Top End Native Plant Society NEWSLETTER

APRIL 2025

WHAT'S FLOWERING THIS MONTH

Vitex trifolia by Russell Dempster

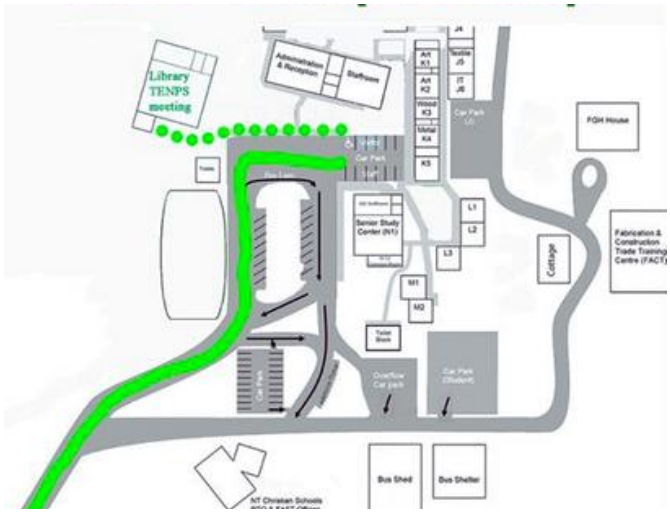
Monthly Meetings

Top End Native Plant Society (TENPS) general meetings are held at 7:00pm on the third Thursday of the month at Marrara Christian College library on the corner of Amy Johnson Ave and McMillans Rd.

Bring your plants to swap, sell or have identified over a cuppa. The guest speaker presents at 8pm.

This month's talk will be by Sam Amini, an honours student at CDU and recipient of the TENPS Scholarship.

NEXT MEETING: APRIL 17TH 2025



TENPS (Top End Native Plant Society) Committee Members

President: Russell Dempster (0459440665)

Vice President: Sean Stieber

Secretary: Johanna Stieber

Treasurer: Graham Zemunik

Publications and Librarian: Richard Boyne

General Committee Member: Ian Morris

General Committee Member: Clair Hewitt

Publicity: Vacant please inquire

Webmaster: Vacant please inquire

Public Officer: Dave Liddle

In this Newsletter

VISIT OUR FACEBOOK FOR INFO ON OUR NEXT EVENTS AND SALES!

www.topendnativeplants.org.au

topendnativeplants

February meeting ~ Details of Biomedical Research on Extractions of Materials from Snake Vine and Beauty Leaf Plants by Elnaz Saki

Tinospora smilacina (Snake Vine) leaves and flowers by Elnaz Saki

Calophyllum inophyllum (Beauty Leaf) nuts by Elnaz Saki

Elnaz Saki presented at our February meeting on her PhD on the properties and medicinal uses of Tinospora smilacina (Snake Vine) and Calophyllum inophyllum (Beauty Leaf).
Tinospora smilacina is a native Australian plant traditionally used by First Nations peoples to treat inflammation. Calophyllum inophyllum seed oil is another bioactive natural product with therapeutic potential.

In her study, a stable nanoemulsion formulation was developed by combining *T. smilacina* water extract and *C. inophyllum* seed oil extract. This formulation aimed to integrate the bioactive compounds from both native plants and enhance wound-healing efficacy. Checks were made on the toxicity of the extractions and the emulsifiers used. Using cells, tests showed very low toxicity levels, so they are very safe to use.

