

LAND FOR WILDLIFE NEWS



Newsletter of the Land for Wildlife Scheme in Alice Springs Municipality, NT

Vol.1 No.5 November 2003

Land for Wildlife Update

Update

The new coordinator, Danae Moore, has been kept busy with continued community interest in the *LfW* project. There have been 4 new properties registered since September, increasing the total number of properties to 27 and the area to 1765.74 ha within the Alice Springs municipality.

Future

Lynn Day has kept in touch with the Envirofund office in Canberra, monitoring the progress of the Envirofund application to assist with funding to continue the *LfW* program in Alice. The assessment process has been completed, and the recommendations are with the Commonwealth Minister for his approval. The final announcements are expected in early December. Once we have received notification the next steps in the future of *LfW* within Alice Springs can be decided. In the meantime, continue to spread the word about the value of conservation on private lands and encourage property holders to investigate Land for Wildlife.

The NT Govt has increased its focus on off-park conservation with the designated duties for two officers in the Territory to include promotion and coordination in this field. It is unlikely they will take on a coordination role for *LfW*, but they will facilitate its ongoing role in conservation where they can.

Cat traps

With the *LfW* pilot project ending at the end of 2003, all cat traps that have been provided by *LfW* as a result of the devolved grants program must be returned to Alice Springs Town Council (ASTC) by December 31st. Sue Ripley is willing to assist the collection of cat traps, please contact her on 89 525 073. The cat traps will then be made available to the public free of charge through ASTC. Sue Ripley's role in coordinating the cat-trapping program has yielded a good result in reducing feral cats.

Recent Activities

In association with local experts, we are developing a guide to 'key indicator species' of plants, reptiles and birds. The guide aims to encourage and assist property owners to evaluate the health of their property over the long term, assessing the success of management practices that are being used.

At this time of year training workshops and community events begin to wind down. The continuation of *LfW* workshops will begin again in the new year.

Danae, Marc and Bill at Low Ecological Services would like to wish everyone a happy and safe Christmas.

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Workshops & Events

2003 December

29th December, Saturday.

ALEC Annual General Meeting. An open invitation to the ALEC annual general meeting, which will be held at the ALEC Office on Hartley St. at 4:30 pm. For further details contact the ALEC coordinator on 89 522 497.

7th December, Sunday.

Alice Springs Field Naturalists Club - End of Year breakfast at the Telegraph Station. 8:30 am.

Alice Springs Field Naturalists Club – Bird Watching at the Sewage Ponds - early morning walk. Contact Bob Read on 89 529 211 for proposed date and further information.

19th December, Friday

Alice Springs Town Council is very pleased to be coordinating an "Outback Christmas Parade" as part of this year's Christmas Carnival. Celebrations in the Todd Mall begin at 4pm.



This newsletter has been produced by *LfW* coordinators Low Ecological Services with the assistance of the Alice Springs Town Council and the Commonwealth Government's Natural Heritage Trust.



Natural Heritage Trust
Helping Communities Helping Australia

Watch Out For

Caltrop *Tribulus terrestris*

Origin and distribution

The native range of caltrop extends from the Mediterranean region through Asia, Africa and subtropical Australia. It occurs throughout all mainland states of Australia. Within the Northern Territory it is fairly widespread south of Katherine, particularly along stock routes. It is a weed of pastures and is especially troublesome because of the spiny fruits, which can injure the feet of animals, and humans.

The native species *Tribulus eichlerianus* s. lat. (Bindieye) is easily confused with *Tribulus terrestris*, and the taxonomy is yet to be resolved.

Habitat

Caltrop occurs within warm-temperate regions on light textured soils. In Australia it has become a weed of overgrazed pastures, cultivated crops, roadsides and neglected areas particularly in areas of high summer temperatures and dry sandy soils where there is little competition (Parsons & Cuthbertson, 1992).



