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**ASSOCIATION OF SOCIETIES FOR GROWING  
AUSTRALIAN PLANTS**

**MELALEUCA AND ALLIED GENERA STUDY GROUP**

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**NEWSLETTER NO. 21 December 2000**

Dear Members,

At last we have had some good rain but, unfortunately , some areas have had more than they really need. We had 122 mm for November on 15 days , which is the highest number of rain days for any one month since I started recording rainfall here in 1981. Verna and I did a trip to Dubbo, Forbes, Cowra and Orange during September. Those areas had lots of rain earlier in the year with the result there were lots of plants in flower , particularly Acacias. Among the other plants were many species of terrestrial orchids which were growing in roadside tabledrains and among other plants. The best display of orchids occurred on the upper slopes of Mt. Arthur near Wellington. We visited Orange Botanic Gardens which were commenced as a Bi-Centennial project in 1988. The majority of the plants in these gardens are Australian with a large number of well-grown Eucalypts and Acacias plus many other smaller plants. Many of the Acacias were in full flower. We also visited Burrendong Arboretum, near Wellington. It was well worth the visit although there are a few areas where grassy weeds have got away and have created a serious fire hazard. The fern area was looking a bit the worse for wear after a severe winter but it should recover O. K. when the weather warms up. We took the opportunity , while in Dubbo, of calling on study group member, Trevor Gilbert, where we spent a very pleasant few hours with him and his family.

**NECTAR PRODUCTION IN FLOWERS OF NATIVE FOREST TREES**

This article has been reproduced from the September 2000 edition of the Qld Beekeepers assoc. Inc Newsletter. It was prepared by Patrina Birt , Dept. of Veterinary Anatomy and Pathobiology, University of Qld, St. Lucia, Qld and is reproduced here with her permission. Although the study is related to flying-foxes I hope it may be of interest to study group members. Should any member wish to contact Patrina for further information her phone number is 07-49267418

## Abstract

The volume of nectar secreted by the flowers of native Australian forest tree species utilised as a food source by flying-foxes was measured over 24 hours to observe whether they conformed to the criteria of 'bat-pollinated' flowers. Although nectar production was found to be highly variable between flowers of the same inflorescence and between different inflorescences, larger volumes were secreted during the night than during the day in *Corymbia citriodora*, *C. henryi*, *C. tessellaris* and *Eucalyptus tereticornis*. Nectar secretion in *Melaleuca leucadendra* occurred throughout the day and night, however greater volumes were available during the night and early morning. Similar results were obtained for *M. quinquenervia* although no nectar appeared to be available during the day. In comparison, the nectar production in two species used less predominantly by flying-foxes, *Callistemon viminalis* and *Grevillea banksii*, was high throughout the day and night. Within the *Corymbia* and *Eucalyptus* species, a higher percentage of flowers opened during night than at any time during the day. Due to anthesis occurring when flowers opened, pollen was released primarily during the night. Subsequently, larger quantities of pollen were available at night for dispersal.

## Introduction

In Australia, eucalypts are the most widespread and economically important forest tree species, being utilised by several industries including forestry and honey production. In addition they constitute a large proportion of forest ecosystems that are relied on by many native fauna and flora. Due to their need for a high level of outcrossing, which is characterised by a reduction in both fruit set and seed viability in self-pollinated flowers, a large proportion of eucalypts require pollinators that can move pollen over large distances.

Due to their feeding on nectar and pollen produced by the flowers, flying-foxes have been strongly implicated in the pollination of many *Eucalyptus* and *Corymbia* species. There are four recognised species of flying-fox on mainland Australia.

In plants thought to rely on bats for pollination, physiological processes such as nectar secretion, flower opening and anther dehiscence occur predominantly during the night when bats are active. In addition, the flowers are frequently white, cream, dull green and/or purple in colour, brush-, bell-, flag-, or gullet-shaped and presented conspicuously among or apart from the foliage. Although the same floral resources are often utilised by other nocturnal and diurnal visitors, exclusion experiments have shown that the majority of fruit set is attributable to the foraging bats.

The aim of this study was to characterise the physiological processes of the flowers of native Australian forest trees to observe whether they conform to the criteria of 'bat-pollinated' plants

## Method

Nectar volume was measured by sampling flowers every 6 hours over 24 hours at 1300, 1900, 0100 and 0700 using a calibrated micro-capillary tube. The proportion of flowers opened at each time interval was noted for 10 marked inflorescences per tree, as was the time of anther dehiscence. Flowers were considered opened when  $\frac{3}{4}$  of the stamens had flexed out.

Although variables such as position and age of flower, rainfall and soil nutrition can influence nectar production, the prime objective of this study was to determine the time of day when larger volumes of nectar were secreted.

## Results

Due to nectar secretion being highly variable among flowers of the same inflorescence, and among inflorescences of the same tree, data is presented as mean volumes with respective standard deviations.

