
NEWSLETTER

NUMBER 39.

JUNE 2000.

323 Philp Ave.,
Frenchville.
Qld. 4701.
30/6/2000.

Dear Members and subscribers,

As the temperature drops and we head into winter, both urban gardens and the surrounding natural vegetation in Central Queensland are taking on the familiar yellowish tinge of the cooler months. We've had some quite unseasonal rain which has meant plants are not overly stressed, but there hasn't been enough to replenish stored supplies, and the creeks are not running. Our rain shadow has been very pronounced this year, given the amount of moisture that's fallen on the rest of the country.

However, the conditions obviously suit our Native Raspberries (*Rubus probus* syn. *R. fraxinifolius*), as they have started to produce big, luscious fruits, and are covered in larger-than-usual healthy-looking flowers. We're looking forward to a really good crop this year.

At the back of the house, the *Rubus probus* syn. *R. muelleri* that Oliver Carter sent me as tiny seedlings some years ago have finally taken off, scrambling high into the trees, and producing fruit often only reachable by the birds. The 1998? revision that put many of the Queensland raspberries into *R. probus* also pronounced *R. muelleri* an invalid name, and added it to *R. probus* as well. In our yard there are small but appreciable differences between the two, and we keep them quite separate on opposite sides of the house. The *R. muelleri* fruits are more orange and blander in taste, and the plants appear coarser, larger and more scrambling in habit.

It has been brought to my notice that the remarks I made in the October newsletter congratulating and thanking Jan Sked and her helpers for setting up our study group display at the ASGAP Conference in Brisbane last year could have been misinterpreted to suggest that I was crediting Jan and her team with setting up the entire collection of combined study group displays! Of course, I was referring only to the display of the group I was writing to/about, and giving credit where I believed credit was due. I assumed that each study group was responsible for their own display, under the overall supervision of Queensland Region. I therefore apologise for any unintentional slight to Barbara Henderson and anyone else who may have assisted in the co-ordinating of the combined displays, and repeat my acknowledgement of

the thanks due to Jan and the others who set up the Australian Food Plants Study Group display for us.

While on the subject of study group displays, we'll need help for the one at the 2001 ASGAP Conference in Canberra in October. At this point, I am uncertain whether I can be at the conference at all, and either way, assistance will be needed to provide material, to help set up and to dismantle after, so volunteers will be welcome.

I've had a few meetings recently with the Rocky City Council Volunteer Co-ordinator for both the Botanic Gardens and Zoo, Jill Scown. She is instituting regular guided tours of various sorts, including useful plants at the Kershaw. I can't help during the week of course, but Ann McHugh does. We've also discussed information leaflets, self-guided tours, notice boards, etc. Things seem to be developing quite satisfactorily, though of course Jill doesn't have a free hand, and some of her orders are not what we'd perhaps choose for ourselves. We've received notification of all sorts of happenings and events and other information that might interest our readers, so here goes with the info.

7-9 July 2000: The Seventh Australian Herb Conference in Townsville. (A bit late notice for us, but it would be interesting to read any of the papers which deal with Australian native herbs, if anyone has them.)

5 August, 4 November 2000, 3 February, 5 May 2001: Queensland Bushfood Association meetings, Mt Coot-tha Botanic Gardens under the Library, 10am to 2pm. jrmrk@bytesite.com.au

14 August 2000: Formation of the Davidsons Plum Industry Association at the Red Cross Hall, Murwillumbah, northern NSW. Information from Debbie Wood, Ph.02 66771675, deb@norex.com.au

17 August 2000: Seminar and Botanic Gardens Tour of Brisbane Botanic Gardens Mt.Coot-tha: Training, Best Practice and Networking for Plant Conservation. Speaker, Jeanette Mill, National Co-ordinator, Australian Network for Plant Conservation, GPO Box 1777, Canberra. ACT. 2601.

1 September 2000: Muntries Production Seminar and Farm Tour run by ANPI and PIR South Australia at PIRSA Lenswood Centre, South Australia. Ph: Anthony Hele 08 8598 8129.

2-3 September 2000: Australian Medicinal Herb and Essential Oil Workshop at La-Trobe University, Beechworth, Victoria. Focusing on *Melaleuca ericifolia* (Lavaleuca), *Eucalyptus radiata* var *australiana* (Peppermint Gum), and *Eucalyptus melliodora* (Yellow Box). Hands on workshop learning how to use tinctures, liniments, essential oils and creams using the native medicinal plants that grow around the area, field trip to local farm, field distillation. Ph: Jeff Allen 0357282421 or 0412899629 or e-mail bearoma@cnl.com.au
There is also another planned for South Australia in November.

