

AUSTRALIAN NATIVE PLANTS SOCIETY (Australia) Inc.

EPACRIS STUDY GROUP

(ISSN 1038-6017)

Group Leader: Gwen Elliot, P.O. Box 655 Heathmont Vic. 3135 gwenelliot@optusnet.com.au

NEWSLETTER No. 34 **SPRING 2012**

Greetings to all Epacris Study Group members.

Many Epacris Study Group members will now be receiving our Newsletter electronically and we hope this will enable the use of much more colour in future editions, without any additional expenses to the group.

'Epacridaceae and Epacris' was the topic for the meeting of APS Maroondah Group in Victoria in July this year, and presentations were given by both Trevor Edwards of Latrobe University and myself. A write-up of the evening was included in the August Newsletter of Maroondah APS, and with permission of that group we are able to include it in this Newsletter, on pages 3 and 4.

The Study Group section of the presentation is available on a CD as a Microsoft Powerpoint Presentation for any APS Groups who may like to use it. It can be used on MAC or PC computers. A donation of \$10 is requested to offset the cost of the CD, the postpack and postage.

Trevor Edwards is also involved in research on *Epacris impressa* at Latrobe University and details of this project are on page 5. It is an area in which Epacris Study Group members may be able to provide some assistance.

Is this your FIRST Epacris Study Group Newsletter ?

For a number of Australian Native Plants Society regional groups and Study Group leaders this may be the first copy of the Epacris Study Group Newsletter you have seen.

Our Study Group has been fortunate to receive a donation from one of our members, for the specific purpose of "encouraging continued circulation to APS regional groups", and the forwarding of newsletters where email facilities are available will be our first step in this direction. If you would like to receive future newsletters by email, at no cost to your group, please let me know by return email - to gwenelliot@optusnet.com.au

Will this be your LAST Epacris Study Group Newsletter ?

If you are receiving this Newsletter by post but have not recently updated your membership or supplied your email details, this may be the final copy received. Details for membership renewal, either by post or by email, can be found on Page 12 of this Newsletter.

We hope you enjoy reading this Spring 2012 edition of the Epacris Study Group newsletter. There may be some teething problems with this first email edition, but please let me know of any difficulties and hopefully we will be able to sort them out quickly.

Greetings for now, and happy gardening,

Gwen E.

News & Notes

Epacris on display in an Open Garden

The garden of **Shirley Carn** at Monbulk in Victoria was opened on Sunday August 5th, possibly for the last time as a major garden opening.

Shirley has always endeavoured to time her garden openings to coincide with the time when her many *Epacris* plants are at their peak, and she has certainly encouraged many gardeners to cultivate our native heaths.

This year her garden was opened with proceeds going to Oxfam, and it was a very successful day.

Shirley is very experienced in the cultivation of *Epacris* and has included in her garden every species and form which she has been able to purchase or propagate.

Part of her success and the excellent display in her garden is due to the fact that she is an enthusiastic pruner, cutting plants back when flowering finishes to encourage new growth and an even better display in the following season.

Epacris in Botanical Art display

CAPTURING FLORA - 300 YEARS OF AUSTRALIAN BOTANICAL ART is the title of an excellent exhibition, currently being held at the Art Gallery of Ballarat, Vic., and open daily from 9am to 5pm, through to December 2nd.

It is a celebration of Australia's diverse flora and the ways Australian plants have been recorded, interpreted and popularised by botanical artists from William Dampier and the early explorers through to the present day.

The *Epacris* species include hand-coloured lithographs of *E. grandiflora* and *E. pulchella* from 'Botanischer Garten', Bonn, Germany (1823-1831), a hand-coloured engraving of *E. nivalis* from the horticultural periodical 'The Botanical Cabinet' produced between 1817 and 1833, and a further hand-coloured engraving of *E. nivalis* from the UK horticultural magazine - 'The Botanist' (1838).

The artist Fanny De Mole had TB, was confined to a sickbed for most of her life (1835-1866) and is renowned for her botanical art. A hand-coloured lithograph of *E. impressa*, produced in 1861 is included in the exhibition.