### *Corymbia citriodora*, *C. henryi*, *C. tessellaris* and *Eucalyptus tereticornis*

#### *Nectar production*

No nectar was found in any marked flowers sampled at 1300 hours. However, it was noted that upon inspection of other flowers over the tree, some unmarked flowers did contain visibly larger volumes of nectar. The incidence of these 'lucky hits' was not determined during this study but it is thought they are part of the plants strategy to induce pollinators to forage further to maximise pollen dispersal

With the exception of *C. tessellaris*, nectar production had begun in all species by 1900 hours. Although nectar secretion was only detected in marked flowers of *C. tessellaris* at 0100 hours, 'lucky hits' were observed upon inspection of unmarked flowers at other collecting times.

Nectar production peaked at 0100 hours for all species. Nectar production had begun to decrease by 0700 hours.

#### *Flower-opening and anthesis*

Figure 2 displays the percentage of flowers that opened at 1300, 1900, 0100 and 0700 hours. A large percentage of flowers opened during the night, particularly at 0100 hours. Smaller percentages of flowers opened during the day. Anthesis or pollen release occurred when the flowers opened. Many flowers that had opened during the night, particularly those on the lower branches of the trees and which had not been visited during the night, retained their full complex of pollen. This was available for early morning pollinators such as bees and birds

### ***Melaleuca leucadendra* and *M. quinquenervia***

#### *Nectar production*

Nectar was secreted at all time intervals in *M. leucadendra* however it was smallest at 1300 hours. There was no significant difference between volumes secreted at 1900, 0100 and 0700 hours.

Similar results were obtained for *M. quinquenervia* although no nectar was found in any marked flowers at 1300 hours. Nectar volumes were relatively higher at 0100 hours compared to either 1900 or 0700 hours.

### ***Callistemon viminalis* and *Grevillea banksii***

#### *Nectar production*

Nectar secretion in *C. viminalis* was evident throughout the day. There was no noticeable difference in volumes secreted at 1300, 1900 and 0100 hours, however smaller volumes were apparent at 0700 hours

In *G. banksii*, nectar secretion was also evident throughout the day, although relatively higher volumes were secreted at 1300 and 0700 hours.

### **Discussion**

This preliminary study has shown that several native *Eucalyptus* and *Corymbia* species display physiological characteristics similar to those found in plants pollinated by bats.

Many plants rely on vertebrates and invertebrates to transport their pollen from flower to flower, thus facilitating pollination. Consequently, in the first instance, the plant must be able to attract a pollinator to the flowers. The most common attractor is nectar.

In bat-pollinated plants, physiological characteristics such as nectar secretion, anthesis and flower opening have been found to occur predominantly during the night when the bats are active. This study has found that the flowers of those species belonging to the *Eucalyptus* and *Corymbia* species secreted larger volumes of nectar during the night than the day suggesting that they rely on nocturnal visitors for effective pollination rather than diurnal visitors. Nectar secretion was also high in the early morning, which may account for the high activity of birds and bees at this time. In these trees it was also found that a higher percentage of flowers opened during the night. Pollen was released as the flowers opened, subsequently, higher volumes of pollen were available during the night for dispersal compared to during the day.

In comparison, those trees considered primarily bird- and bee- pollinated, such as *C. viminalis* and *G. banksii* secreted high volumes of nectar during the day and night.

Although flying-foxes do utilise these trees for food , it is usually during times of poor eucalypt flowering that they do so.

## **Conclusion**

The results of this study suggest that several native forest trees may consider nocturnal pollinators more valuable than diurnal pollinators. Nectar is the primary attractant for pollinators of flowering plants and its increased production during the night suggests that the plant is trying to attract nocturnal pollinators. There are a variety of pollinators active during the night including moths,ants,other flying insects, flying-foxes and other mammals. Apart from the flying-foxes, all other pollinators have relatively small foraging ranges. Flying-foxes have been radio-tracked travelling in excess of 100 km during the night foraging for nectar in flowers. This foraging distance consists of the flying-foxes moving between trees separated by distances varying from 500 metres to 20 km. Due to the fact that many native trees , particularly eucalypts , rely on cross-pollination for maximum fruit set and seed viability, flying-foxes are perhaps one of the most important vehicles for transporting pollen over large distances. The benefits of the foraging behaviour of flying-foxes has been heightened by the large distances which now separate many of our forests. Due to their flying capability flying-foxes are able to traverse cleared and modified landscapes. Many other pollinators cannot traverse the distances between trees or forest patches or the many obstacles that lay in their path such as fences, houses, domestic animals and roads.

'Volume of nectar secretion charts' ( Figures 1&2 ) for the various species measured are attached to this newsletter.

