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Editorial

Joanne Caldwell, Publishing Committee

Welcome to the last journal of Volume 22. In the centre pages you will find an index to the entire volume. In this edition we feature Australian Bush Foods. There is an article from the Australian Bush Foods Study Group leader, Lenore Lindsay, accompanied by photographs taken by Eric Anderson who is the author of *Plants of central Queensland* (QLD Dept. Primary Industries, 1993). You will also find some recipes and a list of some Edible species of South East Queensland. Our feature garden is also from Queensland - the Radke's garden is located on the Atherton Tablelands.

One reader expressed concern when a friend contracted a severe skin allergy from Grevilleas. Dr Susi Freeman, a dermatologist, explores this topic and concluding that although; ... *contact allergy can occur with grevilleas ... I would not recommend they be proscribed plants as they are beautiful, varied and versatile Australian natives. It would be much better to promote education about avoidance of contact.*

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Front cover: *Syzygium fibrosum*

Rear cover: *Ficus opposita*

Both photos E. Anderson

(see page 343)

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Capricornia Cuisine

Bush Tucker in Central Queensland _____ Lenore Lindsay

Wild foods have always been significant in Central Queensland. They formed the total sustenance of the Aboriginal people, they kept explorers alive, settlers healthy and the local kids happily occupied. Today, after a brief resurgence during the Depression and World War 2, they are being 'rediscovered' as the basis of a commercial industry, and there is renewed interest in them generally as part of our shared cultural heritage.

Our knowledge of the food plants of the Aborigines is sketchy, relying, as it does, mainly on early European accounts, and the oral traditions of the community as a whole, which includes Aboriginal, Islander and pioneer sources. Although some use of wild foods and medicines was maintained by the local Aboriginal people, much of the information relating to those from plants has been lost, as they were replaced by other items of overseas origin. Our sources include accounts from the Archer family's papers and oral histories, the explorer Leichhardt's journals, and the little booklet *Notes on some of the Roots, Tubers, Bulbs and Fruits, used as Vegetable Food by the Aborigines of Northern Queensland, Australia* by French botanist Anthelme Thozet.

The establishment of the Dreamtime Cultural Centre and its surrounding gardens on Rockhampton's northern outskirts has continued to fuel the renaissance of interest in our wild food plants.

Contrary to popular belief, it is fairly difficult to be severely poisoned by eating plants, with a few notable exceptions. Most poisonous plants warn adventurous experimenters by their taste, and a few unpleasant moments are the worst one might experience. The dangerous plants are those which are both palatable and toxic such as Cycad seeds and some fungi, or in which reaction is delayed, such as Cunjevoi.

Nevertheless, the prudent forager will approach a new and unknown plant cautiously, first rubbing what appears to be the edible part on the sensitive skin of the inner wrist or elbow. If, after a reasonable time lapse, there is no adverse reaction, it may be touched by the lips or tongue, or bitten, but not chewed or swallowed. If all seems well, a little may be chewed and swallowed. Then wait at least 24 hours to gauge the body's response before sampling larger quantities, or experimenting with preparation and cooking. Obviously, some good reference books reduce the number of times this procedure is necessary, and a short list of some of those available is included as an appendix.

This article is a reproduction of a paper presented by Lenore at the SGAP (Queensland) Conference held at Rockhampton, Queensland in September 1996.
Lenore is the leader of the Australian Bush Foods Study Group



The Seashore

Above and Left:

***Tetragonia tetragonoides* -**

Warrigal greens (left as a groundcover
with *Ficus opposita*)

See page 342

Photos: G. Keen

Below: *Avicennia marina* -

the Grey mangrove

See page 342

Photo: E. Andersen





Above:
Argusia argentea -
Octopus bush
Left: *Carpobrotus*
glaucescens -
Pigface
Below: *Pandanus* spp.

See page 342

Photos: E. Anderson



Plant foods are generally available only seasonally, and the season for some is very limited. Availability is also governed by habitat, some ecosystems being richer, or offering more variety, than others. From the beaches to the dry interior, each niche has its own particular food products, and in this paper just a few typical examples from each are mentioned.

The Seashore

The leaves of many of the common succulent plants of the foreshores are edible, raw, cooked or pickled. These include Samphire (*Sarcocornia quinqueflora*), Seablite (*Suaeda australis*) and Pigface (*Carpobrotus glaucescens* photo on page 341). The fruits of Pigface are also known as Beach bananas because the flesh inside their thick reddish skin resembles a small salty banana in both taste and appearance.

The Pandanus (*Pandanus* spp.) has other uses besides fixing the foredunes. The fruit segments may be roasted and the flesh sucked from the base, then split with a tomahawk or similar implement to extract the small oily seeds. The whitish leaf bases may be cooked as a vegetable, and the leaves themselves used for weaving and thatching. Photo on page 341.

The leaves of octopus bush (*Argusia argentea* - photo on page 341) and Pisonia (*Pisonia grandis*), common on the offshore islands, may be eaten as either a salad green or a cooked vegetable. One of the chef's specialities at the Heron Island Resort is Pisonia Pie. The New Zealand spinach (*Tetragonia tetragonoides*) became so popular in 19th century English gardens that it was also known as Botany bay greens. It is now marketed commercially under the more up-market title of Warrigal greens. Photos on page 340.

Where mud replaces sand, mangroves replace pandanus and octopus bush. Aborigines ate the "seeds" of the grey mangrove (*Avicennia marina*) after lengthy preparation. Boiled in several changes of water they taste rather like bitter olives. Photo on page 340.

Wetlands

The Darumbal Aborigines of the Rockhampton area relied heavily on the surrounding lagoons as abundant sources of food. Water lilies (*Nymphaea gigantea*) yield edible pods, seeds, celery-like stalks and tubers. Photo on page 344. The nutty seeds of pink lotus (*Nelumbo nucifera*) are also edible. Photo on page 345. Water ribbons (*Triglochin procerum*) produce many sweet, crisp, small oval tubers like water chestnuts. Photo on page 344.

The unusual aquatic fern, nardoo (*Marsilea drummondii*), produces edible sporocarps. Almost every Australian knows that Burke and Wills "starved to death" on nardoo, but only recently have we learned exactly why. Both nardoo and mussels, the freshwater staples of the inland, contain an enzyme that destroys vitamin B1. By rejecting the Aboriginal methods of roasting the shellfish and wet grinding and then baking the nardoo, which neutralises the toxic enzyme, the explorers eventually died of beriberi. Evidence of the preparation of nardoo is widespread round Padygole (Gracemere), where many grindstones remain in situ on the Archer property. Photo on page 344.

Paperbarks (*Melaleuca* spp.) commonly grow round the edges of fresh water swamps. The papery bark may be removed in sheets, and has a myriad of uses, including preparing and wrapping food for baking. The flowers secrete copious quantities of nectar, which may be sucked directly, or extracted by soaking the blossoms in water to make a sweet drink. Photo on page 345.

Woodland and Forest

Fruits are the obvious plant foods of the bush as they are designed to be eaten, and those that taste best are often those targeted by fruit bats, whose palates seem much like humans. Examples of these include figs (*Ficus* spp.), Burdekin plums (*Pleiogynium timorense*) and Creek lilly-pillies (*Syzygium australe*) which also make delicious jams, jellies and wines. Smaller fruits with less appealing flavours, such as Red-jackets (*Alectryon* spp. - photo on page 348) and Geebung (*Persoonia* spp.) are probably aimed at birds as their agents of seed dispersal. Photos of *Syzygium fibrosum* and *Ficus opposita* on front and rear covers.

Burdekin plum, *Pleiogynium timorense*, is one of many Australian plants with edible fruits.