4 September 2000: Workshop on what and how to grow Bushfood plants suited to Melbourne conditions at Herbs and Cottage Plants Nursery, Hurstbridge. 3099. Ph.03 9718 2249.

9-10 September 2000: SGAP Spring Flower Show, Mt.Gravatt Showgrounds, Brisbane. There'll be bush food displays and information as well as flowers etc.

24 September 2000: Mudgee Native Food Growers' Quandong Workshop. Further information from Michael Malanot on 02 6374 5158.

If you are looking for finger limes for something, the Australian Finger Lime Co has them available, Ph.02 66770030. Website www.fingerlimes.com

If anyone is interested in joining an internet discussion group on any aspect of Australian plants which is free and open to all, there's one at majordomo@jasper.cqu.edu.au In the body of the e-mail you just need to type: subscribeaussieplants@cqu.edu.au

There was also one formed as a follow-up to a native food seminar held at Muresk, WA. Sign up at <http://NativeFoodsWA.listbot.com/>

Wendy Phelps has sent the latest catalogue from Longreach Bush Tucker, PO Box 51 Longreach Q 4730. It's not large, but the prices are reasonable. Website: <www.users.bigpond.com/blackmare>

Herbs Australia has both an on-line newsletter and an interesting website at <www.herbsaustralia.com.au>

Newsletter 19 of the Epacris Study Group has a very clear article on the re-classification of the Epacridaceae into 7 separate tribes. The one which appears to contain the species with edible fruits is the Styphelieae, which includes Acrotriche, Astroloma, Cyathodes and Leucopogon amongst others.

The Rainforest Study Group's Newsletter 48 contains a reference to the Aboriginal use of *Duboisia myoporides* as an alcohol/drug, and suggests there were about 16 other species used similarly. In this case, holes were drilled in the trunk of the tree and filled with water, and the resulting concoction left overnight to be drunk the next day. Apparently it puts the drinker in a stupor which can last for days.

Ann Oram has replied to a query about *Flacourtia* with some information on 2 Australian species. *Flacourtia territorialis*, found naturally in vine thickets near Darwin: This is a hardy little shrub which produces edible fruit in the shade as well as the sun. It has separate male and female flowers, and is the host plant for the Leopard butterfly. The other is an undescribed *Flacourtia* from Cape York. This Cape Plum is a beautiful hardy screen plant with dense foliage which is bright red when new. The small black fruit are delicious and make great jam. It has separate male and female plants, and is the host plant for the Australian Rustic Butterfly. Ann says she found the info on a CD called "Australian Tropical Plants", published by Zodiac Publications and based on plants sold by Yuruga Nursery.

Also heard of a useful book, "Natural Chemical Substances in Australian Plants" which is a facsimile version of a 1954 book. It's available through Granny Smith's Bookshop in WA, and possibly elsewhere as well - I'm not sure. Price is around \$40.

Enjoyed an interesting Rosehip and Lilly Pilly "Herbal infusion" from Bushells a few days ago. I saved the packet, and the listed ingredients are orange peel, hibiscus flowers, rosehips, lilly pilly leaves (it doesn't tell you anything else like which lillypilly) and flavour (again, no more info). It was pleasant, though a little sweet for my taste.

Regards,



Lenore Lindsay and Rockhampton SGAP.

E-mail: lenorelindsay@hotmail.com

EDIBLE SPECIMENS TABLED AT MEETINGS:

24/3/00: *Grevillea pteridifolia* plant (nectar from flowers),
Orthosiphon aristartus (medicinal).

28/4/00: *Dioscorea bulbifera* (tuber), *Dodonaea triquetra* (seed capsules), *Scaevola calendulacea* (fruit), *Syzygium australe* selection (fruit).

26/5/00: *Crinum pedunculatum* (medicinal), *Cyperus* sp. (tubers),
Myoporum sp. (fruit), *Scaevola calendulacea* (fruit), *Themeda triandra* (seeds).

23/6/00: *Cupaniopsis anacardioides* (fruit), *Geijera latifolia* (medicinal),
Myoporum sp. (fruit), *Rubus probus* syn. *R. fraxinifolius* (fruit).

