

Wildflower Society of Western Australia Newsletter

Australian Native Plants Society (Australia),
W. A. Region ISSN 2207-4732 (digital version)



May 2022 Vol. 60 No. 2 Price \$4.00

Published quarterly. Registered by Australia Post.

Publication No. 639699-00049

WILDFLOWER SOCIETY OF WESTERN AUSTRALIA

Contents

Management Committee Business

From the Vice-President	3
2022 SC and AGM 25/26 June	4
With thanks to so many	6
New and re-joining member	6
Conservation Subcommittee Report	7
Society Bushland Conservation Fund	8

Dell Technologies discount offer	9
----------------------------------	---

ANPSA Matters

ANPSA President's Report	9
ANPSA Conference 2022	10
ANPSA Study Groups	12

Events 2022	13
Branch Contacts and Meeting Details	13

Branch Newsletter Focus

We are the Northern Suburbs Branch	14
The Treasure That Is Rottnest Island	21
Northern Suburbs Branch Report	23

Millstream Palm on Cape Range	23
<i>Rodanthe chlorocephala</i>	25
The Santalaceae	26
A nutty arms race	30
Perup/Boyup Brk Flora & Fauna app	31
<i>Lomandra</i> in Western Australia	31
Further to our stories on <i>Santalum</i>	33
Mountain bike trails & Conservation	33
Book Review: Lantern Bushes	36

Stand Up for Society Positions 2022 36

The newsletter is published quarterly in February, May, August and November by the Wildflower Society of WA (Inc).

Mail: PO Box 519 Floreat 6014

E-mail: bjkeighe@it.net.au

Deadline for the August issue is 5 July.

Articles are the copyright of their authors. In most cases permission to reprint articles in not-for-profit publications can be obtained from the author without charge, on request.

The views and opinions expressed in the articles in this Newsletter are those of the authors and do not necessarily reflect those of the Wildflower Society of WA (Inc.).

Advertisements are welcome. Charges per issue (including GST) are as follows:

	B&W	Colour
Full Page	\$100.00	\$230.00
Half Page	\$70.00	\$170.00
Quarter Page	\$50.00	\$130.00

Members receive a 10% discount.

This Newsletter is available online to all members.

Front cover: Northern Suburbs Branch (NSB) April 2022 Plant Sale at the Landsdale Farm School. Plants are in groups based on size and habit. Photo Christine Curry.

Inside front cover: November 2021 NSB meeting at the Henderson Centre with guest speaker John Viska on early use of native plants in WA gardens. Photo Christine Curry.

Back cover: Sandalwood tree covered in fruit, insert a fruit and leaves. Photos Bronwen Keighery. Australia Day awards for York Branch workers. York Shire presented awards to Pat and Bruce Mcgregory (Community Citizen of the Year) and to Eric Ayling (Certificate of Appreciation).

Inside back cover: Two books of interest to wildflower enthusiasts.

Layout and editing: Bronwen Keighery. **Proof reading:** Alex George; Graham Zemunik and Marta Rossignoli.



Feeling Sow-Sow?
Good! - because now's a great time to be
sowing for a spring wildflower show.



Our seed range has expanded to 43 West Australian annual species and cultivars, as well as our ever popular Scatter Packs for larger areas. These are some of the new lines on offer this year.



To view our full range please go to www.wadaisies.com

P.S We believe in conservation. All our seeds are produced under cultivation.

Acting President	Brett Loney	0417 977 548
Vice-President	Brett Loney	0417 977 548
Hon. Gen. Secretary	Kerry Smith	9385 9332
Treasurer	Rob Atkins	041 904 9414

Committee

Eric Ayling	9641 1136
Richard Clark	0427 385 551
Christine Curry	0430 013 364
Bronwen Keighery	0418 814 028
Sandra Swain	0422 198 906
Debbie Walker	9398 5169
Mathew Woods	0477 926 555

Merchandise & Events	Sybil Speak	9444 1495
Newsletter Convenor	Bronwen Keighery	9381 4062
Website Editor	Vacant	
Publications Officer	Geoff Corrick	0458 670 614
Office	(Office) 9383 7979	

Office: Perry House, 167 Perry Lakes Drive, (PO Box 519) Floreat 6014
Hours: Tuesday and Thursday, ring to get times. At times the Office may be closed for COVID-19, if so please email, see below.

Phone: (08) 9383 7979 (24-hour) **email:** enquiry@wildflowersocietywa.org.au

Honor Venning Library at Perry House is open on the first Saturday of each month from 1–3pm and when the Office is open. Members may borrow.

Website: www.wildflowersocietywa.org.au/

Membership subscriptions

Category	Newsletter	
	web only	paper
Individual	\$55	\$70
Family	\$100	\$115
Overseas	\$55	\$70
Concession*	\$35	\$50
Junior	\$10	\$25
Affiliated Group	\$55	\$70

To receive Australian Plants add \$22 to your fee. Australian Plants can only be sent as a paper copy.
Membership subscriptions now fall due on the anniversary of your membership.
Those members wishing to renew by Visa, Mastercard, save yourself postage by using our email membership form on the Society website OR Direct payment to WSWA, Bankwest BSB 306-058 a/c 4197355 **with** a reference with deposit: **your name + type of payment** (in this case: m'ship). Please advise the Society Office separately if you have changed your details (e.g. address).

* Full-time students, and those in receipt of a means-tested Australian Commonwealth Government pension.

From the Vice-President

The Management Committee has recently approved a further two Position Statements to describe the Society's position on two issues – the clearing of native vegetation, particularly in the Southwest and wheatbelt of Western Australia, and the development of mountain bike trails in areas of the Conservation Estate and A-Class reserves. Copies of the Position Statements are available on the Society's web site.

In the age of COVID many of the opportunities that members had to gather have disappeared. As a result, the exchange of ideas that occurred from those gatherings has dried up and the debate of many issues is not occurring to allow the feeling of the membership to be heard. To assist this process, the Society has proposed to set up a series of Zoom meetings to hear presentations on topics of interest and allow their discussion to gain a sense of the membership's position on the topic discussed. It is planned that these presentations will be commenced in the second half of 2022. The programme of presentations and registration will be advertised on the Society's web page and the Facebook page. Future newsletters will also describe the upcoming programme.

The Society has become increasingly concerned about the application of the State's Clearing Regulations to the conservation of native vegetation. It appears they are used more as a basis for justification of land clearing and that the appellant linked to clearing permits granted must justify why the vegetation should be conserved. The Society believes the Clearing Regulations should be directed to vegetation conservation in the first instance and applicants for clearing permits should have to justify why vegetation does not need to be conserved. We encourage members to lobby their State Members of Parliament to have the focus of the Clearing Regulations changed so that vegetation conservation is given primacy on all public and private land. Without this change the loss of species and habitat will continue and our biological heritage will be lost to future generations.

Wildflower Society Bushland Conservation Fund

Wildflower Society of Western Australia (Inc)

ABN 68303516300



As we come to the end of another financial year, I would ask members considering donations to a worthy cause to support the Bushland Conservation Fund in (logo above, article page 6) their giving. The Bushland Conservation Fund is seeking support to allow studies of regional flora to be carried out to determine the impact of climate change on the range of common woodland species and climate events, like Cyclone Seroja, on remnant

vegetation.

As we approach the Society's Annual General Meeting, I would like to encourage members to volunteer some of their time as members of the sub-committees that support the activities of the Society. Membership of the sub-committees is renewable annually, so the commitment to serve is one you can reconsider each year (it is not a lifetime sentence!!!). While most sub-committees do have members at present and it would benefit the Society if people with an interest in community education could assist the Society by supporting the Education Sub-committee, as education is an important part of the Society's activities and one that is currently needing support. Similarly, the Society needs support with its media and marketing and support of any members with skills in this area would be greatly appreciated.

Brett Loney, Vice-President.

2022 State Conference and Annual General Meeting 25/26 June

As advised in the February 2022 issue of the Society's Newsletter the Society's 2022 State Conference and Annual General Meeting will be hosted by the Albany Branch and will be held, all being COVID-well, on Saturday 25 and Sunday 26 June 2022 at the Motel Le Grand, 479 Albany Highway, Orana Western Australia 6330.

The registration form for both days is supplied with this Newsletter as a loose sheet.

The Saturday starts with the State Council meeting, followed by the Annual General Meeting to be held at Motel Le Grand. Items for the Agenda plus Subcommittee and Branch Reports - in Word format - should be lodged with the Society Honorary General Secretary by Friday 10 June 2022. **Reports and Agenda items received after this date will not be included in the Conference document file.** The venue for the Sunday events is King River Hall.

State Council Meeting

Anyone is welcome at the State Council meeting. The State Council is the forum for the presentation of the Society's activities for the past year and gives everyone



an opportunity to hear about and question the work of the Management Committee, Subcommittees and Branches. Each Branch is required to nominate two (2) voting DELEGATES to the State Council. These nominations should be sent to the Society Honorary General Secretary prior to the commencement of State Council meeting.

Annual General Meeting (AGM)

All incorporated bodies are required to meet annually. All Society members can vote at the AGM. After the President and Treasurer report on the year's activities, the Management Committee is elected. Under the Society's Bylaws Part 4: 1) The office of President shall not be held by the same person for more than three consecutive years and an interval of at least two years shall have elapsed before that same person can again become eligible for election as President.