Other fruits which may be eaten raw include those of the Blue flax lily (*Dianella caerulea*), Blue-tongue (*Melastoma affine*), raspberries (*Rubus* spp.), Fruit salad vine (*Melodorum leichhardtii*), Native mulberry (*Pipturus argenteus*), and the tiny aromatic fruits of Maiden's blush (*Euroschinus falcatus*). Cocky apples (*Planchonia careya*) are better roasted. Along the creeks and rivers, the tall Leichhardt tree (*Nauclea orientalis*) is conspicuous and, in season, is hung with grey fleshy fruits like decomposing golf balls with a rather bitter taste. Photo on page 348. The sticky pulp round the seeds of Nipan or Splitjack (*Capparis lasiantha*) is pleasant eating. Photo on page 349. The broad-leaved Native cherry (*Exocarpos latifolius*) is not a fruit at all, botanically speaking, but a swollen stem which is delicious when fully ripe and beginning to wrinkle like a sultana. Photo on page 349.

Native ginger (*Alpinia caerulea*) not only bears edible fruits, but the young rhizomes may also be eaten, and taste faintly of ginger. Other edible roots are the long or pencil yam (*Dioscorea transversa* - photo on page 349) which can be eaten raw or cooked, and the rhizomes of bracken fern (*Pteridium esculentum*). The boiled shoots, called croziers or fiddles, are emergency foods, but should not be eaten in quantity due to the toxins they contain.



Wetlands

See page 3

Nymphaea gigantea - Water lilies yield edible pods, seeds, celery-like stalks and tubers



Triglochin procerum - Water ribbons produce sweet, crisp tubers like water chestnuts.

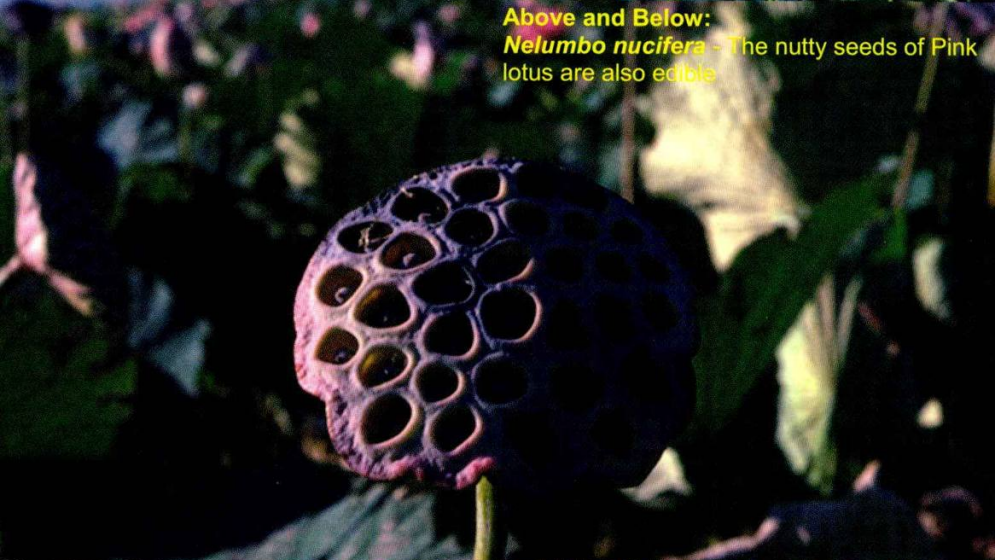


Marsilea drummondii - nardoo produces edible sporocarps

All Photos: E. Anders



Above and Below:
Nelumbo nucifera - The nutty seeds of Pink
lotus are also edible



Melaleuca leucadendra - Paperbark has a
myriad of uses

All Photos: E. Anderson

Young roots of Candelabra or Strap water (*Acacia holosericea*) are reported to have been cooked for food by the Aborigines, and the seeds were milled and made into damper. Photo on page 348. The Bottle tree (*Brachychiton australis*) also has edible roots and seeds.

The large, matt black seeds of the Peanut tree (*Sterculia quadrifida*) are delicious, the kernel tasting like a cross between a Macadamia nut and a peanut.

The heart of *Livistona decipiens* can be eaten as Palm cabbage, and the young shoots of Scrambling lily (*Geitonoplesium cymosum*) like Asparagus. The bases of Mat rush leaves (*Lomandra longifolia*) taste like green peas, and the sour buds and leaves of *Hibiscus heterophyllus* have earned it the common names of native rosella and native sorrel. The flower petals and roots can also be eaten, the tough fibres made string, and mucilaginous decoctions treated colds and sore throats internally, and skin problems externally.

Dryland

Inland, reduced rainfall results in a dramatic change in the landscape, but there is no shortage of food for those who know where to look.

Prickly plants produce Wild currants (*Carissa ovata*) and Desert limes (*Citrus glauca*), and Winter apples (or dibble-dibbles or amulla - *Myoporum debile*) may be found sprawling through the sparse grasses, or colonising disturbed land. Photos on page 372 and 373.

The fruit of the Desert lime, *Citrus glauca*, may be small (10–20mm) compared to the commercial lime but it is packed with flavour.

Pigweed, *Portulaca oleracea*, is an innocuous looking plant but it is one of the most valuable of bush foods.

The seeds of Native millet (*Panicum decompositum*) were a staple of the Aborigines of the interior, who ate them milled and baked into damper. Pigweed (*Portulaca oleracea*) not only provided tiny, oily, nutritious seeds, but a green vegetable, whose anti-scorbutic qualities were valued by the people of the west well into the 1950s. Early explorers also appreciated this property in the leaves of the Ruby or Barrier saltbush (*Enchylaena tomentosa*), though it's the succulent sweet red fruits of this shrub which are eagerly sought. Photo on page 372 and 373.

Many of the flowers of the more arid lands produce copious nectar, and the various species of Grass tree (*Xanthorrhoea*) are no exception. The flower stem also provided the Aborigines with spear shafts and fire sticks.



Left: *Brachychiton australis* -
bottle tree at the entrance to Geelong.
Photo: C. Li

No account of the food plants of the drier parts of Australia would be complete without mentioning the ubiquitous prickly pear (*Opuntia stricta*), whose succulent purple/red fruits make such delicious jams, jellies and wines. Though not a native of this country, it has been naturalised for many years, as has the Chinese apple or jujube (*Ziziphus mauritiana*) whose small oval fruits may be eaten fresh, cooked, or dried like dates.

Indigenous Australian foods have always been integrated to some extent in Australian food culture. It is certainly true that in Colonial times, those settlers who learned about local foods from the Aborigines and used them or who experimented for themselves, fared much better than those who did not. However, as time progressed and supplies of exotic foodstuffs became more accessible, this knowledge was ignored. As transport links developed, even country cooks abandoned the use of wild foods that could not compete with those of overseas origin in terms of harvestable quantities and culinary attention. In the cities they became increasingly difficult to find, until the renewed interest in growing Australian plants blossomed in the 60s.

Perhaps this decade will see a re-integration of indigenous plant foods into a contemporary Australian cuisine and from the myriad plants available, at least a few commercial crops developed to join the hitherto solitary Australian contribution to world foods - the Macadamia nut.

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Woodland and Forest

Above:
Acacia holosericea -
Candelabra or Strap water
See Page 346

Photo: M. Hancock

Right:
Nauclea orientalis -
Leichhardt tree seed pods
See Page 343

Below:
Alectryon connatus -
Red-jackets See Page 343

Photos: E. Anderson





Above and Above Right:

***Sapparis lasiantha* -**

Man or Splitjack

Page 343

Right:

***Docarpos latifolius* -**

Broad-leaved native cherry

delicious when fully ripe

Page 343

Below and Below Right:

***Psychotria transversa* -**

Long or Pencil yam

has thick roots. The seed pods

are shown on the left.

