

Top End

Native Plant Society

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April 2016 Newsletter

General Meeting Times

The next TENPS meeting will be held on *Thursday May 19th 2016*. Meetings are usually held at 7:30 pm 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?



Striga curviflora photographed at Girraween by Sarah Hirst.

Natives mean more!

www.topendnativeplants.org.au

Upcoming TENPS meetings

May 19th: Sean Bellairs - "Re-establishment of native vegetation following disturbance on the Howard Sand Plains"

June 16th: Nick Cuff - Heath vegetation in north Queensland.

November 17th - Ian Morris - TBA

TENPS Field Trips & other events

May, Sunday 29th: TENGO - visit this rural property in Girraween is located on the edge of the Howard sand plain and the rear of the property showcases a great display of flowering sand sheet herbs, whilst the front part features a multipurpose garden.

May, Saturday 14th - Joint field trip with Greening Australia on Howard Sand Plains

May, Sunday 29th - TENGO 150 Woodcote Crescent Girraween.

July, Sunday 10th - TENGO Melaleuca Road Howard Springs

NT Field Naturalist Club Events

Meetings are held at 7.45pm on the second Wednesday of each month except January in the Function Room, Level 3, Red Precinct 1 at Charles Darwin University Casuarina Campus.

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.

May Meeting: Wednesday 11th - Distributions of invertebrates in Kakadu National Park presented by Stefanie Oberprieler.

May Field Trip: Sunday May 15th - Bird watching at Corroboree Billabong with John Rawsthorne 7:00 am to ~ 12 noon.

March Meeting Report - Pilbara Conservation by Mike Clark.

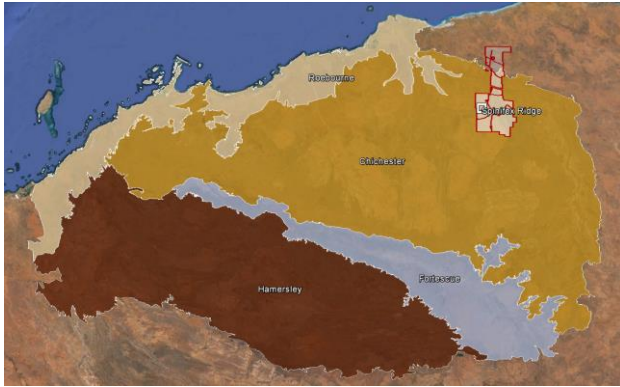
In his former role at Conservation Commission in 1990 Mike developed the vegetation map of the Territory, a huge project that took 5 years and was done from old Landsat imagery. This document is still the only veg map covering the whole Territory.

Mike joined Greening Australia in the NT where he was still involved with similar things; forestry, Aboriginal education and employment and Landcare but he found GA to be more flexible than the government. His focus moved west to the Pilbara around 2010 when he was offered an opportunity to work on a huge corporate social responsibility project in iron ore country by an ex head of GA who now worked for BHP. Mike is still involved with the project which is combines Aboriginal aspects and landcare in the form of a Conservation Action Plan (CAP).

GA has had over 30 years' experience with education and community so is well placed to develop such a plan. The CAP system is a transparent process that can be used at multiple scales and is often used by large groups to develop collaborative action plans across Australia, such as the federally funded Healthy Country plans on Aboriginal land. The structure of a CAP identifies assets and threats and develops priorities and strategies to manage the assets.

The Pilbara covers a huge area. The average rainfall is just 300mm and the stakeholders are mining, pastoral, parks and traditional owners of Aboriginal land. The CAP therefore includes representatives from GA, the Rangelands NRM, DPAW (the WA equivalent of Parks and Wildlife in the NT).

The Pilbara bioregion can be divided into 4 subregions; the Hamersley where most of the iron ore mining is, the Fortescue and Chichester which are primarily pastoral areas and Roebourne which is the coastal region.



The Pilbara CAP identifies and describes the following assets:

- Spinifex hummock grasslands 35% of the region mainly used for grazing by the pastoral industry. If the fire history is ok fauna is intact with species including bilby, brushtailed mulgara, and spectacled hare wallaby.



- Tussock grassland plains which represent only 3.37% of the region on alluvial plains. The grasslands are good for grazing and are often heavily grazed due to the more palatable grasses there. They also have high priority flora species. Since settlement these coastal plains and river flats have lost a lot of topsoil due to the disturbance of over grazing.



- Rivers, creeks and associated floodplains (5%) with river red gums and coolabah,

Eucalyptus vitrix and *Melaleuca argentea*. Many of these waterways are ephemeral with water flowing northwards to the coast during the Wet season but they provide a valuable refuge for wildlife such as bilby and quolls.