(2) The Management Committee —

(a) Shall consist of the office holders of the Society and not less than six (6) nor more than twelve (12) ordinary committee members; With the Branch structure it is most desirable that the Management Committee has at least one member from each Branch (and maybe two from some). YOUR SOCIETY NEEDS YOU to assist with its

continuation and its future. Nomination forms for Management Committee positions as well as joining our Subcommittees were included with the February 2022 issue of the Newsletter and can be found here: <https://www.wildflowersocietywa.org.au/wp-content/uploads/2022/02/Nomination-Form-WSWA-Man-Ctee.pdf> and here: <https://www.wildflowersocietywa.org.au/wp-content/uploads/2022/02/Nomination-Form-WSWA-Sub-Ctee.pdf>

The deadline for nominations is 28 May 2022. In accordance with the Model Rules and Guidance Notes: Division 3: (2) Subject to rule 37, a committee member holds office until the positions on the committee are declared vacant at the next annual general meeting.

No notices of motions have been received for the 2022 AGM.

Proxy voting

In accordance with the Model Rules and Guidance Notes Part 6, Clause 53. Proxies

(1) Subject to subrule (2), an ordinary member may appoint an individual who is an ordinary member as his or her proxy to vote and speak on his or her behalf at a general meeting.

(2) An ordinary member may be appointed the proxy for not more than 5 other members.



WILDFLOWER TOURS LESUEUR AREA

Joy and Don Williams will be conducting wildflower tours in

the Lesueur, Alexander Morrison, Coomallo, Badgingarra, Eneabba and 'Hi-Vallee' areas again this wildflower season.

All size groups; 1 to several days. Explore with knowledgeable local guides. All interest groups – wildflowers, birdwatchers, nature lovers, photographers and bushwalkers – catered for. Accommodation and transport can be arranged. Camping available. Further information and bookings: Ring Joy or Don on 08 9652 3035 Mob 0427 230 345 OR write to 'Hi-Vallee', Badgingarra WA 6521 E-mail: hivallee@westnet.com.au

(3) The appointment of a proxy must be in writing and signed by the member making the appointment.

(4) The member appointing the proxy may give specific directions as to how the proxy is to vote on his or her behalf.

(5) If no instructions are given to the proxy, the proxy may vote on behalf of the member in any matter as the proxy sees fit.

A proxy form is supplied with this Newsletter as a separate form and is best lodged with the Honorary General Secretary by Friday 17 June 2022.

All agenda items, Subcommittee and Branch reports should be lodged in Word format with the Honorary General Secretary to arrive at least 2 weeks prior to the 2022 State Conference/AGM, i.e. by Friday 10 June 2022 as reports and agenda items received after this date will not be included in the Conference document file. They can be sent preferably by email to enquiry@wildflowersocietywa.org.au or posted to the Wildflower Society

Office PO Box 519, Floreat WA 6014.

Kerry Smith, Honorary General Secretary

With thanks to so many

As we all know the Society could not continue with its valuable work without the many hours of volunteer time that so many of us contribute. And there are many other wonderful contributions that we wish to acknowledge including the following groups.

- **Zanthorrea Nursery** <https://zanthorrea.com/>

The Nursery has been donating gift vouchers for the Society to send out with the New Members Pack, and long-time volunteer Sybil Speak tells us that this has been happening for many many years and in addition they have also been supplying Eastern Hills Branch with such vouchers for a door prize.

- **Nancy Scade and her Nursery** <https://www.australiannativenursery.com.au/>.

Nancy (photo above with Roger Harington, photo Kerry Smith) advertises in the Newsletter and provides support where she can, particularly to our Armadale Branch.

- **Post Newspapers** <https://postnewspapers.com.au/>

The Post have been supporting our Perth Branch for quite some time by placing a free article on the Branch's upcoming meeting in the issue before the meeting date.

- **Advertisers in the Newsletter**

Many folk who have advertised in our Newsletter over the years including long time supporters: Don and Joy Williams of Hi Vallee Farm, Quaalup Homestead 1858 Wilderness Retreat and Coates Wildlife Tours. **Thank you all, Management Committee.**

New and re-joining member

We welcome these new and re-joining members from 1 December 2021 – 31 March 2022 to the Society and thank them for their support: Sharlene Alexander, Quindalup; Ian Arthur, Sorrento; Amber Bateup, Hilton

Ailsen Brooks, Nedlands; Gracie Davis, Westminster; Vivienne Dawes, Shenton Park; Jason D'Costa, Winthrop; Anna de Haan, Lower King; Bronwyn Ditchburn, Ocean Reef;

Sarah Dudley, Chidlow; Sonya Elek, Padbury; David Greep, Northam; Dave Hammond, Kingsley; Lauren Hinckley, Kewdale; Phillippa Jarvis, Dunsborough; Robert Jarvis, Dunsborough; Ciaran Lavin, Nth Coogee; Marc May, Coolbellup; Stephen McCabe, Bedfordale; Scott Pansini, Perth; Melanie Rae, City Beach; Nina Rose, Mt Helena; Zohara Scott, Queens Park; Suzanne Strapp, Busselton; Faye Strugnell, Ashfield; Tiki Swain, Thornlie; Neha Umaretiya, Darch; Danae Warden, Mt Helena; and Sophie Xiang, Atwell.



Conservation Sub-committee Report

The Conservation Sub-committee has continued the pursuit of better outcomes for vegetation conservation in the last three months. It has been supported by some of the country Society branches in the gathering of information to support submissions being made to the Department of Water and Environment Regulation (DWER), and the Appeals Convenor. While our submissions have not stopped the clearing of land, we have seen a reduction in areas proposed to be cleared and the imposition of conditions to manage and monitor clearing. We have also seen the Environmental Protection Authority setting levels of assessment that provide for public assessment in the assessment process, rather than relying solely on the appeals to enable public input into the project assessment.

The Sub-Committee has drafted the position statements that were approved by the Management Committee in March and can be found on the website at <https://www.wildflowersocietywa.org.au/about-us/policies-and-objectives/> and pages 33-36 this Newsletter. The Sub-Committee believes that the fragmentation arising from the creation of formal and informal mountain bike trails results in the movement of weeds and dieback, as well as the spread of soil through the movement of bicycles, and enhances the potential for erosion and sedimentation, particularly where tracks are not frequently maintained.

The continued clearing of native vegetation in the Southwest and especially the Wheatbelt continues to threaten our natural heritage and the continued net loss of vegetation in these areas is exacerbating an environmental threat that has been recognised for decades. Government policy and community apathy have failed to address this loss. The remediation of the "black cloud" of climate change which hangs over us can be assisted by the improvement of the level of vegetation cover in our landscape and conservation of what currently remains, and it is available to us at no cost.

The Sub-Committee is tracking the number of renewable energy projects occurring in

the remote areas of the State as their establishment results in removal of vegetation over large areas for the large-scale development proposed. The Sub-Committee is concerned that, together with other large areas of clearing resulting from mining and infrastructure projects, that the resultant clearing will result in the removal of vegetation to near the extent seen in the wheatbelt over the long term. The Society has raised this issue with the Chairman of the Environmental Protection Authority and will continue to pursue the matter as data becomes available.

The Sub-Committee plans to expand the Wildflower Friendliness Rating Scheme it developed with the Tourism portfolio in the current State Government and reinvigorate the Flora Roads program (photo Tutunup Flora Road near Busselton) previously run under the auspices of the Roadside Conservation Committee. Both projects are linked as they are promoting the value of wildflowers to regional Western Australia and the public appreciation of our natural heritage. This work is designed to link in with local tourism programs and will aim to engage with local tourism bodies and local government to expand their effectiveness. Society members are encouraged to contact the Sub-Committee through the Society's office (enquiry@wildflowersocietywa.org.au) should they wish to be involved in this program.

Finally, members are invited to nominate to join the Conservation Sub-Committee. Having members from across the State allows the Sub-Committee to gain a broader appreciation and local perspective of the issues that affect wildflower conservation. The commitment that members make is to attend a monthly meeting held via Zoom that can be accessed through your computer, tablet or phone (we can assist with the use of Zoom). Nomination forms are available through the website and can be accessed on this link <https://www.wildflowersocietywa.org.au/wp-content/uploads/2022/02/Nomination-Form-WSWA-Sub-Ctee.pdf>.

Brett Loney, Chair



Wildflower Society members and friends march down Reabold Hill to launch the Bushland Conservation Fund. Photo: Bronwen Keighery

The Wildflower Society Bushland Conservation Fund

The Bushland Conservation Fund (hereafter the Fund) was established to have a dedicated fund for raising knowledge and awareness of the issues facing bushland conservation in WA. The Fund was established as a Society tax-deductible fund with no ties/

dependency on Local, State or Federal Government or industry funding bodies, an independent voice.

The Fund is for bushland conservation as the term 'bushland' refers to the community of plants, encompassing biodiversity at all three levels - community, species and genetic. When the Society established the Fund, the term 'biodiversity' was yet to be coined.

What you can do about saving our bushland?

- Make a tax-deductible donation to the Wildflower Society Bushland Conservation Fund. (See website for details).
- Meet, phone or write to your local parliamentarian about your concerns about bushland clearing.
- Talk to your friends about bushland clearing and the issues it raises.

Dell Technologies discount offer to Society members

Dell Technologies offers Wildflower Society of WA members access to an array of valuable benefits including special discounts, access to dedicated Small Business Advisors and payment solutions. This includes up to 10% discounts on selected products on their web site.

For more information and the steps members need to go through to take advantage of this offer members must log into the Wildflower Society web site using their membership details and follow the pages: Members\DELL discount computers for Society members then follow the links.

Thanks go to Roger Harington for discovering this deal.

Robert Atkins, Hon. Treasurer



Australian Native Plants Society Australia President's Report

Since my last report there has been a massive amount of work done on transferring the content of our existing web site to our new web site. The Australian Native Plants Society Australia (ANPSA) owes a huge thank you to Benjamin Walcott and John Carter for the considerable time they have put into this work. The small amount I did made me realise what an excellent resource our web site is and how much we also owe Brian Walters for its creation and management over the years.