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All photos: E. Anderson



From Bush to Table

Lenore Lindsay and Ann McHugh

Wattle Seed Dampier

Lenore Lindsay

2 cups Self Raising flour
1/2 cup powdered milk
1 rounded dessertspoon wattle seed meal
Cold water

Place dry ingredients into bowl and combine.

Mix to soft dough with cold water.

Knead lightly on a floured board.

Pat into a flat round, place on a floured oven tray and cut a cross on the top.

Bake at 350°F for approx. 20–25 mins, until it sounds hollow when knocked on the bottom.

Cool wrapped in a tea towel.

Wild Lime Jam (*Citrus glauca*)

Ann McHugh

1 kg wild limes
2 litres water
2 kg sugar

Remove the stalks from the limes. Cover with salt water and soak overnight. (Add 1 tablespoon salt to each litre water). Drain away the salt water. Put limes in a jam pan, cover with cold water and bring to the boil. Drain again. Add 1 Litre of clean water to every 500 gm of limes and bring to the boil. Boil steadily till the fruit is quite tender, about 45 minutes to 1 hour. Add the warmed sugar and stir till dissolved. Return to boil and boil rapidly for about 20 minutes or until jam shows signs of jelling. Bottle while hot in sterile jars and cap tightly.

Finger Lime Jam (*Citrus australasica*)

Ann McHugh

Use only well matured limes. Cover with salt water and soak overnight (Add 1 tablespoon salt to each Litre water). Drain away the salt water. Put limes in a jam pan, cover with cold water and bring to the boil. Drain again. Remove both ends. Either slice in fine round slices, removing seeds as you go, or cut in half length-wise and remove seeds, then slice finely. You will notice that your knife will be coated with a very sticky wax. This can easily be removed by dipping in hot water for a minute and wiping on a paper towel from time to time. Cover well with water. These are rather dry fruit and jell very well so add plenty of water. Save seeds and ends. Add some water to seeds in a saucepan and bring slowly to boil. Remove from the heat and strain this liquid into the other fruit later. Bring slowly to the boil and boil for about 45 minutes. Add liquid from seeds, etc. before this time. Add warmed sugar to taste and stir till dissolved - the amount of sugar will depend on the fruit. This jam jells really well so only add enough sugar to get the right flavour - sometimes less than "cup for cup". Boil for about 20 to 30 minutes. Bottle in warm sterile bottles while still hot. Cap tightly. If keeping for long periods, coat the top with a little melted paraffin wax.

Continued on page 371

Our Garden No 45: Yuruga

Peter and Ann Radke, Walkamin, Queensland

Our garden is located at Walkamin on the Atherton Tablelands west of Cairns in North Queensland. The region is generally thought of as being lush, green and, because of the altitude, reasonably cool. However, the Atherton Tablelands offer a huge variety of climates within only a short distance, ranging from cool and wet on the southern Tablelands to hot and dry on the northern end.

We live on the northern end of the Tablelands, and our climate could best be described as the 'dry tropics'. So, this is our story of establishing a native garden in the hot, dry tropics...

Our property consists of 32 hectares of natural bush-land located at the end of an old lava flow, and overlooking the town of Mareeba in the northern distance. We purchased the property in 1979 when we were teachers at the local schools, but eventually our love of native plants took a complete grip of our lives, and in 1985 we established Yuruga Nursery which we have dedicated to the growing of Australian tropical plants.

The gardens, house and nursery occupy about 10 hectares along the top of a steep ridge, skirting around natural springs and swamps, tumbling over piles of basalt boulders, and nestled against the natural open eucalypt forest. On a clear day we have views to the mountains behind the Daintree region 100 km to the north.

Our annual rainfall is approximately 800 mm per annum, with the bulk of this falling between December and March. For the remainder of the year it is hot and dry, with bright blue skies, low humidity and high evaporation. Even in our cooler months we very rarely don a jumper, and we never get frost.

An overview

Our gardens are totally native, consisting exclusively of tropical Australian plants, most of which are from north Queensland and Cape York Peninsula, with a few from the top end of the Northern Territory and the odd couple from the Kimberley region of WA.

While we garden for the delight and joy that plants bring, the gardens also perform a variety of important functions relating to our lifestyle and the operation of the nursery.

Our gardens are essential windbreaks to protect us and the nursery from the strong south-easterlies that blow during the dry season. The gardens modify our harsh 'dry tropics' environment by providing shade from the tropical heat and burning sun, cooling the surrounds and capturing welcome humidity. They provide habitat for a great array of birds and butterflies, lizards, frogs, possums, bats, wallabies and other mammals, and some snakes.



Above: A north QLD variety of the widely occurring *Callistemon viminalis*. This plant is from the Rocky River on Cape York Peninsula so we call it *Callistemon* 'Rocky River Red'.



Above: View to the north from the edge of the 'Jump up' showing some tropical grevilleas in the garden.



Left and Above: General photos of our rainforest gardens
Photos: A. Rad

The gardens also have established populations of various predatory insects and mites, which together with the birds, play an important part in the Integrated Pest Management programme of the nursery.

The gardens, of course, provide us with an important source of propagating material for the nursery, as well as being a pleasant place for the public to wander and observe the plants we sell in the nursery in their mature form.

Lastly, the gardens are strategically placed around the nursery to provide protection in case of cyclones.

Garden establishment

Probably the most important issue with gardening in the dry tropics is the fact that there is virtually no rainfall for at least 8 months of the year. In this situation, watering could become a constant nightmare. So, we set out from the start to establish our gardens in such a way that they required as little watering as possible, and we have achieved this with remarkable success. In fact, we water only a couple of times during the dry season, which is far less than most people in more temperate, kinder climates!

Our secret boils down to thorough soil preparation, and the use of lavish quantities of mulch on top of the garden beds. We deep-rip our garden beds with a machine such as a dozer or back-hoe prior to planting. This allows the roots of the plants to penetrate deep down into the soil, thus giving the plants the ability to seek out adequate water to sustain them through dry periods. It also ensures that the plants have large root systems which anchor them firmly in the ground and enable them to withstand strong winds and cyclones.

Mulch is absolutely essential in the tropics to insulate the soil against the heat of the baking sun and, of course, to minimise evaporation. Being in a rural area, we are lucky to have access to large quantities of affordable material such as mulching hay, sugar cane mulch, and peanut shell. We use whatever we can get hold of at a reasonable price.

Unlike a lot of people, we do not believe in applying fertiliser to our plants at the time of planting. For a start, our plants have long-life fertiliser in the potting mix and this is enough to sustain them for the first few months. But also, we have seen a lot of people kill their plants by poisoning them with an accidental overdose. Little plants, like babies, don't need much food anyway.

We do, however, believe quite passionately in fertilising our established gardens. The drenching rains of the tropical wet season leach the soil of valuable nutrients, and our older gardens can look quite tired. This is where amazing results can be achieved with a bucket of fertiliser. We use Incitec CK 77S which we buy in 50 kg bags from our local rural supplier, and we broadcast it through our gardens as though we are feeding the chooks. This is a very cost-effective way of fertilising large gardens. This particular fertiliser has a low phosphorous content so it is quite safe for natives, a good amount of nitrogen to make the plants green up, and a nice dose of potassium which gives a real glow to the plants. Within three weeks of fertilising our gardens they are rejuvenated, vibrant and full of colour again.

We always plant our plants in groups in garden beds, about 1.5 m apart. We find that plants nearly always grow better when they are in the company of others, and it is much easier to look after groups of plants compared with scattered individuals. Garden beds nearly always have a greater aesthetic appeal and a more natural look than individuals, and we use sweeping curves to entice people to wander further to see what's around the corner.