## **Footnote**

An article in " Australian Plants " Vol 20 No. 163 indicates that most of the species which had previously been transferred to Corymbia have now been transferred back to Eucalyptus from whence they came. Species previously known as Angophora are also now included in Eucalyptus in the sub-genus Angophora. ( Editor )

## **TRIVIA CORNER**

While we are talking about pollination etc. you may be interested to know that in Canada and California many beekeepers maintain their hives solely for the purpose of crop pollination in crops of almonds, canola, apples, alfalfa ( lucerne ) , melons, squash etc. The biggest operation owns 50000 hives which can be delivered to crops in a few days using up to 75 semi-trailers. California has set aside a number of 60 hectare blocks where owners can dump their hives and then deliver them to the required areas. In the almond growing areas the average density of hives is 5-12 per hectare. Charges for rent of hives varies but ranges from \$ 60 to \$ 70 per hive per contract with some owners having 2-3 contracts per hive per year. Beekeepers also harvest large quantities of honey from these hives.

Hire of hives for crop pollination in Western Australia is a developing business and it is anticipated there will be some 2000 hives available to crop producers in Western Australia in year 2000 for a charge ranging from \$ 15-\$30 per hive.

### RECENT LEPTOSPERMUM RELEASES

A new range of *Leptospermum* varieties has recently been released on to the Australian market under the name of " Aussie Blossom " and are being promoted as " Australian Cherry Blossom " The parents of this new range include *Leptospermum flavescens* ( now known as *L. polygalifolium* ), which is fairly widespread along the east coast of Australia, and *Leptospermum scoparium* 'nana' which is a dwarf variety from New Zealand and which grows to only some 30 cm in height.

There are 3 colour forms in the new range – " Joy " is a pastel pink with flowers borne along every stem of the plant , " Naoko " bears bright pink to red flowers in great profusion while " Martin " produces white to pink flowers and is the tallest growing of the three to around 1.5 metres. All of these cultivars are reputed to be hardy in a wide range of soil types, providing drainage is good. On heavy soils it may be advisable to grow these plants on raised beds. It is recommended that the plants be heavily pruned back to a height of some 50 cm after flowering . Plants of these varieties are available in nurseries in this area but I have not yet seen any in the ground.

*Leptospermum* " Merinda " was released to the market a couple of years ago and has been a successful plant in Brisbane area and is quite likely to be successful in other areas as well. It produces masses of bright red flowers over a few months in late winter and early spring. Its growth habit tends to be fairly open with long arching branches which require to be trimmed back occasionally to maintain a good plant shape.

### AUSTRALIAN PLANTS IN THE UNITED KINGDOM

Jeff Irons, secretary of the Australasian Plant Society in England, has forwarded an article from the English magazine " The Garden " . The article goes into quite a detailed description of many of the Australian plants being grown in gardens in the United Kingdom. A few of the genera referred to are Eucalyptus, Hakea , Banksia, Anopterus, Telopea, Lomatia, Grevillea , Mentha and Acacia as well as the ones we are interested in which are Callistemon and Melaleuca. The section on Callistemon and Melaleuca is reproduced below :

" Bottlebrushes are another typical Australian genus. While yellow-flowered Callistemon species are more cold-tolerant than red ones, the red bottlebrushes are more popular. The toughest red is *C. subulatus*, which has proved hardy 32 km inland from Newcastle upon Tyne and near Richmond in North Yorkshire, damaged only by temperatures below -14 degrees C. . In Teesdale, dark red *C. citrinus*, pale yellow *C. salignus* and purple *C. " Violaceus "* have survived the past 4 winters in a courtyard garden . Hardest of all is yellow-flowered *C. pityoides*, which blooms in July, a little

after the red ones. Both *C. salignus* and *C. citrinus* will grow in slightly alkaline soils and all these species make good container plants. They flower on the previous years wood and can be maintained at any desired size by pruning after flowering.

*Melaleuca* closely resemble *Callistemon*, but most of them are too tender to be grown outdoors in Britain. *Melaleuca squarrosa* forms a tall, narrow column 4-12 metres high by 2-6 metres wide and is covered with deliciously honey-scented, pale yellow bottlebrushes in late June and early July. Plants from most provenances are harmed by frosts below about -8 degrees C., but even when cut to the ground they are seldom killed, making new growth in late summer.

Two cold tolerant selections of *Melaleuca squamea* are available in Britain. Both grow to 1 metre and need moist acid-to-neutral soil but cannot stand clay. Purple-flowered plants from Mount Read, in north-west Tasmania, have been uninjured by -14 degrees C. and a creamy-white variant from Dove Lake, in the centre of the island at an altitude of 900 metres, seems just as tough.

Editors note - When we were at Kew Gardens, London in May of this year we noted a number of *Callistemon* spp growing in open conditions where they would be subject to severe conditions during winter. Most of these plants were carrying a heavy crop of buds while *C. pallidus*, and what appeared to be *C. viridiflorus*, were well in flower. *C. comboynensis* was flowering well in the temperate house.