- Springs, pools and watercourses in gorges in the ranges. These isolated pools have rare or restricted range aquatic fauna and endemic plants such as the Millstream fan palm (*Livistona alfredii*). They are also important sources of water in the dry landscape.

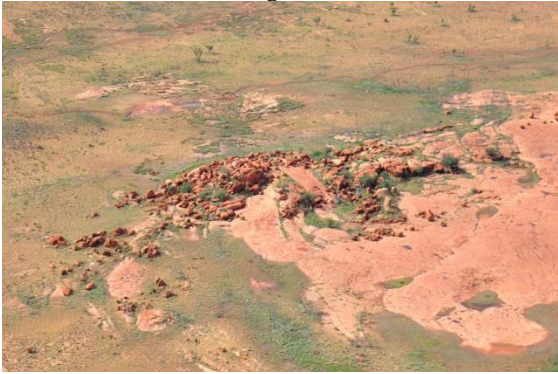


Photo – Briana Wingfield

- Inland mountain ranges and rocky hills make up 41% of the region and are mainly rugged hills with sparse vegetation and are dominated by fires. These areas are good for reptiles and include a number of endemic and threatened species such as ghost bats and Rothchild's rock wallaby. With iron ore mining entire hills can simply disappear!



- Rock piles and granites (similar to the Devil's Marbles) provide fauna refuges and have distinct vegetation.



- Other assets include:
 - Offshore islands
 - Sandy beaches / dunes
 - Mulga – the northernmost mulga in Australia
 - Fortescues Marsh – an EPA defined area and biodiversity hotspot surrounded by mines
 - Clay pans
 - Subterranean fauna

A threat matrix was developed with each asset and threat to help indicate priority areas. Threats identified included:

- Feral predator species (cats, foxes etc)
- Mining
- Feral herbivores (horses, donkeys, camels)
- Weeds of National Significance (WONS)
- Inappropriate fire regimes
- Clearing for development

Strategies for managing threats include a Pilbara wide integrated weed strategy to map distribution of weeds and the cost of control and focusing on WONS such as Parkinsonia, Mesquite, Buffel Grass, Kapok and Prickly Pear. Resources for this work were available through the Green army program and Aboriginal ranger groups. Similarly fire and grazing were also mapped using remote sensing. The fire strategy seeks to develop incentives for pastoralists and Indigenous groups and others to undertake fire management for improved cultural and ecological outcomes.

The CAP is currently in draft form and is out for community comment with a review and final release due in the coming months. The CAP process is cyclic with regular reviews and community consultation necessary to maintain the stakeholder ownership of this collaborative document.

The good news in the Pilbara is that there are no cane toads yet. Mike believes it is possible to halt the advance of toads along the 80 mile beach where the Great Sandy Desert meets the sea and there are no rivers or mangroves just sandy beaches which are unsuitable for toads. We will wait to see what happens when toads reach this natural barrier and hope that Mike is correct!

Thanks to Mike for this informative presentation.

*Article by Sarah Hirst
Photos supplied by Mike Clark.*

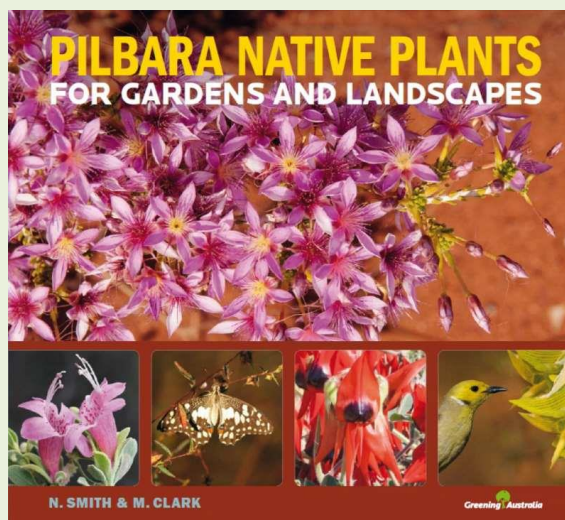


Grevillea agrifolia photographed in Marj King's garden by Russell Dempster during the TENGO garden opening event.

Greening Australia Resources

Resources produced by Greening Australia include the ALEP series of Conservation and Land Management learning and assessment guides developed primarily for Indigenous Rangers but equally useful for other CLM students.

For those interested in the Pilbara or native plants there is a new book published by Greening Australia Pilbara native plants for gardens and landscapes by Nick Smith and Mike Clark.



ANPSA visitors seeking local hospitality

As you are aware TENPS is now a member of ANPSA (Australian Native Plant Society (Australia)). We have two fantastic opportunities in May to meet some ANPSA members who will be travelling through Darwin and would love to meet some of the local plant society members.