The gardens

We have never done an actual stock-take, but we think we have about a thousand different species represented in our gardens. In the tropics this is not actually all that difficult to achieve, as the tropical rainforests contain a mind-boggling array of diversity of flora.

For instance, at a quick count we have at least 20 species of native palms, including various *Archontophoenix*, *Licuala*, *Ptychosperma*, *Livistona*, *Carpentaria*, *Normanbya*, *Hydriastele*, *Wodyetia*, *Caryota*, and even some *Calamus*. Although we do have a small palm garden planted specially to illustrate the different species, we tend to scatter the palms in appropriate spots throughout our main gardens so as to achieve a natural look. We quite detest the formal rows of palms that are so often planted in landscapes to signify the 'tropical look', because they usually look so artificial and jarring.

When we create a new garden we always ensure that it has a backbone of hardy, tried and trusted plants to create the general structure and to provide a solid backdrop against which to showcase the spectacular or unusual. For this reason, the rainforest **Myrtaceae** are a prominent feature of our gardens, with a big variety of species of *Syzygium*, *Acmena*, *Acmenosperma*, *Waterhousea*, *Austromyrtus* and *Xanthostemon* scattered throughout.

All our gardens also incorporate lots of plants to attract birds and butterflies, such as native rainforest **Lauraceae** to attract the Blue Triangle butterfly and fruit-eating birds, the beautiful **Cape Plum** *Flacourtia* sp. and **Brown Birch** *Scolopia braunii* to attract the Australian Rustic butterfly, and in the tropics no garden is complete without *Melicope elleryana* and *Melicope rubra* (formerly *Evodiella muelleri*) to attract the stunning Ulysses butterfly.

The rainforest **Proteaceae** are very beautiful tropical plants, but unfortunately our climate at Walkamin is too dry to grow all but the hardy species such as *Grevillea baileyana*, *Grevillea hilliana*, *Buckinghamia celsissima* and *Stenocarpus sinuatus*. So as not to miss out, though, we have created a small courtyard which we water regularly so that we can grow and admire some of the more fussy Proteaceae such as *Carnarvonia montana*, *Placospermum coriaceum* and *Neorites kevediana*, and other exquisitely beautiful rainforest plants such as *Sarcotoechia serrata*, *Syzygium erythrocalyx* and *Acmena* sp E. Normanby R. (now *Syzygium monimioides*).

While rainforest plants form the great bulk of our gardens, we also have lots of tropical **grevilleas**, **callistemons**, **melaleucas** and **leptospermums** to provide nectar to attract the honeyeaters and flowers for our vases. Grevilleas and callistemons in particular are grouped together in special gardens so that we can provide the full sun and good drainage essential to growing them well in the tropics.

Allergy to Grevilleas

(Dr) Susi Freeman MB.BS.DDM.FACD. (dermatologist)
30 Blenheim Street, Randwick. NSW

Members of the proteaceae family, grevilleas are the plants most commonly implicated in cases of contact dermatitis in Australia. In 1985, Dr Jenny Menz¹ reported contact dermatitis from *Grevillea* 'Robyn Gordon' in the Medical Journal of Australia. She co-authored another report in 1986². These reports drew attention to the problem of allergy to grevilleas in Australia. In 1997, Cook & Freeman analysed 68 cases of allergic contact dermatitis to plants that had been referred to the Skin & Cancer Foundation in Sydney. Grevilleas were the commonest offending plants, with 26 people affected³.

Grevilleas are cultivated extensively in parks, schools and other public spaces as well as private gardens throughout Australia. The most common plant reported in plant allergy is *Grevillea* 'Robyn Gordon', though this is probably because of its wide use in planting. This vigorous shrub, a natural hybrid between *G. bipinnatifida* and a red-flowered form of *G. banksii*, flourishes in a variety of soils and climates and flowers all year round.

The genus *Grevillea* contains over 300 species ranging from low shrubs to large trees such as Silky Oak (*Grevillea robusta*), which is itself responsible for occurrences of allergic reactions. It is an ornamental timber often used in woodworking, and people working with Silky Oak timber can develop a dermatitis from contact with the sawdust.

The important allergenic species belong to the section *Eugrevillea*. It is not known whether all species contain the allergen.

In 1847, Leichhardt, an explorer who led an expedition to north Queensland, described a member of his party developing a blistering eruption after carrying grevillea pods near his skin. Traditionally, natives of north-western Australia use a secretion from a tree species to scarify their bodies⁴.

The allergens are pentadecylresorcinol and tridecylresorcinol.

Interestingly, the resorcinol derivative in grevilleas is very similar chemically to urushiol, the sensitising agent in the genus *Toxicodendron* (Poison Ivy & Poison Oak). These are extremely common forms of allergic contact dermatitis in North America.

An individual who develops an allergic contact dermatitis caused by a grevillea should consult his or her doctor. The most effective form of treatment is a short course of oral corticosteroids. If not treated promptly, the allergic reaction can continue for many weeks. The diagnosis should be confirmed with patch testing which needs to be carried out by a dermatologist. Only a tiny piece of flower or leaf are applied under occlusion for two days. The sharp point of the leaf is cut off so as not to produce irritation.

Continued opposite

Susi Freeman is a Sydney dermatologist who has published papers on allergies to plants in recent years. She is the Head of the Contact & Occupational Dermatitis Clinic in Sydney.

Some Edible Species

Of South East Queensland _____ C. and G. Keena, D. Somerville

The plants in this list are suitable for the Home Gardener. Before eating ensure plants are accurately identified. Exercise caution with unfamiliar foods. Although the following foods are usually considered safe, adverse reactions in particular individuals cannot be ruled out. Our **favourite species are in Bold Print**.

Groundcover, Grasses and Vines

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Austromyrtus dulcis</i>	Midyim, Midgen	Fruit	One of the best fruits
<i>Carissa ovata</i>	Currant Bush	Fruit (ripe and black)	Pleasant, sweet flesh
<i>Commelina cyanea</i>	Wandering jew	Young shoot	Acceptable boiled vegetable
<i>Elatostema reticulatum</i>	Rainforest spinach	Leaf, stem	Grow in shade
<i>Mentha</i> spp. e.g. <i>australis</i>	Native mint	Leaves	1-2 sprigs for tea; add to dip
<i>Rubus</i> spp.	Native raspberries	Fruit	Fruit good raw or in jam
<i>Tetragonia tetragonoides</i>	Warrigal greens	Leaves	CARE: Blanch, discard water
<i>Viola hederacea</i>	Native violet	Flowers	Attractive creeper. Use as garnish
<i>Wahlenbergia</i> spp.	Bluebell	Flowers	Colourful garnish for salads
<i>Eremophila debilis</i>	Amulla	Fruit	Pinkish red when ripe; slightly bitter

Continued on page 357

Allergy to Grevilleas

continued from previous page

Despite the fact that contact allergy can occur with grevilleas, I would not recommend they be proscribed plants as they are beautiful, varied and versatile Australian natives. It would be much better to promote education about avoidance of contact.

Just this week my own granddaughter developed an acute blistering dermatitis on face and arms from contact with *Grevillea* 'Robyn Gordon' in her school playground! This highlights the need for education concerning contact with these plants.