### **MEMBERS REPORTS**

Lorraine and Tony Haig are new members from Richmond which is some 25 km north-east of Hobart, Tasmania. Their property is located on a hill with a westerly aspect and can be subject to strong winds. The property was originally farmland but the previous owner stripped it of topsoil prior to subdividing it for residential blocks. The soil left for the new owners to try to develop into a garden is a red clay which Lorraine is trying to build up with gypsum and sand and by building raised beds. Even though the soil is clay there is no drainage problem due to the steepness of the land. Rainfall averages 350 to 400 mm per year with most rain being received during the winter months. Winter temperatures range from a minimum of 0 degrees to a maximum of 14-15 degrees with occasional minimums to -3 degrees. Summer maximums are usually around the high 20's. Parts of the garden are 15 years old and have been planted to Eucalypts and Acacias for wind protection. The plants listed below are some 8 to 14 years old and were growing there when Lorraine and Tony bought the property :

*Melaleuca armillaris* - 3 metres high, in well-mulched clay soil and flowers well each year

*Melaleuca nesophila* - flowered well until last year when flowers were very scarce. The plant was cut back by 50% and seems to be responding. It is now 2.5 metres high. Soil is clay base with a 100 mm layer of topsoil.

*Melaleuca gibbosa* - This plant is growing in shade and rarely flowers. It is presently 1 metre high and growing in a well-mulched clay soil.

**Melaleuca linariifolia** - presently 4-5 metres high and flowers well. Clay soil with 100 mm of added topsoil.

**Melaleuca incana** - growing next to a small pond in part sun and flowers well. Clay soil. A favourite with the Little Wattlebird for nest material

**Melaleuca incana 'Velvet Carpet'** - 0.5 metres high in a previously dry area which is now being supplied with water. Growing in full sun.

**Melaleuca violacea** - 2 plants, both in shade in a well-mulched clay soil. Few flowers to date but this should improve with additional water.

**Melaleuca diosmifolia** - has been pruned from a height of 5 metres to a height of 1 metre and is growing in a previously shaded area which has been thinned. It survived the severe pruning and is producing new growth.

**Melaleuca ericifolia** - this plant is growing in a raised bed of gravelly red soil and, as it is adjacent to the driveway, it is kept pruned but flowers well.

**Callistemon citrinus 'Anzac'** - this plant has developed into a dense bush but has not previously flowered well. Following a heavy prune earlier this year lots of buds have developed. Soil is a clay base with topsoil added.

**Callistemon viminalis 'Dawson River'** - growing on the edge of a small pond and flowers well in November each year. It is currently 4 metres high and is pruned each year. It is growing among Eucalypts and receives sun in the middle of the day.

**Callistemon pallidus and Callistemon 'Mauve Mist'** - these plants are 5 years old and although they have grown very poorly they do produce a few flowers each year. They are growing in a well-mulched clay soil and are given a dressing of Osmocote each year.

**Calothamnus validus** - 3 plants of this species growing in a raised bed of red gravelly soil with excellent drainage and in full sun. They flower well each year.

**Calothamnus quadrifidus** - 6 plants of this species in the garden. 4 of them are in a mound of imported red sandy clay in full sun and flower well. The other 2 are in a mound of imported dark loamy soil and receive afternoon sun only and are not growing as well as the ones in the red sandy clay.

A large number of plants have been planted out in the past 12 months but, so far, none of these have flowered even though most are growing satisfactorily. The **Melaleucas** in this group are :

*M. acerosa*, *M. cardiophylla*, *M. citrina* ( did not like a recent heavy frost ), *M. conothamnoides*, *M. depauperata*, *M. elliptica*, *M. ericifolia*, *M. filifolia*, *M. fulgens*, *M. glaberrima*, *M. huegelii*, *M. laterita*, *M. oldfieldii*, *M. pentagona*, *M. pulchella*, *M. suberosa*, *M. spathulata*, *M. scabra*, *M. trichophylla*, *M. thymifolia*, *M. tuberculata* ssp *corrugata*, *M. uncinata*, *M. urceolaris* – type A & C .

**Callistemons** planted in the past 12 months are :

*C. pallidus*, *C. speciosus* ( now *C. glaucus* ), *C. sieberi*.

**Regelia** species being grown are :

*R. inops*, *R. ciliata*, *R. velutina*, *R. cymbifolia*, *R. megacephala*.

**Leptospermum** species being grown are :

*L. rotundifolium*, *L. macrocarpum*, *L. lanigerum*, *L. nitidum*, *L. scoparium*. *L. 'Pink Cascade'* is now 3 years old and is growing in a well-mulched bed in semi shade and flowers well, *L. rupestre* is now 2 years old, growing in a raised bed over red clay in a shaded position but is growing very slowly.

