Aboriginal Plant Use in south-eastern Australia

Stages in the making of a basket from Spiny-headed Mat-rush by Wally Mongta, 1991

Australian Government
Australian National Botanic Gardens
Text by Daphne Nash

Artwork

Donna Wahl
Cover (Stages in the making of a basket from Spiny-headed Mat-rush by Wally Mongta, 1991)
P2 (banksia, needle), p8 (spear thrower), p14 (stages in basket-making).


Bev Bruen p13 (tree-fern).

Cameron McDonald p4 (common reed, necklace) p9 (bowl, grinding stone).

Maryanne Traill p9 (kangaroo grass).

Franki Sparke p10 (mistletoe).

Leife Shallcross p14 (eel trap, finished basket).

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Revised February 2004
# Aboriginal Plant Use in South-eastern Australia

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Planning the Excursion

We want you to use the Information Resource Notes and example Student Worksheets as resources for planning your excursion. *Select questions that relate to the purpose of the excursion, cut and paste, modify and add your own activities.* There is some repetition of concepts and students cannot complete all activities within an hour. The concepts can be adapted to all levels, and the activities tailored to the time available in the Gardens. *Let us have a copy of your finished worksheets so we can share your ideas with others.*

Aboriginal Plant Use in south-eastern Australia is a directed walk that leaves the Main Path near marker 21 (ie 210 metres from the footbridge by the car park) and finishes back near the footbridge. See map attached. Interpretive signs occur by selected plants along the way. This booklet contains all the information on the signs along with information about other important plants that occur in the Gardens.

While students are in the Gardens it is more beneficial for them to be observing, discovering and developing attitudes and values rather than reading swags of text and writing comprehensive answers to questions. Good pre-visit and post-visit activities are important. Students can see Aboriginal artefacts on display in the Education Centre and experience the walk in the Gardens. A special artefacts kit, posters and books are available for loan from the Education Centre.

About the Questions

- The questions are open-ended so that students are encouraged to observe and think.
- They are intended as mind joggers for teachers to develop their own questions based on the outcomes they want.
- There are too many questions included here for students to successfully answer in one visit. Post-visit activities could take in more of the questions.
- They are written for adult readers and may need to be modified for students.

Purpose

The Aboriginal Plant Use activities focus on the Australian bush providing all the basic needs for survival of Aboriginal people for over 40,000 years, looks at aspects of the social fabric of Aboriginal society, and plant use today. It includes use of plants for food, medicine, tools, utensils, ceremony, hunting and everyday life.

Curriculum links

The activities in this walk allow for links across the curriculum, particularly in Studies of Society and Environment, Science, Technology and Health & Physical Education (Suggested levels years 3-12).
Aboriginal plant use in south-eastern Australia

Text by Daphne Nash

This section contains detailed notes and a bibliography on plants used by Aboriginal peoples of south-eastern Australia.

There is an Aboriginal Plant Use Walk marked by interpretive signs at the Gardens. A leaflet is available for this walk which covers a wide range of plant species from all parts of Australia.

The following plants are listed in alphabetic order of common name.

**Austral Indigo**

*Indigofera australis*

Habitat: Open forests
Season: Spring flowering

Crushed leaves were added to water to kill or stun fish like eels and Murray Cod.

**Banksia**

*Banksia* (various species)

Habitat: Heaths, scrub and dry, open forests
Season: Various flowering times

Q: How do you get to taste the sweet nectar?
A: Soak the flowers in water in a bark or wooden bowl.

Q: What could you do with a dry cone?
A: *Banksia marginata* (Silver Banksia) retains the dry flowers on the cones which some Victorian Aboriginal groups used to strain their drinking water. Other groups used the cones as firebrands.
**Blackwood**  
*Acacia melanoxylon*

Habitat: High rainfall forests  
Season: Spring – Summer flowering

The fine hard **wood** of this wattle made strong spear-throwers, boomerangs, clubs and shields in parts of Victoria.

People soaked the **bark** in water to bathe painful joints. The inner **bark** was used to make string.

*Leaves, flowers and seed pod of Blackwood*

*Returning boomerang made by Laddie Timbery of Huskisson, NSW in 1990.*  
*The timber used is Blackwood.*

**Bulrush, Cumbungi**  
*Typha species*

This aquatic plant grows all over Australia. The underground **stems** (rhizomes) are rich in starch and can be cooked by steaming in an earth oven. After steaming, the rhizomes can be chewed to remove the starch and the remaining **fibre** used to make string.

The young shoots were eaten raw as a salad. This plant was the most important food for people living along the Murray Darling River systems.

*Technique used for nets made from string of Bulrush fibres.*  
*Bulrush*
Cherry Ballart, Native Cherry
*Exocarpus cupressiformis*

Habitat: Forests
Season: Spring-Autumn flowering

It might look like a small cypress tree, but it has small amounts of sweet, juicy **fruits** which would have provided a springtime snack. And that’s not all – the **sap** was applied as a cure for snake-bite.

In Gippsland, it provided **wood** for spear-throwers.

Common Reed
*Phragmites australis*

Habitat: Edges of creeks and rivers, especially near coast
Season: Summer

Tasmanian people ate the shoots of the underground stems or rhizomes. People from the lower Murray River collected mussels on inland lakes using large, rectangular rafts made from the long **stems** layer and bound.

