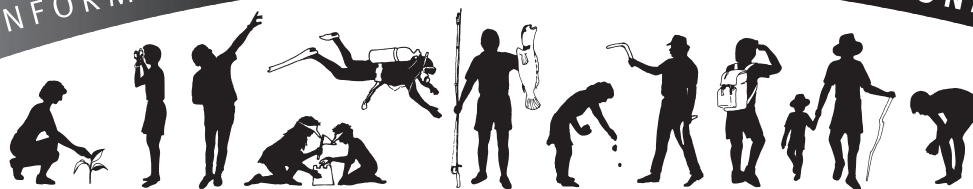


# TROPICAL TOPICS

AN INFORMATIVE NEWSLETTER ABOUT THE ENVIRONMENT



## Notes from the Editor

In response to requests from readers, this *Tropical Topics* has a central fact sheet on bush medicine. Natural medicines have been in the headlines recently and there is a growing awareness that just because a medicine is based on a plant, this does not necessarily mean it is safe. Many plants contain very potent chemicals and, as with bush tucker, experimentation can be dangerous.

As in pharmaceutical drugs, if taken in low doses, a chemical compound may be beneficial, but there can be serious consequences if excessive doses are taken. Traditionally, while Aboriginal people used many plants and many parts of plants externally as cures, they took relatively few internally. Determining correct doses would have been difficult.

I would like to thank Paul Gadek, James Cook University and Paul Davis, Department of Natural Resources and Mines, Atherton, for their help with this issue.

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## Plant destroyer

*Phytophthora cinnamomi* is a destructive disease blamed for 'forest dieback' throughout the world. It is thought to have been introduced into Australia by early settlers and has since had a severe impact across much of southern Australia and north Queensland. Forest dieback was first noticed affecting native jarrah forests in Western Australia in 1921, but *Phytophthora cinnamomi* was not identified as the cause until the late 1960s.

Once thought to be a soil fungus, *Phytophthora cinnamomi* is now believed to be closer to some algal and protozoan organisms. It feeds on plant tissue, killing its host by interfering with its ability to take in and circulate water. It is spread easily by water and in moist, infected soil which may be carried on vehicles, earth-moving equipment, footwear and by animals or with plants which are moved. Many dieback sites are near roads. Once established it can form a 'front of death', advancing through forests and heathlands killing all the vegetation in its path. It has been dubbed the crown-of-thorns of the forest.

Four spore types are produced as part of the *Phytophthora* lifecycle. Some can remain dormant in the soil for many years. Others – zoospores – can swim through water trapped between soil particles and are positively attracted to plant roots. True fungi do not produce zoospores. *Phytophthora* can be present in the soil without showing any obvious symptoms in the vegetation, causing low levels of root infection which many species can tolerate. However, it can be triggered

to a 'virulent' state which can kill all infected plants: a dieback patch.

*Phytophthora* was found by researchers in north Queensland rainforests in 1975. However, apart from causing isolated patches of dieback, it does not seem to have been as destructive as elsewhere. Nonetheless, over 200 sites containing dieback patches have been identified in four main areas of upland forest; the southern end of the Carbine Tableland around Mt Lewis, the Lamb Range north of Lake Tinaroo, around Tully Falls/Koombooloomba and the Kirrama/Cardwell Range. These sites vary from less than a hectare to over 10ha in size. Forests most at risk seem to be upland rainforests, particularly simple notophyll vine forests, between 750m and 1050m, on soils derived from acid igneous rocks. However, these areas are where studies have been concentrated and *Phytophthora* has also been found in other forest types, on basalt soils and at sea level.

Awareness is the key to control. We can minimise the spread of this dangerous disease by:

- Not using unsealed roads in wet conditions.
- Following conditions on permits, obeying signs regarding restricted access areas and respecting locked gates.
- Not transporting soil from one location to another.
- Thoroughly washing down vehicles after using unsealed roads.
- Cleaning boots and tent pegs during and after bushwalking and camping, and sterilising with metho at the end.

The name *Phytophthora* means 'plant destroyer'. There are over 50 known species of *Phytophthora*, 27 of them recorded in Australia. *Phytophthora cinnamomi* is considered the most damaging. *Phytophthora* can damage vegetables, flowers, fruits, pastures, forage crops and ornamental as well as native plants. Worldwide, it costs many millions of dollars in damage to horticulture.



