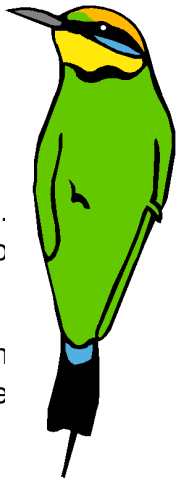
GARDEN FOR WILDLIFE



Sweet Kisses, Eternal Life – Mistletoe in Alice Springs

By Tim Collins, Alice Springs Desert Park

Mistletoe is the common name applied to a group of parasitic shrubs attached to tree branches. Different species of Mistletoe occur around the world with about 85 species of Mistletoe native to Australia.

There are 17 different types of native Mistletoe found in the arid zone of the Northern Territory, with 11 species occurring in the Alice Springs municipality. Interestingly, in Britain and Europe where Mistletoe has been embraced as an important mythological plant, there is only one species.

Mistletoe species occurring in the Alice Springs municipality:

Scientific Name	**Common Name**
Amyema bifurcata var. bifurcata	Twin-fork Mistletoe
Amyema gibberula var gibberula	n/a
Amyema hilliana	Ironwood Mistletoe
Amyema maidenii ssp maidenii	Pale-leaf Mistletoe
Amyema miquelii	Box Mistletoe
Amyema preissii	Wire-leaf Mistletoe
Lysiana exocarpi ssp exocarpi	Harlequin Mistletoe
Lysiana murrayi	Mulga Mistletoe
Lysiana spathulata	Flat-leaved Mistletoe
Lysiana subfalcata	n/a

Amyema maidenii in *Acacia aneura*

Photograph By R. Grund

Amyema quandang Grey Mistletoe also occurs within the MacDonnell Ranges Bioregion.

Friend or Foe?

Many scientists see Mistletoe as important to the health of an ecosystem as it provides food and shelter to animals, particularly in dry times when other resources are rare. Some people see Mistletoe as a threat to the trees on their property and often try to remove it by cutting off affected branches. Trees which are infested with masses of Mistletoe plants are often old and stressed individuals. Cutting and lopping of branches on old trees can cause greater stresses to the tree than the original Mistletoe! Mistletoe is rarely responsible for the death of a tree but is usually an indicator of an unbalanced ecosystem with changed hydrology, fire regime, invasive species or old age. Mistletoe leaves were an important food for the locally extinct Brushtail Possum, and are often browsed by cattle and Camels.

There is not a lot of practical information available about what to do if your favourite tree is slowly becoming infested with Mistletoe. Lopping branches and herbicide application may cause more harm than good, so perhaps the best approach would be to try and improve the overall health and vigour of the tree and take the philosophical point of view, enjoy looking at the birds and Mistletoe flowers, and try to steal the occasional kiss.

Mistletoe Seeds

Mistletoe seeds are described by seed biologists as ‘recalcitrant’. Unlike many other native plant species whose ‘orthodox’ seeds persist for years in the soil seedbank, recalcitrant seeds cannot survive drying, and so the Mistletoe seeds must germinate and establish within weeks or die!

The germinating Mistletoe seeds secrete enzymes that produce holes in the bark of branches. The seed then sends a modified root into this hole which eventually forms a knobbly ‘haustorium’ (where the mistletoe root and the tree are joined). Once the Mistletoe has established, it draws up water and minerals from its host tree that would otherwise have fed that branch. Mistletoes also supplement these with sugars produced by their own leaf photosynthesis. Established Mistletoe tends to grow quickly unless it is killed by fire or eaten by predators.

Mistletoe may be propagated by removing the skin of the fruit and placing the seed on the branch of a host plant. Some Mistletoe species are very fussy about the correct species of host whereas others are less so.

Identifying Mistletoe

The Flora of Central Australia has a reliable key to identify Mistletoe species; however, the genus *Lysiana* can be difficult as some species have features which require a trained eye to distinguish.

If you are keen to impress your friends there is a simple method to determine the genus of local Mistletoe. The *Amyema* have petals which are divided all the way to the base. Mistletoe

in the genus *Lysiana*, have petals which are not divided to the base but fuse a short way down to form a floral tube.

Want to Know More....?

Alice Springs Desert Park's "The Mistletoe Story" is part of regular Guide presentation, with information on the biology of Mistletoe and its uses by Arrente people.

Also websites http://www.anzwers.com.au/ (the Australia NZ search engine) look up "mistletoe Australia", especially the local study by Nick Reid and Mark Stafford Smith on mistletoe in *Acacia victorii*.

Amyema preissii

Photograph By R. Grund

References

Albrecht, D., and Pitts, B. (2004) *The Vegetation and Plant Species of the Allice Springs Municipality, Northern Territory.* Greening Australia and the Department of Infrastructure, Planning and Environment, Alice Springs.

Urban, A. (1990) *Wildflowers and Plants of inland Australia.* Portside Editions PTY LTD, Victoria.

Jessop, J. (ed) (1981) *Flora of Central Australia.* Reed Books PTY LTD.

In early December a Bat Information session was held over two evenings. The first evening was held at the Telegraph Station with wildlife experts Michael Barritt and Chris Pavey from the NT Parks and Wildlife Service providing us with a great deal of information about the bats of the world, Australia and of course Alice Springs. We learnt about the different techniques used to survey bats, and the importance of their conservation.
The second evening saw our group of dedicated bat enthusiast travel south of Alice Springs to observed Michael and Chris surveying microbats in their natural habitat. We viewed a

couple of species up close thanks to the success of the Harp Traps and we gained further information about the microbats skills in echolocation.

Inland Cave Bat *Vespadelus finlaysoni* Photograph by Barritt/May 2007

Lesser Long-eared Bat *Nyctopilus geoffroyi* Photograph by Barritt/May 2007

Thankyou to Michael and Chris for sharing your Bat knowledge with us and for taking us on a fantastic bat adventure and thankyou to the Garden for Wildlife and Land for Wildlife members who attended the two evening, we had over 30 people on the first night and approximately 25 on the second, it was a great turn out! We will all be looking out for bats in tree hollows from now on as we pass by the potential bat roost locations.

I hope that everyone had a lovely Christmas and that you enjoy the coming New Years Eve celebrations!!!

We now have 86 Garden for Wildlife members and numbers are still increasing. Thank you to everyone for supporting the scheme in its first year and we look forward to providing you with more valuable information about our local environment and dependent wildlife in 2008.

If you have not returned your registration form but have paid your $10 member fee, please visit our website www.lowecol.com.au, copy and complete the simplified registration form into an email and forward it to lfw@lowecol.com.au so that we can finalise your membership in early 2008 and provide you with your member pack.

Happy New Year!

Thank you to our financial sponsors Low Ecological Services, Power and Water and the NT Government and Alice Springs Town Council.

Thank you to all the Alice Springs community organisations that have assisted the scheme by offering discounts to members and for providing equipment at discount prices for workshops.

Your support has enabled the scheme to succeed in becoming an important environmental conservation network for the Alice Springs community.

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