Ben and John have generously offered to be the new web masters after the new site goes live, but we are also hoping to teach Study Group Leaders how to upload and maintain their pages on the site. The new site should go live in the very near future.

I am afraid I have not taken on the role of Publicity Office as I indicated I would at the last meeting. The web site work was more urgent and consumed more of my energy than I expected.

I have been in touch with Millie Ross from Gardening Australia and provided information about the Conference and encouraged her to attend. I have also posted on the Gardening Australia Facebook page to thank them on behalf of ANPSA for recent stories on native vegetation and on the WA artists Philippa and Alex Nikulinsky. This thank you was prompted by Jane Fountain.

I suggest member societies consider promoting themselves through similar means. It's easy to post on the Facebook pages of television shows and other organisations to let them know about upcoming events or thank them for particular stories. Just remember to sign off as your Society. This small action publicises your/our existence to a whole new

audience who may be unaware of the Native Plants Societies.

ANPSA's Study Groups continue to do important research into different aspects of Australian Plants, and I enjoy reading their newsletters. The Correa Study Group has had a change of leadership and it's great to see the valuable work done under Dot and Bob O'Neill will continue with Jesse Granger as the new leader.

The Eremophila Study Group (ESG) has secured grant funding from Native Plants Queensland for a project looking at seed formation in wild *Eremophila* species in partnership with the University of Queensland. The ESG has called for volunteers from those who live in Queensland's drier regions, or who are happy to visit these regions during winter 2022, to collect fruit and record GPS locations so UQ staff can then visit to collect pollen and soil samples. Lyndal Thorburn is to be congratulated on her initiative and energy in establishing this project. The group has also applied for other grants to expand the work.

The leader of the Australian Pea Flowers Study Group, Shirley McLaran, will give a presentation at the FJC Rogers Biennial Seminar Fabulous Peas in Victoria on 15th-16th October 2022. This seminar will be a wonderful opportunity to learn about our amazingly diverse peas: <https://apsvic.org.au/fjc-rogers-seminar-2022/>

Eddy Wajon has prepared an excellent report on his work as our Conservation Officer. I feel this is the area ANPSA, as a national body, can have the greatest impact and influence. There are many issues of national importance where we should have a role in protecting our native plants. Being involved at a national level can also give us the opportunity to proactively influence policies that affect our vegetation.

I am really looking forward to our Conference in Kiama from September 10th-16th and encourage every member of our Societies to consider attending (see next article). The pre- and post-conference tours look outstanding too. Registration is now open at <https://events.humanitix.com/2022kiama>

Margaret Matthews, President (0402 105 649) April 2022

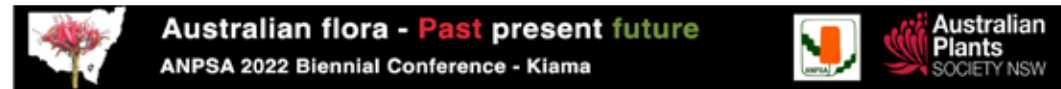
The ANPSA Conference 2022

Past, Present & Future 10 to 16 September 2022: The Pavilion: Kiama, NSW

The ANPSA Biennial Conference registrations are now open. Please join us for 7 days of inspiring talks, workshops, excursions and discussions as we explore the past, present and future of Australian flora. The conference program includes: complimentary tour of the Kiama region; native plant sale at the

Kiama Pavilion; an opening cocktail event; 3 full days of conference keynote sessions, discussions and workshops; 2 full days of complimentary excursions visiting the stunning landscapes, national parks and gardens of the stunning NSW south coast, Sydney and surrounding regions. Plus access to optional ADD-ON tours of stunning NSW regions at an additional cost.

Tickets are limited and the conference excursions and add-on tours are filling fast. Book your tickets now to secure your place. A 10% discount is available until the end



Registrations open - 28 March

Saturday 10 September to Friday 16 September, Kiama Pavilion

To register, go to:
<https://events.humanitix.com/2022kiama>

For more information, go to:
<https://www.austplants.com.au/ANPSA-Biennial-Conference-2022>

Tours



Dramatic Pilliga and Warrumbungles, pre- and post-conference, 6 days



Surprising Sydney flora, post-conference, 5 days



Sunny South Coast, pre-conference, 5 days



World Heritage Blue Mountains, pre-conference, 5 days



Spectacular Lord Howe, pre- and post-conference, 6 days, waiting list only

of May for early-bird registrations for the conference and will be applied automatically. Travel insurance is strongly recommended.

Conference add-on tours

As part of the conference we are hosting 5 exclusive multi-day, native plant tours to iconic regions of NSW. Each tour is available as an optional ADD ON for people attending the conference, at an additional cost to the conference ticket. Four tours will run BEFORE conference:

- World Heritage Blue Mountains (5 to 9 September)
- Warrumbungles and Pilliga (4 to 9 September)
- Sunny South Coast (5 to 9 September)
- Lord Howe Island (currently booked out)

Three tours will run AFTER the conference:

- Warrumbungles and Pilliga (17 to 22 September)
- Sydney Sandstone Flora (17 to 21 September)
- Lord Howe Island (currently booked out)

Promotional videos of tour highlights can be found here: Video highlights (<https://www.youtube.com/c/AustralianPlantsSocietyNSW>)

Please book as soon as possible if you wish to join a particular tour, as these are expected to fill quickly.

Please note that all tours are priced based on double or twin share rooms. If a single room is required, a single supplement would be payable and only based on availability. Here is the link to book (<https://events.humanitix.com/2022kiama>)

Accommodation alert!

Now that Covid restrictions have eased in NSW, we have noticed a large increase in people planning travel in NSW and particularly to the south coast. We are seeing prices rising and availability reducing. We encourage you to book your accommodation as soon as possible. We have compiled the following list of accommodation options in the area, attached and available for download via our site here (link: <https://www.austplants.com.au/resources/Documents/Events/Biennial%20Conference/Kiama%20Accommodation%2020%20October%202021%20v3.pdf>)

There is more information on our event page (<https://www.austplants.com.au/ANPSA-Biennial-Conference-2022>). Sites like booking.com (<https://www.booking.com/>) and others are very useful to book travel and many have free cancellation up to 24 hours before your stay, secured with your credit card. There are also a large number of Airbnb properties available in the area (<https://www.airbnb.com.au/>). Please ensure you check the cancellation provisions of accommodation providers before you book.

Covid safety

APS NSW is committed to following the highest standards of safety and hygiene and we will follow all relevant government restrictions with regard to Covid and social distancing. Health requirements will be in accordance with NSW Health Department regulations. However, we recommend that your vaccination be up-to-date for your protection and the protection of others.

If you have any questions or need any assistance, please contact us via email: conf2022@spin.net.au or Phone: 0416 030 872. Looking forward to seeing you in Kiama.

Heather Miles President

ANPSA Study Groups



Perhaps it is because the Wildflower Society of Western Australia has been so successful in promoting a consciousness of the wonders of the Western Australian flora in our state and throughout Australia and beyond, and because of our Western state's isolation, many of its members are not aware that the Society is a part of a large umbrella national organisation encompassing all Australian states and the Northern Territory. Now it is called the Australian Native Plant Society Australia (ANPSA), but it was previously known as an organisation for promoting the growing of the Australian flora, the Association of Societies for Growing Australian Plants (ASGAP). If you are a member of the Wildflower Society of Western Australia, you are also, ipso facto, a member of ANPSA.

It is easy for us to look no further than WA when we are so isolated with a significantly different flora, and when we are often mostly focused on promoting our own diversity. But the national body has much to offer Australian plant lovers, even WA enthusiasts.

ASGAP, and all its member groups, was born out of a groundswell of interest in Australia of growing its native flora that culminated in a meeting in Melbourne in March 1957 resulting in the inauguration of a national body named Australian Growers of Australian Plants, but in its first newsletter, Society for Growing Australian Plants. Continued page 14.

Events 2022

Keep your eye on the website and Branch emails for notes on monthly meetings.

Branch Contacts and Meeting Details

Albany Dept. Biodiversity, Conservation & Attractions Conf. Room, 122 Albany Hwy, Albany.
3rd Tuesday 7.30 pm PO Box 937, Albany, WA 6331
Secretary: Wendy Minchin 9845 1220 (albanyherb@dbca.wa.gov.au)

Armadale Environmental Centre Armadale Settlers Common Triton Crescent
2nd Thursday 7.15 pm for 7.30 pm PO Box 937, Albany, WA 6331
President: Roger Harington (Armadale.Branch@wildflowersocietywa.org.au)
Secretary: Debbie Walker (Armadale.Branch@wildflowersocietywa.org.au)
PO Box 859, Armadale WA 6992

Darling Range Old Guide Hall (Paxhill), 5 Sanderson Rd, Lesmurdie
President: Lynda Tomlinson 0491605839 (lktom555@gmail.com)
Secretary: Lynda Tomlinson 0491605839 (lktom555@gmail.com)

Eastern Hills Octagonal Hall, 52 McGlew Rd, Glen Forrest
4th Friday 7.30 pm (winter 7 pm) for 8 pm PO Box 111, Glen Forest WA 6071
Vice-President: Joy Collins (eastern.hills.branch@wildflowersocietywa.org.au)

Kulin Herbarium, Resource Centre, Johnston St, Kulin
1st Tuesday 12 noon PO Box 56, Kulin WA 6365
Contact and Secretary: Robin Campbell (robin.campbell@westnet.com.au)

Merredin

Vice-president: Mal Harper 9041 1421 (malharper@gmail.com)
Secretary/Treasurer: Tracy Scott C/- PO Box 95 Nungarin WA 6490