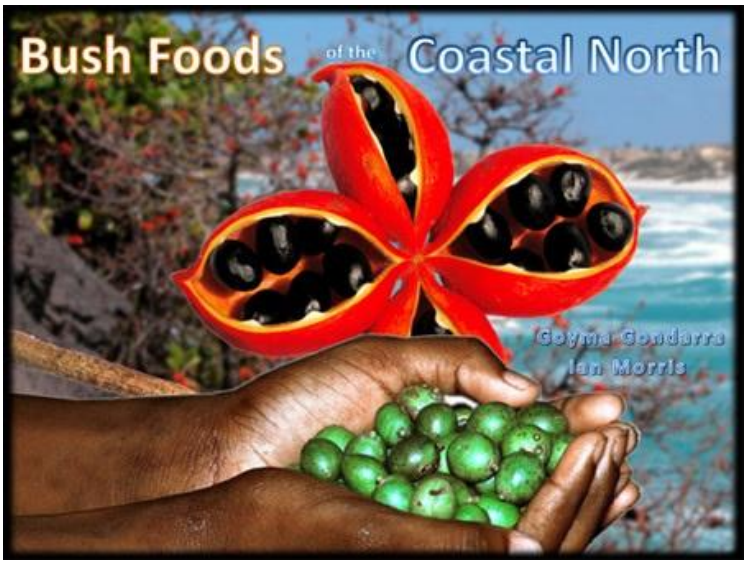
Wound healing tests followed. *C. inophyllum* seed oil was found to be very effective on its own, but *T. smilacina* water extract was not. A mixture of the two using the nanoemulsion was found to be much better. At low concentrations, the mixture achieved approximately 90% wound closure within 24 hours, and complete wound closure was observed within 48 hours.

Thanks Elnaz, for a very interesting and informative presentation.

Report by Russell Dempster.

March meeting ~ Bushfoods of the Coastal North by Ian Morris

In the diverse natural environment of the Top End, we have a wide variety of 'habitats' with very specific plant and animal communities. These communities were well understood by the many traditional Aboriginal clans who have managed them for an extended period of human history. Various clans identify with one or more of these habitats, for example 'Stone Country' people, 'Saltwater' people, etc., and they take responsibility for the dominant plant and animal species on their country.



In addition to this, the very clockwork seasonal climate gave these people advanced notice as each season merged into the next. The beginning and end of each season varies from year to year, but there are visible clues to let them know when the next change is about to happen. They relied on these 'seasonal indicators' to give them the opportunity to relocate on their country in preparation for the coming harvest. For example, a favourite marine food of coastal clans is the meat of small sharks and rays, however, they only hunt these species at the time of year when they can withstand some hunting pressure and their livers are 'fat' (enlarged). The timing of this process varies from year to year, but the people know that the appearance of the flowers of the Red-flowered Kurrajong (*Brachychiton paradoxum*) always synchronise with this liver enlargement and therefore, the peak quality of the food. Research now tells us that this liver enlargement is caused by the production of pure Omega-3 oils, which are kneaded back into the cooked flesh to improve the quality and flavour, before being eaten. They see the community roles of plants and animals as intertwined and interdependent, rather than separating 'botany' and 'zoology' into different fields. This philosophy allowed these people to live in harmony with their natural surroundings, rather than changing them to suit modern lifestyles, as we now do.

This is only one of many examples of 'seasonal indicators', which can be plant or animal behaviour, giving traditional people advanced warning of an impending seasonal food resource event. Bush honey is another such example of a much sought-after product which is available throughout the year, but is normally only harvested after strong flowering events so as to cause minimal pressure on the bee colonies at other times of the year when the bees are doing it tough. This human 'empathy' for the resource becomes a strong conservation factor to ensure the on-going health of the species and should be seen as an advanced conservation principle.

As the seasons vary slightly across northern Australia, the seasonal calendars show this geographical variation, as well as language taxonomy variations between clan estates. It also explains their seasonal movements around their own and adjoining clan estates to synchronise with these various resources. There were two main benefits with this: 1. A healthy diet and 2. Constant exercise. Unfortunately, this enabled early settlers to label them 'nomads'. The truth could not be more opposite! As the modern world moved in on these people, their diet and activity levels reversed. Early photographs show just how fit and healthy these people were.