WET TROPICS  
MANAGEMENT AUTHORITY

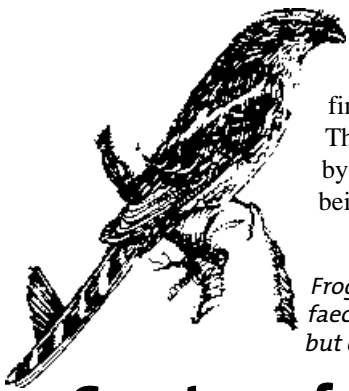


Queensland Government  
Environmental Protection Agency  
Queensland Parks and Wildlife Service

## Can birds smell?

**For many animals, a well-developed sense of smell is their main method for finding food, mates and home. So how about birds?**

On the whole, it is thought that birds rely on vision more than smell. Accordingly, the optic parts of their brains are generally much better developed than the olfactory ones. Since the brain uses a great deal of energy, most birds seem to have opted for vision development. However this is not a universal rule and the size of the olfactory lobes varies. It tends to be larger in carnivorous birds than in those birds which eat seeds and fruit. In small forest-dwelling birds it occupies as little as three percent of the brain and in house sparrows just eight percent, whereas in kiwis it is as much as 33 percent and up to 37 percent in some seabirds. However, there is evidence that different birds are attuned to particular smells, which are important to them, and may simply not perceive others.



Many seabirds, particularly the 'tube-nosed' ones such as petrels and shearwaters, rely on smell to find their food in the open ocean. They are attracted to odours produced by microscopic plants when they are being eaten by small animals such as

*Frogmouths produce extremely smelly faeces which they spray on intruders – but can the frogmouth smell it?*

krill – the food of many seabirds. Visual cues are probably also important but storm-petrels, in tests, were able to find pungent oil-soaked sponges at night, indicating that they relied entirely on their sense of smell. They were even able to detect the lures from as much as eight kilometres away. Petrels have particularly well-developed nostrils and can distinguish their own nest material, in a colony, in the dark.

Kiwis use smell to locate food, such as earthworms, during nocturnal probings with nostrils located near the tip of the bill.

Three species of new world vultures (*Cathartes* genus) have an extremely well-developed sense of smell. They have large nostrils on the side of the bill and unusually well-developed olfactory regions of the brains. They rely on their sense of smell to find food – rotting carcasses – in the forest and are able to locate even small rodents and birds.

The sense of smell in other birds is uncertain and we may have underestimated it. Homing pigeons, deprived of their sense of smell, were unable to find their way home, whereas unaltered pigeons had no problems with navigation. Birds also produce odours as part of social communication, particularly at breeding time, so are presumably able to detect them.

## Creature feature: echidnas

**Echidnas and platypuses are the only egg-laying mammals – monotremes – in the world.**

There are two species of echidnas, the larger long-beaked echidna\* found only in the highlands of New Guinea, and the short-beaked echidna, which lives in Australia and the New Guinean lowlands. Like the platypus, they are considered to have an ancient lineage and to have been around for over 100 million years. Their peculiar egg-laying method of reproduction is thought to demonstrate the descent of mammals from reptiles.

The short-beaked echidna is found in all habitats in Australia, from desert to snowy mountains to rainforest. Its abundant sharp spines, which mean the echidna has few predators, are consolidated hair. Softer fur grows between the spines and in colder areas may be long enough to almost hide them.

The echidna gets out and about to feed mainly at dawn and dusk. Top of the menu are termites and ants. It breaks into the nests of colonial insects, demolishing even the hard mud walls of a termite mound with its strong front feet. It pokes its long nose into cracks and extrudes an enormously long sticky tongue to which the helpless insects are glued like flies on flypaper. Not only does the echidna have an excellent

sense of smell, but research has shown that, along with the platypus, it also possesses unique sensory capabilities. These include specialised nerve endings at the tip of its snout which are sensitive to tiny electric currents. These enable it to detect the minute electric signals produced by moving prey.

Another feature the male platypus and the male echidna have in common is a spur on the ankle of the hindleg. Whereas the spur of the platypus male contains a poison gland and can inflict some damage, the male echidna's spur is not venomous.

The female echidna produces one marble-sized, soft-shelled egg at a time, about two weeks after mating. It is probably laid directly into a shallow depression on the mother's underside, a type of pouch. It hatches in about 10 days and for the next 50 days the baby is carried around, feeding on milk which exudes from pores on the mother's two mammary glands. At the age of three months, the baby has a covering of short spines and is deposited in an underground burrow for the next seven months. At one year old it makes its first foray into the world.



