# Plants for Bees by *Noel Jupp* OAM, Dip Hort, QP Dept Ag & Fisheries

**First of all, let me emphasise that I am not a bee keeper. My grandfather was, my father was and my uncle was but one or two aggravated stings and I am in hospital. Native bees however are a different thing altogether.**

**Over the last 4 or 5 years there has been an increasing and enthusiastic interest in all things native bees and that is a good thing. Fortunately there are good people out there to feed our thirst for knowledge on native bees. A lot of the information I will pass on in this article is from my own observations, it is very hard to get a full understanding from books.**

**The other day I let off about this to a friend of mine who said that you can't put everything in a book so I fired back and said but surely they can get the basics right!**
**I have always had a soft spot for native bees, firstly because the most common do not sting and secondly they were a prime pollinator of our native plants, at least until the arrival of honey or European bees.**

**There is around 1,660 species of native bees in Australia and of these only 11 species are stingless, but these 11 are the bulk of those encountered or farmed and yes they do still store small amounts of honey that can be harvested. Apparently the trick is to arrange the combs so that they do not store the honey in the brood combs.**

**Native bees come in two broad types namely solitary bees and social bees. The most prominent and best known solitary bee is the blue banded bee; these live mostly in burrows in the ground. What most people do not realise is they are prime pollinators of tomatoes.**

**The social bees live in hollows in the trees and of course in hives. They are being used today as pollinators of Macadamia nuts amongst many other plants.**

**Native bees are often mistaken for flies or wasps so what is the difference?**

**Bees have 4 wings and flies only have 2.**

**Wasps eat other insects and bees eat only nectar and pollen.**

**The central coast is the southernmost limit of the natural occurrence of the social native bees. They like the warmth so that's why they tend to have a very narrow crack in heavy wooded trees as the entrance to their hives or nests. The thicker the timber, the less fluctuation in temperature. If you plan on keeping native bees that far south make sure the hives are well insulated with Styrofoam.**

**One fallacy that has been going around is that the Eucalyptus torelliana is poisonous to bees. This is not so. What happens is the honey from this species melts easily in hot weather and the bees get stuck in the melt.**

**One of the so called solitary bees is known as the Lasioglossum genera. The species that occurs in my area is most amusing. If one of them lands in say a Leptospermum flower then fine but if a second one arrives they fight tooth and nail and after a few head butts etc they both take off and a blue banded bee moves in and takes all the nectar. I am always amused by the performance. It reminds me of the politicians.**

**Bees first evolved from wasps about 120 million years ago when they started gathering pollen to feed the young so let's have a look at a few of these food sources.**

**We will start with trees. Trees are good for all bees; honey bees as well as native bees but remember you need a large area to plant them. The trees must be widely spaced because a tree with a wide spreading crown will yield 100 times more honey or nectar than 20 trees spaced 4 or 5 metres apart so in a hectare of ground plant no more than 100-200 trees.**

**The downside is that trees will take many years to flower and even then, they may not flower every season. The upside is that you have plenty of room to plant under canopy species, shrubs, groundcovers and even annuals if you are desperate.**
**The important thing to remember is you must plant a wide range of plants so the bees can forage all year especially in the warmer coastal areas and diversity is key. Just like us, bees need a balanced diet to stay healthy and active.**

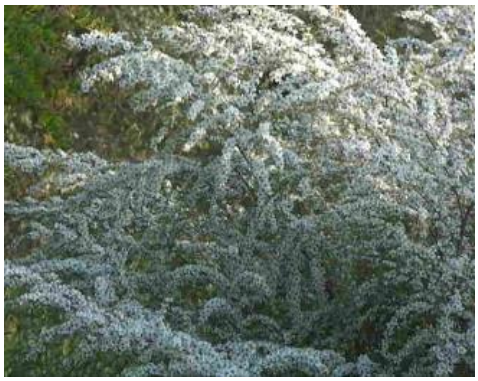
**Now we are down to the shrubs etc and this is where the real work starts. Most of the shrubs flower every year and they mostly flower within one or two years of planting and with some judicious pruning will mostly carry on for years.**

**This plant is Leptospermum parvifolium *(right)* – we have recorded this near Taree airport, near Tea Gardens and at Clarence Town. I found one plant at the Vintage Golf Course. It is fairly common in the Hez zone near Kurri Kurri and as you go further west to the south west slopes it is quite common. It only grows to about 1 metre tall but the important thing is that it flowers in late winter. The honey bees love it and it yields a green honey that the honey bees put in the brood**