EXCURSIONS:

5/3/00: "Archontophoenix Grove": Ian and Kathy Herbert's property off Vaughans Road, Yeppoon. The Herberts purchased this 7ha piece of remnant vegetation to prevent it being cleared or sub-divided, and have negotiated a Nature Refuge Agreement with the State Government. *Acacia aulacocarpa* (root), *Cissus oblonga* (fruit, root), *Cupaniopsis anacardioides* (fruit), *Diospyros geminata* (fruit), *Elaeocarpus angustifolius* (fruit), *Eustrephus latifolius* (aril, tubers), *Lantana camara** (fruit), *Livistona decipiens* (palm 'cabbage'), *Melodorum leichhardtii* (fruit), *Passiflora suberosa* (fruit), *Planchonia careya* (fruit), *Pleigynium timorense* (fruit), *Psidium guajava** (fruit), *Syzygium australe* (fruit), *Tetrastigma nitens* (fruit),

2/4/00: Bus trip and guided tour of Tondoon (Australian Flora) Botanic Gardens in Gladstone with Friends of the Kershaw Gardens. There was a very large number of plants in flower, various stages of fruiting, and seed, including the following: *Acronychia laevis*, *A. pubescens* (fruit), *Aidia cochinchinensis* (fruit), *Alectryon connatus* (fruit aril), *Alpinia caerulea* (fruit, rhizomes), *Banksia ericifolia*, *B. integrifolia*, *B. robur*, *B. serrulata* (nectar), *Calamus* sp. (fruit), *Commelina cyanea* (shoots, leaves), *Clerodendrum inerme* (fruit), *Dianella* sp. (fruit), *Diospyros fasciculosa* (fruit), *Euroschinus*

falcata (fruit), *Eustrephus latifolius* (roots, fruit aril), *Ficus sp.*, *F.hispidula*, *F.platypoda* (fruit, medicinal sap), *Flacourtia sp.* (fruit), *Flagellaria indica* (fruit, shoots), *Geitonoplesium cymosum* (shoots), *Lepidozamia peroffskyana* (seed kernal after treatment), *Murdannia graminea* (tuber), *Nymphaea gigantea* (all but leaf), *Pipturis argenteus* (fruit), *Syzygium sp.*, *S.johnsonii* (fruit), *Viola hederacea* (flower).

7/5/00: Outing to The Caves cancelled because of inclement weather.

4/6/00: World Environment Day activities at Frenchville Creek with the Berserker Wilderness Land Management Action Committee. After an identification walk along the bank we helped plant, mulch and water in the area that had been cleared of weeds. There weren't many food plants among them - *Planchonia careya* (fruit, bark fish poison), *Pleiogynium timorense* (fruit), *Syzygium australe* (fruit), *Ficus opposita* (fruit, medicinal sap), and *Eustrephus latifolius* (tubers, arils) were about it.

LETTERS TO THE EDITOR

"Booyong"
Byabarra. NSW. 2446.
23.3.00

Dear Lenore,

..As always, enjoyed your last newsletter.- always lots of interest to me.....

You touched on wine in your Conference talk, saying Davo Plum is an excellent wine. It certainly is, though up with it is *Cissus* (we use the locally common *hypoglauca*). From memory *Planchonella australis* is a good flavour. Made a very small batch years ago, but can't get the fruit now unfortunately. Sandpaper Fig is a good colour, and OK, but a bit of an earthy flavour lingers. *Rubus (rosifolius)* is the common one here) is a lighter red, but the wine tends to be 'thin'. Perhaps we've put too much water in the brew? We include a quantity of raisins as ingredients in these two.

Cissus is quite 'heavy', definitely of quite viscous nature. I have found that this one needs careful watching through its fermentation, as a couple of my lots had a mould developing on the surface and need more Campden tablets than usual. These can cause a (too) early end of fermentation, resulting in a lot of 'fizz' on opening matured bottles. Tastes OK (very good actually), but you lose a lot of wine unless prepared for this!

I have a good quantity of *Cissus* and fair amount of *Ficus coronata* in the freezer. Will start these as soon as I've bottled a lot of mead from the 'jars'.

Regards,
David (Jenkinson).

SNIPPETS:

Chris Poole writes that he is a keen student of Horticulture and an organic herb grower from North Richmond New South Wales, interested in information related to that particular field.

Ian Anderson of the ACT is particularly interested in Brachychitons and their uses, though he finds the ACT climate a limiting factor of course.

Colleen Keena enjoys reading the information regarding the edible part(s) of each species that we find on our excursions which is published at the beginning of each newsletter.

Jerome Bull of WA is researching the dispersal of fleshy fruits in the heathland ecosystems of the south-west, with particular interest in the smaller fruits such as the Epacridaceae. As many of these are edible, he wants to learn more.

David Noel of the West Australian Nut and Tree Crop Association has been invited to present a talk in California this November entitled "Riches of the Australian Flora: Native Fruits, Nuts, Flavours, Essences and Medicines".

WATTLESEED "COFFEE":

Method 1: Boil a cup of water in the microwave. When boiled add a teaspoon of ground roasted wattleseed. Return to microwave and boil one minute. Strain into another cup and drink. Use the seed later for bread or biscuits. For a stronger brew, use more wattleseed or a stronger roast. Can be made in a saucepan on a conventional stove.