**Kunzea** species are :

*K. baxteri* – grown from cuttings, is now 15 months old and flowering well, growing in a clay soil where it receives afternoon sun.

*K. pomifera* – the same age as *K. baxteri* and growing in similar conditions but not growing well or flowering.

Other *Kunzea* species are :

*K. recurva*, *K. ericifolia*, *K. preissiana*, *K. parvifolia*.

Andrew Wilson lives in California where he grows a wide range of Australian plants. I recently sent him some seed and he reports that he has successfully germinated most of it. He uses a seed raising mix of 40 % white sand, 50% pumice ( I assume it is similar to the perlite we buy here ) and 10% sandy loam . The bog method is used for germination . Andrew advises he will grow the seedlings on during the winter and plant them out next winter as losses of plants put out during summer are too great.

Andrew is successfully growing ***Melaleuca glomerata*** which is remaining as a compact plant and flowering well each year . ***M. spathulata*** is also growing well in the shallow sandy soils on Andrew's property. ***M. thymifolia*** does well in sun or shade on a dry sandy bank from which water drains away rapidly. The *M. thymifolia* plants have remained compact and flower well.

Margaret Moir is also a relatively new member and hails from Margaret River area in the south west of Western Australia. Margaret and Peter own a small farm and , in Margaret's words, garden in the " garden " and on the farm in the form of shelter belts and rehabilitation. *Melaleuca* and allied plants are used extensively. Rainfall in the area is some 1200- 1500 mm per year with wet winters and dry summers. Soils vary from clay to sandy loam with a ph ranging from 4.5 to 5.5. Before the country was cleared it carried Jarrah and Marri forest but still has some Blackbutt trees remaining on the alluvial riverfront soils . Many *Agonis* species occur naturally in the area and are being used in the rehabilitation work.. Other local species being reintroduced are :

***Melaleuca laterita***, *M. viminea*, *M. hamulosa*,

***Beaufortia sparsa***

***Eremea pauciflorus***

***Callistemon glaucus***

Other Western Australian species being used are :

**Melaleuca preissii**, *M. raphiolepis*, *M. densa*, *M. diosmifolia*  
**Calothamnus** spp.

One of Margaret's favourite plants for farm use is *Callistemon salignus*. It is interesting to note this plant does well so far from its natural habitat along the east coast of Australia.

Margaret has a question to ask - does anyone know of *Callistemon* 'Summer Pink' ? Apparently it has very grey foliage and that is all that is known about it. Should anyone know of it would you please contact Margaret at - Olive Hill Farm, RMB 261A, Margaret River W.A. 6285 or at e-mail [olivehill@wn.com.au](mailto:olivehill@wn.com.au) or let me know and I will pass the information on to her. Margaret also asked about *C.* 'Father Xmas' which hasn't grown in the 9 months it has been in the ground. Has anyone had any experience with this plant ? I know of a few plants in the Brisbane area which, although they have grown quite well, have shown no sign of flowering.

Barbara Henderson is leader of the Wallum and Coastal Heathlands study group and lives on the slopes of Mt. Kobbie which is, roughly, to the north-west of Brisbane. Barbara is successfully growing a number of *Leptospermum* species namely :

***Leptospermum polygalifolium*** - a number of plants of this species are being grown from seed collected from a variety of locations with the result there is a fair bit of variation within the plants Barbara is growing. ( Editors note : this plant was widely grown as a garden plant some years ago but is now rarely seen in nurseries. It does tend to get a bit straggly with age if not pruned lightly fairly regularly. )

***Leptospermum microcarpum*** - two plants of this species - one grown from seed and the other from a cutting of a prostrate form on Emu Mountain in the Coolool area north of Brisbane. The plant grown from seed is an upright form while the cutting grown plant has retained its prostrate habit.

***Leptospermum madidum*** - ( prev. *L. longifolium* ) - This plant was cutting grown

***Leptospermum speciosum*** - this is a local species which grows quite well in a fairly wide range of climatic conditions in this area. As the plant ages it develops an attractive tan-coloured bark which tends to peel in long strips.

***Leptospermum liversidgei*** - grown from seed and does best in a wet situation but is surviving in the drier conditions of Barbara's garden.

***Leptospermum trinervium*** - this plant has been grown from seed collected at Chermside, a northern suburb of Brisbane, in the 1980s and is surviving quite well.

***Leptospermum petersonii*** - some years ago this plant was widely grown and would have been found in most gardens but it seems to have fallen from favour over the past few years. It is long-lived and will tolerate a wide range of soil and climatic conditions.