**frames, why we do not know. I have asked the boffins to look into it but no one seems very interested. What the native bees do I do not know at this stage.**

**The Leptospermums or Tea Trees are an invaluable source of nectar and in this general area you have the Jelly Bush, Leptospermum polygalifolium var cismontanum and in some cases Leptospermum polygalifolium itself (*left)*. This one flowers in spring to late spring. Then you have Leptospermum arachnoides, Leptospermum laevigatum right on the coast, Leptospermum semibaccatum and Leptospermum liversidgei.**

**The Leptospermum laevigatum does not yield much in the way of nectar but the others do and Leptospermum liversidgei is very valuable in that it flowers in late summer. Outside of the area you have Leptospermum scoparia, the Manuka honey tree and Leptospermum rotundifolium.**

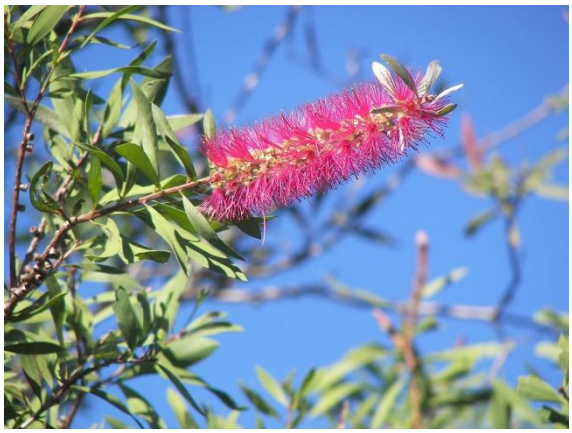


**Leptospermum cardwell (*right)* is from Queensland and is low growing, dense and all the bees fight over it. Leptospermum argenteum (*below)* is supposed to only occur on the Barrington Tops but we have found it in the Masseys Creek State Forest on the Paterson River. It loves wet ground and if it is happy will grow to a small tree. It flowers in summer in an absolute mass of flowers and besides honey bees I have counted 5 species of native bees on my trees. Originally I thought I had 7 until I realised that 2 of them have separate colours for male and female. The bees go berserk over this one. Basically, most Leptospermum are good bee trees and there are lots of them.**

**Next we will look at Callistemons or Bottle Brush. Callistemon supply both nectar and pollen. The first one is Callistemon salignus valued for both nectar and pollen.**

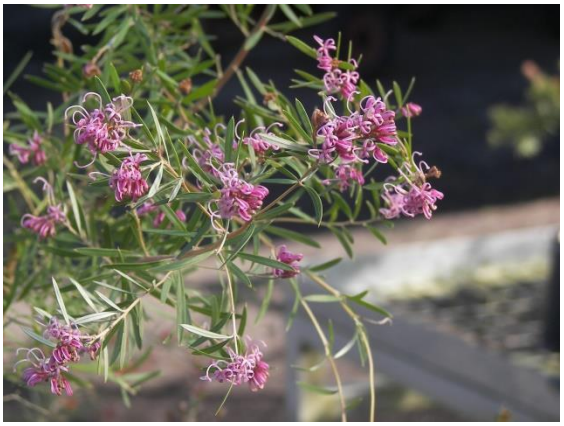
**Callistemon viminalis *(below)* has similar attributes. Callistemon sieberi can flower from late summer to early autumn and the bees work it well. There are quite a few other Callistemon that are worthwhile. I have noted native bees on Callistemon pachyphillus near Bulahdelah. This one, like Callistemon linearis does not mind wet feet so if you have a very wet area then this is the one to use.**

**We have recently started working on a new Callistemon known as Sugar Creek *(right)* from near Bungwahl. It is highly scented and bees of all types swarm all over it. Besides these species there are countless hybrids or forms that can fill the bill.**



**Next on the lists are the first cousins to the Callistemons, the Melaleucas. The most common one in this area is the Melaleuca quinquinervia. Now this one is rated from inedible to distinct and flavoured. But all this appears to be related to where it grows. Melaleuca linarifolia commonly known as Snow in Summer has a stimulating pollen and a dark and strongly flavoured honey. Melaleuca stypheloides would have similar properties. Once again there is a wide range of other species and forms available.**