We had a look at a number of plant species which give multiple benefits to people. Our main example was the Stringybark Tree *Eucalyptus tetradonta*, which provides large volumes of nectar seasonally for bees and other wildlife, medicines from the sap and many uses for the bark and timber. The healthy maintenance of these eucalypt forests was brought about by the ecological use of fire, which was traditionally seen as a human responsibility.

Cycads were a staple producer of dry season food, stockpiles of which allowed large gatherings of people to concentrate on ceremonial activities. *Dioscoria transversa* yams were also a staple food in the early dry season, which was known as 'harvest time'. For coastal people, mangrove forests were a highly productive habitat for protein-rich foods.

Finally, we took a look at how this environmental knowledge was being passed on to young indigenous students today. The modern curriculum does not place much importance on this knowledge. Unfortunately, most traditionally-born Aboriginal people have now passed on and as a result, the bulk of the traditional environmental information remains unrecorded and no longer accessible. Only now, after nearly 250 years, is modern Australian society recognising the science behind traditional Aboriginal land management - handing the continent over in excellent ecological order. We had our chance and now we are picking up the pieces!

Bruce Maslin's visit and Acacia phrase names

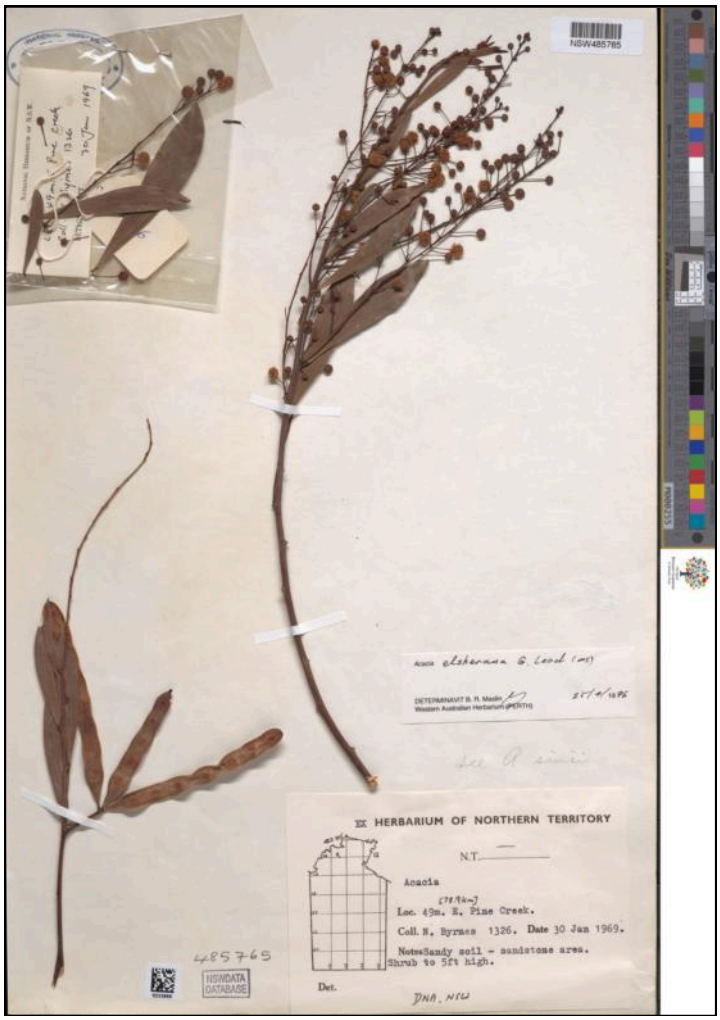
In March the Herbarium hosted the botanist Bruce Maslin. Bruce is an honorary research associate with the Western Australia Herbarium and Australia's leading expert on the genus *Acacia*. he also works on the related genera *Senegalia* and *Vachellia*. He manages the website World Wide Wattle (https://worldwidewattle.com) and the WATTLE identification Key (https://apps.lucidcentral.org/wattle/text/intro/index.html). He visited us to study our collection of wattles with phrase names to incorporate them into his websites and the Flora of Australia. The key features of these specimens were not always recorded in the past.