Murdoch Branch Cockburn Wetlands Education Centre, Hope Rd, Bibra Lake 6163
1st Thursday 7.30 pm for 7.45 pm
President: Mathew Woods (murdoch.branch@wildflowersocietywa.org.au)
Secretary: Kim Dravnieks (murdoch.secretary@wildflowersocietywa.org.au)

Northern Suburbs Henderson Centre, Groat St, North Beach
4th Tuesday 7.30 pm PO Box 25, Greenwood WA 6024
President: Richard Curry 0408 923 610 (randccurry@gmail.com)
Secretary: Christine Curry 9447 2983 (randccurry@gmail.com)

Perth Subiaco Community Centre, Bagot Rd, Subiaco (just east of Rokeby Rd)
2nd Tuesday 7.30 pm for 8 pm C/- PO Box 34, Melville WA 6956
President: Graham Zemunik (perth.branch@wildflowersocietywa.org.au)
Secretary: Graham Zemunik (perth.branch@wildflowersocietywa.org.au)

South West Capes President: Kay Lehman (kaywinny@bigpond.net.au)
Secretary: Richard Clark 0427 385 551 (samolus@westnet.com.au)
PO Box 784, Dunsborough WA 6281

York President: Eric Ayling (ayfo@wn.com.au)
Secretary: Ken Graham (yorkswa@gmail.com)

After many years of building the ASGAP (and then ANPSA) website, Brian Walters has begun stepping down as webmaster during the recent relaunch of the website in a new format able to be viewed by tablets and phones. Brian's amazing work is available on this link. <http://anpsa.org.au/>

Central to the ANPSA vision, and an integral part of the national Society, are STUDY GROUPS. These are interest groups focused on a genus, a botanical family, a plant group (e.g. ferns) of the Australian flora, or a vegetation type (there's a study group called Wallum and Coastal Heathland), but also include other groups like garden design, plants for containers, and bonsai. Some study groups have a strong focus on growing and gardening; some on research, including trips to view and discover plants in the wild. They offer a great way to connect with other native plant enthusiasts across all states.

Any member of ANPSA can join a Study Group, or start a new group. On the Study Groups web page, you can see a list of current groups, but also groups that are in recess, or closed. They cover much of the Australian flora, but from my Western Australian perspective, there are curious gaps – for instance, where are *Thomasia* species and associated genera?

The Study Groups web page is a good introduction to the idea and history of ANPSA Study Groups. By accessing the newsletters of the Study Groups, you will find an enormous information resource. A large archive of past newsletters of the various study groups is available online at <http://anpsa.org.au/anpsa-study-groups/>

Wildflower Society members have been active in several of the Study Groups including *Eucalyptus*, Australian Plants for Containers, and Garden Design, but two groups in particular have had special Western Australian interest: *Dryandra* led by Margaret Pieroni (author with Tony Cavanagh of the book *The Dryandras* 2006), and *Banksia*, currently led by Kevin and Kathy Collins (co-authors of the latest book on *Banksias* with Alex George, *Banksias* 2020).

Membership of a Study Group helps us to learn more about a particular aspect of our Australian flora, but also helps us seize the vision of those who met in Melbourne in 1957, and learn more about growing Australian plants.

Current Study Groups are: Acacia, Australian Food Plants, Australian Pea Flower, Australian Plants for Containers, *Banksia*, *Correa*, *Dryandra*, *Eremophila*, *Eucalyptus*, Fern, Garden Design, Goodeniaceae, *Grevillea*, *Hakea*, *Isopogon* and *Petrophile*, and Wallum and Coastal Heathland.

Richard Clark, Chair Grow Subcommittee and WA ANPSA representative

We are the Northern Suburbs Branch

In the June 1985 edition of the *West Australian Gardener*, the following item appeared:

A New WA Wildflower Society Branch

"A new WA Wildflower Society branch is to be inaugurated in the Northern Suburbs on Sunday June 30th 1985 at 10.30am. Venue is Dorchester Hall, Warwick Shopping Centre. There will be interesting speakers on many aspects of growing and garden designing. Involvement in preservation projects and, weather

permitting, an afternoon excursion to Pinnaroo Memorial Park, where the gardens are beautifully landscaped with WA plants and there is still some natural bush. We are hoping to meet the long-expressed need for such a group and look forward to seeing some enthusiastic new faces. Clare Walsh, President [of Wildflower Society of WA]."

Around 70 people attended that meeting, which included presentations from Stephen Hopper and George Lullfitz. A Steering Committee was formed and monthly evening meetings established, with Stephen Hopper speaking on 'Perth Flora' at the first meeting on 20 August 1985. The inaugural Annual General Meeting of the Northern Suburbs Branch was held on 21 November 1985 with George Lullfitz elected as the founding President.

Early on, the familiar format for monthly Members' Meetings was established, with a guest speaker followed by a plant identification table from members' gardens. Over the last 35 years, familiar names have cropped up regularly as guest speakers, including Greg and Bronwen Keighery, Bob Dixon, Hazel Dempster, Marion Blackwell, Digby Gowns and Terry Houston, with occasional presentations by 'special guests' like Philippa Nikulinsky and Stephen Hopper. Consistently, around 35 people come along each month to socialise and listen to a presentation on a wide variety of topics. Over the years, these have ranged from a focus on growing native plants through 'Propagating by Cuttings' and 'Landscaping Native Flora' – topics of interest in the early days of 1986 and still of relevance at today's meetings – through to talks on issues of wider concern such as 'Phytophthora Diseases in the South West of WA' and 'Will Refugia Save Biodiversity in the Era of Climate Change?'

Northern Suburbs Branch members are always thrilled to visit or welcome members from other branches and to share experiences. The branch has hosted the State Conference three times – in 1989 and 1998 at Yanchep and in 2013 at the Henderson Centre in North Beach – always with interesting speakers and activities around a theme relevant to the coastal area. There have, too, been excursions to many places over the years to view native flora – to Neerabup, the Marchagee Track, Moore River and Gingin and, more recently, to Wandoo Heights Reserve (photos page 20) on the Darling Scarp and to nearby Hepburn Heights (photos page 17) in Padbury at the invitation of the Friends of Hepburn Heights. York Branch members visited the branch nursery at Landsdale Farm in 2020 for a look around and discussion over morning tea. In return, Northern Suburbs had a very interesting and social day trip to York later that year to catch-up with York Branch for a guided tour of their botanic garden and new nursery set-up.

In 1986 Phylis Robertson (photo right) sitting, her sister Joyce standing Barracca Bushland, photo Mark Brundrett) instigated a monthly public guided walks program in Northern Suburbs urban bushlands. For many years she led a walk on Saturdays in Landsdale Conservation Park, Koondoola Regional Bushland, Lake Gwelup Reserve, Star Swamp Bushland Reserve and Trigg Bushland Reserve, as well as occasional walks



through other important patches of urban bushland. She was able to introduce many people to the issues that urban bushland remnants face, as well as showing them the beauty of the bush and promoting the aims of the Society. One of these people in the late 1980s was Northern Suburbs member David Pike (photos page 17), who took on the role of co-leader with Phylis for several years before becoming the 'guru of guided walks' in the Northern Suburbs once she stepped down. David leads a walk on every Saturday of the year, except Christmas Day, and is always willing to share his vast knowledge of West Australian flora and fauna with all those who come along.

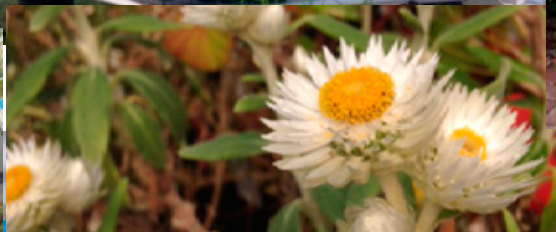
The Northern Suburbs Branch nursery (photos centrefold) is now a big part of branch life, with around 20 volunteers working to propagate interesting, rare and unusual West Australian native plants, primarily to explore and trial methods for successful propagation of WA's native species and also for sale to the public for home gardens. Initially, as its commitment to the preservation of WA flora species, the branch took on the development of the Botanical Garden at Yanchep National Park, with busy bees, propagation activities supported by Lullfitz Nursery and weekly maintenance activities. Then in 1997, plans were put in place to set up the Northern Suburbs Branch nursery at Landsdale Farm School. Newsletters from that year document the planning and liaison process to set up what is now an extremely successful enterprise, propagating rare, unusual and beautiful West Australian native species which are not in general cultivation. The Nursery is run by a group of enthusiastic volunteers with an extensive knowledge of WA flora and a willingness to experiment with propagating most species. A number of very successful and fun Propagation Workshops have been held for members and the public over the years, which has resulted in new members and new nursery volunteers. The nursery is now becoming too cramped for the work being done there so investigations are underway on the feasibility of relocating to a larger site.

Until quite recently, an annual Auction of rare and rescued plants was held as a fundraiser. This event was overtaken by the annual Nursery Plant Sale each April that sees hundreds of people coming along to buy West Australian plants which are mostly not available commercially. The branch is also very fortunate to collaborate with Eastern Hills Branch for their annual Plant Sale by contributing several hundred plants from the nursery to Eastern Hills' sale stock. The branch is very proud of its record in propagating a range of Priority species, hopefully making a contribution to saving some from extinction in the wild. A lot of time and effort goes into trialling propagation methods to get the best outcomes. Among species successfully propagated are: *Eremophila splendens* – Priority 1; *Verticordia cooloomia* – Priority 3; *Pileanthus bellus* – Priority 3; and *Chorizema varium* – Threatened. Successfully propagated Priority and Threatened species are featured on the nursery's website at: ns.wsowa.org.au

To honour and remember two very significant members of the branch—Elizabeth George (photo opposite) and Brian James – a garden has been established adjacent to the nursery at Landsdale Farm to showcase the plant species each is remembered for and to acknowledge the lifetime of work it represents.

