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Top End Native Plant Society September-October 2018 Newsletter

General Meeting Times

The next TENPS meeting is the AGM which will be held on *Thursday 15th of November 2018* commencing at 7:30 pm. General meetings are held on the third Thursday of each month at Marrara Christian College, on the corner of Amy Johnson Avenue and McMillans Road. The meeting is followed by a chance to chat with other members and access the TENPS reference Library over a cuppa. Bring your plants along to swap, sell or have identified. The guest speaker presentation commences around 8pm. All are welcome. Field trips are usually on the weekend following the meeting. Details of upcoming events are provided in the newsletter, or check the TENPS website.

What's in flower?



Jasminum elongatum photographed by Sarah Hirst.

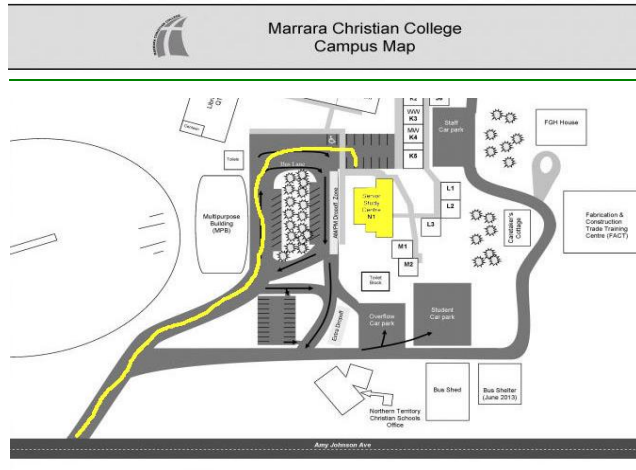
Natives mean more!

www.topendnativeplants.org.au

Upcoming TENPS guest speakers

November 15th: AGM, Ian Morris – The Spice Islands

January 17th: Tim Moore/Travis Messner of **Territory Native Plants**, share native plant propagation tips.



2018 Annual General Meeting:

The Top End Native Plant Society AGM is on November 15 this year so please save the date.

As a volunteer organisation TENPS relies on its members to make it work so we ask that all members consider how you might help to ensure we can offer an interesting and diverse program of events in 2019.

by Sarah Hirst - President

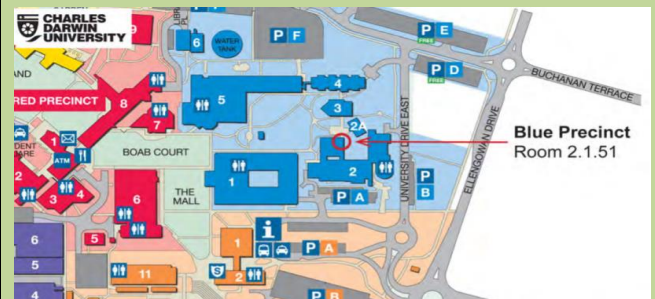
AGM Agenda:

- 1) Apologies
- 2) Minutes of Previous AGM
 - Business arising from minutes of previous AGM
- 3) Committee Report
- 4) Treasurer's Report
- 5) Auditor's Report
- 6) Election of Management Committee
 - PRESIDENT
 - VICE PRESIDENT
 - SECRETARY
 - TREASURER
 - PUBLICITY OFFICER
 - PUBLICATIONS OFFICER
 - LIBRARIAN
 - TWO COMMITTEE MEMBERS
- 7) Other Business
 - Appointment of Public Officer
 - Membership Subscription Fee

NT Field Naturalist Club Events

Meetings are held at 7.45pm on the second Wednesday of each month except January at Charles Darwin University, in Blue Building 2 (see map below)

November Meeting: Wednesday 14 - Critters to avoid when enjoying the outdoors, Nina Kurtz



Field Trips are a great way to explore the best of Darwin area's nature spots in the company of like-minded people. These are usually held on the Sunday following the monthly meeting and often related to the topic of this meeting. Additional outings are held from time to time, and everyone is welcome.

November Field Trip: Saturday 17 - Remnant rainforest at Duke Street, Richard Willan

TENPS Field Trips & other events

November: date TBC – Trip to Murrumbidgee at Gunn Point to look for threatened species.