Phrase names are given to plants that are deemed to be good biological entities, usually on the basis of morphology, but have not been formally described yet. You can think of them as a 'halfway house' between *Acacia sp.* and formal Latin binomials and are a very useful tool for botanists to make some order out of chaos. Anyone can propose a phrase name, even consultants, but Western Australia requires a formal proposal that needs to be accepted by botanists with relevant expertise. They may or may not be published or included in state and territory plant lists. Bruce was very pleased to see that we had phrase names listed in our eflora!

Phrase names can be vague like 'sp. A' and 'sp. B', but are increasingly expected to have a geographical or morphological descriptor followed by a particular voucher specimen to represent the taxon (like a type specimen, but technically not).

For example, *Acacia sp. El Sharana (N.B. Byrnes 1326)* is named after a former mine site where the taxon is known to occur and a representative specimen of the taxon collected by Norman Byrnes (see right).

The etymology of the phrase name is very interesting. The mine site, actually El Sherana with an 'e', is a combination of Elvira, Sherril and Lana, the daughters of one of the miners. It was a source of uranium ore in the 50's and 60's and BHP wanted to incorporate it into its Coronation Hill venture in the 80's. Opposition from environmental groups led to its incorporation into Kakadu National Park. This will hopefully preserve a healthy population of the taxon for the future!



N.B. Byrnes 1326 at the National herbarium of NSW

For further information on phrase names, see: https://florabase.dbca.wa.gov.au/help/names
Text by Richard Boyne, image from ALA, thanks to Bruce Maslin and Greg Leach for the informative interviews.

From the Archives ~ collated by Lon Wallis

30 years ago – April 1995 – Fogg Dam Field Trip

Fogg Dam was built in the 1950's to service a short-lived rice industry that collapsed through lack of planning, fore-sight and some would say over-confidence and over-speculation. The dam and surrounding swamp are now part of a conservation reserve, and recent additions permit access to the paperback swamps without getting your feet wet (well maybe a little), and observation platforms for bird watching.

A small group of TENPS enthusiasts enjoyed a walk through the Workshop Jungle trail at Fogg Dam. This is a walk though woodland and monsoonal rainforest on two board walks. The walk begins with a board walk through a group of *Melaleuca cajuputi* standing in a few inches of water stained by a red fungus. The track through the woodland was wet and muddy at this time of year.

Finally onto the board walk through the rainforest under the canopy of *Carpentaria acuminata*, *Livistona benthamii*, *Sterculia holtzei* and *Nauclea orientalis*. And out through another *Melaleuca cajuputi* stand, this time in much deeper water close to the edge of the back swamp of the dam. The water's surface is covered by an assortment of plants including *Ludwigia* and *Nymphaea*, wild rice and other grasses.

A variety of *Ficus* was to be seen but I have never yet found any of the fruit that grows on the figs at Fogg Dam very palatable, although certainly it would be protein-packed with all those little wasp lavae inside. And thankfully only one or two leeches were spotted on this trip. And, would you believe, not one snake or dusky rat was to be seen.

Plants seen include:

Acacia auriculiformis - black wattle

Ampelocissus acetosa - wild grape

Alstonia actinophylla - milkwood

Barringtonia acutangula - fresh water mangrove

Bombax cieba - kapok tree; [thorns on trunk]

Breynia cernua

Carpentaria acuminata - carpentaria palm

Denhamia obscura

Eliocharus spasilada – [eaten by rats]

Exocarpos latifolius - native cherry

Ficus species

Flagellaria indica

Ipomoea aqautica

Leea rubra [in flower]

Livistona benthamii

Loofa cyclindrica

Lophostemon

Ludwigia adscendens

Melaleuca cajuputi - paperbark

Nauclea orientalis - Liechhardt pine, [edible fruit]