Description

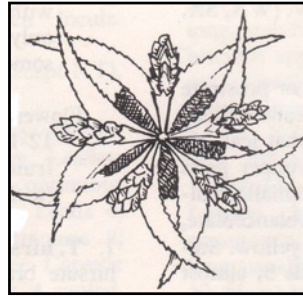
A branching prostrate, summer growing annual herb which reproduces by seed.

Stem: Numerous branches which are green to reddish brown, radiating from a crown, prostrate and finely haired.

Leaves: Each leaf consists of 3-8 pairs of unequal, oblong to ovate opposite leaflets; upper surface darker than lower.

Flower: Small (8-15mm diameter), bright yellow, 5-petaled, born singly, short lived.

Fruit: A woody star shaped burr with sharp ridged spines, splitting into 5 wedged shaped segments, each segment with 2 unequal pairs of spines, longer near the tip and shorter near the base.



Seed: Yellow, more or less ovoid, 2-5mm long, 1-4 in each segment thus 20 per burr.

Root: 'Woody, long, slender, branched taproot with many fibrous lateral roots'

(Parsons & Cuthbertson, 1992).

Control

A summer-growing herb, which germinates after rainfall in the warmer months, producing a deep root system within a few weeks. Seeds will germinate on the soil surface or from depths of 5 cm. Seeds deep in heavy soils do not germinate as rapidly. Under favourable conditions it spreads profusely and seeds rapidly (Cunningham et. al. 1981).

Manually removing Caltrop before seed has set is an effective treatment, however, the process must be repeated several times because of successive germinations from seed stores in the ground. In situations where this control method is not practical, chemical control is effective. 'Ametryn is the most widely used herbicide; it is non-selective but can be used with care in built up areas' (Parsons & Cuthbertson, 1992). Herbicides are most effective on seedlings.

References:

- Auld B.A. and Medd R.W. (1987), *WEEDS: An illustrated botanical guide to the weeds of Australia*. Inkata Press. Melbourne, VIC.
- Parsons W.T. and Cuthbertson E.G. (1992), *Noxious weeds of Australia*. Inkata Press. Melbourne, VIC, Sydney, NSW.
- Cunningham G.M., Mulham W.E., Milthorpe P.L. and Leigh J.H. (1981), *Plants of Western New South Wales*. N.S.W Government Printing Office, Australia.
- Jessop J. (1981), *Flora of Central Australia*. A.H. & A.W Reed Pty Ltd, Sydney, NSW.

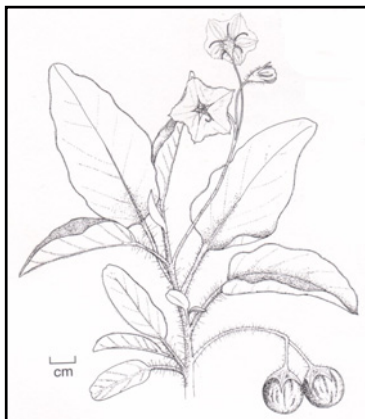
Bush Tucker

Do you have native bush tucker on your property?

In central Australia plant foods were and continue to be a very important part of the Aboriginal diet. A visitor to the area would find it hard to imagine that there is a wide variety of plant foods available in arid Australia. There are at least 140 different plant species that are still utilised as food in the centre, of these fruits, seeds and tubers are important staple foods.

Solanum is widespread throughout central Australia and is found in most habitats. Some of the plants species in this genus provide an important fruit staple. Of the species found in central Australia only half are edible, so be cautious when sampling bush tucker.

Solanum ellipticum is one species that is edible and is common on most foothills and lower sand slopes within the region. It is a spreading sub-shrub with pale green, velvety leaves with purple flowers. The fruits are at first green with purplish stripes and turn pale



yellow when ripe. The fruits are produced when moisture conditions are suitable and new growth is encouraged by fire. Some Europeans consider the fruit to be bitter, however, is a favourite for Aboriginal people (Latz, P. 1995).

For detailed information on Aboriginal plant use refer to *Bushfires and Bushtucker – Aboriginal Plant use in Central Australia*, written by Peter Latz.