Flowers are generally white but there are a few forms with pink- or green- centred flowers. This plant can grow to a height of 3-4 metres

Members of the Wallum study group have “rescued “ ( with permission from the owner ) a number of plants from areas in the Coolum district which were to be , and some of which now have been , “ developed “ for housing estates , golf courses etc. Some of the plants rescued are :

**Leptospermum semibaccatum** - this is a relatively small plant which has been grown from cutting and from plants rescued. This plant is predominantly white-flowered but there are a few pink forms around

**Leptospermum juniperum** - this has been grown from seed and as a “ rescued” plant. Plants grown from seed may be either tall and slender or be a medium sized shrub with a slightly weeping habit. The “ rescued” plant has remained a small plant less than 1 metre in height .

Some further comments Barbara has made are ; **L. speciosum** would make a good screening plant, **L. semibaccatum** would benefit from a light pruning after flowering, **L. liversidgei** has quite strongly lemon-scented foliage, **L. madidum** should be used as a specimen plant in order to show off it’s weeping habit and attractive bark to best advantage, **L. leuhmannii** is another species with attractive bark.

### SLIDE SETS

Slide sets with written commentary of 125 species of Melaleuca, 119 species of Callistemon and 40 species of Leptospermum are available for loan to groups or individuals. The study group will pay the outward postage by registered mail and the borrower is expected to pay the return postage. Should you require to borrow any of these sets please let me know.

### MEMBERSHIP LIST

Below is a list of financial members as at July 1 2000 :

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 E. Knight, 15 Valantine Road, Birkdale, Q 4159  
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 C. Loxley, 142 Captain Cook Drive, Willmot, NSW 2770  
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 APS Tamworth Group, " Callemindah ", RMB 490, Tamworth, NSW 2340  
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 L. Uijtewaal-de-Vries, Dries 22, 6086 A W Neer, The Netherlands  
 Wildflower Soc. of WA, PO Box 64, Nedlands, WA 6009  
 J. W. Wrigley, PO Box 1639, Coffs Harbour, NSW 2450  
 I Waldron, , PO Box 134, Jimboomba Q 4280  
 B. Williams, PO Box 513, Kew, Vic 3101  
 A. Wilson, 13631 Old Camino Road, San Diego, California, 92130 USA  
 SGAP Vic Inc , P.O. Box 357, Hawthorn V 3122

## FINANCIAL STATEMENT

### Receipts

Balance at 12-06 -00     \$686.89  
Membership fees &  
sale of S.G. reports     \$285.00

                                 Total             \$971.89  
Less Expenditure     \$110.82

                                 Total             \$861.07

### Expenditure

Photocopy NL 20     \$41.25  
Postage NL 20         \$40.47  
Petty Cash             \$27.90  
GDT                     \$1.20

                                 Total             \$110.82

Balance as per bank statement 11-09-00     \$ 861.07

## SEED LIST

A list of seed currently held in the seed bank is attached. There is no limit on the number of requests which may be submitted by any member in any one year but provision of a stamped, self-addressed envelope with requests would be appreciated .

## SOME NORTHERN AUSTRALIAN LEPTOSPERMUMS

Some brief descriptions of a few of the Leptospermums which grow in the northern parts of Australia are :

**Leptospermum parviflorum** - this plant grows to a height of more than 6 metres and is found on northern Cape York , in the Kimberley region of Western Australia, in the northern parts of the Northern Territory and also in New Guinea. It is generally a multi-stemmed plant on which the bark exfoliates seasonally in strips to expose a smooth, shining surface which is often purplish-red in colour. Leaves are 20-70 mm long by 2-10 mm wide with the lower surface paler and with the margins tending to recurve. Flowers are white to cream , 2-7 mm in diameter and occurring in groups of up to 6 flowers. The main flowering period for this plant is July to September. It is found mainly on stream banks and on deep river sands.

**Leptospermum purpurascens** - this plant, which can grow to a height of some 6 metres appears to be confined to the far northern part of Cape York. As with *L. parviflorum*, the bark is seasonally exfoliated to expose a smooth purple surface below. Leaves are up to 10 mm long by 2-4 mm wide with a firm, glossy and glabrous upper surface and a densely silky-pubescent lower surface. Flowers are predominantly white , although sometimes flushed with red , up to 5 mm in diameter and usually grouped in

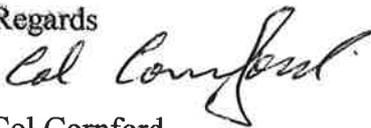
clusters of several flowers . This plant is usually found on rocky hillsides of decomposed granite.

**Leptospermum lamellatum** - a shrub to 3 metres tall or a slender tree to 6 metres with the bark of the main stems in many, often reddish, papery layers. Leaves are 10-40 mm long by 1.5-4 mm wide often appearing to be a grey-green in colour due to a dense pubescence. Flowers are white and produced either singly or in pairs. New shoots are contained in broad, red-brown bracts which are shed to leave prominent scars. This plant is fairly common in inland parts of Central Qld where it is found in sandy soils in woodland or among rocks, sometimes associated with watercourses and often found on sandstone ridges.