Nymphaea violacea [an aqautic herb]

Pandanus spiralis

Pistia stratiotes - water lettuce

Sesbania benthamiana [in flower]

Smilax australis [a creeper seen in fruit]

Sterculia holtzei

Strychnos lucida - strychnine tree

Syzygium suborbiculare - red bsh apple

Tacca leontopetaloides

Terminalia microcarpa

Timonius timon

Vavaea australiana – [wart-like pores on bark]

20 years ago – April 2005 –
***Nervilia peltata* Revealed**

Field trips throughout the wet season have been assessing the growth of the ground orchid *Nervilia peltata* in Charles Darwin National Park. Below is an unearthed *Nervilia*.

David Van den Hoek and I visited the annual fire treatment site and unburnt site last weekend to take some photographs and to establish if nearby leaves can arise from the same rootstock. We unearthed a few groups of leaves and collected some herbarium specimens. There is no doubt that multiple leaves can arise from the same rootstock. From three clumps of nearby leaves excavated, two pairs of leaves were joined. We found no proof of connection for another four leaves, however, given the ease with which connections could be broken during soil removal we can not be certain that all four were independent plants. On the evidence at hand, it is reasonable to conclude nearby leaves are a mixture of connected "clumps" and unconnected individuals.

David Liddle

Nervilia peltata from Charles Darwin National Park.

10 years ago - April 2015 - Field Trip Report: Bamboo Creek and Butterflies with NTFNC

TENPS joined the NT Field Naturalist Club for the day with a joint butterfly and habitat survey at Bamboo Creek off the Marrakai Road. The trip was capably led by Dr Michael Braby and Deb Bisa and was declared a great success. There was a huge turn out and thanks to Michael Braby we are now all much better informed about the wide range of nets available to catch butterflies.

Butterfly catchers on the march, photographed by Louise Becker near Bamboo Creek.

It was good to see TENPS members taking up the challenge of butterfly catching (*below*) and learning about their habitat and host plants.

Robyn Liddle chasing butterflies, photographed by Louise Becker near Bamboo Creek.

Louise Becker and Sarah Hirst

10 years ago - April 2015 - Field Trip Report (cont.)

Thespesia thespesioides fruit photographed by Sarah Hirst near Bamboo Creek.

*Plectranthus scutellarioide*s photographed by Sarah Hirst near Bamboo Creek

APRIL MEETING - RESEARCH REPORT BY SAM AMIMI

Sam Amini is an honours student and research assistant in the Northern Shark and Ray Research Group. His interests lie in evolutionary ecology, population genomics, systematics, and conservation of bony and cartilaginous fishes. In his talk, he will summarise a long-term collaboration between Charles Darwin University and the Malak Malak Rangers. In short, extensive inundation of northern Australian floodplains in the tropical wet season allow Largetooth Sawfish (*Pristis pristis*) pups to access vast areas of aquatic habitat. This has led to a unique long-term collaboration between Indigenous rangers and researchers to search for, and rescue, trapped sawfish. Here we present some ecological findings from these "sawfish rescues" where stranded sawfish are relocated from near-dry waterholes to the perennial waters of the nearby river. We outline: (a) the history of the sawfish rescues; (b) the occurrence of sawfish on the floodplain; and (c) the relatedness (genetic similarity between two individuals) of stranded sawfish using genome-wide SNP data.

APRIL FIELD TRIP

There will be no field trip this month due to the easter long weekend. We look forward to hosting the next one in May.

