

Some members of the Podocarpaceae

It now seems as if the general lock down is being eased across the country and I am looking to do other things than write these notes which seemed helpful eleven weeks ago but hopefully soon will not be so. Not quite a baker's dozen but one more than a S.I. preferred unit.

Also I must get on with the June FACTT Newsletter which I like to think is as eagerly awaited as these notes.

This note is about a family, members of which are found in fossils of Gondwana times and now in those countries which formed the original landmass and some other countries. Podocarpus has a fleshy enlarged stem with the seed capsule attached. It is easy to see the possibility of birds spreading the seeds, unlike Nothofagus where the seed is less likely to be spread widely one would think.

Regarding the movement of continents it needs to be mentioned that a million is a very large number. If, as Australia is presently doing, a landmass moves 70mm a year in just 1 million years; a short period of time in geological terms; the distance traveled is 70km. Australia is moving so fast in fact that GPS can't keep up.

Some people think that taxonomists fall into two broad categories - Lumpers and Splinters. Lumpers tend to say -Well the species are so similar they are in fact one. Splitters on the other hand tend to the view that the fine details represent sufficient differences to recognise they are different species. The work which is moving rapidly to answer these questions at a genetic level is having a profound effect on the science of taxonomy.

Podocarpaceae

Podocarpaceae is a very large family of dioecious or rarely monoecious conifers which grow mostly in the Southern Hemisphere. It is made up of 19 genera depending upon what genera are included and 180 species. It has been the subject of quite a bit of change with genera included or excluded and it is not

settled yet. *Podocarpus* is derived from *pous* Gr. for foot and *carpos* fruit referencing the fleshy stalk of the fruit.

The largest of the genera is *Podocarpus* with about 90 species. *Dacrydium* has 21 species. Most members of the family are found in the Australasian region from New Zealand to SE Asia. Many species do not have a wide distribution. Some of the genera are found in India, Japan, China, Africa, and Central and South America.

Although a very large family it is far less well known than the other two big families the *Pinaceae* and *Cupressaceae*. This is largely due to the fact that there are few commercial species and perhaps being tropical they were of little interest to European botanical gardens in earlier times. Although there are exceptions such as the slow growing Huon Pine.

There are 7 genera and 16 species growing in Australia. They are:-

Prumnopitys 9 species 1 endemic to Australia. It extends from Australia, New Zealand, New Caledonia to South America.

Sundacarpus 1 species which grows in Australia to Tropical Asia.

Afrocarpus 6 species from central and Southern Africa. 1 species widely cultivated in Australia and naturalised in Sydney.

Podocarpus 94 species growing in Australia New Zealand Asia and Pacific tropics to Nepal, China and Japan Southern and central Africa South and central America, Cuba and Mexico.

Microcachrys 1 species growing in Tasmania.

Lagarostrobos 1 species growing in Tasmania.

Microstrobos 2 species 1 in Tasmania and the other in the Blue Mountains NSW.

Phyllocladus 7 species which grow in Tasmania, New Zealand, New Guinea, Borneo and the Philippines.

Lagarostrobos franklinii

Lagarostrobos franklinii was first named by the younger Hooker as *Dacrydium franklinii* in 1845 in honour of Sir John Franklin (1786-1847) naval captain and Governor of Tasmania. It was placed in the Genus *Lagarostrobos* by Christopher John Quinn (1936 -) an Australian botanist, in 1982. The name is derived from lagaros Gr. loose and strobos cone. It is a genus of only one species.

Huon Pine is a dioecious tree which grows to 30m in the temperate rainforest of Tasmania from sea level to about 750m. The wood is soft, fissile, oily, even grained and extraordinarily durable. For these reasons it was heavily exploited in the early days of European settlement for such things as boat building. Convicts on Maria Island would have known it well. Due to its slow growth and appeal to wood workers it is now only available in small parcels for carving and small items. Interestingly logs which have lain under water in some of the dams are being raised and utilised for this trade.

Microstrobos niphophilus* *M. fitzgeraldii

Both are small shrubs to 2m *M. niphophilus* grows in wet subalpine sites in Tasmania and *M. fitzgeraldii* is a rare species growing in the Blue Mountain on a few rock ledges on a southerly aspect with spray from waterfalls.

Phyllocladus aspleniifolus

Phyllocladus aspleniifolus is the only species of the family *Phyllocladus* in Australia it was named by *Jacques Labillardiere* in 1845. phyllon Gr. leaf and klados a branch and *aspleniifolus* after *Asplenium* fern and folium L. leaf. The common name Celery-Top Pine is indicative of the small branches resemblance to celery. Celery Top Pine grows to 30m in Western Tasmania. The wood is light cream to very pale brown, is durable and works well. It is in quite short supply having been over exploited in the past and is now only used for smaller items and peeling.