Spotlight On

The Beauty of Tree Habitats

Tree habitats are important to many insects and animals. By looking after trees, both young and old on your property, you are helping to provide and maintain important habitat for numerous creatures.

Below are examples of just a few creatures that rely on tree habitats.

Aphids are considered the laziest boarders of all. They stick their needle like mouths into the sap stream of young leaves, allowing the tree to pump them full of food. Many **ants** are able to take advantage of the sap oozing from the aphids body to enjoy an easy meal themselves.



Millions of tiny seeds shower the ground providing a huge harvest for **ants**, which is gathered eagerly and stored underground.

The special needs of nesting **birds** are met as they rely on the leafy roof that shades and hides their young from predators.

To bush creatures flowers signal food. Parrots arrive early to eat unopened flower buds and return later with the bees, ants and other birds to feast on the flowers, nectar and pollen.

When a termite eaten branch snaps off a tree, nesting hollows are formed for parrots, owls, bats, and many smaller animals. Almost one in five of Australia's bird species depend on such nesting hollows.

Parasitic shrubs, such as **mistletoes**, attach themselves to a host tree from which they can obtain water and nutrients, providing a variety of food that can be sourced from one place.



As **Huntsman Spiders** are most active at night, they are grateful for the loose bark that provides them with shelter during the day.

Termites are kept busy constantly eating through the trees dead inner wood, carving out new homes for other guests.

Being night foragers, **bush cockroaches** use the fallen leaves as their daytime resting place.



In hollows of fallen branches **lizards** find snug homes for winter hibernation and in summer they provide a place to cool off or a quick escape from predators.

Hidden from view, **borer grubs** eat for months in the trees woody sap-stream until they leave as beetles or moths.

Caterpillars visit for a month or two devouring leaves as they quickly move towards the next stage of their life cycle, becoming a butterfly or moth.

Most importantly trees are continuously replacing the oxygen used by all animals and removing carbon dioxide from the air.

References:

Natures Boarding House. Northern Territory Parks and Wildlife Commission, NT Government, Darwin.

Images from Natures Boarding House Poster.

Eremophila and Pollinators

Written by Colin Jennings, from the newsletter of the Australian Plants Society (South Australia), August 2001.

Eremophilas are not only adapted to their arid/semi-arid environment but are also adapted to specific pollinators, which is perhaps one of the reasons why so few fruits found in garden situations contain viable seed. The situation is not that much better in the wild at times, and this can possibly be attributed to the

seasons, lack of pollinators or a combination of both factors.

Approximately 75% of eremophilas are insect pollinated (entomophilous), with the remainder being bird pollinated (ornithophilous), or adapted for pollination by either.

Eremophilas have flowers which generally are described as being tubular; in fact the common name for many of the species has the word "Fuchsia" included. and we all know how tubular the flowers of that genus are.

Eremophilas which have long tubular segments are as a rule often coloured red, orange, yellow, brown or green, which is within that part of the spectrum mainly used by birds in their detection of suitable food sources, chiefly nectar. The single upper 'lip' which is often four lobed, and the usually narrow lower 'lips' are strongly recurved, as is seen in *E. decipiens*, *E. duttoni*, *E. glabra* etc. The flowers are sometimes spotted; although this is sometimes random and irregular, as in *E. maculata* and *E. alternifolia*. The sepals are often large and brightly coloured, which allows for the flowers to be seen by the birds at a distance - an example is *E. miniata*. Such flowers are generally without any noticeable scent. Hairs within the tube are not very large or obvious.

Nectaries are generally at the basal end of the tube, and in their effort to extract the rich sugary nectar from them, birds disturb pollen from the strategically located stamens, leaving a dusting on their napes. In most cases the stamens are strongly exerted, which also enables the pollen to be transferred easily. On visiting the next flower the transfer of some of this pollen is made to the stigma: pollination is complete and if all is favourable, germination of the pollen grain occurs and ultimately fertilisation of the ovules within the inferior ovary takes place - and seeds result.