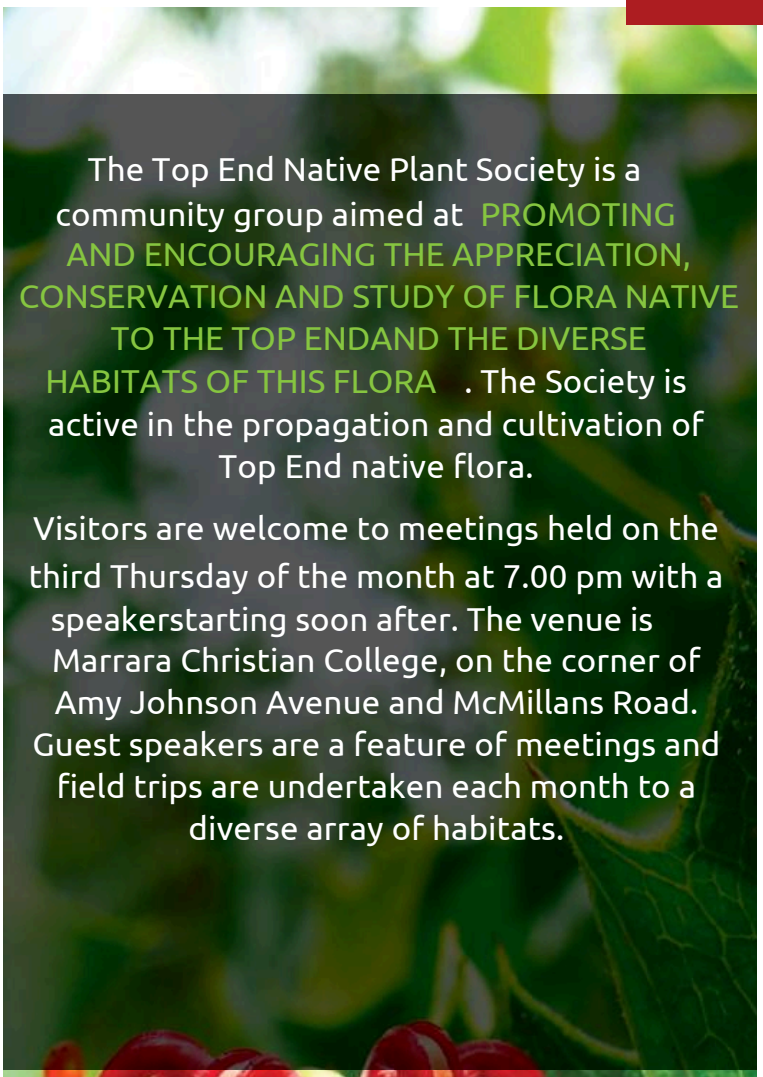
Top End Native Plant Society

BECOME A MEMBER!

Member discounts for plant sales.

MEMBERSHIP APPLICATION

(Due annually on 1st July each year)



The Top End Native Plant Society is a community group aimed at PROMOTING AND ENCOURAGING THE APPRECIATION, CONSERVATION AND STUDY OF FLORA NATIVE TO THE TOP ENDAND THE DIVERSE HABITATS OF THIS FLORA . The Society is active in the propagation and cultivation of Top End native flora.

Visitors are welcome to meetings held on the third Thursday of the month at 7.00 pm with a speakerstarting soon after. The venue is Marrara Christian College, on the corner of Amy Johnson Avenue and McMillans Road. Guest speakers are a feature of meetings and field trips are undertaken each month to a diverse array of habitats.

New Membership ☐ Renewal ☐

Membership fees are:

Individual Waged:	$35.00
Family Waged:	$45.00
Individual Unwaged:	$15.00
Family Unwaged:	$20.00

Payment: $_____

Family name:_____

Name/s: _____

Email address:_____

Postal address:_____

To pay online:

Bank : Bendigo Bank

Account Name: Top End Native Plant Society

BSB: 633 000

Account: 207 974 247

Note: Please include your name in the transfer reference and email the information in this form to topendnativeplantsociety@hotmail.com
Or pay in person at meetings or events where cash or card will be accepted.

Follow 'Top End Native Plant Society' on Facebook for information on current activities and events.

Contact us by topendnativieplantsociety@hotmail.com
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