E. longiflora is displayed in a colour lithograph by Edward Minchen, produced in 1895 and also in a chromolithograph by Margaret Flockton (1902).

From more recent times a watercolour by Craig Lidgerwood (2010) beautifully depicts a pink-flowered form of *Epacris impressa*.

This is an exhibition well worth seeing, and further information can be found on the website artgalleryofballarat.com.au

A move for Malcolm

Long-time *Epacris* Study Group member, **Malcolm Reed** has recently moved from his home in Epping, NSW to the Glenbarry Hostel at Mossman. He is missing his former garden, but still enjoys receiving our Newsletters, which we hope he will continue to do for many years to come.

Malcolm reports that his epacrids enjoyed growing in the well-drained soils of his Epping garden, with a clay subsoil and fertile top soil.

He also had been watching epacrid seedlings develop following roadworks which had destroyed an area of epacris heathland, but unfortunately further road work subsequently destroyed the site of the seedlings.

Malcolm has renewed his subscription to the Study Group for future Newsletters to be sent by mail, and also included a generous donation to the Study Group.

Many thanks Malcolm, and maybe there will be some *Epacris* included in the garden at Glenbarry in the near future.

Epacridaceae and Epacris

notes from the talks given to the July 2012 meeting of the APS Maroondah Group by Trevor Edwards and Gwen Elliot

written up by Elspeth Jacobs for the APS Maroondah Group Inc Newsletter



Trevor Edwards set the scene for us looking at some biological aspects of Ericaceae, including the Australian component (sub-family Stapheliodeae = epacrids).

Australia hosts some really antiquated ericas (palaeoendemics), but some species have accessed the continent via long distance dispersal (neoendemics).

Fossil records of Australian flora include microfossils in the form of pollen. These allow dating because they are a component of sediments.

Pollen characteristics are very useful in identifying different families. The oldest Ericaceae pollen in Australia has dated to the late Cretaceous (ca. 75 million years ago) (Dettmann 1992). This means that the group survived the KT extinctions that obliterated the dinosaurs (65 mya).

This Chixulub asteroid impact generated clouds, greenhouse gases, and 2 years of darkness across the globe. Could Australian ericoid ancestors have survived the blackout through their ability to tap into the nutrients made available by fungal symbionts?

Certainly the basal ericoids include a number of specialists that parasitize fungi (mycoheterotrophs), and presumably fungi had a boost with the massive decay of vegetation following the Chixulub meteor. Fungal symbioses dominate throughout the Ericaceae, and it is a good idea to mulch cultivated plants with low nitrogen wood chips.

There are many species of epacrids in Australia (ca. 545 spp.), with most diversity in the Mediterranean climates, especially southern WA.

Similarly, in South Africa, the diversity of Erica is high in winter rainfall areas of the Western Cape. However the South African Ericas are much younger, having been derived from extant progenitors (e.g. *Erica arborea*) in North Africa and Europe.

The tiny hair roots of Ericaceae are unique, and replace unicellular root hairs that occur in most other plants. Hair roots have an extensive surface area for fungal interaction, but are a liability when soils dry out. In addition, fungi are quiescent during dry periods. Consequently hair roots are deciduous and die off in summer. It is a good idea to strike cuttings of many temperate Mediterranean species under cool conditions of autumn and winter. Similarly transplanting is best done at low temperatures in autumn and winter.

When he first arrived in Australia, Trevor was surprised at the occurrence of invasive ericas around Victoria, while the native ones are struggling. The ericoid leaves that epitomise Erica are rolled, encapsulating the stomata (breathing pores) of lower leaf surface within a humid cavity; this limits water loss but does not impede respiration, and in drier areas water loss is minimized. By contrast, Epacrids have flat leaves, probably because they evolved at high latitudes where light was limiting, and consequently they suffer from desiccation, and have declined with the drying of Australia.

Trevor then handed over to Gwen Elliot to talk about horticultural aspects of this family.



The world-wide family Ericaceae consists of Arbutus, Erica, and azaleas among others, and the Australian representatives Rhododendron and Agapetes.