Method 2: Put one heaped teaspoon of ground roasted wattleseed into a manual coffee plunger. Fill with boiling water and let stand for 10 seconds, then plunge a couple of times. The grounds are filtered as you pour, and the strength can be varied by the number of times you plunge, and/or the amount of seed you put in.

POTATOES AND MUSHROOMS WITH BUSH SPICES:

1 good tablespoon olive oil
4 potatoes, peeled and cut into cubes, 1-2 cm.
200g button mushrooms, cut into quarters.
1 1/2 tablespoons bush spice mix (eg McCormicks, which has lemon myrtle and mountain pepper in it)

Pour olive oil into baking dish, add vegetables and spice mix. Stir around so that vegetables are coated with oil and spices. Bake at about 200 C, stirring every 15 mins so that the potatoes get cooked on all sides.

This is ready when the potatoes are slightly crisp on outside and soft inside when tested with a sharp knife.

Serves 4 as a side dish.

By Jeanette Delamoir.

SOME EDIBLE SPECIES OF SOUTH EAST QUEENSLAND

GROUNDCOVER, GRASSES AND VINES

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Austromyrtus dulcis</i>	Midyim	Fruit	One of the best fruits
<i>Carissa ovata</i>	Currant Bush	Fruit (ripe and black)	Pleasant, sweet flesh
<i>Capparis sarmentosa</i>	Native Caper - vine	Fruits (pink or red)	Pulp is very palatable
<i>Commelina cyanea</i>	Wandering Jew	Young shoot	Acceptable boiled vegetable
<i>Dioscorea transversa</i>	Pencil Yam - vine	Tuber	Can be eaten raw or cooked
<i>Elatostema reticulatum</i>	Rainforest Spinach	Leaf, stem	Grow in shade
<i>Viola hederacea</i>	Native violet	Flowers	Attractive creeper
<i>Wahlenbergia sp.</i>	Bluebell	Flowers	Colourful in salads

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 matrush	Leaf base, flowers	Useful for landscaping
<i>Lomandra longifolia</i>	Longleaf matrush	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>Capparis arborea</i>	Native pomegranate	Fruit	Pulp sweet when ripe
<i>Eupomatia laurina</i>	Native guava	Fruit	Pulp is edible; shaded position
<i>Hibiscus heterophyllus</i>	Native hibiscus	Buds, leaves	Showy garden specimen
<i>Randia chartacea</i>	Narrow-leaved gardenia	Fruit	Red-orange fleshy fruit
<i>Syzygium australe (forms)</i>	Scrub cherry	Fruit	Crisp, fleshy fruit, raw, jam

SMALL TREES

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Acacia concurrens</i>	Black wattle	Seeds	Seeds parched, cleaned, milled
<i>Acmena smithii (forms)</i>	Blue Lilly Pilly	Fruit	Varies in quality; young foliage is red
<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
<i>Podocarpus elatus</i>	Illawarra Plum/Brown Pine	Completely ripe fruit	Need male and female trees
<i>Syzygium australe (forms)</i>	Scrub cherry	Fruit	Crisp, fleshy fruit, raw, 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>Brachychiton acerifolius</i>	Flame Tree	Seeds N.B:irritant hairs	Roasted seeds flavour breads
<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>Microcitrus australis</i>	Native lime	Fruit	Drinks; marmalade
<i>Planchonella australis</i>	Black Apple	Fruit - keep till ripe	Large, juicy; makes a jelly; slow
<i>Planchonella eerwah</i>	Black Plum	Fruit	Large, fleshy; endangered; slow
	(<i>Planchonella australis</i> = <i>Pouteria australe</i> ; <i>Planchonella eerwah</i> = <i>Pouteria eerwah</i>)		
<i>Sterculia quadrifida</i>	Peanut Tree	Seeds	Delicious, nutty. Raw or roasted
<i>Syzygium coryanthum</i>	Sour cherry	Fruit	Crisp, juicy, acid - pleasant; jelly
<i>Syzygium crebrinerve</i>	Black water gum	Fruit	Edible but not very palatable
<i>Syzygium leuhmannii</i>	Riberry	Fruit	Good for jam; bright pink leaves
<i>Syzygium oleosum</i>	Blue Lillypilly	Fruit	Good fresh or for jam, jelly

RARE, ENDANGERED - not local

SCIENTIFIC NAME	COMMON NAME	EDIBLE PORTION	COMMENTS
<i>Davidsonia pruriens</i>	Davidson's Plum	Fruit	Delicious stewed; jam, wine
var. <i>jerseyana</i>			
<i>Diploglottis campbellii</i>	Small-leaved tamarind	Fruit	Juicy but sour pulp; drinks