**Next we have the Grevilleas. The large flowered Grevilleas such as Honey Gem, Moonlight (*right)* and Sandra Gordon literally drip with nectar and are a favourite of honey eaters and honey bees. But I can't say that I have seen that many native bees on them.**



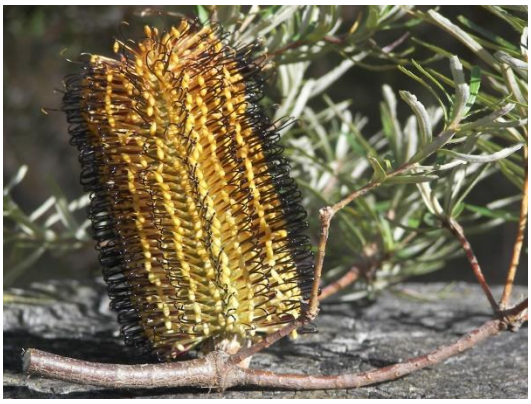
**However when it comes to the smaller flowered types such as Grevillea arenaria, Grevillea granulifera, Grevillea montana and Grevillea sericea *(right)* it is a different story. The native**

**bees are all over them. Most of these have small almost insignificant flowers and you only see the occasional honey bee on them but they seem to be very attractive to most native bees.**

**You never stop learning! Grevillea Poorinda Peter is a wild grower. I like it but my customers do not. It sells well as tubestock but is a dismal failure in a 200mm pot however I do still grow it. I have a few stock plants that have put roots down into the gravel so in mid-winter I went down to get a few cuttings and to my surprise they were in flower and covered in bees of all types, shapes and sizes so as I said, you live and learn. Simply observing is invaluable!**

**A close relation to the Grevilleas is Buckinghamia cellisima. Bees of all shapes and sizes love this one, it yields good pollen and honey. Grevillea robusta is a tree sized Grevillea and flowers on a regular basis. It yields good pollen and a dark amber high density honey. A lot of these smaller flowered Grevilleas start flowering in late winter and go through to late spring.**

**Banksias are very important because they flower in winter, the most important being Banksia spinulosa *(right)*. It is very attractive to all bees; mature plants bear a lot of large flowers. Banksia aemula *(below)* and Banksia serrata are also highly attractive to bees. Banksia serrata yields good winter stores and can be relied on.**



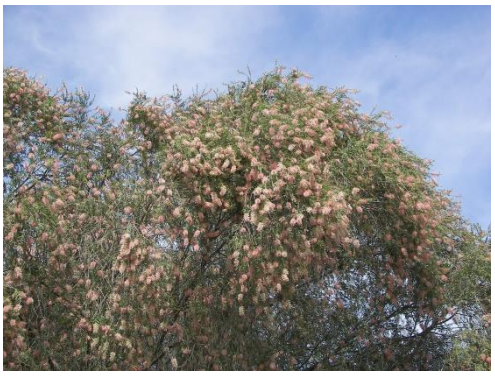
**Banksia integrifolia flowers every year starting in autumn and going right through winter and provides abundant pollen and nectar. Once again, there is a wide range of Banksias that are available for planting. For instance, Banksia oblongifolia is a fairly small round bush that flowers freely, absolutely ideal for bees of any kind.**

**So far we have talked about everything that is good for bees but what about things that are good for the bees and us as well? The first one is Macadamias, the main pollinator of these is native bees, and they love them. Next up we have lemons and mandarins but remember that with these the seedlings take years to flower but cutting grown plants or grafted plants flower within 2 to 3 years. This also applies to the native Finger Limes or Round Limes, these can be very slow growing in the ground but if you buy young**

**tubestock and pot them on, they grow a lot faster in pots but make sure you do not make the mistake that I did and grow them in deep pots; yes they will fill them but when you plant them out the deep roots rot off so the plant has to start again, providing it does not die in the meantime.**

**So now let's go outside the square and look at some of the unusual or way out types. First of all, let's try Bursaria spinosa, the Blackthorn or in the Aboriginal language the Kurwan. Ok, it's prickly and thorny but in good years it will flower twice. With honey bees it yields significant nectar that sets like a rock. What the native bees do I do not know but I do know that they swarm all over it. This one should be planted more because it is a host to a small wasp that parasites the leaf eating beetles.**

**Next we have Callistemon Baroondah Station *(right)*, an as yet unnamed species from Western Queensland. This bears a mass of small nearly white flowers to a pretty light pink, bees of all types swarm over it but its best attribute is that it flowers 14 days after every storm, doesn't matter what time of year it is all it needs is a storm.**