December: date TBA - TENPS Xmas get together

January: 19th Saturday - Tour of **Territory Native Plant** Nursery at Berry Springs

TENPS Committee Meeting

Committee meetings are held every second month and members are most welcome to attend. The next committee meeting will be in early December 2018, with details to be announced after the AGM.

TNRM Conference



Top End Native Plant Society recently became a Member of Territory Natural Resource Management, meaning TENPS is now promoted on the TNRM website and we have the opportunity to promote events and share information about our activities through our monthly newsletter TNRM Network Notes, Facebook and twitter.

TENPS also has voting rights at the TNRM Annual General Meeting and is able to participate in the selection process for the Board Directors.

TENPS members are also eligible to share in the TNRM membership benefits including:

- Discounted attendance fees for the conference, training and workshops hosted by TNRM.
- Networking opportunities & connections across the NT and wider natural resource management community.

TENPS July Meeting Report: Palm Valley with Zig Madycki

Palm Valley lies within the Finke Gorge National Park, about 138kms south west of Alice Springs. It's also within of the vast Hermannsburg Sandstone Formation.



Studies of the underlying aquifer show the age range of the underground water to be about 300,000 years. This aquifer provides a slow but

constant discharge of water into the valley and nearby areas.



About 2.4 million years ago an arid climate developed in Australia and large parts of the centre became acutely arid. However, the Hermannsburg Sandstone aquifer was able to support mesic plants which would have otherwise disappeared. About 700,000 years BP a glacial cycle of about 100,000 years set in whereby colder dry periods were interspersed with warmer periods of higher rainfall. Over the longer term rainfall was very unevenly distributed with drier times comprising 85% and wetter times 15%. Discharge from the aquifer was sufficiently slow that recharge during the shorter wetter periods was able to maintain it. The last glacial maximum is given as around 18,000 to 22,000 BP. About 5,000 BP there was a high rainfall period in central Australia.



Away from the influence of the aquifer (*above*) ephemeral plants were the main survivors, growing rapidly in response to rain, and also rapidly producing seed that would lie in the ground awaiting the next rain event. The Finke Gorge system together with Palm Valley became a refuge for flora (and fauna) more reliant on mesic conditions. About a quarter of central Australian plant species occur in palm Valley.

Palm Valley has in recent time become a tourist hotspot, the main focus being on the palm *Livistona mariae* ssp. *mariae* (below) and the cycad *Macrozamia macdonnellii*.



The palm has intrigued many people since it came to the attention of the first white explorer in the area, Ernest Giles, in 1872. How was seemingly a tropical plant growing in the middle of an arid desert? This led to the belief that the palm was wide spread across the centre during a previous mesic climate period, having colonised the area from the north. However, subsequent aridification reduced it to the current small relict population in the Finke Gorge system (below). These days the nearest relatives of the palm tend to fringe the coast from the northwest to the south east of the continent.



First use of the name *Livistona mariae* was by Ferdinand von Mueller in the journal **Fragmenta Phytographiae Australiae** in 1874. Taxonomic studies established *L. mariae* was most closely related to *L. rigida* (as it was previously named). In the NT subspecies *rigida* occurs around Mataranka and the Roper River, Black Jungle Spring (tributary of the South Alligator), West Alligator River, Manton River, and some isolated populations in Arnhem land.

In northwest Queensland it's found along the Nicholson and Gregory Rivers.

In 2012 Kondo et al published the results of a DNA study indicating *L. mariae* and *L. rigida* rather than being two separate species should be considered as one, or at least subspecies. Their studies, which included plants from Mataranka, Palm Valley and northwest Queensland, also indicated that these plants were of common ancestry as recently as 15,000 BP, the Palm Valley plants being most closely related to those from Roper River. This of course put an end to the theory of a relict population. In providing an answer to the question of dispersal into Palm Valley they discounted fruit eating birds and flying foxes. As palms were a food source they considered this may have been an incentive for humans to have carried seeds into central Australia. They didn't consider an indirect or accidental vector. Birds such as pelicans will scoop up food in waterways where seeds may be floating. They also fly long distances between water bodies and could take the seeds with them. Perhaps the chances of that happening are in the same order as people taking seed and carrying it for that great a distance, we can only surmise.