By Colleen Keena and David Somerville ~

BUSH TUCKER

Bunya Nuts

(*Araucaria bidwillii*)

Jan Sked

The **Bunya Pine** (*Araucaria bidwillii*) is a large tree, growing 30-45 metres in height, with a straight, rough-barked trunk and a very distinctive, symmetrical, dome-shaped crown. It has sharply pointed, lance-shaped leaves, about 2.5cm long, which make it uncomfortable to be around if barefoot, as it drops twigs and leaves frequently. The timber of the Bunya Pine is beautifully grained and is highly valued as a cabinet timber and by woodworkers.

It is an emergent species in rainforest and is confined to Queensland, where it occurs mainly between Nambour and Gympie and west to the Bunya Mountains, with a small occurrence in north Queensland on Mt. Lewis and at Cunnabullen Falls.

The Bunya Pine produces large green cones the size of footballs, each containing 50-100 large "nuts", which are encased within a woody shell. The kernel of this nut is a pale beige colour with a firm but waxy texture. The interior of the shell is lined with a fine brown fibre, some of which usually adheres to the nut, but can be eaten with no problems. Cones are to be found during late January and early February in the coastal districts of southern Queensland, and usually about March in the Bunya Mountains. They are not produced every year.

These Bunya Nuts were a rich source of food for the Aborigines of south-east Queensland. During the Bunya season they would temporarily set aside their tribal differences and gather in the mountains for great Bunya Nut Feasts.

The aboriginal word for the Bunya Pine was actually "bon-yi" and the Blackall Range, west of the Sunshine Coast, was known to our local Pine Rivers aborigines as the "Bon-yi Mountains". Rollo Petrie's grandfather, Tom Petrie, was the only free white man to ever attend a bon-yi feast. It was Tom's father, Andrew Petrie, who discovered this tree around 1838, and who later gave specimens to Mr. John Bidwill, after whom it was ultimately named.

The Aborigines ate the Bunya Nut raw or roasted, and they also buried them in mud for several months. This was said to greatly improve the flavour and may have been a means of storing them. Certainly, raw nuts in their shells, that have been stored in the bottom of the refrigerator in a sealed container for several months, have a much sweeter taste, and are as fresh as the day they fell from the tree, even though the shells may look a bit mouldy.

I have found many uses for the fruit of the Bunya Pine, both cooked and raw and in savoury and sweet dishes. It is one of the most versatile and useful of all our native foods. My family and friends have been mostly willing, but sometimes unwitting guinea pigs, as I researched various recipes for the "Go Native - Wild Food Cookbook". So far I have used Bunya Nuts in soups, casseroles, quiches, pies, pastas, vegetables, desserts, cakes, biscuits, bread, damper, scones, pikelets, pastry, lollies and porridge.

The simplest way to prepare Bunya Nuts for eating is to put them in a saucepan of water and boil for about half an hour. Remove from the water and split open while still hot. Remove from the shell and serve with butter (pepper and salt if required). They may be eaten cold, but are better hot.



Herde • Quandong and Sandalwood

QUANDONG AND SANDALWOOD: ARID-LAND CROPS AT THE NECTARBROOK DISCOVERY PLANTATION

GRAHAM & IRIS HERDE §

PO Box 393, Port Augusta, SA

<gherde@dove.net.au>

Development started with a one hectare section in 1993 (A West) that was to be all Quandong but with the delay in supply of grafted trees and the subsequent discovery of sandalwood another hectare (B West) was developed in 1995 and 1.2 hectares in 1997 (C East)

This 3.2 hectares of over two thousand trees must be seen as an experiment in the establishment of four potential future managed crops for the arid lands of Australia.

Experiment 1: The Quandong (*Santalum acuminatum*)

Initially this plantation (AWest) was to be all grafted Powell-1 Quandongs (AWest2) and 300 trees at \$20 each were ordered in 1993. Over 1994 and 1995 one third were supplied and we were able to get 60 of these to grow on. This may be a poor result with trees from this source.

Twenty-five seedlings (BWest 2) from the best tree in our country (Nectarville) from a population base of over three hundred trees were planted.

Twenty-five purchased seedlings (BWest 3) from N. Sargent at Gladstone were planted (Sargent). The seed was sourced from two good trees in the town of Gladstone.

The extreme variation between these seedling trees encouraged us to look for a Quandong population in which all the trees produced good fruit. This we may have found on the North end of Nonning Station. Two hundred seedlings (Nonning) were propagated from this tree and ninety (AWest 5) are in the plantation. The balance were sold, but are available for assessment.