**Leptospermum wooroonoran** - usually a dwarfed tree with a horizontal or gnarled trunk which has persistent flaky bark with the younger stems being silky , glabrescent and with a broad flange near the node. Leaves are 15-20 mm long and 3-7 mm wide , silky when young and sometimes with recurved margins. Flowers are white, up to 20 mm in diameter and are usually produced singly. This species is found only on the high granite mountains of far northern Qld where it grows in wet, cloudy conditions on exposed rock outcrops and among rocks of streambanks.

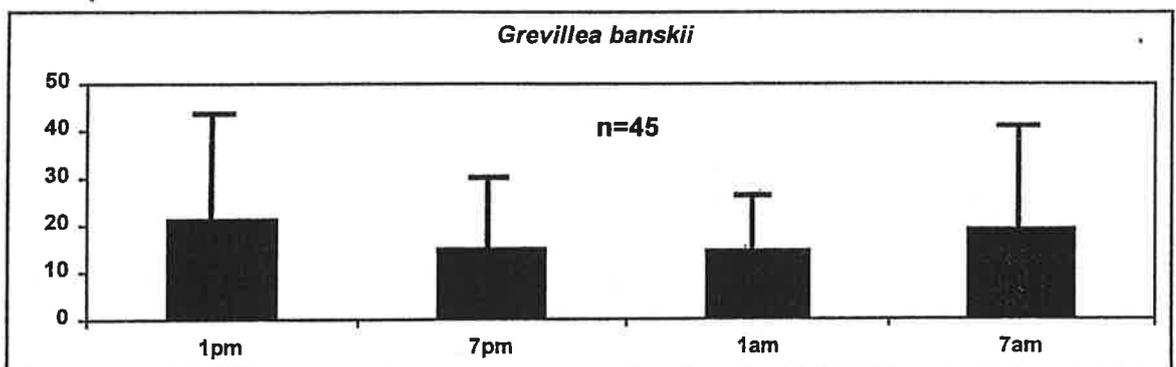
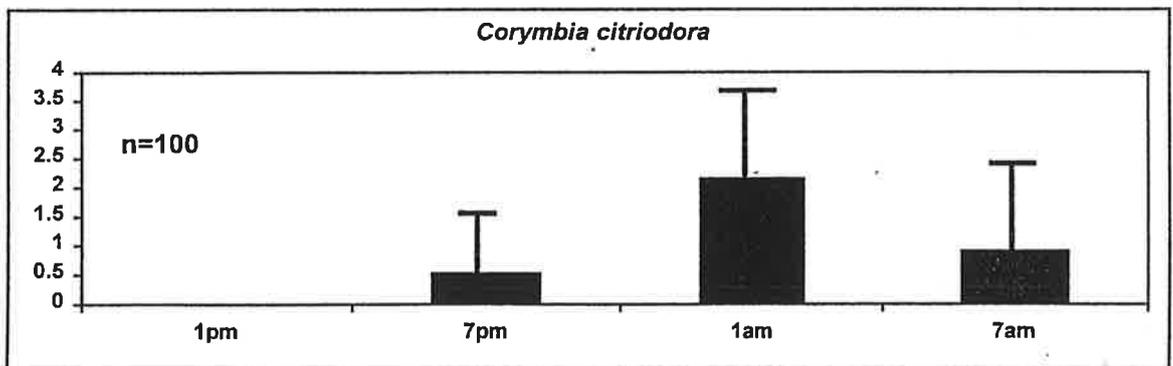
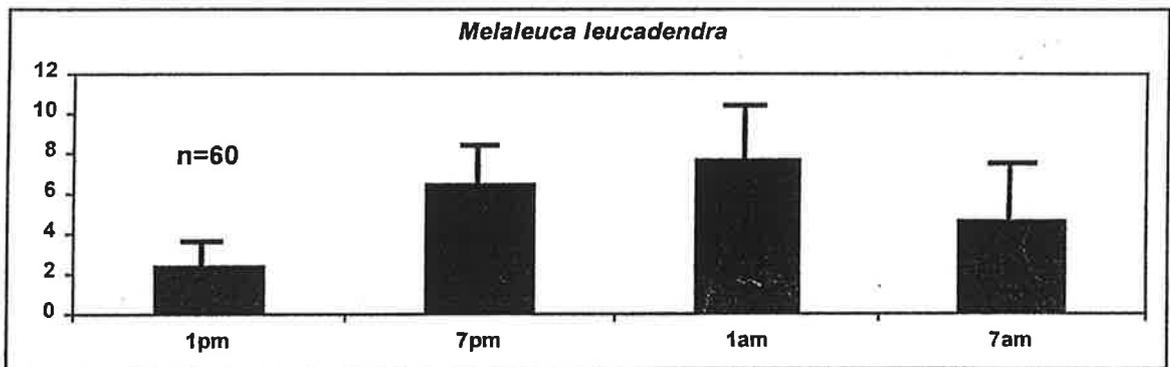
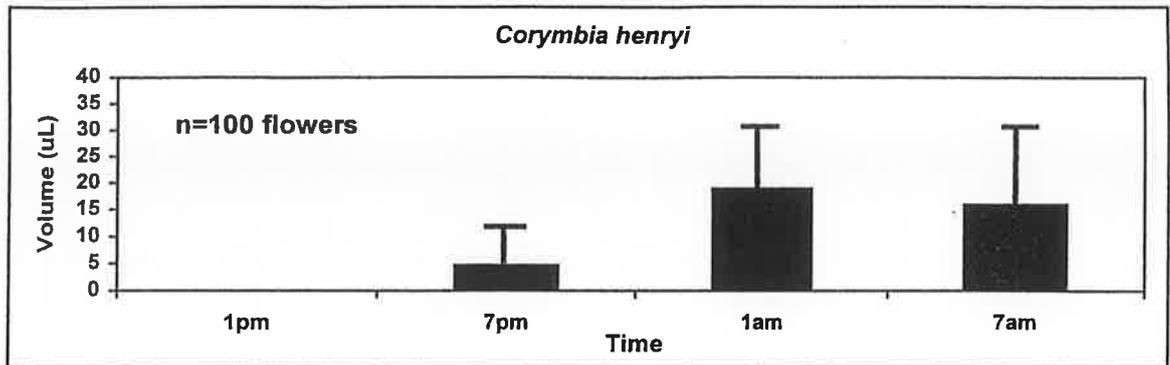
I hope you all have a happy Christmas and that the new Millenium will be kind to you. Remember that any information you can provide, however brief, will always be appreciated and adds to the bank of information which is being compiled.