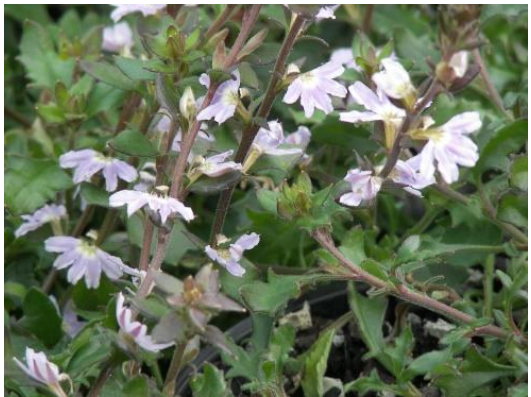


**Corymbia filicifolia, the red flowering gum from Western Australia grows quickly, flowers quickly and is a very good source of nectar. Once it starts to flower it will continue to flower every year. Corymbia eximia is also a regular so far as flowers go; it has very little nectar but is a good source of pollen.**

**Eucalyptus robusta, the swamp mahogany is a fast grower and reliable producer of small quantities of nectar and pollen. It flowers in winter and is swamped by bees of all types.**

**Eucalyptus shirleyii – Many years ago when I was growing native orchids I had a contact at Kennedy in Queensland who was the teacher at the local school and I soon found out how he collected so many good plants for me. Two thirds of the kids in school were aboriginal and they could climb the trees like monkeys. We went out to the ranges west of Kennedy and I spotted some queer looking shrubs/trees in flower and the flowers were covered in bees of all types and I asked "What in the hell are they?" and he just said I don't know, stick to orchids! So of course I grabbed some seed heads and brought them home with me and I finally identified it as Eucalyptus shirleyii and I have grown it ever since. It is a wild and ragged grower but it fits in anywhere and the bees love it.**

**Scaevola aemula *(right)* is listed as being ideal for native bees but I have yet to see any bees on**



**them. Hardenbergia violacea is the same but I do occasionally see bees on it. Syzigium luehmannii, the small leaf Lilly Pilly attracts a lot of native bees. It is easily grown and is a good hedge plant.**

**Thryptomene *(left)* is a very useful fill in plant in the garden and widely used as a cut flower but native bees also like it. It yields good nectar and pollen in spring.**

**Dodonaea viscosa is another useful pollen and nectar producer in spring. It is a hardy plant that flowers every year.**
**Jacksonia scoparia *(right)* is often shunned by many people but if grown and managed correctly it certainly puts on a show and is a valuable pollen producer but a bit light on in the nectar side. It loves to grow in hard dry rocky ground.**

**Eucalyptus macroryncha, the red stringy bark flowers about every 2 years and is noted for its nectar production.**

**Eucalyptus crebra, the narrow leaf ironbark produces good nectar and pollen but may lack solecine in some years.**

**Eucalyptus sideroxylon, the red ironbark, Corymbia citriodora, the lemon scented gum and Eucalyptus camaldulensis, the river red gum are all important honey trees.**

**It is surprising the number of mallee type Eucalyptus that are also good bee trees. For the most part they grow to a maximum of 5 metres so are ideal for suburban gardens and smaller areas. The downside for some of them is the high humidity here on the east coast but there are still a lot that will succeed here. We are currently doing some growing trials**

**to see what does best here. A major problem is getting good seed but we are slowly getting there. Some that look promising include Eucalyptus albida, Eucalyptus perriniana, Eucalyptus platypus, Eucalyptus viridis and Eucalyptus forretiana. One stand out is Eucalyptus serpentinicola, a rare mallee that grows on the Barrington Tops. It belongs to a group of Eucalyptus known as Black Sallies and it is closely allied to Eucalyptus moorei which occurs on the Central Tablelands. Eucalyptus serpentinicola grows to 4 metres high and what its status as a bee plant is I have yet to find out.**

**So far as the native bees go, there is an amazing range of annuals that provide them with good forage but this is a bit outside my field so it is up to you to find out what is useful and what is not.**

**And then of course we cannot overlook the weeds, I am not encouraging you to grow weeds but a surprising number provide good forage for bees of all types and then there is always the pastures, things like white clover and Lucerne are well known in the honey trade; but please remember that so far as the native bees go there is an almost endless array of native plants to sustain them.**