Opposite–Top: left a guided walk at Star Swamp; right David Pike. Centre: Elizabeth George under *Verticordia oculata*; right walk in the Banksia woodland. Below Hepburn Heights walk attendees.





A collage of views from the Northern Suburb Plant Sales. Plants are arranged in groups and spaced widely for free movement around the tables. Centre top: a view of the *Verticordia* Garden with golden *Verticordia cooloomia* on the right. Centre below: a selection of *Eremophila* species, Brian James's favourite group.

Top right: Donkey Orchids at Hepburn Heights.



Top—Wandoo Heights excursion. Centre—left: *Stylidium* at Wandoo Heights; centre John Viska from the Garden History Society on early use of native plants in gardens; right visiting York Branch garden. Below left: *Lechenaultia biloba* at Wandoo Heights.

The varied species in the Elizabeth George Living *Verticordia* Collection (photo centrefold) and the Brian James *Eremophila* Collection that are growing in the garden highlight the variety and beauty of these two genera. Elizabeth, of course, was well known to all in the Society for her work in researching and publishing the seminal reference work: “*Verticordia: The Turner of Hearts*”, a comprehensive study of all known *Verticordia* species beautifully illustrated by Margaret Pieroni.

Northern Suburbs Branch continues to work across its many activities, to welcome people to our meetings and other events and to progress the important work of the nursery in conserving and propagating our West Australian flora.

Christine Curry photos and article



The Treasure That Is Rottnest Island

In February 2020, the world was yet to learn about SARS-CoV-2 and Northern Suburbs began the year with a wonderfully personal and professional journey with Judith Harvey (photo left,

Judith centre with red hammer with other volunteers) through the Flora of Rottnest Island and the plants that grow on our favourite island. By the time this summary of Judith’s talk was published in the Northern Suburbs branch newsletter in March 2020, Australia was in lock-down and we have all lived with the ups and downs of ‘the virus’ ever since. This article will hopefully remind us of the good times most of us have had on Rottnest Island holidays and give us an insight into the flora of Rottnest and its connections to the mainland.

In her talk, Judith Harvey weaved her lifelong interest in the natural environment into the story of Rottnest Island flora and connections between the two when she spoke to Northern Suburbs branch. She grew up near Bold Park with *Banksia* woodland in and around the property and encouragement from her grandparents to enjoy the bush and she recalled sailing to Rottnest for family holidays over the years.

Ten thousand years ago, Rottnest was part of the mainland, with the coast a further 12 km to the west from its current location and a much wider range of plant species. But isolation has now reduced its flora to around 100 species. There are eight swamps, most of which were mined for marl and destroyed but Barker



Swamp, near the lighthouse, was not disturbed and interesting aquatic plants and other species not seen for a long time have been found there. Pollen cores taken from near Barker Swamp contain Tuart pollen from around 2,000 years ago. *Melaleuca lanceolata* (Rottnest Teatree, see page 21 flowers and trees) is the main tree on the island, with some magnificent old-growth stands near the Settlement and Parker Point.

Judith's interest in Bold Park and other coastal bushlands increased as a high school student and then at university and she identified several instances of species found on both the mainland and the island. There is a beautiful stand of *Callitris preissii* (Rottnest Island Cypress) in Trigg Bushland (photo page 4), *Scaevola crassifolia* (Thick-leaved Fanflower) and *Oleara axillaris* (Coastal Daisy Bush) are found on both Rottnest and the mainland and Rottnest has several orchid species, including Bunny, Pink Fairy, Midge and Bronze Leek – all of which the quokkas eat, as they do most plants. *Acanthocarpus preissii* (Prickle Lily) is one of the few plants common to both localities that quokkas don't eat, although they use it for shelter.

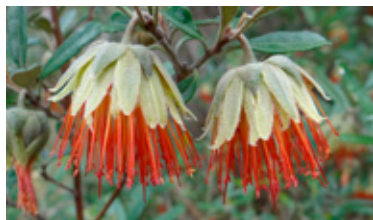
Other species connections between Rottnest and other island locales Judith visited as part of her professional research were described. On Middle Island (off Cape Arid in the Recherche Archipelago) *Boronia alata* (Winged Boronia, photo left) and *Leucopogon parviflorus* (Coast Beard Heath) – the latter eaten out by quokkas on Rottnest except where fenced off. Also from 1980s surveys on the Abrolhos Islands *Nitraria billardiarei* (Nitre Bush), a good stand of which is also found on the western end of Rottnest, as well as *Diplolaena grandiflora* (Wild Rose) and *D. dampieri* (Southern Diplolaena, photo

right), found in both locations but with some minor genetic differences.

Judith spoke about her time spent with the Rottnest Island Volunteer Guides Association and as a volunteer guide trainer and she encouraged anyone interested to join the program for a wonderful learning experience. She showed photos of a range of beautiful and interesting species found on Rottnest, several of which had a personal link, such as the yellow-flowering shrub *Leucophyta brownii*, which she included in her wedding bouquet, and *Templetonia retusa* (Cockie's Tongue, photo below left) which she can remember flowering on Rottnest when her daughter was born. There are also introduced trees on Rottnest, particularly planted for shade in the Settlement, including Port Jackson and Moreton Bay Figs planted around 2008 and some old olive trees planted in the 1880s, the fruit of which the quokkas love.

We learnt a lot about Rottnest Island flora from Judith and thanked her for sharing her connections with this favourite West Australian holiday destination. Everyone agreed that we should look more closely when next we visit.

Christine Curry



Northern Suburbs Branch Report

With Covid and Covid restrictions in something of a flux over the past few months, Northern Suburbs Branch decided to take a cautious approach to our monthly meetings, as we couldn't predict how the early part of 2022 would go and if, indeed, we'd all end up in lockdown or isolation. So, we invited friends and our own members to be our guest speakers for the early months and we've really enjoyed both catching up with friends and learning about hopes and plans for our own branch.

In February, Jolanda Keeble joined us to talk about her latest book, A Field Guide to Tarin Rocks. A lot of us didn't know anything about Tarin Rocks and Tarin Rocks Nature Reserve or even where they are located, and we were amazed at the number and diversity of species recorded by Jolanda. 624 species in all, 247 or 40% of which were new records, including the Priority 4 tufted perennial sedge *Schoenus griffinianus*. Jolanda took us through her 3.5 year process and told us that 591 of the recorded species were native plants with 33 weed species. Thirty two threatened and priority species were recorded, with 10 new records for the location. Jolanda certainly produces a comprehensive, useful and beautiful publication and one that we would all like to use on our travels to the Southern Wheatbelt.

Our March meeting showcased the branch Nursery at Landsdale Farm and work underway on a possible relocation to a larger site. Richard Curry gave an overview of the nursery relocation proposal, including an outline of the opportunities that a larger nursery facility would present and he acknowledged the many hours of planning work put in so far by nursery volunteers. Shaun Tennant introduced us to the proposed design and site for the new nursery, which has three core modules: two joined polytunnels with run-off gutters, for rainwater collection, and a separate netted area for 'hardening off' and other purposes. The design also includes an office, outdoor relaxation spaces and a large area for a display garden. Sally Page told us about the current management of the nursery and some of the issues around overcrowding (of both plants and volunteers) and then she took us through the processes, including the introduction of new plants, propagation techniques and maintaining stock levels. David Pike finished off with a photographic journey of some of the many beautiful and colourful plants propagated in the nursery, including many rare and priority species. His photos reminded us of the jewel that the Northern Suburbs nursery is for the propagation of West Australian native plants and of the contribution which this relatively small project makes to the availability of WA's native plants for home gardeners

Christine Curry

Status of the Millstream Palm on Cape Range

Many of you are familiar with the Millstream Palm (*Livistona alfredii*, photo right from FloraBase at Millstream). However very few people have seen it in a disjunct population recorded on Cape Range by the





explorer Thomas Carter in 1899. He noted that there were a few clumps of palms in one place to 40 feet tall. These plants are over 300 kilometres disjunct from the well-documented Pilbara populations. Until recently this record was considered doubtful, partly because the associated voucher material collected by Carter was not retained.

The palms were rediscovered by Bill Humphreys and associates in 1988 while searching for caves containing stygofauna on the Range (Humphreys et al., 1990, illustration left). They recorded several discrete groups of palms, one 9 metres tall and another group of 2 which were 6/7 metres tall along a creek line (photo top opposite page, the darker green is the creekline). This rediscovery also located the palm that had been carved with the initials TC in 1899! This disjunct population is listed as one of the heritage values in the World Heritage listing for the Ningaloo Coast (<https://whc.unesco.org/uploads/nominations/1369.pdf>).

During the 2019 BioBlitz survey of

Cape Range funded by the Federal Department of the Environment Water and Heritage, I was able to visit the populations on Cape Range, that are outside the current national park boundaries. Sadly the mature plants recorded in 1988 were dead and had fallen over.

Only a single juvenile plant was observed in both the area of both populations (below right). These two known stands were fenced



in the past by the then Department of Conservation and Land Management (CALM) to protect them from goats, which were grazing on young plants and seedlings. In 2019 the fences are non-

functional (photo left), having been almost totally destroyed by cyclonic activity and not been repaired. CALM (and it's successors) have active goat

control programs so there are greatly reduced goat numbers but it is not known if the palms continue to be grazed.