\*Different forms of the long-beaked echidna were once found all over Australia and New Guinea until late Pleistocene times (about 11,000 years ago).

## Mabi forest

Mabi forest is a special type of forest which grows on the fertile basalt soils of the Atherton Tableland. When ecologists Len Webb and Geoff Tracey originally classified the forests of the wet tropics in the 1960s, they categorised this forest as complex notophyll vine forest – type 5b – basing their description on Tolga Scrub, near Atherton. Their system took into account physical/structural characteristics and species composition.

Mabi forest grows only in areas of high rainfall (up to 1600mm annually) on soils derived from basalt rock. These soils are the result of volcanic activity on the Tableland millions of years ago when shield volcanoes spilled lava across the landscape. Alkaline (basic/non-acidic) and rich in iron and magnesium, they are very fertile.

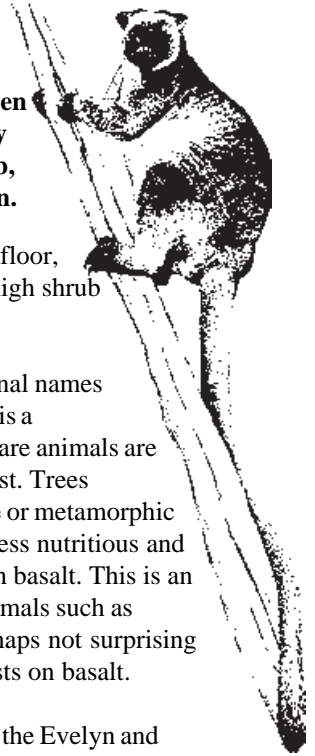
This is both the strength of Mabi forest and its weakness. Because the chocolate-red soils make good agricultural land, much of the original forest cover has been cleared. Although it once covered the Atherton Tableland, to the north and west of Malanda, less than two percent now remains, growing in isolated patches such as Tolga Scrub, Wongabel State Forest, Hallorans Hill and at the Curtain Fig Tree, near Yungaburra. In October last year it was added to the national list of critically endangered ecological communities under the Environment Protection and Biodiversity Conservation Act, 1999.

Mabi forest is characterised by clusters of trees up to 45m high with an uneven canopy. Trunks vary in size, many of them sporting buttresses. Some of the trees are deciduous or semi-evergreen and tend to drop a lot of leaves in dry times.

This allows light to penetrate to the forest floor, encouraging the growth of a dense 1-3m high shrub layer with gingers and ferns.

The word Mabi is one of the local Aboriginal names for Lumholtz's tree-kangaroo (right). This is a particularly appropriate name since these rare animals are most likely to be found in this type of forest. Trees growing on poor soils derived from granite or metamorphic rocks produce leaves which are tougher, less nutritious and contain more toxins than those growing on basalt. This is an important consideration for leaf-eating animals such as possums and tree-kangaroos and it is perhaps not surprising that they are much more abundant in forests on basalt.

Volunteer members of TREAT – Trees for the Evelyn and Atherton Tablelands Inc. – have devoted many hundreds of hours to rehabilitating and replanting patches of Mabi forest. If you would like to get involved in their activities you can contact them on Ph: 4091 3474 or PO Box 1119, Atherton, QLD 4883. Their website is: [www.treat.net.au](http://www.treat.net.au)



## Weed corner: Miconia

*Miconia calvascens* is known by various common names – miconia, velvet leaf, currant bush and, most appropriately perhaps, purple plague. Native to Central America, this troublesome plant has been introduced to a number of tropical countries and grown for its attractive foliage. It is now considered one of the worst weeds on many Pacific islands, notably French Polynesia and Hawaii.

Miconia is a shade-tolerant tree growing to about 15m. It has very distinctive large leaves which can grow to 70cm in length – the length of an adult arm. Glossy green on the upper side, these leaves are purple below and have three distinctive cream-coloured veins running along their length. White flowers are followed by numerous dark purple, fleshy berries, each about 10-15mm in diameter and containing up to 200 seeds; one plant can produce up to 3 million seeds, several times a year. Unfortunately the fruits are very attractive to birds which spread the seeds in their droppings. Growing easily in shade, the saplings flourish in rainforest where they can form dense stands, shading out native plants and tree saplings and threatening the long-term viability of forests.

In May 1997, all species of miconia were declared under the Queensland Rural Lands Protection Act (categories p1 and p2) making it an offence to introduce the plants into Queensland or to sell them anywhere in the State.