Conclusions

Grafted trees, presented as the Powell-1s were, are difficult to establish. All the losses we attribute to root disease that came with the trees.

With the seedling trees from all sources we have achieved better than ninety eight percent establishment. It is too soon to categorically state that seeds from an isolated Quandong population in which all the trees are good will produce seedlings that are equally as good, however the limited amount of fruit from the Nonning seedlings suggest that this may be possible. If this is correct, careful selection of seed from the wild will allow the Quandong industry to develop faster.

§ Member, WANATCA

Visitors will note the extreme variation of fruit and tree shape between the Nectarville trees, even though they were all from our best tree (BWest 2), and the more even shape and habit of the Nonning seedlings (AWest5).

Experiment 2: Australian sandalwood (*Santalum spicatum*)

The sandalwood is now the purpose of this plantation, with one thousand trees up to five years old from as many distinct plant populations we could find in Australia. The names we have given to the various plant populations are for identification only and only reflect the general area of seed collection. Researching quandong led us to sandalwood. Sandalwood seemed too good to be true, an arid land plant with an existing export market, collected and sold for over the last one hundred years, with a continuing up trend in value for all that time.

The cultivars in trial are :- South Australian: Wandearah (CEast 17): Bookaloo (BWest 3) Nonning (BWest 12): Nunjikompita (BWest 14): Nectarville.

West Australian :- Eucla (CEast 6): Gold Fields (CEast 15): Gascoyne (BWest 6): Nanga (CEast 9): Shark Bay (CEast 5): Pilbara (AWest 4).

There is considerable diversity in leaf shape and growth habit with plants from each area. From this we hope, in the future, to select the most suitable cultivar for irrigated managed plantations.

The type code named "Eucla" (CEast 6) has a red skinned, yellow fleshed edible fruit and the timber is high in sandalwood oil. This may be an as yet unnamed subspecies of *Santalum*.

Another area of interest is the nuts from these trees. The nuts are excellent eating and we feel they have a future as a nut crop. In addition recent research has shown that there is a range of important pharmaceuticals in the nut, including an anti-inflammatory, an anti-carcinogenic, and an anti-oxidant.

Conclusions

We made many mistakes in the first years with this experiment but with the plantation section "CEast" we feel that we have overcome the problems. Here we have achieved germination rates of 90+ % and plantation establishment rates of 96 %.

There are unknowns. How long to harvestable timber? Will growth rates be able to be maintained with the host trees we have? Will there be a market in the future?

Looking to the future optimistically and calculating on the basis of "best case scenario" this plantation is a million dollar exercise!

Visitors remark on the appearance of sandalwood trees with a vigorous *Myoporum* under them, in comparison to those without.

Experiment 3: Tropical sandalwood (*Santalum album*)

The first 15 trees in row (CEast 2) are tropicals. The seed was sourced from Mysore India with the help of Diana Barrett of Curtin University, WA. The balance of this row is Plum bush (*Santalum lanceolatum*). The tropical sandalwood, with a value of double the Australian sandalwood, have grown so well we feel that in a frost free area with plentiful water they could

be an important crop. Further trials are under way with 40 more seedlings to plant out this spring.

Experiment 4: Blue Bush (*Maireana sedifolia*)

Over one thousand five hundred blue bush have been interplanted with the *Santalums* as host plants as well as in the hope of finding a commercial cultivar. Israel has been commercially growing Blue Bush for the Amsterdam Flower markets for some time, and earning millions of dollars from the commercial exploitation of this Australian plant. To get the long spikes necessary for a cut foliage from this plant they grow it under shade and apply growth hormones.

We have found one plant in the wild that spikes naturally and we are now propagating by cuttings to establish a commercial planting.

Statistics

Water: Seven kilometres of dripper pipe from three manifolds water the plantation. Watering is initiated by ironmeter sensing of soil moisture and controlled by a "Boss" solar powered water control computer. The water supply is ground water delivered through the old Nectar Brook reticulation system. The water is mineralised with sodium, calcium and magnesium to 2,300 ppm.

Soil: From heavy red clay to clay loams, low fertility, with a pH of 8.5 to 9.

Preparation: The area was cleared and stone-picked. Tree lines were deep ripped prior to planting. Gypsum at the rate of two tonnes to the hectare was spread over the A and B area.

Host plants: Trees : *Acacia* (*A. victoriae*, *A. peuce*, *A. iteaphylla*), *Casuarina*, Mulberry, Pistachio, Jujube (*Ziziphus jujuba*), White cedar (*Melia azedarach*), Olive (root stock only), kurrajong.