If there TENPS members who would like to be involved, Jane Fountain will be in Darwin on the following dates:

Tuesday, May 10 afternoon/evening

Wednesday, May 11 day/evening

Arrangements so far:

Dave, Robyn and Ingrid are available for dinner each night and Robyn will take Jane for a walk along the foreshore on the Wednesday.

The second opportunity is with Nicky Zanen and her group (including Jane) who will be arriving in Darwin on the evening of Friday May 27 and staying at Parap Village Apartments until Sunday.

They are keen to meet with TENPS members on **Saturday evening (May 28)** for drinks or dinner if anyone is available.

On the Sunday May 29 they hope to drive to Kakadu and would like to enlist a TENPS member as a guide. That will be our next TENGO event; so we have encouraged them to visit the garden open on the way out to Kakadu, however details will be sorted later.

So ... is anyone up for dinner, coffee, meeting these ladies on any of the above dates? It would be lovely to offer them some local hospitality and is a great chance to chat and share stories with interstate plant enthusiasts.

For more information or if you are available to share some time with these visitors please contact Ingrid Nadjarian on 0439906094 or email ingridnadjarian@hotmail.com

March Field Trip: A Rural Retreat in Girraween.

A visit to Emily and Duncan's property in Girraween proved to be a very enjoyable morning exploring their bush block. Their modern energy efficient house is well placed on the block with bush creating a dense screen on three sides and a triangle of remnant vegetation a screen on the fourth side. A strategically placed patch of lawn adjacent to a fabulously wide deck provides protection from wildfire on one side of the house, a rock lined dry creek feature some protection on the other side, with the ends of the building protected by a vegetable garden and driveway. The creek line provides a further function of diverting overland flow past the house in big rainfall events. I presume a dry creek for much of this wet season, thought from occasional reports I hear from Duncan, Girraween has had far more storms than we have experienced in the northern suburbs. The drainage system also feeds into a small pond by the stairs that lead to the deck.

Another feature near the house is an enclosed area outside the bathroom that is adorned in greenery (*below*) and includes a rock pool with

waterfall when the rainwater tank overflows. All in all a pleasing landscaping effect.



Near the house the garden is supplemented with a few Top End species, but once away from the immediate vicinity of the house, the bush is almost all local species typical of Stringybark and Woollybutt forest. We were guided along a network of small paths with much discussion about the plants around us (below).



A highlight was the contribution of ideas from many members. Yet again I was impressed by the collective knowledge within the group. A good range of species occur on the block with a few species of wetter country sneaking in as we approached a distant corner.

Species observed included:

Acacia auriculiformis
Acacia dimidiata
Acacia hammondii (planted)
Acacia latescens
Acacia mimula
Acacia mountfordiae (planted)
Acacia nuperrima (planted)
Acacia oncinocarpa
Acacia simsii (planted)
Acacia stigmatophylla (planted)
Allosyncarpia ternata (planted)
Alloteropsis semialata
Alphitonia excelsa (woodland)
Ampelocissus acetosa
Andropogon gayanus (introduced)
Bossiaea bossiaeioides (planted)
Brachychiton diversifolius
Buchanania obovata
Cartonema sp.
Chamaecrista mimosoides
Cheilanthes sp.
Clerodendrum sp.
Clerodendrum tatei
Corynotheca sp.
Corymbia disjuncta
Crinum angustifolium
Crotalaria sp.
Cycas armstrongii
Drosera sp.
Erythrina vespertilio (planted)
Eucalyptus miniata
Eucalyptus tetradonta
Ficus aculeata
Ficus racemosa (planted)
Flemingia parviflora
Gardenia megasperma
Grevillea aurea (planted)
Grevillea decurrens (planted)
Grevillea goodii
Grevillea heliosperma
Grevillea pteridifolia
Grevillea pungens (planted)
Haemodorum sp. (planted)
Heteropogon triticeus
Hibbertia sp.
Livistona humilis
Lophostemon lactifluus
Marsdenia sp.

Mitrasacme connata
Mnesithea rottboellioides
Pandanus basedowii (planted)
Pandanus spiralis
Persoonia falcata
Petalostigma pubescens
Petalostigma quadriloculare
Planchonella sp.
Planchonia careya
Podocarpus grayae (planted)
Polygala sp.
Pouteria arnhemica
Sauropus sp.
Setaria sp.
Sorghum intrans
Spermacoce stenophylla
Sterculia quadrifida
Striga sp.
Stylosanthes sp. (introduced)
Syzygium armstrongii (planted)
Syzygium suborbiculare
Tacca leontopetaloides
Terminalia ferdinandiana
Tinospora smilacina
Trachymene sp.
Vigna lanceolata var. *filiformis*
Vitex sp. (planted)

We returned to the house to enjoy morning tea under the fans on the spacious deck. Emily and Duncan have put much thought into the design of their property, eloquently illustrated by a bird bath that automatically fills from condensation gathered off the roof!