Podocarpus

Podocarpus is the largest genus by far with about 94 species. It has 2 sub genera *P. subsp. podocarpus* and *P. subsp. foliolatus*

Podocarpus elatus

Podocarpus elatus was named by Robert Brown (1773-1858) The name of the genus has been referred to under the Family name and *elatus* is L. lofty tall refers to the height of the tree which can grow to 40m. It grows from Nowra to the NSW border with a number of isolated stands in Queensland preferring the coastal lowlands. Brown Pine either refers to the bark or the colour of the wood and pine as it has a pine appearance. The wood is durable works well and used for furniture, boatbuilding, and piles in salt water.

Podocarpus grayii

Podocarpus grayii or *grayae* was named in honour of Netta Elisabeth Gray (1913-1970) by David John de Laubenfels (1925-2016) in 1985. Laubenfels was an American expert on tropical conifers. Gray was also an American who studied the family in the 1950's. Unsurprisingly Netta was a woman so the name should end ae but is also sometimes i. This convention may have gone the same way as aviatrix.

The type specimen from upper Parrot Creek on the Annan River Cape York Peninsular was collected in 1948 by Leonard John Brass (1900-1971) Brass was born in Toowoomba and worked for some time in America becoming a citizen in 1947. He returned to Australia in 1966.

It is a tree which grows to 30m growing in coastal rainforest on Cape York Peninsular and small stands on Mount Elliot near Townsville as well as western Arnhem Land in the NT.

Podocarpus lawrencei

Podocarpus lawrencei was named by the younger Hooker in 1845 in honour of Robert William Lawrence (1807-1833). Hooker stated in 1845 that

'I have been anxious so far as materials exist for that purpose to record in this Natural Order the names of those individuals who have done most for the Botany of this island. Since the days when Mr. Brown collected his

extraordinary herbarium, and first brought to light a host of Tasmanian plants in the 'Prodromus Florae Novae Hollandiae,' there has been no more successful Botanist for the time than the late Mr. Lawrence, who commenced forming a herbarium of the whole island, a work which Mr. Gunn has almost concluded'.

Plum pine is usually a small shrub growing to 4m but in Victoria it can reach 20m. A dioecious species with attractive red 'fruit' which gives it the common name. It grows on screes and ridges in alpine and subalpine areas of south-eastern NSW, ACT, Eastern Victoria and Tasmania.

Prumnopitys ladei

Prumnopitys ladei was first named *Podocarpus ladei* by Frederick Manson Bailey (1827-1915) in 1905. The name honours Frank Lade (1868-1948) a social reformer and Methodist preacher who was active in creating the '6 o'clock swill' in S.A. The *Australian dictionary of Biography* records that- His repartee was spontaneous and entertaining: an interjector once called, 'You're not a producer, Lade, you haven't produced anything'. 'Yes, I have', replied Lade. 'I've produced this crowd, and I doubt if you could do that.'

Later the species was put into *Prumnopitys* by *David John de Laubenfels* in 1978.

It is a rare species growing in north-eastern Queensland in granite derived soil on Mount Spurgeon and Mount Lewis. It is slow growing but can reach 25m. The bark is smooth reddish brown and shed in thin scales. The seed is about 25mm long 15mm in diameter and purple to black at maturity.

Brown Pine is dioecious and has a very small distribution but is of considerable interest as a horticultural plant. It has an attractive glossy green foliage, erect form, attractive purplish seed, is easily propagated, and surprisingly for a tropical species can survive in cooler areas such as Canberra. It can be seen in the ANBG.

Therefore it has considerable horticultural potential. The wood is useful but not in anyway commercial. It is on the list of endangered species.

Well there you are-

It is quite possible that one of the many vaccines will do the job and over time we will see the end of Corvid 19. If there is one good thing to come out of this it is the work done to advance our understanding of this area of science. Supported by government in a way one could never have foreseen.

There are so many scientists and laboratory technicians working long hours to produce an effective vaccine. We owe them a great deal.

Most of the species I have mentioned over the weeks of lock-down with the exception of *Nothofagus* would be called pines by members of the general public. All have a long history of involvement with Gondwana and our ever moving continents. As with all trees the various woods we can obtain from them for our many and varied purposes is entirely sustainable if we choose to ensure that sound forest science is allowed to direct the process.

The use of trees in the urban context is a rather specialised area which involves biology, horticulture, aesthetics, and a large portion of social science all informed by the work of taxonomists to identify species with proper names and forest science to inform our understanding of provenance differences within species.

Steve Thomas

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