Insects are the vectors responsible for the pollination of eremophilas which have much shorter tubes, and which in general have flower colours ranging from the blue to violet end of the spectrum and include white - insects are also able to make use of the ultra-violet (a region of the spectrum with shorter wavelength than the visible, outside of the human visible limit), which is understood to be very important in the targeting by insects of their food sources.

The insect pollinated flowers usually have a bifid upper 'lip' with the three lower ones lobed, often with the centre one wide and flat, making a suitable landing site for the insects. The stamens are often crossed or hooked across the opening or inside the throat of the corolla, this ensures that as the insect makes its way to the nectary, it must brush past them.

In some species the hairs are so dense that the insect must struggle to enter the tube, thus ensuring some pollen transfer. Hairs seem to be variable, yet occur in tufts when they exist, as in *E. willsii*. The segments sometimes have quite well defined streaking along the lateral walls, and if spotted have the spots rather strategically arranged in bands or along the lateral walls to attract the insects to the centre of the flower. This can be noticed in *E. foliosissima* where spotting appears in the tube and *E. elderi* in which banding is seen.

A further refinement of this group, in sub-genus *Pholidia*, is that there is often patterning or spotting on the throat, which by contrast with the insect pollinated group, is quite regular and the lines and dots are there to ensure that the insect treads the 'straight and narrow'. It is most interesting to look at photographs of flowers taken with film sensitive to UV light: quite amazing 'tracks and paths' appear, which are otherwise invisible to the human eye. Of further interest is the fact that the spotting on the bird pollinated flowers is not activated in UV light, yet the spotting in the insect pollinated species is activated in UV light and in addition the hairs are noted to fluoresce in the latter.

The sepals are usually small, green and have no attraction for the insects. Nectar production is generally minimal and the sugar concentration is low. Scent is a feature of a small number, being more noticeable in the evenings when nocturnal insects, such as moths are active; such species are also found to have poorly developed spotting and rely on scent to attract pollinators.

It is also interesting to note that there are also eremophilas which do not fit the colour criteria mentioned above. Some eremophilas are almost white, including *E. laanii* and the white colour form of *E. racemosa*, yet these I have seen being regularly visited in my garden by New Holland Honeyeaters. These flowers have elongated corollas and are thus suited to bird pollination. Some of these 'non-descript' types of flowers have stamens which just project to the end of the corolla and are at times slightly crossed - apparently able to make the best of both types of vectors.

Another feature of eremophilas which has attracted some attention is the problem which some growers have experienced with bees damaging their plants. A number of *Eremophila* species are quite viscid, having a very waxy exudation produced from their new buds, both foliage and flower. This also presents a problem when certain species are cut to take cuttings for propagation, at times methylated spirits has to be used to remove this very sticky 'mess'. Bees are attracted to the waxy substance and in their effort to remove it from the leaves and flowers cause quite severe damage to the flowers, often cutting holes into the side of the flower to get at the material. The

attraction is not the nectar, but appears to be the exudant alone. The end result is that the plants turn black and often die back at the tips. It has been suggested that the bees are collecting the material as the raw material for the production of propolis, a kind of 'bee glue', a red-coloured resinous substance used to stop up holes in the hives and in the repair of hives. They are also known to collect this sticky material from the buds of other plants. Eremophilas most affected by these attacks include *E. abietina*, *E. vicida* and *E. sargentii*.

Two rather similar species, so far as vegetative features are concerned, are adapted to different pollinators. *Eremophila stenophylla* is a 'typically' bird pollinated flower, being elongated and tubular, yet *E. dalyana* has a more flattened tubular form and is insect pollinated.

Collectively, members of the genus have also been referred to as 'emu bushes'. It was popularly thought that the seeds would only germinate if they passed through the gut of an emu. Emus are known to eat the fleshy drupes. Whilst it is well known that the seeds of eremophilas are difficult to germinate, it has been found that fruits collected from the droppings of emus have produced no better, or worse, germination rates than from those fruits which have never been near an emu. Fruits of eremophilas seem to have a chemical inhibitor which may be removed by soaking or ageing or a combination of both. Mechanical abrasion seems to be a significant factor in the presentation of the fruits in the wild to the elements which stimulate germination, often after fire and thunderstorms or associated flooding.