Livistona alfredii can readily be grown from seed and is present in many botanical gardens and as plantings in the south-western USA (Riffle et al., 2012). Peter Kendrick (then a Regional Ecologist with DEC) and other staff made several visits to the area in the 1990s to collect seed, but were unable to source mature fruits. Unfortunately, *Livistona alfredii* is recorded as functionally dioecious (separate male and female plants, Dowe, 2010), hence the sole young plant currently present will probably not set any viable fruit. This means that unless plants emerge from shed seed present in the soil, this unique population could be effectively extinct (palm seeds are generally not long lived).

Given that Western Australia could transport an entire mature tree of a Boab from the Kimberley to Perth at great expense, it seems very sad that no attempt appears to have been made to establish a cultivated population of this unique population. The loss of these plants lessens the values of the World Heritage listing for the Range.

Current management options could include restoration of the site by: control of Buffel Grass to lower fire risk and competition; and re-fence the palms to see if any seedlings emerge. Vegetative propagation using tissue culture of the sole remaining plant should be undertaken, although no seed may result. Genetic comparison of Cape Range plants to Pilbara populations could give divergence times for this population from the Pilbara.

Greg Keighery

DOWE, J.L. 2010. Australian Palms, Biogeography, Ecology and Systematics. CSIRO Publishing, Melbourne.

HUMPHREYS, W.F., R.D. BROOKS and VINE, B., 1990. Rediscovery of the palm *Livistona alfredii* on the North West Cape Peninsula. Records Western Australian Museum 14: 647-650.

RIFFLE, R.L., CRAFT, P. and ZONA, S. 2012. The Encyclopedia of Cultivated Palms, Second Edition, Timber Press, Oregon.

Rodanthe chlorocephala subsp. *chlorocephala*

I do not often watch the ABC's gardening program on Friday evenings, but I watched an episode in late spring last year because they advertised that they had a section about



Western Australian everlastings. It mainly consisted of an interview with John Collwell. As I recall, he said he had more than 70 different kinds in cultivation. They showed a few different flowers and then he brought out a plant with pretty golden flowers. John casually stated that it was *Rodanthe chlorocephala* subsp. *chlorocephala*. And just to make sure you knew what species it was, the name appeared as a subtitle. “Oh dear!”, I thought, “John is pulling poor old Auntie’s leg.” Everyone knows that that plant is extinct; it is arguably the best known story in the wildflower world that the widely-cultivated pink everlasting is subspecies *rosea*, and it bears its long botanical name even though the type subspecies exists only as a dried herbarium specimen. Nobody has seen a live plant for many decades (left, a specimen collected by Paul Wilson in 1960, note the size and yellow flowers).

Well, it turns out that that is no longer so. It seems that John went looking for it at some of its previously recorded locations – and found some! He told Kings

Park about it, and they collected some seeds, some of which they shared with John. As I understand it, it is currently being grown, both by John and by Kings Park and presumably the seed supply is increasing. Perhaps there will soon be sufficient seed to release some to the public?

I must say I’m surprised by the lack of publicity. I recall hearing a great deal of fuss about the rediscovery of little-known plants. Yet here is the rediscovery of a plant with horticultural potential – and no fanfare.

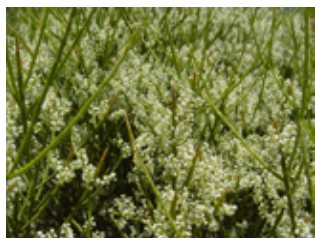
Jim Barrow

The Santalaceae

The Santalaceae of Australia includes 67 species (55 endemic) in 13 genera (five endemic). All species are hemi-parasites that is, still bearing green leaves and able to photosynthesise, but obtaining water and nutrients from their hosts. Western Australia has 7 genera.

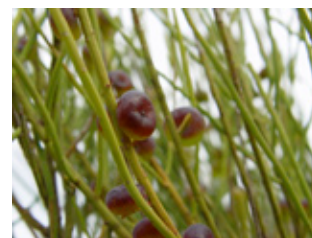
Leptomeria

The largest member is the genus *Leptomeria* with 16 species, 11 in WA. These are mainly in the Southwest. Although labelled as Sour Cherry Bushes or Native Currant in Eastern Australia, but the small to very small thinly fleshed fruits do not appear to have been harvested by Aboriginal peoples. Birds are the major dispersers.



The most attractive of the large shrubby white flowered species is *L. preissiana*, which ranges from Shark Bay to Mandurah then inland to Southern Cross but missing the Jarrah Forest. The mature fruits of this species are sweet, small white translucent succulent berries. Other white flowered by more “twiggy” species are: *L. pachyclada* (South Coast) and *L. pauciflora* (prev. *L. spinosa*, photo opposite page bottom flowers left and shrubs right), which is widespread from Geraldton to Cape Arid. These have dry fruits.

Most *Leptomeria* species have numerous small orange flowers in erect inflorescences along the stems that are visited and pollinated by small flies and mosquitoes. These include *Leptomeria cunninghamii* (Jarrah Forest); *L. empetriflora* (mainly west coast on sandy soils); *L. scrobiculata* (southern Jarrah Forest to Cheynes Beach) and *L. squarrolosa* (Southern Jarrah Forest to Cape Riche). Many of these species appear to respond to fires.



Along the south coast are a group of species with orange flowers in pendulous inflorescences—*L. axillaris* (includes *L. obovata*), *L. ericoides* (includes

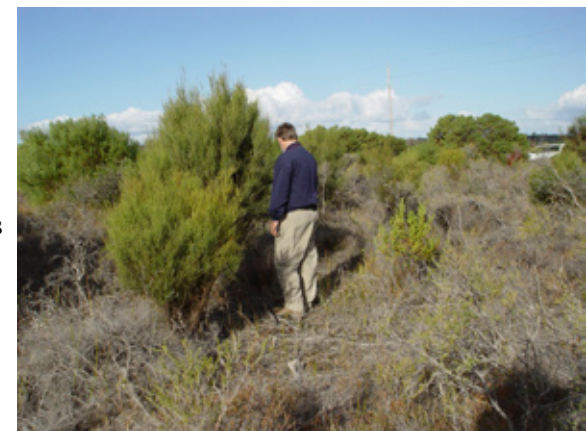
L. penduliflora) that extends into the southern Wheatbelt.

The other large shrubby species are *L. lehmanniana* (Southern Jarrah to Cape Arid) and *L. ellytes* (Perth to Cheynes Beach, photos above left flowers, below left, fruit, right, plants). Both of these species have small succulent round fruits that are purplish brown at maturity.

Some are exceedingly uncommon and very hard to find, including the appropriately named *L. furtiva*, and one is presumed extinct *L. dielsiana*.

There is much to be learnt about the cultivation and biology of this largely Western Australian genus. In general, few species have been cultivated, although generally recommended to be grown from seed. Germination is evidently sporadic and establishment poor. Cuttings have also been largely unsuccessful.

Once established at least several of the shrubby species are clonal, including *Leptomeria ellytes*. However, on the TEC Calcareous clays and silts in Yalgourp National Park (above right) most plants were killed by the 2016 fire and have not regenerated either from the rootstocks or seed.



Anthobolus

Anthobolus is a small genus of three species with two in Western Australia (*A. foveolatus* and *A. leptomerioides*) that are dioecious with rather inconspicuous but sweetly scented yellow-green flowers, but have a large peanut sized edible seed. *A. foveolatus* has the largest seed inside a thin-fleshed green-brown fruit and it has been suggested that it could be developed into a dry plains edible perennial crop. Although some harvesting has occurred on wild populations little horticultural study has been attempted. *A. foveolatus* grows on the limestone rich sandplains north of Perth from Shark Bay to Dongara. *A. leptomerioides* is a twiggy desert shrub with bright red fruits.

Exocarpos

Exocarpos (Ballarts, photos this page) is a widespread genus of 26 species with four in Western Australia. *E. sparteus* with its small succulent red fruits (photo below right) were important foods for Aboriginal peoples and dispersed both by small (Honeyeaters and Mistletoe Birds) and large birds (Emus). Interestingly the most common species, *E. sparteus* has two very different forms—a single stemmed form killed by fire (photos this page), becoming common after fires and a desert form that is multi-stemmed and re-sprouts after fire. Aboriginal peoples throughout the species' extensive range gathered the abundant orange-ripe red sweet fruits by beating or shaking the plant. Although very widespread in the Goldfields woodlands, *E. aphyllus* was less commonly harvested, but eaten in passing.

Exocarpos odoratus is a low growing clonal shrub that is found largely in winter-wet sites from Capel to Albany. Fruits of this species are small and rather dry. *Exocarpos latifolius* is the

common species in the Kimberley, with large succulent red fruits.

Exocarpos species grow readily from seed. However there have been major problems establishing mature plants which tend to slowly fade after been field sown from the potting stage.

Choretrum

Choretrum is composed of seven species, four in WA. The common *Choretrum glomeratum* is mostly found in woodlands south of Perth. In Wandoo woodlands its suckering habit can make the broom like pale yellow green plants a dominant feature of the understorey. Although having common names like Common Sourbush or Berry Broombush the small relatively dry fruits do not seem to have been used by Aboriginal



peoples, but are dispersed by birds. An attractive bright yellow flowered rather uncommon *Choretrum* is *C. chrysanthum* a very attractive plant in flower. *Choretrum lateriflorum* (Dwarf Sour Bush) occurs from Pinjarra to Norseman. The other species is *Choretrum pritzelii* from the Northern Sandplains. *Choretrum* species have occasionally been propagated by seed, but little else seems to be known.

Omphacomeria

The eastern Australian genus *Omphacomeria* (*O. acerba*) has recently been collected from the Kennedy Range. This species is very similar to *Leptomeria* in appearance, and this huge disjunction in range may be due to this.