Unfortunately miconia plants had already been sold and planted, forming the source for localised infestations, chiefly around Kuranda, but also in Cairns, Mission Beach, Innisfail, El Arish, Whyanbeal, north of Mossman, and other places. This enormously pesky plant is difficult to eradicate – its preference for shade means it can establish itself in dense rainforest, so it can be difficult to find.

It is essential that we all look out for miconia. Please remove any plants that you find but please also report them so that authorities can be aware of potential outbreak areas. Contact Sid Clayton at Mareeba Shire Council, Ph: 4092 4311, Pat Lawler at Douglas Shire Council, Ph: 4098 3104 or your appropriate local government pest management officer.

There are many different species of miconia. *Miconia racemosa* was found in Kuranda last year. It is similar, but smaller, growing to 2-3 metres. Its leaves have five prominent longitudinal veins.

To view a hillside covered with miconia in Hawaii, and to read more about problems in a place where it has become seriously established, see [www.hear.org/pier/mical.htm](http://www.hear.org/pier/mical.htm)



# Australia's Tropical Rainforests

## WORLD HERITAGE

### FACT SHEET

## Bush medicine



Hyoscine is the chemical which achieved sudden notoriety recently when larger than normal doses in Travacalm tablets caused severe illness in a number of people. Interestingly, this chemical is found in a common rainforest tree known as **soft corkwood** (*Duboisia myoporoides*). Indeed, when this tree was hybridised with a closely related species last century the result contained more hyoscine than any other known plant. It was grown commercially to make ophthalmic and sedative drugs, before synthetic versions of the compound were developed. Extracts from the plant dilate the pupil – useful in eye surgery – and during World War II considerable quantities of hyoscine were exported to treat travel sickness in troops and shell shock. In 1989, 500 tonnes of dried and powdered leaves were exported to pharmaceutical companies in Germany and Switzerland.

Soft corkwood is poisonous to stock and has been blamed for at least one human death, in 1987, when a man experimentally ate some leaves. Interestingly, it is closely related to a desert shrub, pituri (*Duboisia hopwoodii*) which was valued as a narcotic and widely traded by Aboriginal people in days gone by.

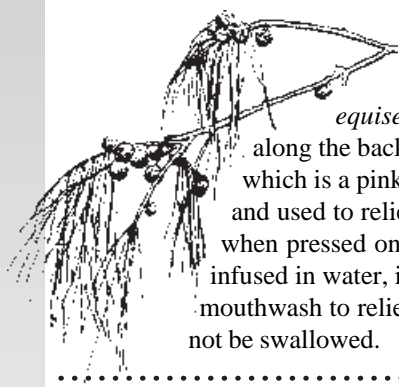
Hyoscine is an **alkaloid**, a group of chemicals which are found in a number of plants and which have a potent effect on the human central nervous system; well-known alkaloids include strychnine, morphine, cocaine and nicotine. Alkaloids in native plants do not seem to have been important as traditional medicines, perhaps because of the difficulty of determining safe doses.

Curiously there is little evidence that Aboriginal people used **tea tree** oil for its powerful anti-fungal and anti-bacterial properties. The species used commercially for this purpose is *Melaleuca alternifolia*, a small tree found in northern New South Wales and southern Queensland. Its germicidal properties were discovered in the 1920s. Cajuput oil is made from the weeping paperbark (*M. leucadendra*) and the cajuput (*M. cajuputi*). In northern Australia, the leaves of several *Melaleuca* species have been used traditionally for treatment of coughs, colds and on sores and burns, either crushed and inhaled or soaked in water to create an infusion. The aromatic oils stimulate cells in the throat to produce more lubricating fluids thus easing irritations which cause coughs.



*Barringtonia racemosa* is known as the fish poison tree because chemicals, saponins, in the bark stun fish when put in the water. This tree was also used in India as a fever treatment and is now known to have properties similar to quinine, the anti-malarial drug extracted from South American trees.

**Cycad** plants are very toxic although the seeds were an important traditional food, when properly treated. The seeds of some species, however, contain an antibiotic.

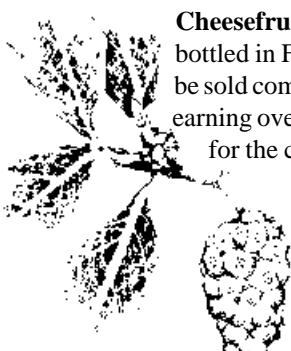


**She oak** (*Casuarina equisetifolia*) grows commonly along the back of beaches. The inner bark, which is a pinkish colour, can be ground up and used to relieve the pain of a toothache when pressed on to the affected tooth. When infused in water, it can be used as a mouthwash to relieve a sore throat – but should not be swallowed.