In recent times, our Epacridaceae have been absorbed into this family. This does not really affect horticulturists or home gardeners, as our names remain the same. Here are some of the Epacris that we can grow in our gardens.

Epacris impressa

Epacris have been in cultivation for many years. In fact in the late 19th century, there were over 70 named *Epacris impressa* cultivars in English greenhouses. This is still the most commonly grown species. The species name "*impressa*" comes from the 5 indentations in the base of the tube, not from the fact that it looks impressive!

There is a great variation in the tube shape, colour, and size. For example, flowers can be white, or pink. Sometimes patches are all one colour, or can be mixed.

Wonderful displays of *Epacris impressa* can be seen in the Grampians, Portland, and Anglesea, to name just a few locations.



E. impressa variant near Erica, Vic

Two good forms to grow are *Epacris impressa* 'Bega', and *Epacris impressa* 'Spring Pink', the former found to flower in all months except December.

There are double-flowered variants of this species—eg, a double pink one from the northern Grampians, and a white form from Cranbourne. This was discovered by Keilor Plains SGAP. It no longer exists in the wild, but has safely been introduced into the RBG Cranbourne, and general cultivation.

There are variations in the way Epacris flowers are held on the stem. Some with species with tubular petals are—*Epacris microphylla* (Coral Heath) from eastern states—eg, Wingello NSW.

Epacris gunnii (= *microphylla* subsp. *gunnii*) from Tasmania.

Epacris serpyllifolia from alpine and sub-alpine areas—eg, Cradle Mountain, Tas, distinguishable by the inflated base of the flower.

Epacris glacialis which is prostrate in NSW and Vic Alps.

Epacris paludosa in colder areas of SE states

Epacris longiflora – this is one of the most popular and most easily grown epacris. Flowers can be red/white, or pink.

Best to prune after flowering, but as it flowers for such long periods it may need to be pruned while still in flower. Can be grown successfully in a hanging basket.

Some people prefer not to prune, and have lovely There are some good selections—eg, 'compact' and 'squat'.



Epacris exserta from Tasmania long flowering stems.

Epacris reclinata although from NSW, it does well in Vic. It has tubular showy flowers. There are also variants here—eg, 'Compact Form'.



Epacris gunnii, 'double-flowered' form

Some *Epacris* have flared petals (mainly white)—*Epacris coriacea* from SW of Sydney. Can get to 3m. Also *Epacris obtusifolia*, *pulchella*, *tasmanica*, *grandis*, *virgata*, *mucronulata*, *myrtifolia*, *lanuginosa*, *muelleri*, *breviflora*, *purpurascens*.

Finally, an *epacris* with a long tube and cream to greenish flowers that has been recorded as flowering in every month of the year: *Epacris calvertiana*.

Epacris pulchella, upright form



Epacris coriacea

Propagation

This is a challenge. They can be propagated from relatively fresh seed using the bog method. Spent flowerheads can be covered with gauze to enable capture of ripe seed. However, the use of cuttings is usually preferred.

A suitable cutting medium is 6 parts perlite to 1 part Peat Moss or coconut fibre, with the addition of a small amount of soil from around a healthy *epacris* plant. This will introduce beneficial mycorrhiza, which will help promote good growth.

Use a non-flowering tip that can spring back when bent, and has a green rather than a brown stem. If no suitable cutting material is available, prune the plant, and take suitable material from the re-growth.

Place cuttings in individual pots to prevent root damage at re-potting.

Cultivation and Maintenance

We need to know where a species comes from to understand soils, rainfall, temperature, etc, as they occur from coastal to alpine areas.

Regular pruning after flowering helps to keep the plant bushy.

Supplementary watering during dry periods is often required because of the fine hair roots. Light mulching is a good idea, but not too close to the stem.

Examples of other Australian Ericaceae that were previously included in Epacridaceae include *Astroloma*, *Leucopogon*, *Woolisia*, *Richea*, *Dracophyllum*.

Many thanks to Trevor and Gwen for the most interesting presentation. I can see us all going out to obtain several more *epacris* for our gardens.

all pictures by Gwen and Rodger Elliot



Epacris pulchella, low growing variant

News & Notes

Epacris impressa research at Latrobe University, Vic.

