

SOCIETY FOR GROWING AUSTRALIAN PLANTS (QLD REGION INC.)

MAY 1990. NO.101

Our meetings are held in the first year centre, Trinity Bay High School, Hoare Street, Manunda. Committee/General Meeting begins at 7.00pm. Guest Speaker 8.00pm. Supper follows and visitors are most welcome.

DATES FOR YOUR DIARY.

3rd June ENVIROFAIR to be held on the Esplanade.

4th-9th June Green Shopping Week at Westcourt

1st July FRIENDS OF THE GARDEN FESTIVAL. This will be held throughout the Gardens, our theme for the active display is "EDIBLE NATIVE PLANTS".- more details next newsletter.

3rd July Monthly meeting.

18th-20th July CAIRNS SHOW. SGAP will be having a static display.

H A P P Y I O T H B I R T H D A Y

Thank you to Mary Gandini for reminding us that the Cairns Branch of SGAP was 10 years old on March 20th. Are there any original members out there?

SUBSCRIPTION REMINDER

If you see a tick in the box at the bottom of this page, it means we have no record of your branch membership being paid. Please rectify AS SOON AS POSSIBLE.

RENEWED MEMBER

Well known nurseymen and newspaper columnist, Kevin Holmes has rejoined our ranks. Welcome back, Kevin.

JULY'S EXCURSION

This may be a joint trip with the Tableland Branch to Yarrabah. More info next issue.



COMMITTEE FOR 1990.

CHAIRMAN.....Dave Warmington (502482)
 HON. SECRETARY.....Elaine Pike (546994)
 TREASURER.....Peter Robbins (535036)
 NEWSLETTER.....Helen Moody (554982)
 LIB. & SALES.....Frances Boyd (552550)
 EXCURSIONS.....Bob Jago (552266)
 PUB. OFFICER.....Theo Utzinger (545266)
 DISPLAYS CO-ORD.....Dave Warmington
 TUCKEROLOGIST.....Graham Pike (546994)

EDITOR'S SPOT.

May's meeting saw a larger than usual attendance of people who, no doubt, thoroughly enjoyed listening to Nicky Horsfall, watching her slides and looking at the artifacts and utensils brought in by Rob Hinxman. Nicky, in choosing to study the plants used by aboriginal people has picked a very interesting and difficult field of archaeology. As there is little surviving evidence of their use of plants, much of her knowledge comes from records kept by early explorers and pioneers and communication with the remnants of the aboriginal people today.

Thank you to Bob Jago, Rob Hinxman and Theo for organising Nicky's visit.

Elaine tabled an interesting letter from Paul Burkitt, a resident of Cooktown, and the man who began to restore the Botanic Gardens. He no longer works for the Cook Shire Council, instead concentrating his interests in assisting Vera Scarth Johnstone at the Endeavour River Gallery. Vera is a 77 year young artist who has drawn and painted approx. 100 pictures of the Endeavour River flora (many collected by Banks and Solander), her aim being to awaken the Cooktown people's interest in their native flora and to help preserve the river. Eventually the paintings will be displayed in an art gallery to be built in the Gardens. To raise money for this project the DPI organised photographs of the paintings and to date 6 cards

and 6 post-cards have been produced for sale. The cards are \$2.00 each or \$10.00 per set and are most eye-catching. If you are interested see Elaine Pike or write to: Vera Scarth Johnstone Foundation,
 P.O. Box 616, Cooktown, 4871.

PLANT SWAP

Only three plants on the table this month: *Phaleria octandra*, *Randia hirta*, and an *Alpinia* sp. Please remember to bring your spares to our next meeting as well as any other flowers and fruit from your garden.

FLOWERING THIS MONTH.

<i>Xanthostemon chrysanthus</i>	<i>Eucalyptus ptychocarpa</i>
<i>Pandorea jasminoides</i>	" <i>phoenicea</i>
<i>Melaleuca</i> spp.	" <i>intermedia</i>
<i>Canaga odorata</i>	<i>Abarema</i> spp.
<i>Abelmoschus moschata</i>	<i>Hoya australis</i>
<i>Bossiaea armitii</i>	" <i>nicholsoniae</i>
<i>Hibbertia</i> sp.	" <i>keysii</i>
<i>Phaleria octandra</i>	<i>Orthosiphon aristatus</i>
<i>Banksea integrifolia</i> var. <i>integrifolia</i> and var. <i>aquilonia</i>	

NEXT MEETING

5th June, when our guest speaker will be TONY IRVINE. Tony will present a talk and slides on an aspect of French Guiana seldom seen by people- the rainforest canopy- using an unusual mode of transport - the dirigible. He is particularly interested in the flowers and their pollinators and comparisons with the Australian rainforest flowers so an informative night is assured.

JUNE'S EXCURSION

If you want to see some interesting, rare and unusual plants and escape the current wet, join us for a visit

to the Jumna Creek and Irvinebank area on the I7th.

We will be meeting at the Herberton Post Office at 10.00am, bring food for the day and please wear shoes that won't slip on the loose, gravelly soil.

ENVIROFAIR INFO

This year CAFNEC are holding their fair on the Esplanade from 10am - 4pm. Apparently they have hired a large marquee and SGAP have a corner of this. Many thanks to Graham Bennett for once again running this for us and if you can help set up the display, provide some flowers, plants or time please give him a ring on 541448.