This theory of dispersal by humans however, gained a lot of traction. It did provide a plausible answer to a long standing question. But that in turn raised some new issues. Under IUCN guidelines *L. mariae* ssp *mariae* would be a non-native plant without a native range as it was the result of human introduction and speciation had separated it from the ancestor species. Thus it wouldn't be eligible for inclusion in the IUCN Red list. However, under Australian federal legislation, EPBC Act, the definition of native is a species that was introduced prior to the year 1400. NT legislation, TPWC Act, goes further and includes any species introduced by indigenous people prior to 1788.

The plant is now classified as Endangered (under criteria B1ab(iii) + B2ab(iii)) and a recovery plan was drawn up in 2008 by Catherine Nano (incidentally, prior to the human dispersal theory).

The extent of the occurrence of the palm is less than 275 km² but only actually occupying less than 50 ha. The latitudinal and longitudinal

range is 35 km by 20 km. Numbers of adult plants is about 2087 (DENR 2017) individuals.



The major populations of the plants are located within Palm Valley, along the nearby Little Palm Creek and along the Finke Gorge, all within the national park. Outside of the park, to the north are two stands of 15 and 23, to the west 2 and 43. To the south at Running Waters on Henbury Station in a 5 km transect less than 25 scattered amongst *Eucalyptus camaldulensis*.

Habitat requirements help explain why the palm isn't more widely spread in Central Australia:

1. Permanent ground water discharge.
The palm is a shallow rooted mesic plant and needs a constant water supply close to the surface.
2. Protection from flood water scouring.
Being shallow rooted, plants that germinate on deeper drift sand along the main river bed are prone to being washed out by occasional large floods.
3. Infrequent fire exposure.
Seedlings are fire sensitive and with higher frequency recruitment is reduced.

Threats

Buffel Grass (*Cenchrus ciliaris*) (below) and Couch Grass (*Cynodon dactylon*) have spread throughout central Australia increasing the risk of fire and the intensity of fire. These weeds also compete with seedlings for nutrients and light.



Grazing by cattle, horses and camels reduces recruitment while trampling disturbs river banks leading to erosion.

Accessing of ground water by communities and gas drilling companies. While currently this isn't considered a problem, future development may require higher water extraction rates.

Tourism has increased rapidly raising the risk of erosion and trampling of small plants/seedlings (below).



Climate change may bring extreme rainfall events which could erode around the shallow rooted plants.

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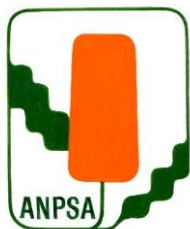
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Article and photos by Zig Madycki



ANPSA What's New at the National Level

At the ANPSA teleconference Council meeting the following appointees were confirmed:
Jan Sked, Rules and Bylaws officer, Eddy Wajon, Conservation officer; Dave Murray, Australian Flora Foundation rep; Ruddocks, Auditor. New delegates: Bob Bannon from Queensland and Zig Madycki from the Northern Territory were welcomed.

Rules and ByLaws

Jan Sked has prepared number of minor amendments to the Rules and Bylaws that we follow. Some were voted on at the Biennial meeting in Hobart in January. Others will be confirmed at the next ANPSA Council meeting in November. Delegates are expected to bring up any changes in their respective member societies for discussion and voting. The main alteration was to simplify the appointment of officers (Bylaw1.1) by not specifying the titles eg. "the Newsletter Editor", so that the roles can be discontinued or changed as required without needing changes in the Bylaws each time. One of the motions adopted at the Biennial meeting was the publication of the Rules and Bylaws on the ANPSA website.

Conservation

Three separate conservation issues were extensively discussed. Eddy Wajon as the new conservation officer had proposed that ANPSA prepares comments on the management of brumbys in the Kosciuszko National Park. Due to time constraints this did not eventuate, but discussion at the meeting revealed that Geoff Butler from Canberra had made a submission. I have read it since and found it an extensive and well-researched one. All the conservation officers are encouraged to communicate with each other and Eddy so as to be able to act as a united lobby on conservation issues when necessary as well as to provide Eddy with the local knowledge.