Research is currently being undertaken by an Honours Student under the supervision of **Trevor Edwards**, a committee member of the Australian Plants Society, Maroondah Vic.

The research is concentrating on the various colour forms of *Epacris impressa*, and factors relating to the colour variability, including which colours occur together in nature, and the pollinating insects or birds which are attracted to the different flower colours.

Studies to date appear to indicate that

- a) Red and white flower forms rarely if ever occur together in the absence of pink,
- b) Pink flowered forms never occur in pure stands
- c) In large mixed populations reds and whites always occur at low frequency (about 10%)

WOULD YOU AGREE WITH THESE ASPECTS, OR DO YOU KNOW OF REGIONS WHERE THIS IS NOT THE CASE ?

There are also questions being addressed in regard to the pollinators.

- a) Are reds pollinated by birds only ? (It is known that bees discriminate red poorly)
- b) Are deep pinks pollinated mostly by birds ?
- c) Are medium and light pinks pollinated by both birds and bees ?
- d) Are white flowers pollinated by both birds and bees ?

The researchers at Latrobe University are currently conducting exclusion experiments which involve excluding birds from the whole range of colours using cages that still allow insect access, to determine how important insects are to flowers of each colour.

**DO YOU HAVE AN EPACRIS IMPRESSA GROWING NEAR A WINDOW OR DOOR OF YOUR HOUSE ?
HAVE YOU NOTICED WHETHER IT IS BEING POLLINATED BY BIRDS OR INSECTS ?
THE FOLK AT LATROBE UNI. WOULD LOVE TO HEAR FROM ANYONE WHO CAN HELP !**

Another aspect relates to the flowering times of different colour forms in any particular region. Do the reds flower first or last, or do the whites flower first or last ? Even a slight separation can increase the extent of pure coloured seedlings.

For some years now Epacris Study Group members have been recording the flowering times of *Epacris impressa* and other species.

These observations have been primarily from plants growing in garden situations rather than in natural populations.

Our records to date are included on the reverse of this page, and this information has been passed on to Trevor Edwards to add to the research being undertaken at Latrobe University.

IF YOU HAVE ANY FURTHER INFORMATION WE WOULD BE VERY PLEASED TO RECEIVE IT FOR OUR NEXT EPACRIS STUDY GROUP NEWSLETTER, AND IT CAN ALSO BE SENT ON TO LATROBE UNIVERSITY.

IF YOU WOULD LIKE TO CONTACT TREVOR EDWARDS DIRECTLY, HIS EMAIL CONTACT IS
trevor.edwards@latrobe.edu.au

We look forward with interesting to hearing the results of the research at Latrobe, and will pass on details of future contact via our Study Group Newsletter.

EPACRIS STUDY GROUP
Flowering times of *Epacris impressa* forms,
as recorded by Epacris Study Group members 2004-2012

For around eight years now Epacris Study Group members have been noting the flowering times of various selections of *Epacris impressa*. The majority of these records have been of plants in cultivation, although some are also of plants growing in their natural habitat.

Below is a summary of information received to date.

A more detailed report with exact dates for each month is also maintained.

If you have additional details you would like to be included in the Study Group records, or details of other selections not listed below we would be very happy to hear from you.

It is not too late to start keeping a record of the flowering times of *Epacris impressa* and other species, both in gardens and in the bush. A form for this purpose is included with each Newsletter.

Anglesea dark pink	March to Sept
Anglesea bright pink	March to Aug.
Bega	Jan to November
Bicentennial form	Jan-Feb also sporadic
Bright Pink	April to August
Bushy Pink (Deep)	March to October
Compact Dark Pink	April / May July
'Cranbourne Bells' - double white	August - November
Dark Pink / Deep Pink	March / July - October
Double Pink (Grampians)	June - October
Grampians form	April / July to Sept.
Grampians (grandiflora)	May / July
Green Cape - bright pink	March/April June/July
Late White	September/October/Nov
Pale Pink	March / June to Aug
Pink	February to August
Pink and White	July - August
Portland Pink	Feb April to August
Portland Deep Pink	April to July
Portland Red	May-June September
Red	April June/July
'Spring Pink'	Sept/Oct/Nov
Thurra River	June/July
White	March May to Sept
White and Pink	May July
White with pink buds	April to August

EPACRIS STUDY GROUP PLANT PROFILE

***Epacris impressa* 'Cranbourne Bells'**

Epacris impressa Labill. Was named in 1805 by the French botanist, Jacques-Julien Houton de Labillardiere, who had collected specimens during a voyage to Tasmania in 1793.