Spirogardnera

The rare monotypic genus *Spirogardnera rubescens* with its unmistakable spiral inflorescences, with white flowers on opening fading red occurs in two disjunct areas around Eneabba and Bindoon on lateritic soils.

Santalum

Santalum is a very widespread genus with 25 species, four in WA. Articles follow on the best known species—Quandong (*S. acuminatum*, page 29) and Sandalwood (*Santalum spicatum*, page 32).

Santalum lanceolatum (Plumbush or Northern Sandalwood) occurs across northern Australia, but extends through the deserts into New South Wales, Victoria and South

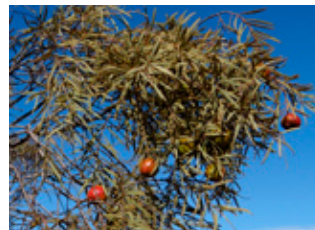
Australia. A study in 2007 (Harbaugh, DS 2007. A taxonomic revision of Australian northern sandalwood. Australian Systematic Botany) suggested that all populations of this species below 20 degrees south should be separated as *Santalum leptocladum*. This would restrict WA populations of *S. lanceolatum* to the Kimberley. However, the revision has not been widely accepted.

Santalum murrayanum (Bitter Quandong, fruit above left, plant right), another widespread very ornamental species with narrow grey-green leaves, a weeping habit and large bright red fruits would make a stunning addition to any garden.

As we can see despite having a Flora of Australia treatment and other revisionary work there is much to learn about the biology, taxonomy and cultivation of these plants.

Finally, recently the “true” Mistletoes *Viscum* and *Korthalsella* have been included in the family. Although not recognised by all botanical authorities this combination has been accepted in Australia. This means that the family has both root and stem parasites. AND it means that Christmas kisses as noted in that old song... “I saw mummy kissing Santa Claus underneath the mistletoe last night” can be done with a Quandong branch in Australia.

Greg Keighery, photos Bronwen Keighery.



A nutty arms race

Quandong (*Santalum acuminatum*) is a very widespread in southern Australia and well-known shrub that produces large seeds with a very wrinkled exterior covered by a succulent red coat (photo left, seed of different *Santalum* species in a vintage necklace). The succulent covering (exocarp and mesocarp, photo, below left) attracts dispersers (mainly Emus). The thick hard rugose endocarp (photos, top opposite page left Swan Coastal Plain Quandong, right pair from SA) protects the oily nutrient rich seed inside allowing it to pass through the digestive system of most animals and be deposited away from the parent plant. Quandong like many parasitic members of the Santalaceae form clones from root suckering, so spreading your seeds far away from the parental clone increases variability.

Both the large seeds and red ripe fruits were major components of Aboriginal diets and the plant has at least 15 aboriginal names over its wide range.

With such a wide distribution Quandong varies in flower colour, flowering times, leaf shape and seed coat patterning. For example: Quandong was described by Robert Brown from a collection he made at Fowlers

Bay, South Australia in 1802 as part of Matthew Flinders circumnavigation of Australia. At Fowlers Bay and west in along the southern Nullarbor to the margins of the Bunda Plateau in Cape Arid National Park, plants have narrow grey-green leaves, red flowers and only slightly to moderately rugose seeds, as seen in these seeds from Fowlers Bay (photo, top opposite page two seeds on right).

On the Swan Coastal Plain plants have large succulent pale green leaves, with white aging orange flowers and very rugose seeds, as seen in the seeds from Duncraig (photos left, plant, right flowers, seed top opposite page on left). This Swan Coastal Plain form was originally named by Miquel as *Santalum preissianum*, from a collection made near Busselton by Ludwig Preiss in 1839 (we doubt that he saw the collections of Brown or the fruits of this form).

It seems there may be a good reason for the differences in the surface of the seeds. In Western Australia the Western Mouse*; has been observed to eat Quandong seed. Morris et al, (1993, page 6) state

“Western mouse in the northern part of the range collections of up to 400 chewed Quandong



(*Santalum acuminatum*) nuts have been located----Fruits fall to the ground when ripe and remain edible for 12-18 months, providing a year round food resource for the Western Mouse.---The nuts typically have their kernels extracted through a chewed hole in the hard seed casing. Collections of nuts accumulate over time.”

The Western Mouse originally ranged through the drier Southwest and Wheatbelt from Jurien Bay to Bremer Bay in heath, shrubland and mallee vegetation. However the related Heath Mouse

(*Pseudomys shortridgei*) that occurred from Shark Bay to Western Victoria is recorded as eating seeds (especially grasses), leaves, fungi (40% of diet), flowers, grasses and roots but not Quandong. This species persists in Eastern Australia in woodlands in SW Victoria and Kangaroo Island and seems to have disappeared from southern Western Australia.

It is reasonable to speculate that the predation on the nutritious seeds of Quandong in southern Western Australia by our Western Mouse could be a driver in the very rugose fruits of this region. These fruits should take longer to chew through allowing more seed to survive intact. Feeding both seed types to the Western Mouse would be a very interesting experiment. This is just another of the marvellous stories still to be told about our plants.

* Interestingly with the scientific name *Pseudomys occidentalis* should be Western False Mouse (pseudo = false, mys = mouse). Reference: Morris, K.D., Whisson, L., Burbidge, A.A., and Wallace, K. (1993) A Recovery Plan for the Western Mouse (*Pseudomys occidentalis* Tate). Department of Conservation and Land Management.

Greg Keighery, photos Bronwen Keighery

Perup/Boyup Brook Flora and Fauna app

I would like to inform you that the above app is now available free of charge in both App Stores. For the past 3 years with help from two friends we have put together 174 flora and 48 fauna which includes 34 birds. Hopefully we will be adding to the app later in the year. The area covered is the Boyup Brook Shire and Perup, Natures Guest House. The app is user friendly with descriptions and comments for each subject, you can also use your camera within the app to take photos. The Blackwood Basin Group who are a landcare group in Boyup Brook, along with DBCA have been involved since its inception. As a long time volunteer with DBCA working with flora it seemed quite fitting to produce an app for our district.

Mavis Sowry, Boyup Brook <mavisowry@gmail.com>

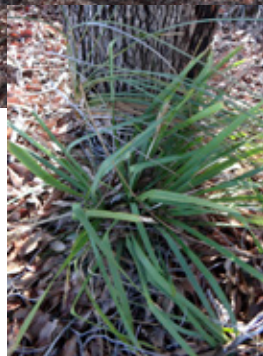
Lomandra in Western Australia

This is the response to an enquiry sent to the Society from an overseas person in regard to the weediness of *Lomandra* species.

Western Australia has many native species of *Lomandra* as well as versions of several eastern Australian species that are used as ornamentals in the current strappy leaved plants fad. The most frequently used are variants and cultivars of *Lomandra longifolia*.



We had assumed that since this species is dioecious little to no seed would set (none appear to be apomictic). However the garden plants most likely produced through tissue cultivated material and seed material seems to always be a mixture of sexes. We have recorded this species seeding abundantly from landscaping in Perth and Geraldton (400 kilometres north). Recently we recorded this species invading remnant bushland in Perth from a nearby neglected planting (photos left, voucher records not yet in the WA Herbarium). Apparently birds are spreading the fruits.



We have recommended that this species (and other similar) are not planted near bushland and that only male plants are used in landscaping from tissue culture or vegetative propagation. Hopefully no hermaphrodites exist.

Plants like our wet winters and dry summers with no frost (not sure how they would cope with below zero) and our local marsupials don't seem to readily browse them, unlike our native *Lomandra* species.

Greg and Bronwen Keighery bjkeighe@it.net.au

Quaalup Homestead 1858

Wilderness Retreat

Your perfect place to stay in the Fitzgerald River National Park

With over 1800 plant species, including some rare or endemic species like the Qualup Bell and *Hakea victoria*, abundant birdlife, famous Point Ann beach with its Southern Right Whale Nursery and the beautiful scenery of heathland and mountain ranges, this National Park is really worth a visit.



On our 40 acres of native bushland surrounded by the National Park we offer:

- cosy s/c ensuite accommodation (2 pers units, 2 bedroom chalet, 3 bedroom cabin)
- nature camping area (for caravans or tents)
- botanically signposted nature walk with stunning views
- kayak/canoe hire to explore the beautiful Gairdner River
- heritage listed Homestead from 1858, open for visitors as Guest Lounge and Cafe

The Retreat runs its own environmentally friendly solar power system.

Bookings and more information: Ph: 08 9837 4124

Website: www.whalesandwildflowers.com.au

Further to our stories on *Santalum*

The International Union for the Conservation of Nature (IUCN) in conjunction with the Botanic Gardens Conservation International (BGCI) is undertaking a Global Tree Assessments program (for further reading see; BGCI (2021) State of the Worlds Trees). Australia with 7,442 tree species now has 1487 listed as threatened. The total is more than in Eurasia: 5,994 or North America: 1432.

This round of assessments considered our Sandalwood (*Santalum spicatum*, Gowland, K. 2021). Sandalwood is now listed as threatened on the 2021 IUCN Red List of Threatened Species 2021 (<https://www.iucnredlist.org/species/>).

For some history of the Sandalwood industry members may be interested in the following recently published book–

Pamela Statham-Drew (2021) *Sandalwood: The Story of Western Australia's Santalum spicatum*. Pandorus Publications, Swanbourne. (ISBN 978-0-646-83354-5)

This book (67 pages, photos inside back cover) details the history and economics of the Sandalwood Industry in Western Australia and is well illustrated with some rarely published photographs. The book details the types of Sandalwood, and the characteristics of *Santalum spicatum*. The majority of the book details the world market, colonial exploitation, attempts at management and control and the commercial Sandalwood oil companies. Brief studies on plantations and the future end the book.

