteridaceae	*Adiantum hispidulum*	Rough Maidenhair Fern	
	Adiantum formosum	Black Stem Maidenhair	
Athyriaceae	*Diplazium australe*	Austral Lady Fern	Syn *Athyrium australe*
Blechnaceae	*Blechnum patersonii*	Strap Water Fern	
	Blechnum nudum	Fishbone Water Fern	
	Doodia caudata	Small Rasp Fern	
Cyatheaceae	*Cyathia leichhardtiana*	Prickly Tree Fern	
Dryopteridaceae	*Lastreopsis microsora*	Creeping Shield Fern	
Polypodiaceae	M*icrosorum scandens*	Fragrant Fern	
	Platycerium superbum	Staghorn fern	
	Pyrrosia confluens	Robber Fern	
	Pyrrosia rupestris	Rock Felt Fern	

ADDITIONS

Pteridaceae	*Adiantum hispidulum*	Brush Muttonwood	syn. *Rapanea howittiana*
Pittosporaceae	*Pittosporum revolutum*	Wild Yellow Jasmine	
Sapindaceae	*Arytera divaricate*	Coogera, Rose Tamarind	
Cardiopteridaceae	*Citronella moorei*	Churmwood	
Cannabaceae	*Aphananthe philippinensis*	Rough-leaved elm	
Sapindaceae	*Mischocarpus australis*	Red Pear-Fruit	

*Denotes introduced species

LEGEND: R = Rare; O = Occasional; C = Common; VC =Very Common

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