Epacris impressa occurs from southern New South Wales, across Victoria to the Mount Lofty Ranges in South Australia and is also widespread in Tasmania. It is a variable species with white, pink or red flowers.

A profile page on ***Epacris impressa*** was included in the Epacris Study Group Newsletter in October 1998.

***Epacris impressa* 'Cranbourne Bells'** was registered as a named cultivar with the Australian Cultivar Registration Authority, Canberra, in 1986.

This '**Cranbourne Bells**' selection was discovered by Mr. Ian Graham and members of the Keilor Plains group of the then Society for Growing Australian Plants on a group visit to Cranbourne in 1984. It was not within the area of the Royal Botanic Gardens, Cranbourne but was growing just outside the northern boundary. Cuttings were taken and the selection was able to be introduced into cultivation, but sadly the original plant is no longer in existence.

***Epacris impressa* 'Cranbourne Bells'** is a small to medium, upright shrub, usually growing about 1 m tall. The alternate leaves are to 1.5 cm X 0.6 cm and linear-lanceolate to ovate-lanceolate, narrowing to a stiff point. They are without leaf-stalks and can be hairy or glabrous.

Flowering is mainly in spring but can begin in late winter. Pinkish buds open to white flowers which are tubular, to about 10mm long by 7 mm wide. Instead of being a single tube the corolla can have 10 or more tubes per flower.

***Epacris impressa* 'Cranbourne Bells'** is available in selected nurseries which specialise in Australian plants. It is also now cultivated in the Australian Garden at the Royal Botanic Gardens Cranbourne, and plants are from time to time available in small quantities via the Growing Friends group of RBG Cranbourne. Propagation is from cuttings and cultivation requirements are similar to those for other forms of *Epacris impressa*.



Epacris impressa Labill.

Epacris impress Common Heath, was collected in Tasmania in 1793 by The French botanist, Jacques-Julien Houton de Labillardiere during his voyage with Bruni D'Entrecasteaux on the unsuccessful search for the missing explorer, La Perouse.

Following D'Entrecasteaux death in 1793, royalist officers of *La Recherche* and *L'Esperance* handed the ships to the Dutch in Java, where Labillardiere, a republican, was imprisoned from October 1793 to March 1795. When he returned to France he found that his plant collection of more than 4000 specimens had been taken to England as a prize of war after the outbreak of the French Revolutionary Wars in 1792. Through the diplomacy of Sir Joseph Banks the specimens were eventually returned to their collector.

Epacris impressa was described by Labillardiere in 1805. Plants of *Epacris impressa* were introduced to horticulture in England in 1825.

Other species of *Epacris* described by Labillardiere include *Epacris heteronema*, *E. lanuginosa* and *E. myrtifolia*,

The pink-flowered form of ***Epacris impress*** was officially proclaimed as the floral emblem of Victoria on 11th November, 1958, with Victoria being the first Australian state to adopt a floral emblem.



Epacris impressa 'Cranbourne Bells', on display at the Royal Botanic Gardens, Cranbourne Victoria.

The Royal Botanic Gardens at Cranbourne, about 1 hour's drive east of Melbourne has numerous plants of *Epacris impressa* 'Cranbourne Bells' included in the plantings there. They can be seen in flower during September and October.

This public garden is open free of charge throughout the year.

The Botanic Gardens occupies 363 hectares, the majority of which is significant high quality native bushland set within a fast-developing residential area.

The Australian Garden has been established on a 19 hectare site within the Botanic Garden which was formerly used as a sand quarry. The first 9 hectare stage of the development was opened in 2006 with the second and final stage of the construction just recently opened on October 19th, 2012.