Mountain bike trails in the Conservation Estate February 2022

Position Statement

The Wildflower Society of Western Australia (the Society) is opposed to the development of trails for mountain bike riding, within the conservation estate, unless the areas proposed for development are completely degraded.

Background: Area of Application

In Western Australia, the Conservation Estate is a collective term that includes national parks, conservation parks and nature reserves. These reserves contain some of the State's most significant natural and cultural heritage assets. For the purpose of this position statement, A Class reserves are included as part of the Conservation Estate as the term "A Class" is used solely to protect areas of high conservation or high community

value and are afforded the greatest degree of protection under the Land Administration Act.

Other areas of high conservation value are also afforded protection under the federal Environmental Protection and Biodiversity Conservation (EPBC) Act, the WA Biodiversity Act and planning legislation. This includes areas that contain Threatened or Priority Ecological Communities, Regional Parks and Bush Forever sites.

For the purposes of this position paper, all of these areas are considered part of the broader conservation estate.

Definition of the Activity

Mountain biking is a sport of riding pedal/electric powered bicycles off-road, often over rough terrain, usually using specially designed mountain bikes..

Current Situation

Currently mountain biking is promoted through WestCycle and described in the Western Australian Mountain Bike Strategy 2015-2020 and actively promoted to Local Government and the Department of Biodiversity, Conservation and Attractions (DBCA) as a key activity to boost local tourism. It is estimated that almost 120,000 mountain bikes are purchased in WA every year with 80% of the riders being in the 25-50 age group and only 12% of riders being female.

Mountain biking is promoted as a highly competitive sport with major events of national interest being conducted annually at Dwellingup and in the South-West Capes region on an annual basis. The Munda Biddi Track is a popular mountain biking route and attracts an informal competition between riders to establish records for completion of sectional, one-way and return journey tours. Anecdotal evidence suggests such competitions make trails unsuitable for casual riders and they often involve night riding, which brings with it a number of additional issues.

Impacts of Mountain Biking

Mountain bike riding is an active, rather than a passive, recreational pursuit. Mountain bike trails cater for many different levels of interest, expertise and skills. Mountain bike trails may be located on flat land or in hilly terrain, but all usually involve the construction of a suitable trail which caters for the level of challenge desired.

As a consequence, mountain bike trails when established in native vegetation cause a number of unacceptable environmental, social and cultural impacts. These include the following: destruction and removal of native plants; disturbance and loss of native animals; interference with the breeding of native animals; erosion; reduction of safety for walkers; introduction of weeds and disease such as *Phytophthora* dieback via bikes and equipment; destruction of and interference with sacred sites, especially on mountain peaks; disturbance of peaceful surroundings; and damage to views and landscapes.

The impacts of mountain bike trails on plants and animals does not stop at the edge of the trail, but can extend for more than 10 m either side of the physically cleared area. Further, mountain bike riders are frequently not content with the officially constructed mountain bike trails, resulting in additional or interconnecting trails being created by enthusiasts without authorisation and using unacceptable techniques or with inappropriate features.

Construction of multiple trails in a single natural area, results in fragmentation of

the area with an increased edge/area ratio of those fragmented patches. This results in increased potential for weed and disease introduction, impairment of key ecosystem functions, isolation of flora and fauna, and the disruption of animal movement pathways within the original area.

Considerations (associated with the development of mountain bike trails)

The Society holds the view that mountain bike trails should not be constructed in the conservation estate, nor in areas containing Threatened or Priority species or Ecological Communities. Furthermore, the Society believes that National Parks and Nature Reserves are for the conservation of nature and pedestrian recreation only, not higher impact recreational pursuits such as mountain biking, trail bikes or horse riding.

Any proposal to construct mountain bike trails that involves the clearing of native vegetation must undergo environmental impact assessment which is open to public submission. Nonetheless, the Society holds the view that intact native vegetation should not be cleared specifically to accommodate mountain bike trails. Rather, mountain bike trails could and should be built on already cleared and/or degraded land, such as the following: land that has already been utilised for other recreational pursuits such as horse riding or motorised sport; non-native forests and plantations; cleared paddocks; old road/rail alignments; and abandoned mine and quarry sites.

Mountain Bike Master Plans should be carefully developed after surveys and preliminary consultation with stakeholders. Environmental and cultural surveys should be a prerequisite for all Mountain Bike Master Plans. To avoid any real or perceived conflict of interest, these surveys should also be undertaken by competent, independent consultants. Finally, the Master Plan needs to include active enforcement measures, trail maintenance programs and actions to be taken for the rapid removal and repair of any unauthorised trails by the manager of the facility.

The focus for location of trails should be on degraded and areas without a specific nature conservation purpose, to give mountain bike riders what they are after, whilst also ensuring the protection of natural areas and areas of passive recreation. Siting mountain bike trails in areas to be revegetated, other than those established as offsets for land clearing, would deliver multiple benefits, including utilising currently degraded, under-utilised areas, carbon capture and storage, delivering tourist attractions and creating custom-designed trails.

Further, any proposed mountain bike trails must not be in areas prone to land degradation and the number of mountain bike trails permitted in any one area should be minimised. Future expansion of established trails should not be permitted where the expansion may impact environmental and cultural values of the area.

If DBCA is to be a proponent for mountain bike trails in an area, or mountain biking generally, it should not be part of the evaluation team for Master Plans. Rather, DBCA's involvement should be to actively discourage establishment of mountain bike trails within areas of the conservation estate.

E-mountain bikes should be considered a motor vehicle and be restricted to road access in any area. They should not be allowed to be used on mountain bike trails, in much the same way as off-road motorcycles are not permitted to use those areas. Rather, existing road accesses within the conservation estate, on which the public is currently

permitted to use a motorised vehicle, should be accessible for e-mountain biking.

There should be regular reviews of performance and environmental impact of any mountain bike facility. There should also be a rehabilitation plan for disused tracks or in the event that the facility fails in some way.

Brett Loney, Vice-President; Chair, Conservation Subcommittee

Book Review: Lantern Bushes of Australia

Blake, T. (2021) *Lantern Bushes of Australia; Thomasias and Allied Genera (A Field and Horticultural Guide)*. APS Keilor, Victoria.

While most Western Australians are not familiar with the common name of 'Lantern Bushes' we do know *Thomasia* species and related genera in the old Sterculiaceae. This major work with nearly 200 species in more than 400 pages covers most the genera that comprised the old Sterculiaceae (now subsumed into the Malvaceae). Genera covered are: *Androcalva*; *Commersonia*; *Guichenotia*; *Lasiopetalum*; *Lysiosepalum*; *Seringia*; and *Thomasia*.

To me this book is a model field guide, with keys to separate the genera and to all the species within each genus. The taxonomy and keys are largely based on the work of Western Australian Carol Wilkins (and collaborators), who loves the group, since her work has been largely for love. The genera and species have diagnostic notes to separate them from related genera and species. This focus is a very useful inclusion enabling one to rapidly cross check similar genera/species rather than flipping through the entire 400 pages.

Each species is illustrated by the wonderful drawings of Trevor Blake, accompanied by photographs when available. Each species has a description, notes on cultivation, habitat (with map), conservation notes and distinguishing features. This is what makes it a model field guide.

The product of the dedication of many people, not the least by the author, who shows his long history of field guides and excellent illustration abilities are at their peak. Trevor also obviously did this because of his love of native plants and especially this group. Congratulations to the Keilor Australian Plants Group for ensuring its publication. I heartily recommend this book to anyone interested in any aspect of our native plants as there is much to learn within these pages about another underrated group of Australians.

Greg Keighery

Stand Up for Society Positions 2022

Our Society has many roles in meeting its the "Know, Grow, Conserve and Enjoy" motto. If you have not already done so, in 2022, please **standup and join the Management Committee (MC), some MC subcommittees and/or Branch Committees**. To be even more effective all groups need new members.

If groups are not your thing the **Newsletter needs articles** (your own words or suggest something you have read) and photos with or without an article!!!!

Thanks to all people who have already done all/some of the above. Keep it up.



Lantern Bushes of Australia; Thomasias & Allied Genera

A Field and Horticultural Guide

by Trevor L. Blake



Commersonia:
hairy stamens

Lasiopetalum: no stipules, calyx lobes are coloured at base, deeply divided, with no ribs
Photo: Geoff Lay.

Androcalva: hairless stamens, some species have lateral stamens.



Lysiosepalum: six calyx lobes of alternating widths.



Seringia: anthers open lengthwise, golden filaments, no bracteoles or petals.



Thomasia: leaves have stipules at base; calyx lobes not deeply divided, with single, coloured rib.



Guichenotia: ribbed calyx lobes; petals present.

SANDALWOOD

The story of Western Australia's
Santalum spicatum



Pamela Statham-Drew

ABOUT THIS BOOK



Sandalwood, genus *Santalum*, is one of the most exotic and unforgettable woods in the world. It is a yellowish timber with an elusive fragrance that is a combination of floral, spicy and earthy aromas. The oil has been used as a perfume for centuries and is used now as a base by many iconic perfumes such as Lanvin's Arpège, YSL's Yvresse, etc.

Cosmetic demand, however, pales in comparison with spiritual needs. Many religions, especially Hindus and Buddhists, believe that sandalwood smoke creates a link between heaven and earth and powdered sandalwood has been used as incense for at least 4000 years both in temples and personal offerings.

The highest quality trees in the genus *Santalum* are *album* (or *alba*) trees which grow in tropical countries such as India, New Caledonia, Fiji, other Pacific islands and Indonesia – but in these countries domestic demand takes up all the timber harvested.

Western Australia has the only native, non-tropical sandalwood in the world, *spicatum*, and is the only country today with a consistent surplus for export.

This little book tells the story of *Santalum spicatum*.