1. Menz J. (1985) Contact Dermatitis from plants of the *Grevillea* family – two case reports. *Australasian Journal of Dermatology*, **26**:74-6
2. Menz J, Rossi RE, Taylor WC & Wall L (1986) Contact Dermatitis from *Grevillea* "Robyn Gordon". *Contact Dermatitis*, **15**:126-3
3. David K. Cook & Susanne Freeman (1997) Allergic Contact Dermatitis to Plants: an analysis of 68 patients tested at the Skin & Cancer Foundation.. *Australasian Journal of Dermatology* **38**: 129-131
4. Lothian N (1989) *Grevillea* species & Hybrids causing Contact Dermatitis. *Australasian Journal of Dermatology* **30**: 111-113

Some Edible Species

continued from page 356

Tufty Plants

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Alpinia caerulea</i>	Native ginger	All parts, raw, cooked	Fruit is pleasantly acid
<i>Lomandra confertifolia</i>	Mat rush	Leaf base, flowers	Forms large clumps
<i>Lomandra hystrix</i>	Longleaf mat rush	Leaf base, flowers	Useful for landscaping
<i>Lomandra longifolia</i>	Longleaf mat rush	Leaf base, flowers	Useful for landscaping

Small Shrubs 1-2 metres

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Melastoma affine</i>	Blue tongue	Fruits	Sweet purple pulp
<i>Psychotria loniceroides</i>	Hairy psychotria	Fruits - ripe only	Reasonable flavour

Medium Shrubs 2-5 metres

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Acacia complanata</i>	Flat stemmed wattle	Seeds	Seeds parched, cleaned, milled
<i>Backhousia myrtifolia</i>	Native cinnamon	Leaves	Add to tea
<i>Brachychiton bidwillii</i>	Little kurrajong	Seeds N.B. irritant hairs	Roasted seeds flavour breads
<i>Eugenia reinwardtiana</i>	Beach cherry	Fruit	Succulent; slow (Bundaberg north)
<i>Eupomatia laurina</i>	Native guava	Fruit	Pulp is edible; shaded position
<i>Hibiscus heterophyllus</i>	Native hibiscus	Petals	Tasty jam, syrup, cordial
<i>Randia chartacea</i>	Narrow-leaved gardenia	Fruit	Red-orange fleshy fruit
<i>Syzygium australe</i> (forms)	Scrub cherry	Fruit	Crisp, fleshy fruit, raw, jam

Small To Medium Trees

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Acacia concurrens</i>	Black wattle	Seeds	Seeds parched, cleaned, milled
<i>Acmena smithii</i> (forms)	Blue lilly-pilly	Fruit	Varies in quality; young foliage is red
<i>Acronychia</i> spp. <i>A. oblongifolia</i>	White aspen	Fruit	Edible but acidic
<i>Alectryon tomentosus</i>	Red-jacket	Fruit	Pleasant jacket around seed
<i>Backhousia citriodora</i>	Lemon myrtle	Leaves	Cooking; calming hot or cold drink
<i>Brachychiton populneus</i>	Kurrajong	Seeds N.B. irritant hairs	Raw; roasted to flavour breads
<i>Ficus coronata</i>	Creek sandpaper fig	Peeled ripe fruit	Tasty soft fruit
<i>Ficus fraseri</i>	Shiny sandpaper fig	Fruit	Tasty soft fruit
<i>Ficus opposita</i>	Sandpaper fig	Fruit	Tasty raw or stewed
<i>Pipturus argenteus</i>	Native mulberry	Fruit	Need male and female trees

Small To Medium Trees

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Podocarpus elatus</i>	Illawarra plum / Brown pine	Completely ripe fruit	Need male and female trees
<i>Syzygium australe</i> (forms)	Scrub cherry	Fruit	Crisp, fleshy fruit, raw, stewed, jam
<i>Wilkiea macrophylla</i>	Large-leaved wilkiea	Seeds	Boil for 15 minutes

Tall Trees

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Acmena ingens</i>	Red apple	Fruit	Juice of stewed fruit is tasty
<i>Araucaria bidwillii</i>	Bunya pine	Nuts	Raw; remove end & roast; boiled
<i>Brachychiton acerifolius</i>	Flame tree	Seeds N.B. irritant hairs	Roasted seeds flavour breads
<i>Citrus australis</i>	Native lime	Fruit	Drinks; marmalade
<i>Diploglottis australis</i>	Native tamarind	Fruit	Pulp makes drinks, jam
<i>Elaeocarpus grandis</i>	Blue quandong	Fruit	Fast growing; eat fresh
<i>Macadamia integrifolia</i>	Qld nut tree	Seeds	Raw but improved by baking
<i>Planchonella</i> = <i>Pouteria australis</i>	Black apple	Fruit - keep till ripe	Large, juicy; makes a jelly; slow
<i>Planchonella</i> = <i>Pouteria eerwah</i>	Black plum	Fruit	Large, fleshy; endangered; slow
<i>Sterculia quadrifida</i>	Peanut tree	Seeds	Delicious, nutty. Raw or roasted
<i>Syzygium corynanthum</i>	Sour cherry	Fruit	Crisp, juicy, acid - pleasant; jelly
<i>Syzygium crebrinerve</i>	Black water gum	Fruit	Edible but not very palatable
<i>Syzygium luehmannii</i>	Riberry	Fruit	Good for jam; bright pink leaves
<i>Syzygium oleosum</i>	Blue lilly-pilly	Fruit	Good fresh or for jam, jelly

Not Indigenous to South East Queensland

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Abelmoschus manihot</i>	Aibika	Leaf	High level of leaf protein
<i>Davidsonia jerseyana</i>	Davidson's plum	Fruit	Stewed; jam, wine CARE: remove hairs
<i>Davidsonia pruriens</i>	Davidson's plum	Fruit	Stewed; jam, wine CARE: remove hairs
<i>Diploglottis campbellii</i>	Small-leaved tamarind	Fruit	Juicy but sour pulp; drinks

Rainforest in Tasmania

Dick Burns, Life member, APS Tasmania

Among the generally recognised distinguishing features of rainforest are:

- a closed canopy, more than 70% complete
- soft, non-sclerophyll leaves, often with large blades
- ability of plants to germinate in low light
- limited or no ability to cope with fire.

Tasmania's rainforests are classified as 'cool temperate rainforest'.

The structure of cool temperate rainforest differs from the rainforests of northern NSW and Queensland. Tasmania's forests mostly have only one dominant tree forming the canopy, normally *Nothofagus cunninghamii*, Myrtle Beech. Occasionally other species, including *Eucryphia lucida* (Leatherwood), *Atherosperma moschatum*, (Sassafras), *Phyllocladus aspleniifolius* (Celery Top Pine) and *Anodopetalum biglandulosum* (photo on page 365), horizontal, become increasingly important, to co-dominant on poor soils. Lianes and parasites are mostly absent, replaced by epiphytic or ground ferns, bryophytes and lichens. Large trees form only small buttresses. Leaves of under-storey plants tend to be large, due to low light levels. In the canopy, leaves have to cope with strong sunlight, so leaves are small and thick, as on *Nothofagus cunninghamii*. Many rainforest species have serrated leaves.

Nothofagus is wind-pollinated. Other flowers are predominantly small. Petal colour is generally white, cream or yellow, occasionally pink or red (Epacridaceae and Telopea). Fleshy fruits however are frequently intensely coloured (e.g. *Cenarrhenes*, *Phyllocladus* and *Leptecophylla* syn. *Cyathodes*).

Tasmanian rainforest has a distinctive smell. It is quiet, with few bird calls, apart from southern forests where the introduced superb lyrebird has spread and altered the forest floor. Often the only sounds are of running water.

An article in Nature Australia by Tim Low (vol 27, no.12, pp 24-25) states that Australians are starting to use 'rainforest' to describe any forest with a closed canopy, even if high rainfall is not characteristic. These are better called 'closed forest'. Closed forests in Tasmania include alpine dwarf conifer forests, seen on the Cradle Plateau and groves of the deciduous fagus, *Nothofagus gunnii*.

Dick spent thirty years as a high school science teacher on weekdays and a bushwalker-botanist-photographer during weekends. The latter was essential refreshment after the former. Now retired he can do the refreshing in Tasmania's highlands and rainforests at any time.