The Australian Garden at Cranbourne is a major showcase for many thousands of Australian native plant species, and is well worth a visit at any time of the year.

Below: The Red Sand Garden and adjacent plantings of Australian plants.



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(ISSN 1038-6017)

Study Group Leader: Gwen Elliot, P.O. Box 655 Heathmont Vic. 3135

ANNUAL REPORT
Year ended 30.6.2012

The Epacris Study group has continued to produce newsletters in spring and autumn, with a print run of 80 copies. These are sent to Study Group members as well as to the ASGAP Study Group Co-ordinator, State Secretaries, Study Group Liaison Officers and Newsletter Editors of State member bodies of the Australian Plants Society. Two other ASGAP Study Groups exchange Newsletters with the Epacris Study Group.

A further eight Newsletters are sent to Botanic Gardens and Universities where research on *Epacris* is currently being undertaken. Five regional groups of the Australian Plant Society are affiliated with the Study Group and receive each Newsletter as issued.

As from the Spring 2012 issue, members will be able to choose to receive the Newsletter electronically. We anticipate that this will also allow a wider distribution to regional APS groups and other institutions.

The Profile Page in our October 2011 Newsletter featured Mueller's Heath, *Epacris Muelleri* and in the March 2012 issue the major topic featured was on Edible Heaths with a report by Lenore Lindsay of the Australian Food Plants Study Group.

We have continued to record the flowering times of *Epacris* both in their natural habitat and in cultivation and some of the findings are quite interesting.

As mentioned last year, I would be very happy if someone else would like to now step into the role of Epacris Study Group leader and anyone interested in receiving further information can contact me by email at gwenelliott@optusnet.com.au or contact our National Study Group Co-ordinator, Geoff Lay at gjmk.lays@bigpond.com

Gwen Elliot

FINANCIAL STATEMENT for year 1.7.2011 - 30.6.2012

<u>STUDY GROUP BALANCE - as at 30.6.2011</u>		<u>\$ 703.86</u>
<u>Receipts</u>	Memberships,	\$ 125.00
	Credit Union interest	<u>\$ 10.95</u>
		\$ 135.95
<u>Expenses</u>	Newsletter printing -	\$ 86.62
	Postage,	<u>\$ 103.05</u>
		\$ 189.67
	Deficit for financial year 1.7.11 - 30.6.12	(\$ 53.72)
	BALANCE as per MECU (Credit Union) Statement	<u>\$ 650.14</u>
<u>Maroondah Credit Union Accounts -</u>		
	S 1 - Access Account - Balance at 30.6.2012	\$ 119.65
	S 5 - Club Deposit Account - Balance at 30.6.2012	\$ 530.49
	<u>Total Assets as at 30.6.2012</u>	<u>\$ 650.14</u>

AUSTRALIAN NATIVE PLANTS SOCIETY (AUSTRALIA) Inc.

Epacris Study Group Membership

There are now two options available to members of the Australian Plant Society / Society for Growing Australian Plants and affiliated groups to also be members of the Epacris Study Group.

Members who wish to receive the Newsletters by post in spring and autumn each year can do so for a membership fee of \$5 per year for Australian members or \$10 p.a. for overseas members. Your membership expiry date is printed in the top corner of the postage label.

For those who wish to receive the Newsletters by email the membership fee for both Australian and overseas members will be \$10.00 which will cover receipt of all Newsletters issued during the next five years.

For any queries regarding membership, please contact the Study Group Leader,
Gwen Elliot, P.O. Box 655, Heathmont Vic., 3135. Phone 03) 9879 1427
Email - gwenelliot@optusnet.com.au

Epacris Study Group Membership form.

NAME.....

ADDRESS.....POSTCODE.....

Phone.....

Region of APS/SGAP Membership

I/We wish to receive future Epacris Study Group Newsletters by

- a) MAIL
- b) EMAIL to E-mail.....

Payment enclosed \$

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and post to Mrs. Gwen Elliot, P.O. Box 655, Heathmont 3135