Host plants: Shrubs : Blue Bush (*Maireana sedifolia*), Old man salt bush (*Atriplex nummularia*).

Host plant: Ground cover :- Creeping Boobiolla (*Myoporum parvifolium*).

Conclusions

Host plants need to be surface rooted and store both water and nutrient in these roots. The osmotic pressure of the host plant must be high enough to resist the *Santalum* but not too high. In *Acacia iteaphylla* the osmotic pressure too low, in *Atriplex nummularia* it could be too high.

Based on material from an Australian Quandong Industry Association field day during the 1999 AQIA Conference at Port Augusta.

Australian Quandong Industry Association: <A1645>

[West Australian: Habitat / 1999 Sep 24]

Grow your own bushfoods

Book Review by Paul Jennings

Grow your own bushfoods, by Keith and Irene Smith (Published by New Holland, 139 p., Paperback. \$19.95 (eg from Granny Smith

Forget fighting your way out of your swag to beat Les Hiddins to breakfast. Forget tramping through the back of Bourke for a lunchtime snack. And forget trying to light a fire with flintstones to cook your evening dinner by a billabong.

Sure, all the natural foods are there for collecting and eating — as Hiddins has shown us on TV. But what about sliding the door to your back garden and picking your own bush tucker?

There is nothing more Australian, according to Keith and Irene Smith. In the introduction to their book, they point out: "Think Italy — think pasta! Think India — think curry! Think Australia — now think bushfoods!"

Long-time organic gardeners and authors, the Smiths have turned their attention to their own bushfood garden — "nothing could be more environmentally friendly". A trip to central Australia last year, when Aborigines took them through outback communities and shared fruits straight from the trees, brought their ideas for this book together.

There are five major kinds of bushfoods: leaf flavours; fruit; vegetables and tubers;

seeds and nuts; and nectar. They have a chapter each. The book introduces 70 of them with a further 70 related species or varieties. The chapters include an identikit of each plant, its Aboriginal, common, botanical and other names, best growing areas and conditions and when it is ready to eat.

It even tells you how to eat, or drink, the produce — as a flavouring in jams, muffins or sauces, as bush tea or a sweet drink — and some of the ways the Aboriginal people treated and used these foods.

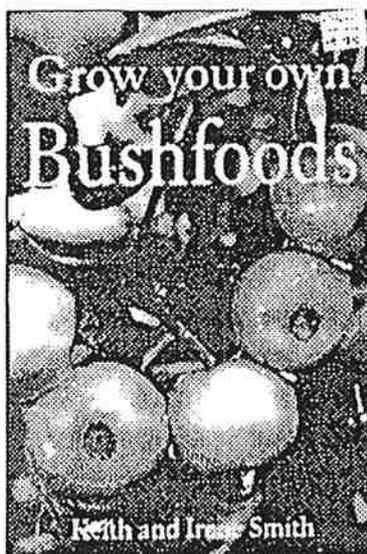
In line with the Smiths' conservation philosophy, the emphasis in Chapter 6 is on natural, organic growing, free from fertilisers or pesticides. It advises on plants, soil, watering, mulch, fertilisers, compost, pruning, collecting seeds, propagation and, as a space tip, advise digging up your lawn to create a bush garden.

Apart from an extensive bibliography, there is a directory of nurseries and mail order suppliers which specialise in bushfood plants and seeds, including three WA sources.

Obviously with climate and habitats ranging from the cool temperate to the subtropical, not every native is available in every area. But the common names crop up —

from leptospermum and melaleuca leaves; myrtle and lilly pilly fruits; yam and pigface vegetables; wattle and macadamia seeds and nuts; and banksia and bottlebrush nectars.

Settlers soon found they could brew a substitute for tea from the sweet tasting, shamrock-like leaves. Fruits, that include forms of apple, plum, peaches and figs, also throw up snottygobble, or wild



pear, found in WA's jarrah forests from Perth to Albany.

Part of the geebung, or Proteaceae family, it derives its nickname from the mucous-like gelatinous matter surrounding the seed when ripe fruit splits open, say the Smiths.

They add snottygobbles were a staple food, eaten for their moisture and succulence by the Nyoongar people of south-west Australia.

There are few bushfoods which people would consider vegetables. So what about stir-fried pigface?

Carpobrotus rossi, from the Aizoaceae family is that creeping ground cover you find on beaches, dunes and cliffs in the South-West. Aborigines ate the salty leaves as a kind of relish with meat and other foods but they can be used in a stir fry.

Or break off the ripe fruit and suck out the small seeds and pulp. The taste has been compared to salty figs or apples. European settlers made pigface jam, pickles or chutney.