The large leaves of the **cotton tree** (*Hibiscus tiliaceus*) can be used as dressings on wounds. The leaf is simply heated over the fire and pressed on to the injury until it sticks, stopping the flow of blood. The flower buds of this tree are used in Hawaii as a mild laxative for children. For older children and adults the little white, dome-shaped 'bump' inside the bottom of the flower is used for same purpose. The bark of the stem is used for congested chests and for a mother delivering a baby.

Millions of years in the making. Protected forever.

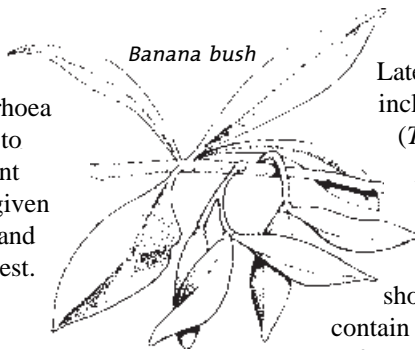


**Cheesefruit** (*Morinda citrifolia*) is bottled in Fiji and other Pacific Islands to be sold commercially as 'cheesefruit juice', earning over US\$1 billion over five years for the company named after the plant, Morinda Incorporated. The juice is sold as a performance enhancer and antioxidant. Commercial drugs derived from the roots and trunk are used to treat high blood pressure.



**Stinging trees** (*Dendrocnide* spp) are to be avoided, due to the pain caused by the fine hairs in the leaves. These hairs have cell walls full of silica and contain a sap which acts on the nerve-endings in human skin, causing pain for many months. However, the leaves were used traditionally as a cure for rheumatism. They were applied directly to the affected area, but, perhaps less painful, were sometimes pounded and boiled first.

The ripe fruit has an unpleasant smell so, not surprisingly perhaps, this is when it is used as a medicine – as a treatment for common cold, 'flu, diarrhoea and asthma as well as for wound treatment. It is said to have a slight anaesthetic effect which provides instant relief for sore throats. Mixed with coconut milk, it is given as a relief from ciguatera in the Torres Strait. Leaves and fruit can be crushed and inhaled or rubbed on the chest. The bark of this tree is used to reduce fever and the leaves as poultices. In Hawaii, where it is known as 'noni', the unripe fruit is pounded with salt and the mixture put on deep cuts. Ripe fruit has also been used as a poultice to draw out pus. Even more claims are made for this plant, but as with most 'magical cures' they have attracted scientific controversy. For more information on this see [www.sgapqld.org.au/bushtucker.html](http://www.sgapqld.org.au/bushtucker.html)



**Banana bush** (*Tabernaemontana pandacacui*) (left) has been used traditionally on sores and wounds. Recent studies have shown that these plants contain potent compounds by the name of proteolytic enzymes. There is a fine line between harmful and helpful chemicals. Latex from many plants can cause blindness. The banana bush is related to the highly poisonous oleander and the 'bananas' are named for their shape, not their edibility. Latex from macaranga (*Macaranga tanarius*) is very sticky and waterproof. It can be used on deep cuts, holding the skin together like stitches.

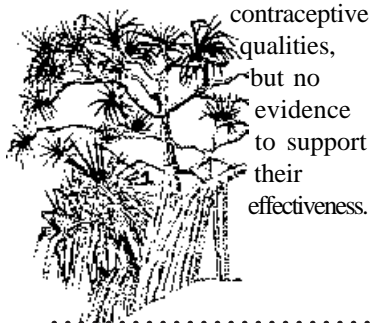
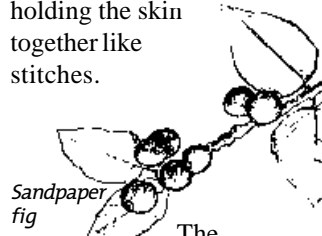
The core of the trunk of certain **pandanus** trees, notably screw palm/pine (*Pandanus spiralis*) was traditionally used for a number of complaints. Pounded and/or boiled, it was particularly used for diarrhoea and stomach pain but also for mouth sores and toothache and to relieve headaches and 'flu. In some cases the pith from the prop roots, which support the main trunk, was used. There are records from Groote Eylandt, in the Northern Territory, of pandanus seeds being consumed for