Learn more about Eremophilas by visiting the Olive Pink Botanic Garden and enquire about the Australian Plant Society while you are there.

Seed Collection

When revegetating your property careful consideration should be given to those plants that are chosen. It is best to choose plants that are locally native, those that are naturally occurring within a given region. One way of ensuring this is to harvest seed from your property for germination or spreading around your property.

Seed harvest will vary from region to region and year to year, depending on weather patterns. A good place to start when interested in seed collection is to observe when shrubs and trees are in flower. This way you can prepare for seed collection at a later date. When collecting seed it is important to remember a few general principles:

- Always ensure that fruits are mature and that pods are ripe. A good indication of seed maturity is a change in colour, mostly from

green to brown, or when pods are beginning to split

- When collecting seed it is important not to take more than 10% of the seed present. This can inhibit natural regeneration and deplete food sources of many insects and animals
- Collect seed from the entire plant
- Avoid removing seed from plants that are rare in a particular area.

For further information on seed collection and germination refer to *What Seed Is That* written by Neville Bonney.

Reference:

Bonney, N. (2003), *What Seed Is That - A Guide to the Identification, collection, germination and establishment of native plant species for central southern Australia*. Finsbury Press.

Books Worth a Look



"What Garden Pest or Disease Is That – organic and chemical solutions for every garden problem"

For those of you who have a vegetable garden or are revegetating, *What Garden Pest or Disease Is That*, by Judy McMaugh, provides an environmentally friendly way to plan and maintain pest and disease free plants. The book illustrates each pest and disease for easy identification, includes information on chemical control with organic alternatives and an A to Z guide to plant care.

"What Seed Is That"

Written by Neville Bonney, *What Seed Is That* provides a guide to the identification, germination, and establishment of native plant species for Central southern Australian landscapes. Many plants listed in this book are also found within the central arid zone region.

Australian Plants

<http://groups.yahoo.com/group/australianplants/>

To access the wealth of knowledge within this website you must become a member. It houses a general discussion group for Australian Native Plants, discussing a wide range of topics including aspects of gardening, horticulture, propagation and habitat planting.

Road Drainage Whoa-Boy Construction

An effective way to control run-off and erosion on a road/driveway, is through the construction of a 'Whoa Boy' or water diversion mound. For those that were able to attend the soil conservation workshop, this should be a familiar term. The following information provided by Department of Infrastructure, Planning and Environment (DIPE) outlines the advantages of a 'whoa boy' and how they are best constructed.

Whoa boys are trafficable diversion banks, which are constructed to divert water away from potentially erodible areas or eroded areas that have been rehabilitated and also allows for vehicle access.

Whoa boy designs depend on slope, catchment, soil erodibility and water diversion requirements. There are two ways in which a whoa boy on a road or vehicle track can be constructed.

- By cut and fill – a line is ripped across the road and easement at a grade of 0.3% - 0.5%, and a shallow channel is cut along this line. Excavated material is dumped on the downslope side of the channel, which is then compacted and smoothed out to form a bank with even batters and a level top. Refer to Figure 1.
- Using imported soil material to construct a raised bank to create a drain with a grade of 0.3 – 0.5% along the upslope edge of the bank.

To aid trafficability, an approach and departure ramp can be cut into the bank as illustrated in Figure 2.

The whoa boy should aim to direct water run off into undisturbed vegetation, or into an existing drain, (care needs to be taken to ensure that erosion in the existing drain does not become active). Alternatively a level sill can be constructed at the end of the extended bank to aid the spread of water.

A level sill is a shallow excavation at the end of the bank, typically 5-7m long, 3m wide and 0.3m deep. The entire downslope outlet of the sill is constructed at the same level allowing water to flow evenly along the length of the downslope edge of the sill. There should be no disturbance to the ground surface downslope of the sill outlet. Figure 3 illustrates a whoa boy and level sill.