Thanks to both of our hosts for a wonderful morning and stimulating thoughts about how to live more harmoniously in the Darwin environment.

Article by Dave Liddle, photos by Sarah Hirst.

New NT Plant Species Named For 'THE MARTIAN'

New species are often noteworthy, yet when it comes to plants they rarely compete with the appeal of warm fuzzy mammals or the fascination with dangerous reptiles. Yet there are many potentially new plant species from

the Northern Territory in the process of, or waiting to be described – when time and resources permit. Some 14 or so new plant species or new Northern Territory records are discovered in the NT each year.

Recently a plant species new to science, *Solanum watneyi* Martine & Frawley, has been described by Chris Martine, Associate Professor of Biology at Bucknell University, and colleagues, and published in the online scientific journal *PhytoKeys* as a 'new bush tomato species'

http://phytokeys.pensoft.net/articles.php?id=6995&display_type=list&element_type=2

It is apparently endemic to an area in and around Gregory National Park in the Northern Territory.

Until formally described, the species was known as *Solanum* sp. *Bullita* after long-time Northern Territory botanist Peter Latz based in Alice Springs recognised that some collections attributed to *Solanum chippendalei* were probably a new species. Chief Botanist of the NT Herbarium, Ian Cowie, assures the authors that Latzy has plenty of plant species associated with his name so will probably not miss this new *Solanum* not being named after him!

The species instead has been named after the character Mark Watney who is played by Matt Damon in the movie *The Martian*. The hero survives being stranded on Mars by growing potatoes – a plant from the same genus, *Solanum*. Chris has previously noted that in interviews, Damon has spoken of his hope that some youngsters 'geek out on the science' in the movie and are subsequently inspired toward scientific careers ('Hollywood twist given to discovery', *The Daily Item*, 11 October 2015, pp. 2-3.)

According to Martine, Damon and Watney have been officially brought into the fold as the Botanical Society of America will be extending an honorary membership to Damon as a sign of appreciation for portraying botany and botanists in such a positive (and heroic!) light.

The 'holotype' specimen of this now world famous species was collected by Chris and his wife Rachel from the Judburra/Gregory National Park. It will be securely housed in the

vault of the Northern Territory's Palmerston (DNA) repository with duplicates (isotypes) in Pennsylvania and Connecticut. A 'type' specimen is the specimen on which the name is based.



Solanum watneyi (photographer C. Martine, 2015).

Plant grown from seed propagated at the Rooke Biology Research Greenhouse, Bucknell University, Lewisburg, Pennsylvania, from Martine field collection (4067) made on the Bullita Stock Route, Judburra/Gregory National Park in May 2014.

Desperately seeking Vachellia...

As part of research into biological control of weeds Di Taylor a Biocontrol Scientist with Queensland Department of Agriculture and Fisheries, Biosecurity division is interested in *Vachellia* species (formerly the Acacias with compound leaves).

There are numerous species they would like to test but some species have been difficult to procure. Di is hoping to locate someone who can assist with obtaining these species. Ideally they want plants, but it is probably more likely that they would pay someone to field collect seed, as they have been unable to source any.

The species of interest are:

<i>Vachellia clarksoniana</i>	<i>Vachellia pachyphloia</i>
<i>Vachellia ditricha</i>	<i>Vachellia pallidifolia</i>
<i>Vachellia douglasica</i>	<i>Vachellia suberosa</i>

If there is anyone who may be able to assist or point her in the right direction, it would be greatly appreciated.

Please contact Di Taylor at: 07 3255 4460/4489 or email: di.taylor@daf.qld.gov.au



Empusa habenarina photo by Sarah Hirst.

Wanted: Orchid photos to share?

Reto Zollinger & Yvonne Ingeme are seeking photos of native orchids for a photographic display of native orchids from each state and territory at the Australian Plant Society 11th Fred Rogers Seminar held in Victoria in October 2016. The theme of the seminar is Native Terrestrial and Epiphytic Orchids.

They have found native orchid images of excellent quality for identification purposes on the TENPS website including; *Empusa habenarina*, *Dipodium stenocheilum*. They are also seeking photos of epiphytic orchids such as *Cymbidium canaliculatum*, *Dendrobium dicuphum*.

Images would need to be at least 1.5MB and preferably higher for good print reproduction as they will be printed on good quality A4 paper.

If you have quality photos of orchids that you would be happy to contribute please contact Yvonne at: yvonnereto@hotmail.com

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