## Owning the knowledge

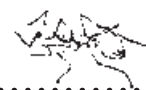
An international study found that about three-quarters of plant-based drugs developed by pharmaceutical companies had already been known and used as traditional medicines. When looking for sources of new drugs, pharmaceutical companies often rely on indigenous knowledge – it saves a lot of time. Having found an organism, the companies must break it down into its various components and search for the one which is active. This may then be made into a drug. This process can be time-consuming and expensive. Nevertheless, in the end it is usually only the drug company which makes the profit – sometimes enormous – while the people who made the initial discoveries gain nothing. The company may even take out a patent on the plant in question and it is not unknown for the traditional owners to be then charged a royalty for using it. Referred to as biopiracy, this trend is on the rise as companies increasingly take out patents on organisms, some of them common traditional food and medicine plants. See <http://twm.co.nz/CptHook.htm> for more information.

An ABC Radio National Background Briefing program on October 13 2002 looked at the problems associated with bioprospecting and indigenous rights. A transcript of the program can be found on [www.abc.net.au/rn/talks/bbing/stories/s701553.htm](http://www.abc.net.au/rn/talks/bbing/stories/s701553.htm)

contraceptive qualities, but no evidence to support their effectiveness.

The **sandpaper fig** (*Ficus opposita*) has, as the name suggests, leaves which are as rough as sandpaper. They are used, traditionally, to treat fungal skin infections such as ringworm (which is not a worm). The affected skin is abraded with the leaves until quite raw and the area then covered with the milky latex from the plant. Alternatively the area may be covered with a green ants' nest. The stings and the formic acid from the ants are very painful but apparently a very effective cure.



## QUESTIONS & ANSWERS

**Q** What spiders make the webs on the ground that I see early in the morning in May. One small paddock had thousands.

**A** The webs belong to a small spider in the family Lycosidae, which includes the more familiar wolf spiders. They belong to the genus *Venonia*. These spiders make small webs with central tunnels. Approach one quickly and you will see the tiny spider retreat from the entrance.

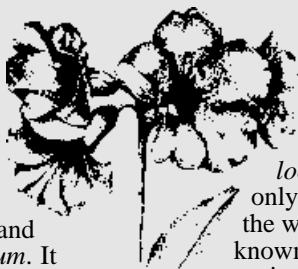
Acknowledgements to Eric Vanderduys of the Inquiry Centre, Queensland Museum

**Q** In the TV series 'State of the Planet', David Attenborough mentioned the devastating ecological effects rhododendrons have had in Britain. He said this plant shares a symbiotic relationship with a soil fungus which kills all other plant species and that even after the plants had been poisoned or physically removed, the fungus continued to kill other plants for a further six years. He said that the fungus is associated with all rhododendrons. Is it associated with Australian native species?

**A** There are about 600 species of rhododendrons in the world. David Attenborough was referring to a species which was introduced to Britain in the late 18<sup>th</sup> century, possibly from Spain and Portugal – *Rhododendron ponticum*. It is extremely invasive and severely reduces biodiversity by excluding other species, taking over large areas, providing little food for animals and even diverting bees from their pollination duties on other plants. The exact reason for continuing

inhibition of plant growth is not clear. Certainly mycorrhizal fungi have been discovered in rhododendron species. These are symbiotic fungi which attach themselves to plant roots, obtaining carbohydrates from the plants but, in return, supplying extra water and nutrients from the soil (see *Tropical Topics* 72, p2). These mycorrhizal types are specifically associated with heathland plants and give them a competitive advantage in nutrient-poor soils over plants which do not have them. However, little seems to be known about direct effects on other plants.

On the other hand, many rhododendron species, including *Rhododendron ponticum*, produce toxins. These are even found in honey created from the flowers and are blamed for human poisoning (not usually fatal) known as 'Mad honey disease'. It is possible that these toxins prevent other plants from growing but it is also possible that they poison the mycorrhizae needed by other plants before they become established.



We have only one native rhododendron species, *Rhododendron lochae* (left). It grows only above 1000m in the wet tropics. It is not known whether this species has the same effect on other plants.

For more information on British invasions see the websites: [www.offwell.free-online.co.uk/rhododen.htm](http://www.offwell.free-online.co.uk/rhododen.htm) and [www.spri.cam.ac.uk/people/ojm21/rhodo.htm](http://www.spri.cam.ac.uk/people/ojm21/rhodo.htm)

## Sideline

### Red leaves

The spectacular red and pink new foliage produced by many rainforest trees is a particularly attractive feature of our rainforests – and a selling point for many species, such as syzygiums, popular in native gardens and parks. However, the question is often asked – why?