If whoa boys are designed properly they reduce the need for higher maintenance drains, which helps to keep costs to a minimum.

For further information about controlling erosion on your property contact the Natural Resource Management Division, through DIPE. Also ask about the Handbook for Rural Block Holders.

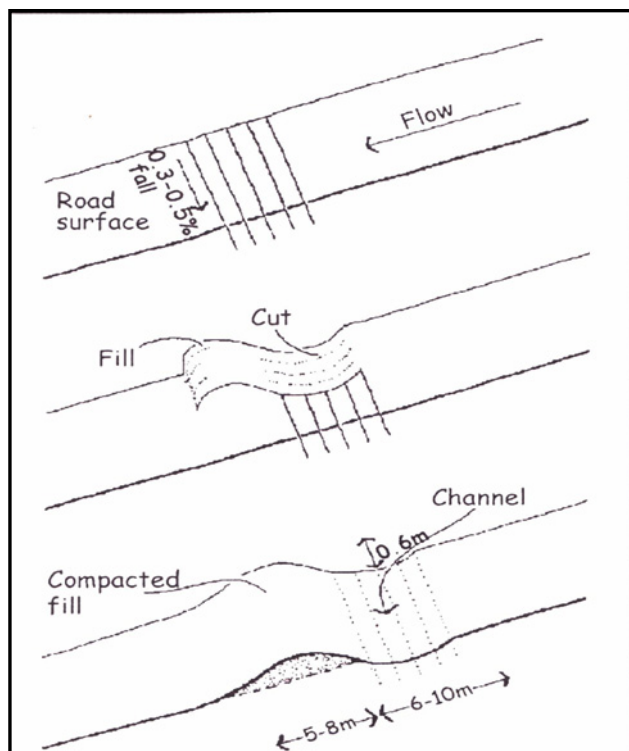


Figure 1 Whoa boy construction

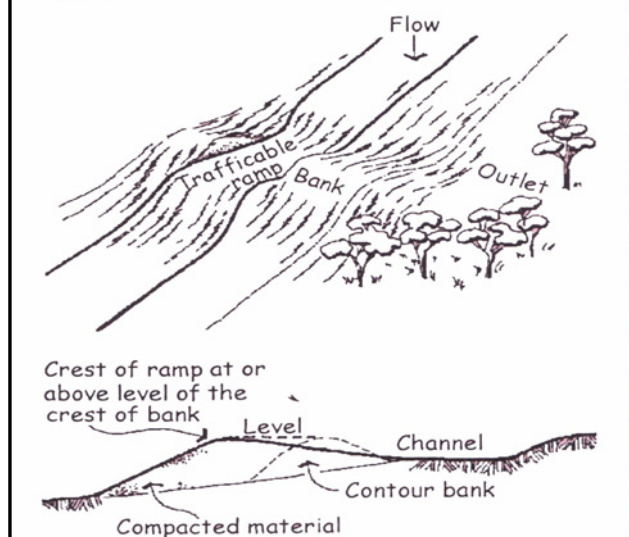


Figure 2 Whoa boys - vehicle track

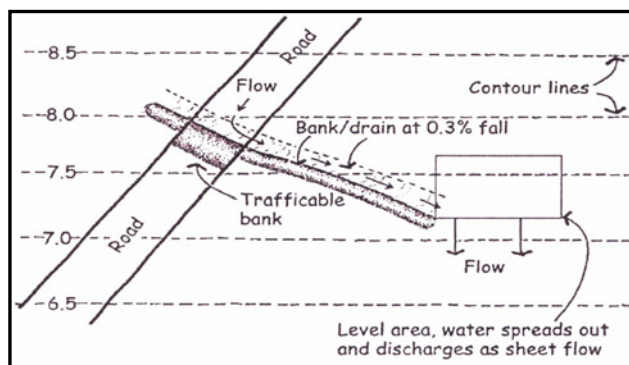


Figure 3. Whoa boy and level sill.