Tasmanian rainforest develops on soils that vary from fertile basaltic-derived to those on nutrient-poor soils developed over quartzite. It requires a rainfall of well over 1200 mm annually to establish itself, with regular summer rain. With the appropriate environmental conditions and in the absence of fire, in Tasmania rainforest becomes the climax vegetation.

The island's rainforests are a reminder of Australia's past. To enter the forest is to see the remnant of an ancient forest type that was once widespread on the mainland, but largely eliminated there as the climate became drier. Gondwanan flora abounds. Tasmania was Australia's last link with Antarctica. During the Cretaceous and Tertiary periods, when forests grew in Antarctica, plants shared with New Zealand and South America included conifers from the families Podocarpaceae and Cupressaceae, flowering plants from the families Cunoniaceae, Epacridaceae, Proteaceae, Escalloniaceae and *Eucryphia* and *Nothofagus*. With isolation, endemism developed.

Classification

Tasmanian rainforest can be found from sea level to subalpine habitats. Montane rainforest is normally dominated by *Nothofagus*, but *Athrotaxis* dominated forests exist. There are three main types of lowland Tasmanian rainforest:

- Callidendrous rainforest ('beautiful trees') gives a park-like impression, with trees between 25 and 40 m tall and an open under-storey of few shrubs, sometimes Manferns (*Dicksonia* spp.).
- Thamnisc rainforest ('shrubby') has trees of a similar height but a more obvious shrubby under-storey.
- Implicate rainforest ('intertwined') has trees below 20 m high with a dense understorey. Trees and shrubs form a continuous intermeshing network of twisted trunks and branches.

As well, Gallery rainforest ('long, narrow') forms a narrow band along watercourses, sometimes with communities other than rainforest beyond. *Lagarostrobos franklinii*, *Leptospermum riparium* and *Epacris franklinii* or *E. mucronulata* are distinctive features of gallery rainforest.

Depending on which plants and which associations are found, nearly forty different communities have been recognised within these four forest types. Soil type has an effect on the species found within the community.

Rainforest distribution

The largest contiguous area of rainforest in Australia is in the north west of Tasmania, in the area now widely known as the Tarkine. This name is based on the name of the Aboriginal tribe that once lived in the region. As part of the Launceston Conference and Seminar, many visitors spent two days exploring the diversity of the Tarkine.



Above: Bird River track, Old Railway Formation where Ferns and bryophytes cover the ground.

See Page 362



Left: *Asplenium flaccidum* ssp. *flaccidum*

Below: *Pneumatopteris pennigera* - Lime Fern

See Page 366

All photos: D. Burns



In the Tarkine, the Savage River National Park protects some of the tallest and best examples of undisturbed rainforest. The Park's 17,980 ha is mostly rainforest, and is to be managed as a wilderness zone. Other fragments of the Tarkine are in reserves of lower conservation value, with large tracts under threat of large-scale clear-felling. ASGAP has supported a proposal for a Tarkine National Park.

Rainforest is scattered over much of the island. Pockets are even found in gullies on the drier East Coast.

The area with the reputation of very high rainfall, around Queenstown, was once covered with dense rainforest. The conversion of the vegetation around the town from lush rainforest to the 'Queenstown desert' shown on maps, is a textbook example of environmental destruction. But away from the effect of the axes, smelters and sulphur dioxide, rainforest survived.

South of Queenstown is a magical 8 km stroll into West Coast rainforest down the Bird River Track. Walkers need to allow a full day: people have been known to remain entranced in the one spot for an hour.

The track is an old railway formation, now abandoned. Photo on page 361. It follows a small fast-flowing river whose water is the distinctively Tasmanian tannin brown. Green now envelops everything. Ferns and bryophytes cover the ground, old railway cuttings, and tree trunks, even the rocks in the river. At the core of this rainforest where the canopy is complete, the diversity is not great. But in spring, *Acradenia frankliniae* (photo on page 365) forms great mounds of white starry flowers. In late summer into autumn, the perfume and petals of *Eucryphia lucida* (Leatherwood), drift through the forest. And the pink bells of *Prionotes cerinthoides*, climbing heath hang from tree and the old cuttings.

Growing a rainforest – an experiment

During the 1999 Brisbane Seminar, we visited Surrey Farm Park and saw the 'Jack Mitchell' technique for rapid establishment of a rainforest. I have attempted to adapt this system designed for tropical rainforest to starting an 'instant' Tasmanian cool temperate rainforest (just add water!) at the Tasmanian Arboretum.

For the trial, I chose a sheltered area, a bit more than 20 m square. If it were to be a true rainforest, almost all trees would be *Nothofagus cunninghamii*. To ensure that the display would be representative, a mixture of typical species had to be used. So the collection has twice as many *Nothofagus* as any other species. Following Jack Mitchell's rules, no *Acacia* spp. were used. Along one side, an edge-of-rainforest screen of tall shrubs was planned. To estimate the number of plants, a 3 m spacing for trees and 2 m spacing for shrubs was used. About eighty plants were donated by a most generous local Tasmanian-only nursery. The majority of plants were similar-sized tube stock.

A pathway was marked out, and to get a 'random' look, I threw a few bamboo stakes into the area, then tried walking aimlessly between them, filling in empty spaces. The plantings were done in autumn and winter 2004.

Good winter rain has given the planting an excellent start.

Some garden plants from Tasmanian rainforests

***Atherosperma moschatum*, Sassafras**

With ideal conditions, this tree can reach 45 m, but after 25 years at Penguin, my plant is about 8 m. A specimen planted at the Arboretum in 1985 is about 5 m tall. In open situations, sassafras develops a conical shape, but the foliage has a yellowish hue. The full green leaf colour develops in shaded sites. Delicate white flowers, often perfumed form in early spring. Fallen flowers litter the forest floor.

***Eucryphia milliganii*, Mountain leatherwood**

This Tasmanian endemic is found naturally from sea level to high altitudes, but grows well in sea level, watered, sheltered gardens. Size of the plant, leaves and flowers are all smaller than the more common *Eucryphia lucida*. Photo on page 364. The flowers still produce the distinctive leatherwood perfume.

***Leptospermum riparium*, Riverine tea tree**

An endemic plant of Tasmanian West Coast river banks, Riverine Tea Tree grows well in dry gardens. It forms a medium, dense shrub, mostly upright. Leaves are shiny green. The late spring flowers are most attractive. Five brilliant white overlapping petals are enhanced by the red sepals. Plants at Penguin are about 1.5 m tall. Photo on page 364.

***Anopterus glandulosus*, Native laurel**

Native Laurel is one of Tasmania's glories, with large glossy green leaves and white sprays of flowers in late spring. Occasionally flowers flushed with pink are found. In rainforest, the thick stems can grow so long that they lean, but in open situations, a tight well-shaped bush develops. Photo on page 365.

A plant grew very well at Penguin for many years in a sheltered spot, but succumbed to a protracted dry summer. It does make an excellent large pot plant.

Epacris franklinii

Like the above-mentioned tea tree, this *Epacris* is a riparian plant. The name is an old one, revived due to a re-examination of part of the genus by Dr Ron Crowden after the review of family Epacridaceae by himself and Yvonne Menadue was published in Australian Plants (see particularly vol 21, no. 167, pp 118-124).

Epacris franklinii is found along the lower altitude river banks from the Meander River in the North, on the North West rivers, the Mersey and Forth, then down the West Coast to the Arthur, Pieman, King and Franklin Rivers. *E. mucronulata* is primarily from the Huon River system. Photo on page 365.

Epacris franklinii has a firm erect growth, with a good display of white flower clusters in late spring.