The red is caused by the pigment anthocyanin, the same pigment which colours many flowers and fruits and which gives beetroot its wonderful hue. The actual shade – pink, red, brown or purple – depends on the pH of the fluid in the cells of the leaf. Various theories have been suggested. It was thought that anthocyanin might be off-putting for animals which eat leaves – but in reality young red leaves are quite heavily damaged by predators. It was thought that red might raise the temperature of the leaves, speeding up their development, but experiments have shown this not to be true. It has also been suggested that anthocyanin might inhibit fungal attack.

One likely theory is that anthocyanin might protect the developing photosynthetic mechanism in young leaves. Studies have shown that these leaves are not yet actively photosynthesising and may need a 'sunscreen' to protect them from harmful light. Anthocyanin absorbs light from the blue/green part of the spectrum, reflecting away red.

As the leaves mature they develop chloroplasts which are responsible for absorbing red light for photosynthesis – to convert the sun's energy into stored energy. Green light, which we see, is reflected away.

Levels of anthocyanin are high both in young leaves and in those under stress. The pigment is also visible in old leaves such as those from quandongs and the bleeding heart tree (above). As the leaves age, useful materials in the leaf are reabsorbed by the tree. Green chlorophyll is one of the first to break down and disappear from the leaves. Again, anthocyanin may serve to protect the diminishing chlorophyll as it is breaking down.

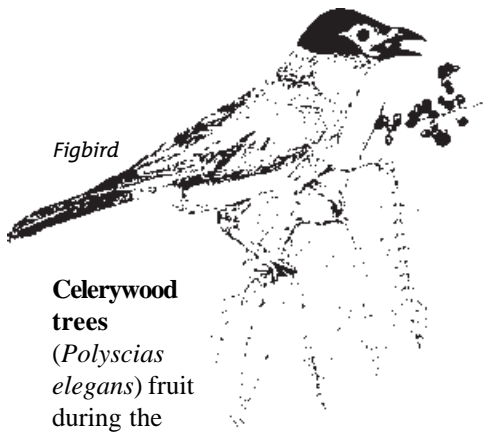


Acknowledgements The Lake Lake News (Tablelands National Park Volunteers newsletter) Vol 5 No 8 August 1997.

## TOURIST TALK

ENGLISH	GERMAN	JAPANESE	
medicine	Medizin	kusuri	薬
latex	Gummimilch	shokubutsu	植物の乳液
		no nyueki	
cough	Husten	seki	咳
cold	Erkältung	kaze	風邪
wound	Wunde	kizu	傷
fungal	pilzartig	kinsei no	菌性の
infection	Infektion	kansen	感染
juice	Saft	shiru	汁
to inhale	inhalieren	kyunyu suru	吸入する

# Out and about



Figbird

## Celerywood trees

(*Polyscias elegans*) fruit during the winter months, to the delight of birds, such as brown pigeons, bowerbirds, currawongs and figbirds which are attracted in flocks. This is a common pioneer tree, which springs up readily in rainforest regrowth areas. It grows only in Australia, at both high and low altitudes, from Queensland to south-eastern New South Wales. Reaching about 10m in height it creates a shady canopy. Small purple flowers, produced in summer time, are followed by crowds of small, 5mm, ridged, black fruits which are borne in conspicuous bunches above the leaves. They are sticky when squashed. In spite of their popularity with birds, these fruits are not suitable for human consumption.

The common name of this tree comes from the fact that the bark, when cut, smells and tastes of celery.

**Wombat berry** (*Eustrephus latifolius*) a twining vine, produces fruit between March and September. This scrambling, wiry-stemmed plant is common in rainforest and in nearby open forest, at all altitudes. It grows as far south as eastern Victoria and is also found overseas. During winter the vine is covered with fleshy orange fruits, about 1.5cm across, which hang for a long time. These fruits eventually split open to reveal shiny black seeds which are partially surrounded with a white aril, or outer coating. This strategy is often employed by rainforest fruits to attract the attention of birds, the dark seeds highlighted against the brightly-coloured fruit.