GREEN SHOPPING WEEK

A new concept to promote environmentally safe products and environmental awareness will be a display organised by CAFNEC at Westcourt Shopping Centre from 4 - 9th June during shopping hours. If you can help man (or woman) the stalls ring CAFNEC on 511204 or 313516.

RECENT NAME CHANGES.....as advised by Bob Jago.

Callistemon sp. Tinaroo: a shrub to small tree occurring naturally in the Tinaroo area, has now been described in the latest Muelleria ie Vol 7 No 2, March 1990. This is the journal of the Native Herbarium of Victoria, Melbourne. The new name is Callistemon recurvis (P. L. Lumley and R. D. Spencer).

An update on Bernie Hyland's Card Key. Endriandra pooran is now Beilschmiedia pooran (Code No. 68 in key.)

Beilschmiedia sp AFO/I479 is now B. volckii (Code No. 288 in key.)

Further changes will be advised in the next issue.

NAME CHANGES IN MYRTACEAE.....BULLETIN Vol 28 Nos. 2 & 4

<u>OLD NAME</u>	<u>NEW NAME</u>
<u>Callistemon viminalis</u>	<u>Melaleuca viminalis</u>
<u>Melaleuca erubescens</u>	" <u>diosmatifolia</u>
" <u>leucadendron</u>	" <u>leucadendra</u>
" <u>irbyana</u>	" <u>tamariscina</u> ssp. <u>irbyana</u>
" <u>quinquenervia</u>	" <u>viridiflora</u> var <u>rubriflora</u>
" <u>symphyocarpa</u>	<u>Asteromyrtus symphyocarpa</u>

ALKALOIDS:- ANOTHER GIFT FROM NATURE.....Helen Moody

"Rainforest is nature's medicine chest, a mossy-green supermarket of cancer cures and antibiotics; log it and you forfeit your future." A strong statement indeed but since the Drs. Joseph and Thomas Bancroft isolated the alkaloid, hycosine, from Dubosia myoporoides (corkwood), five hundred alkaloids have been discovered in our native plants. Half of these were new to science at the time of their isolation from the plant and most of them occur in our rainforest species eg, Galbulimima belgraveana has 28 different types.

To date only 2 plants have been used as a pharmaceutical crop; kangaroo apples provide a steroid used in contraceptives and corkwood providing hycosine, used for dilating pupils, preventing travel sickness and combating the nausea associated with chemotherapy. It is worth mentioning that these alkaloids occur in exotic plants; yams contain a similar steroid to the kangaroo apple and datura and belladonna both have hycosine. For a number of reasons, including lack of interest, our research and market share is declining.

Other plants that show promise particularly in providing anti-cancer drugs are:

Piper nora- hollandiae (native pepper), has an alkaloid that retards lung cancer in mice.

Tylophora crebriflora (coast tylophora) contains tylocrebrine. Its use against leukaemia has reached the clinical stage in America.

Baurella simplicifolia, formerly Acronychia baueri, has an alkaloid, acronycine, that shows anti-tumour activity against many cancers.

Castanospermum australe (black bean) yields castanospermin, an alkaloid that disrupts the metabolism of rat cancer cells so that they return to normal. Research is being done to provide a drug to combat AIDS.

No doubt this list is not exhausted as new alkaloids and new uses are waiting to be discovered.

What is an alkaloid?

Alkaloids are derived only from plants, mostly in the higher seed bearing families and mostly in the dicots. To date, more than 2000 different ones have been discovered.

The chemical structure is that of a ring with at least one nitrogen atom present, the alkaloid in its pure form being usually crystalline and colourless. Some such as nicotine are simple in structure whereas others such as morphine have complex polycyclic systems.

Early man knew of their effects eg. aborigines threw corkwood branches into pools to stun eels and also used the narcotic on themselves.

In Australia, Len Webb has done some research into plants producing alkaloids and why the rainforests contain more species with alkaloids than other types of vegetation. Remembering that all alkaloids have nitrogen present in their ring structure, nitrogen that might

otherwise be used for plant growth, it is only in those soils with nitrogen "to spare" that alkaloids are produced as a luxury metabolism. These alkaloids may then be used by the plant as an insect repellent.

Where the nitrogen is less plentiful, plants tend to produce nitrogen free toxins such as terpenes, tannins, and the essential oils that give our bush its characteristic smell and haze. The main exception to this are the legumes which can fix atmospheric nitrogen and often contain alkaloids.

Studies from overseas have shown that alkaloids:-

- (1) vary in concentration in the plant throughout the year
- (2) vary in concentration with different culture and climatic conditions for the same species
- (3) may not appear in a plant until it reaches maturity

Generally, alkaloids from plants of closely related genera are similar in structure, those from diverse genera differ markedly. Where some families have only a few generathat produce alkaloids it is considered that these involved mutations.

While many alkaloids produce favorable actions as medicines, they often have severe and undesirable side effects. The more common ones still in use are:- atropine, cocaine, morphine, nicotine, quinine and strychnine.

Rainforests are more complex than the tools used to study them so it will be many more years yet before they finally release all their secrets that could benefit man.

Information for this article came from the SCIENCE ENCYCLOPEDIA and AUSTRALIAN NATURAL HISTORY VOL.22 NO.4, Autumn 1987. "Cures from the Canopy" by Tim Low. The opening quote is taken directly from this article.