In the yam family, the warrain is found from Shark Bay to Perth. Its thin tendrils twine over rocks and stony ground. Almost 5 per cent protein, it is believed to have been a staple food among the Nyoongar people for 5000 years.

Explorer George Grey wrote in 1841 that in the Perth area he had found "tracts of land of several square miles in extent, so thickly studded with holes, where the natives had been digging up yams, that it was difficult to walk across it."

Aborigines in Central Australia and the Western Desert made use of edible seeds from 75 species of grasses, acacias (wattles) and other plants. There is evidence that stone grinders used for crushing seeds in western New South Wales date back 15,000 to 18,000 years.

But protein-rich wattle seed is also being

claimed by the Smiths as the new flavour of Australia. It has an intriguing taste somewhere between coffee and chocolate with a hint of vanilla. It can be used to flavour drinks, coffee, bread, biscuits, cakes, muffins, tortes, sauces and ice-cream, mousses, parfait and pancakes.

With the wildflower season coming on, there will be ample opportunity to taste some of the nectar that bees use to make honey. Aborigines suck the sweet liquid as they pass by or collect blossom to soak in water to make sweet (an even fermented) drinks. Banksia, callistemon, bottlebrush, dryandra, grevilleas and hakea all yield beautiful flowers and attractive tastes.

The Smiths say bushfoods have a bright future. "In this new and rapidly growing primary industry there are opportunities for more growers to become involved," they say.

So why not give it a try?

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The Weekly Times, April 26, 2000

HORTICULTURE

SUNRAYSIA
IN FOCUS
ADVERTISING FEATURE



Set to bear fruit: native citrus grower Graeme O'Neill at his orchard in Red Cliffs.

Picture: NIKKI BORCHARD

Hybrid Blood Lime.

Next page →

HORTICULTURE

Native citrus is a sweet success story

By **NIKKI BORCHARD**

FROM the city lights and endless traffic to the serenity of country air and open spaces, former Melbourne resident Graeme O'Neill packed up his city life and headed north to live out a passion for native plants and a fascination with science.

A science writer for the *Sunday Herald Sun* newspaper, Mr O'Neill gave up the rat-race for a small orchard in Red Cliffs, near Mildura, where he now combines his interests with a profitable future in growing fruit.

Mr O'Neill bought three hectares of sandy loam in 1997 with a plan to fulfil his lifelong ambition to grow native plants.

But after reading a science magazine on rural research, he decided to take the plunge into growing varieties of native citrus unknown to most Australians.

"I was looking around for something to grow on the block, and when I saw this article on native citrus varieties, I looked into it and decided to give it a go," Mr O'Neill said.

"This way I get to grow native plants and produce something as well."

Just over 18 months ago, Mr O'Neill planted 400 Blood Limes,

200 Sunrise Limes and 100 Desert Limes, all newly developed varieties bred by Dr Steve Sykes at the CSIRO and released by Australian Native Produce Industries.

It was a sizeable outlay to buy and plant the trees with a drip irrigation system, but after just three or four seasons, Mr O'Neill expects to start reaping the rewards of his investment.

"The initial outlay was somewhere in the order of \$40,000, but although it was a large investment for a small crop, the returns are quite high and it won't be long before we start seeing a profit," he said.

The Desert Lime is a small tree which can withstand severe drought, salinity and low temperatures.

It possess the shortest fruit ripening time of all citrus, producing yellow or green fruits, like small lemons, which ripen in the summer.

The Blood Lime was developed as a cross between a mandarin and a seedling of the pigmented form of the finger lime.

It was called the Blood Lime because of its deep red fruit. Again, the tree is small, about two metres high, and the fruit about the size of

an oval cumquat. It has been budded successfully onto Troyer Citrange rootstock.

Budded on to the same rootstock, the Sunrise Lime is grown for its culinary attributes and its attractive golden pear-shaped fruit.

The tree is usually two to three metres tall and, like the Blood Lime and Desert Lime, is highly suited to manufacturing a broad range of sweet and savory products, including beverages, preserves, marmalades, sauces, syrups, chutneys, garnishes and confectioneries.

All three varieties are extremely hardy, Mr O'Neill said, and well suited to the hot and dry conditions of northern Victoria.

Despite there being only a handful of growers who produce these varieties across the country, the entire Australian production of Sunrise Limes this season has already been pre-sold to make marmalade for the Sydney 2000 Olympic Games.

Planning to harvest his first commercial crop next year, Mr O'Neill said the returns for his native varieties currently stood at \$8 per kilogram.

"It's pretty good considering the minimum yield per tree is about 10 kilograms," Mr O'Neill said.



Native Citrus Hybrid.