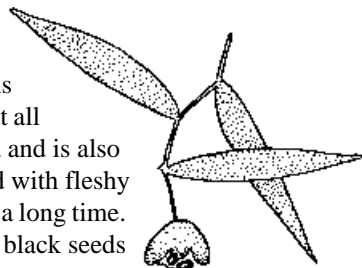
The bright green leaves, 3-12 cm long, spring almost directly from the branches, with minimal stalks. Fringed, pale pink flowers are produced in spring. The plant has fleshy roots which are apparently a popular food for wombats, where the two species coincide. The fruits are not edible for humans.

**Far North Queensland Wildlife Rescue Association** is ten years old. It boasts over 200 members, many of whom are active carers located as far south as Cardwell, as far north as Thursday Island and all over the Tablelands area. Last year alone, 1370 birds and 388 other sick or injured wildlife species were brought in or reported to the FNQWR Centre in Cairns and passed on to carers. Many more were taken directly to vets or carers. In just the last five months, 837 calls were received on the after-hours phone line.

New carers are always welcome; 'hands-on' training is provided. Otherwise you could assist financially by becoming a member and/or giving donations. Indeed, if you have a lot of time to offer, the Wildlife Rescue Centre in Cairns is looking for a new manager. Please report sick, injured or orphaned wildlife as soon as possible. In Cairns call (07) 4053 4467, in Townsville, Ph: 0414 717 374 or 0412 123 783.



*Coming Together...* is the title of the National Conference on Wildlife Rehabilitation to be held at Victoria University Werribee Campus, Melbourne, 30 June - 2 July 2003. For more information contact the conference convenor, Greg Gordon, at: greg.gordon@vu.edu.au; Ph: (03) 9216 8113 or (03) 9216 8139.



**Ospreys** nest between August and November in southern Australia but in the north they do so much earlier. Their nests are bulky structures created from sticks and lined with grass. Cliff faces and trees are natural nesting sites, but human structures are often used. A few years ago, in Cairns, a pair of birds built a nest on top of the transmission tower at the Ambulance Station on Anderson Street. Last year the nest was mysteriously destroyed. Since the tower is well fenced, it was thought not to be the work of human vandals but possibly caused by unruly behaviour of fledging chicks. In the end, the platform, which had been provided specially by Ambulance Station staff to keep the birds above the tower, was entirely devoid of nest material. Happily, within the last couple of months the ospreys have rebuilt the nest and are presumably planning to breed again.

Courting ospreys perform spectacular dives and swoops above the nest. The female osprey then lays two to three, and sometimes four, eggs. She does most of the brooding, the male visiting from time to time with a fish for which the female begs with a high-pitched call. After the chicks have hatched, their mother stays with them, protecting them from the sun for about a month until they grow their feathers. It will be another month before they leave the nest.

## Urban Wildlife Forum

The Wildlife Preservation Society of Queensland  
14-16 June 2003  
The Bardon Centre in Brisbane's Mount Coot-tha Botanic Gardens.  
Enquiries and registration: WPSQ,  
95 William Street, Brisbane, 4000  
Ph: (07) 3221 0194; Fax: (07) 3221 0701;  
e-mail: forum@wildlife.org.au;  
Website: www.wildlife.org.au

## BOOKSHELF

### **Bush Medicine**

Tim Low

Angus and Robertson (1990)

This is the standard reference on bush medicine from the author of 'Bush tucker'. It deals with bush medicine from around Australia.

### **Bush Medicine of the Northern Peninsula Area of Cape York**

Sandyl Kyriazis

Nai Beguta Agama Aboriginal Corporation

Many of the plants and animals are found in the wet tropics.

*WellBeing Magazine No 70*

### **Plants, Poisons and Survival in the**

### **Rainforest**

Cheryll Williams

*Nature Australia Vol 25 No 3 Summer 1995-96*

### **The truth about tea trees**

Tim Low

**Website** – of the Society for Growing Australian Plants, Queensland Region has lots of interesting information, including bush tucker and bush medicine at [www.sgapqld.org.au/bushtucker3.html](http://www.sgapqld.org.au/bushtucker3.html)

*Using rainforest research*

CRC Rainforest leaflet:

### **Rainforest masks a deadly disease**

May 1998

A leaflet on *phytophthora*

*Department of Natural Resources and Mines leaflet*

### **Miconia**

Available from NR&M offices

### **Birds: Their Habits and Skills**

Gisela Kaplan and Lesley Rogers

Allen and Unwin

An excerpt on smell was reproduced in *Interpretive Birding Bulletin Vol 5 No 2* September/October 2001

*Nature Australia Vol. 25 No. 11 Summer 1997-98*

### **Echidnas on the nose**

Uwe Proske



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