Regards



Col Cornford

**Figure 1. Volume of nectar secretion in marked flowers over 24 hours. The bars above each histogram represent the standard deviation.**



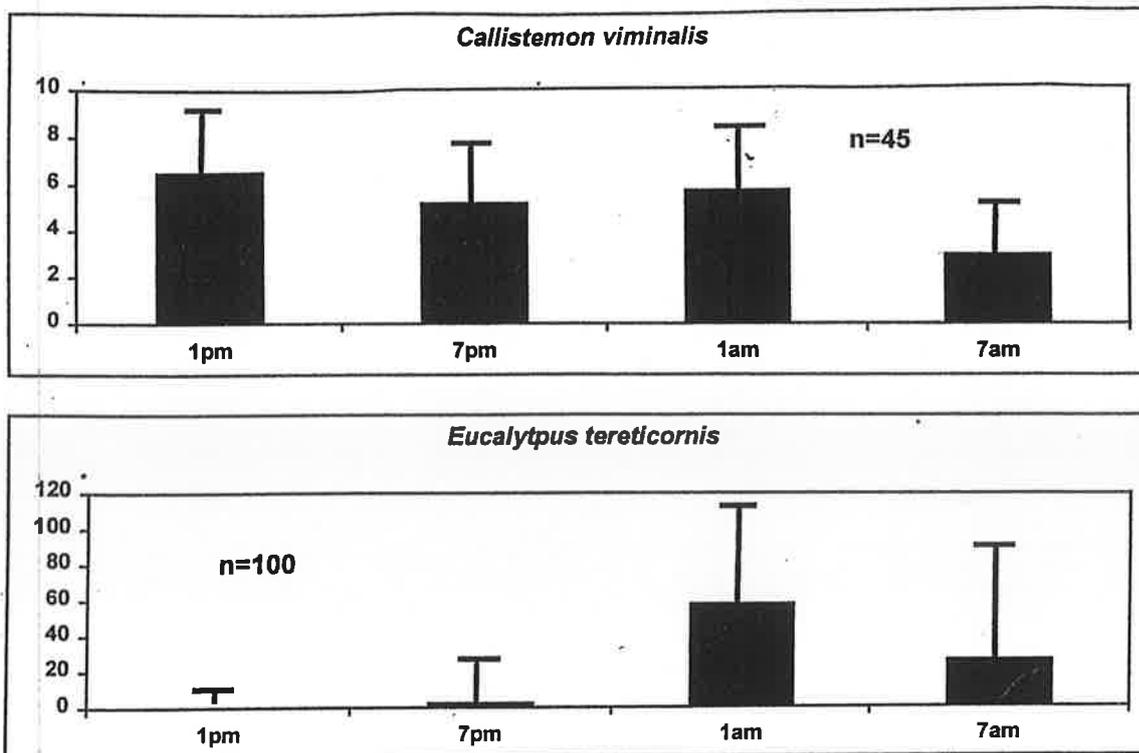


Figure 2. Percentage of marked flowers open at time intervals of 1300, 1900, 0100 and 0700 hours in the *Eucalyptus* and *Corymbia* species.