***Gaultheria hispida*, Snow Berry**

This endemic species is an open erect shrub, normally growing to 1 m but sometimes taller. It has attractive white urn-shaped flowers in terminal clusters. The calyx enlarges to form a white globe that encases the small fruit. Snow Berry prefers wet areas; it is common on wet rocky road cuttings in rainforest.



Above:
Eucryphia lucida

See Page 363

Left:
Leptospermum riparium

See Page 363

Below:
Bird River Rainforest

See Page 362

All photos: D. Bur





Above Left:
Anodopetalum
biglandulosum

See Page 359

Above:
Acradenia frankliniae

See Page 362

Left:
Anopterus glandulosus
- pink flowered form

See Page 363

Below Left:
Epacris mucronulata

See Page 363

Below:
Diselma archeri

See Page 366

All photos: D. Burns



***Diselma archeri*, Diselma**

Diselma is often given a confusing common name, 'Cheshunt pine', which most people read as 'chestnut'. Cheshunt is the name of one of Mr Archer's homes, which doesn't help anyone recognise the plant. 'Diselma' has a lyrical sound and is more apt. Photo on page 365.

This endemic conifer can grow to a tall tree, but at both Penguin and the Tasmanian Arboretum it is a spreading dense shrub with graceful arching branch tips.

***Prionotes cerinthoides*, Climbing heath**

One of Tasmania's great delights is to wander into rainforest in late summer or March, to see trees and rocks festooned with bright pink bells. I have seen it draped between trees, and even growing out of rock cracks near the coast in the South West.

In gardens, it has been grown successfully in rotting logs, on Manfern trunks and in hanging wire baskets, where it grows through the fibre base. The best results I have seen have been in wide, shallow terracotta pots, in a peaty wet mix.

Ferns

There are many more Tasmanian ferns than are mentioned here, to be recommended for gardens.

Microsorium pustulatum, Kangaroo fern, grows at Penguin, where it formed a dense ground cover. Unfortunately the fibrous surface roots stopped water penetration.

Pellaea falcata, Sickie fern, has long narrow fronds with glossy deep green pinnae. It grows in a watered shaded spot at Penguin.

Pneumatopteris pennigera, Lime fern, is extremely rare in Tasmania, where it prefers alkaline conditions. Another small ground-fern, it has light green lobed pinnae. Photo on page 361.

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3. Parks and Wildlife Service (Tasmania), *Savage River National Park draft Management Plan*, PWS, DPIWE, 2001.
4. Launceston Field Naturalists Club, Mary Cameron, editor, *A Guide to Flowers and Plants of Tasmania*, third edition, Reed New Holland, 2000.

Errata: Our Garden No 44 - Deviation Road

The last 4 sentences in Vol.22:179, June 2004 page 255 should read:

Alloxylon and ***Embothrium*** failed, as have most *Telopea* species. Around Penguin there are several healthy *Telopea speciosissima* plants, but mine are too shaded or crowded to do well. Plants of the Tasmanian *Telopea truncata* have all died. My only real success is *Telopea mongaensis*.

South West in the 'Off Season'

Cas Liber, Banksia Study Group Leader

Recently, my wife and I were invited to a friend's wedding in Perth, so I took the liberty of sneaking in a side trip to Margaret River and Albany/Mt Barker on the same trip. Unfortunately, being in early December, the trip did not coincide with the spring wildflower touring season.

However, the Western Australian angiosperms did not let me down - yes there were fewer species in flower (I guess) than in the spring, but one gets the feeling that they make up in size and showiness of species in blooms for what they lack in numbers! After arriving and driving south out of Perth on the Kwinana Freeway, I immediately noticed *Banksia attenuata* in great numbers along the freeway verge. Published photos really don't do the bright yellow spikes justice, I feel; they are much more prominent than any eastern species. Young spikes in late bud are a pleasant green-yellow in colour too. Also, the Western Australian Christmas bush (*Nuytsia floribunda*) was similarly striking, with orange-yellow blooms dotting the landscape.

Further south, I saw a lot more Bull banksia (*Banksia grandis*), with great swathes of pale new growth after bushfires, as well as tall yellow spikes all over the place. Though most Bull banksia were a straight bright yellow in bud and full bloom, there were some interesting colour variants. Scattered plants often having an aqua, bluish or mauvish tinge in bud (strongly reminiscent of *Banksia oblongifolia* in bud back east). This was quite prominent in some plants we saw while whizzing past on the highway. The Mammoth Cave walking track was another good place to see many of these odd pigmented *B. grandis* in late bud. Kevin Collins told me of one specimen on a road verge near Nannup which had been almost all blue in bud but had disappeared under a grader before propagation material could be gained from it.

Margaret River and Albany were much cooler than Perth and summer is an ideal time to visit. Just outside of Albany is Torndirrup National Park, with dwarf *Banksia grandis* 1-2 m high and gnarled natural bonsai trees of *Banksia ilicifolia*, which was also in flower. Photos on page 368. In the eastern part of their range the flowers remain yellow rather than turning red as they do further west. The relatively gnarled Silver Woollybushes had the odd red flower.

Staying at Kevin Collins' Banksia Farm in Mt Barker was great - seeing different species in flower - *Banksia leptophylla*, *B. speciosa*, *B. baxteri* and *B. laevigata* var. *laevigata* (photo on page 369) as well as *B. grandis* and *B. attenuata*. *Banksia elegans* was in bud (photo on page 368) and there were coloured cones of *Banksia menziesii* that were quite striking just after the old flowers had fallen and before they had time to fade. Different coloured inflorescences result in differing pigmentation of the spikes and young follicles.



Above: Unusual all-yellow forms of *Banksia ilicifolia*
See Page 367

Right: Bonsai trunk of *Banksia ilicifolia* at Torndirrup NP near Albany, WA.

Below:
Banksia elegans in bud at Banksia Farm, Mt Barker.
See Page 367

All photos: C. Liber





Above Left: *Eucalyptus jacksonii* -

Trunk buttressing of Red Tingle

See Page 370

Above: *Hibbertia furfuracea*

See Page 370

Photos: C. Liber

Below: *Banksia laevigata* var.

laevigata See Page 367

Photo: F. Johnston



Other summer wildflowers seen include the scrambling *Dampiera hederacea* in the Valley of the Giants near Walpole, and various hibernias. The tallish Cut-Leaf guinea flower (*Hibbertia cuneiformis*) was widespread; it is somewhat familiar as it is sometimes seen for sale in the eastern states. *Hibbertia furfuracea* was a shrub to 1.5 m that was flowering in dappled shade along the Giant tingle tree track. Photo on page 369. *Hibbertia grossulariifolia* made an attractive groundcover growing in damp places seen at Mammoth cave track near Margaret River.

Garden ideas

I couldn't help myself as the greenery gave me ideas. One could have quite a green and shady garden made up of Western plants such as the hardy *Chorilaena quercifolia* with its attractive oak-shaped lobed leaves. I have seen mature specimens of this plant at Maranoa Gardens in Melbourne and Joseph Banks reserve in Sydney, which suggests it is quite hardy. The biggest challenge is finding any available!). This is the sole member of the genus *Chorilaena* in the family Rutaceae, which grows to 1–4 metres high and wide and flowers in spring and summer. The pendulous flower heads are ~1 by 1.5 cm, with flowers surrounded by many narrow bracts. They are most commonly green, though white, red and even pink forms have been seen.

Hibbertia cuneiformis has been widely cultivated and *H. furfuracea* is also reported to be hardy. Greg Keighery of CALM WA reports that the latter species is grown in WA from cuttings but does set plenty of seed. He adds that it is relatively easy to grow south of Perth, but needs a bit of water over summer. It is a good shade tolerant plant. However, it can get a bit leggy in shade but can be lightly pruned.