The second conservation project relates to proposed clearing of native bushland adjoining Jandakot airport in WA for commercial development. Jandakot Airport Holdings had previously agreed with the Department of Environment to conserve the area in perpetuity. The area in question includes the Commonwealth-listed Threatened Banksia Woodland ecosystem, Carnaby's cockatoo and Grand Spider Orchid. Eddy has been organizing a delegation to meet the shadow minister Anthony Albanese in Canberra, if possible, to present the case. The land in question falls under the Commonwealth jurisdiction.

The re-emergence of Myrtle Rust (*Uredo rangeli*) as a national concern was brought up by Lawrie Smith. The potential threat to plants of the Myrtaceae family was raised several years ago. APS Vic journal "Growing Australian" March 2012 issue had a front page article on it. It seems that the initial alarm quietened down as the incidence appeared to be limited to nurseries. Lawrie alerted us to information provided by Dr Jarrah Wills of the Queensland Herbarium and I quote: 'we had been lulled into a false sense of security in the last couple of years as this insidious airborne 'predator' of the family Myrtaceae seemed to have reduced impact. Instead the Myrtle Rust has been steadily spreading North and South from its original illegal entry point into Australia in the Gosford area'. A draft Action Plan for a national response has been published and a possible response by ANPSA working together with Queensland members was proposed.

Website

We all owe gratitude to Brian Walters for the wonderful work he is doing managing the ANPSA website. May he long continue! However, we need to consider plans for the future. The comments at the Council meeting were not at all optimistic about anyone offering to manage the website on a voluntary basis. At the request of the Council Brian has produced thoughtful comments on the future possibilities that we will need to discuss. Should we engage a commercial operation to run the website? What would be the cost? What content on the website would serve the members best? What about the general public? What would be essential or the minimum to include?

Study Groups

Jane Fountain, our Study Group Coordinator, reports that there are still fifteen active Study Groups. All are producing a newsletter at least once a year with interesting information. Sadly, the 'Boronia and Allied Genera' SG is closing. Thanks to Sheryl Backhouse, many of the old Study Group newsletters have been scanned and are now available on the website for anyone to peruse. Most of the current SG newsletters are available on the Website as well.

Nicky Zanen informs us that she will be resigning from her position as a publicity officer at the next AGM. We will be sad to see her discontinue and hope that she will continue her active involvement in other capacities.

The next Council teleconference meeting is planned for the 27th of November and will be preceded by an AGM.

Riitta Boevink, ANPSA President.

Consultation opportunity: Framework of Northern Territory Environmental Values and Objectives

Northern Territory Government is undertaking an overhaul of the existing environmental management legislation, and this is your opportunity as a member of TENPS or simply as a member of the NT community to have your say.

The aim is a single piece of legislation – the Environment Protection Act – which is being developed to implement a best practice regulatory framework for environmental management.

Stage 1 will address reforms to the existing Environmental Impact Assessment System, which many have concerns about.

A draft environment protection [Bill](#) and supporting [Regulations](#) have been released (October 2018) for public review and comment. *To view these documents click on the links above.*

To find out more about the regulatory reform process:

<https://denr.nt.gov.au/environment-information/environmental-regulatory-reform/consultation-on-new-environment-protection-legislation>

You can make a submission by emailing your comments to environment.policy@nt.gov.au before **3 December 2018**.

**Prepare for the wet, get your native
plants now!**

Plant Sale



Where: Coolalinga, out the front of
Woolworths

When: Saturday 24th November 2018

Time: 8am-12noon

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SUBSCRIPTION FORM - ANNUAL MEMBERSHIP (DUE 1 JULY)

Please accept my subscription/renewal for membership of the Top End Native Plant Society

☐ New membership ☐ Renewal

Name/s.....

Email address

Please Note: The electronic edition of the newsletter will be uploaded to the member's page of the website each month and members will be notified by email (Acrobat Reader is required).

If you DO NOT have email access and would like to receive the newsletter (black & white available only) by post please tick the box. ☐

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