Similarly the Sword sedge (*Lepidosperma effusum*) and Tassel flower or Whorled heath (*Leucopogon verticillatus*) both have dramatic bright green foliage – the former as strappy plant while the latter has unusual long (to 16 cm) elliptical leaves with pointed apices which appear to be arranged in whorls.

Reading the information boards and looking at all the lovely red Tingle tree trunks in the Valley of the Giants gave me another idea. The Red tingle (*Eucalyptus jacksonii*) is notable for its spectacular buttressing of its trunk base (the largest being 24 m diameter), may this species not be worthwhile trying as a bonsai? Photo on page 369.

Seeing a Western Lambertia - *Lambertia echinata* subsp. *citrina* (previously known as *L. propinqua*) was another highlight. As I grow and love its eastern relative *L. formosa* I asked Greg Keighery about growing them; he summarised their response to cultivation as "Relatively easy to grow, flower in 18 months, but very prone to fungal disease, water-logging and borers."

As I had the children, my wildflower seeing was limited a bit (no real long walks!) but I can say I did have a lot of joy in the 'off season' and didn't have to walk far at all to see some spectacular plants.

From Bush to Table

continued from page 350

Wild Raspberry Jam (*Rubus fraxinifolius*)

Ann McHugh

400 gm frozen raspberries
600 ml water
Juice of 1 lemon
500 gm sugar

Raspberries may be collected and frozen in punnets till you have a good quantity. However, after freezing, the fruit are softened and need less cooking time. Add cold water and lemon juice to frozen raspberries in a saucepan. Bring slowly to the boil and boil gently for about 30 to 45 minutes. Add warmed sugar and stir gently till all sugar is dissolved. Return to boil and boil for another 20 minutes. Bottle in sterile jars while hot. Cap tightly.

Burdekin Plum Wine

Lenore Lindsay

2 kg plums (*Pleiogynium timorense*) previously frozen

1.5 kg sugar

1 campden tablet*

4 litres boiling water

1/4 cup yeast starter

1 level teaspoon nutrient

1/2 teaspoon pectinase

* Camden Tablet is the trade name for a small tablet of potassium metabisulphite. The sulphur sterilises equipment, prevents the growth of mould, bacteria and spoilage yeast and improves the flavour of the wine.

Crush the fruit in a clean plastic bucket. Add sugar and tablet, and pour on boiling water. Mix, cover and cool. When cool add nutrient, pectinase and yeast.

Stir twice daily for 7 days, then strain into a 5 litre jar with a fermentation lock. When fermentation has finished, rack and store.

Starter yeast:

1 cup orange juice

1 cup water

1 dessertspoon sugar

Boil and cool. Pour into bottle.

Add one sachet of wine-making yeast.

May be kept in the refrigerator. Add a teaspoon of sugar and let stand when removing from the refrigerator and another teaspoon of sugar and juice of an orange boiled together when returning to storage.

Cedar Bay Cherry Jam (*Eugenia reinwardtiana*)

Ann McHugh

Collect your cherries as they ripen and remove the calyx with a sharp knife. Freeze the fruit till you have a good quantity. Place your fruit in a jam pan with the juice of a lemon. Cover with cold water and bring slowly to the boil. Boil for about 45 minutes. Allow to cool and remove all the seeds. There is no easy way to do this that I have found. Return fruit to the boil and add warmed sugar. This may be "cup for cup" or less, depending on taste. Dissolve the sugar and return to the boil and boil for at least 20 minutes. The amount of lemon juice used adds to the jell and improves the colour, but too much will interfere with the natural cherry flavour. Bottle while hot in sterile jars and cap tightly.



Drylands

Top Left and Left:

Citrus glauca - Desert lime

Above:

Myoporum debile - Winter apples, Dibble-dibbles or Am

Below:

Enchylaena tomentosa - th
Ruby or Barrier saltbush

See page 346

All Photos: E. And





Top Left, Left and Above:
Carissa ovata -
Wild currants

Far Left:
Panicum decompositum -
Native millet

Below:
Portulaca oleracea -
Pigweed is one of the most
valuable of bush foods.

See page 346

All Photos: E. Anderson



Wildflower Nurseries in Queensland

Fairhill Plants and Botanic Gardens — Huge range: rainforest plants, grafted grevilleas, rare plants, wildflowers, ferns, orchids, revegetation trees. Extensive display gardens. Open every day 8.30 a.m. to 5.00 p.m. Fairhill Native Plants, Fairhill Rd, Yandina, Qld 4561. Tel. (07) 5446 7088.

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Wariapendi Nursery — Church Ave, Colo Vale (10 km north of Mittagong off the freeway towards Colo Vale). Tel. (02) 4889 4327. Extensive range of natives from tubestock to advanced for Southern Highlands and Tablelands, South Coast and Sydney Basin. www.wariapendi.com.au

Wildgems Native Plants — PO Box 89, Cobargo, NSW 2550. Ph/Fax (02) 6493 7398, Mob. 0427 937 398. Wholesale nursery open by appointment. Huge range including rare species.

Wirrimbirra Native Nursery — Hume Hwy, between Bargo and Tahmoor E. side 2574 (3 km from Freeway entry). Wide range including unusual plants. Tel. (02) 4684 1112.

Wirreanda Nursery — End of Wirreanda Rd, Ingleside 2101. Tel. (02) 9450 1400. Growers of advanced and semi-advanced native trees and shrubs. Open 7 days.

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Wildflower Nurseries in Tasmania

Plants of Tasmania Nursery — 65 Hall St, Ridgeway 7054. SAE catalogue. Tel. (03) 6239 1583. Open 7 days.

Wildflower Nurseries in Victoria

Kuranga Native Nursery — NEW BRANCH OPEN at 118 York Rd, Mt Evelyn 3796. Melway 52 K3 Tel. (03) 9760 8100. www.kuranga.com.au Charming setting, beautiful building, café and of course Australia's largest range of Australian flora. Delivery to all mainland states and free stock list on request.

Australian Wildflower Seed Suppliers

R. Horner — 1 Grundy St, Alice Springs, NT 0870. Seed of trees and shrubs of Central Australia. Please send a 45c stamp for a list.

Nindethana Seed Service — Broad selection of Australian seed. Send \$3 in stamps for a list to: PO Box 2121, Albany WA. Ph: 08 9844 3533, Fax: 08 9844 3573. www.nindethana.iinet.net.au

Wildflower Society of Western Australia (Inc.) — PO Box 64, Nedlands 6909. A range of seeds available, labelled and packed, at \$1.50 (plus postage) per packet. Send for a **current** Descriptive Seed List (\$3.00 posted) to: The Seed Sales Officer, Eastern Hills Branch, PO Box 111 Glen Forrest, WA 6071. Also available a book *Hints on Growing Native Plants* (\$4.00 posted).



The Grevillea Book, volumes 1, 2 and 3 by Peter Olde and Neil Marriott, is a complete reference to all species of *Grevillea*. The Australian Plants Society NSW ensured that they were published to a very high standard with at least one large colour photograph of each of the 340+ species, an easily read description of each species and details of its occurrence and cultivation. They are available from the Australian Plants Society NSW, PO Box 744, Blacktown NSW 2148, at \$44 per volume plus postage and handling of \$9.00 for 1 volume and \$15.00 for 2 or 3 volumes within NSW.

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Editorial Material: Editor, Australian Plants, PO Box 744, Blacktown NSW 2148

E-mail: edap@austplants-nsw.org.au Fax. (02) 9676 7603

PUBLISHING COMMITTEE: M Wagner (Convenor), J Caldwell, C Liber,

M Robinson, R Smyth-Kirk, K Sommerville, G Teague

All publication correspondence / feedback to: Publishing Committee, PO Box 744, Blacktown NSW 2148

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