Women made bags and baskets from the **leaves** and Murray River people made **long, light spears from the tall stems**. It was also used to stick through the septum of the nose as an ornament.
Flax Lily
*Dianella* (various species)

Habitat: Heath and dry forest
Season: Spring flowering
Proof from the past: An old burial ground in central Victoria revealed a *Dianella* leaf, split and twisted into a cord.

In southern South Australia, people boiled the leaves to drink as a tea.

The roots and blue fruits of some species are edible.

**Geebung**
*Persoonia linearis*

Habitat: Forests
Season: Summer flowering

Scarce but tasty – the fruits of this and other *Persoonia* spp. Were a favoured Aboriginal food.

String and fishing lines were soaked in Geebung bark infusion, probably to help prevent fraying.

**Grass Tree**
*Xanthorrhoea* species

Habitat: Coastal heaths, wet and dry forests
Season: All year

From top to bottom, this plant had many uses.

**Flowers**: People collected nectar from the long flowering spikes with a sponge made of stringybark. The stalks from old flowers and fruits were used as tinder in making fire.

**Flower stem**: The heart of the stem was edible. You can see that the long dry stem could make light spear shafts. The soft wood provided the base for a fire-drill in making fire.
Grass Tree (Continued):

**Leaves**: The soft bases of the young leaves were sweet and had a nutty flavour. Tough leaves were used as knives to cut meat.

This in one of the native plants which flowers in response to fire.

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**Stump**: People collected globules of hard, waterproof resin from the base of each leaf and used it as glue to fasten barbs in spears or stone axes to handles.

**Roots**: People living in the Port Lincoln area in South Australia enjoyed eating the roots surrounding the stem base.
Gum Trees
_Eucalyptus_ (various species)

Everyone knows the special property of eucalyptus leaves! The _leaves_ of some species were crushed and soaked in water for medicinal purposes. Manna is _sap_, which exudes from many eucalypt trees, often from where insects have made holes. It dries into sugary white drops, which fall to the ground. Most species have astringent gum.

Bowls and dishes were made from the heavy _bark_. Those gnarled round growths on the trunk were used as well. The Kulin people in southern Victoria, made bowls called ‘tarnuks’ to carry water. Some had rope handles.

People along the Murray River made canoes from the bark of eucalypts (e.g. River Red Gum, _Eucalyptus camaldulensis_). They cut the bark to shape about 3m long then held it over a fire, so that the sides would curl. Both ends were tied with _inner-bark_ fibre rope and wooden cross-pieces were used to prevent the sides collapsing.
Gum Trees (Continued):

Many Aboriginal peoples crafted spear-throwers, boomerangs and shields from the fine, hard wood of eucalypts.

Spear thrower made from the timber of the Iron Bark by Peter Mongta of Cann River, Victoria in 1990.

Decorated knocking sticks made from a Mallee Gum by members of the ‘Yourta Yourta’ clan from the Murray River 1993.

Shields made from the wood of gum trees:

Shield from the NSW tablelands (Mid 19th century)  
Engraved and painted shield from the Murray River region of South Australia. It is stained with ochre and white pipe clay. 
Undecorated shield made from Red Box by Peter Mongta of Cann River, Victoria, 1991.
**Gymea Lily**  
*Doryanthes excelsa*

Habitat: Coast and adjacent plateaus  
Season: Summer - Spring flowering

The flowering stems can grow up to 4m high. Honeyeaters love the nectar of the large-crimson flowers on top. These birds were ready prey to be cooked and eaten!

Aboriginal people in the Lake Macquarie district of NSW were observed in 1836 roasting the **stems**, having cut them when a foot and a half high and as thick as a person’s arm. They also roasted the **roots**, which they made into a sort of cake to be eaten cold.

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**Kangaroo Grass**  
*Themeda triandra*

The grass heads are easy to recognise. The **seeds** ripen in summer and people in the tableland and high country areas of New South Wales collected them in great quantities, to grind and bake into cakes.

-Kangaroo Grass was gathered in wooden bowls. The seeds were separated and grinding stones were used to produce flour which was mixed with water and cooked to make damper.-

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**Kurrajong**  
*Brachychiton populneus*

Habitat: Valley slopes, open forests  
Season: Summer flowering

**Roots** of the young plants were a popular food and the **seeds** were probably eaten after processing. With twine made from **Kurrajong bark**, Aboriginal people of the Hastings River region, NSW, made fishing nets.

-Fibres of the bark of Kurrajong were used to make this net. Waterbirds are frightened into the net by boomerangs thrown above them to simulate birds of prey.-
Mistletoe
*Amyema* (various species)

Look up and see if you can spot the drooping clump of mistletoe leaves. People enjoyed the sticky *fruits* and in some areas the *leaves* were used for healing.

The Grey Mistletoe (*Amyema quandong*) is often found on Blackwood trees. It is a parasite which can take over and eventually kill the host tree.

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Nardoo
*Marsilea drummondii*

Habitat: River flood plains
Season: Dry season

Did you know that the explorers Burke and Wills died from starvation while trying to survive on Nardoo? Nutritious food can be made from the *spores* of this plant if it is prepared correctly.

The explorers Burke and Wills found that a diet of Nardoo alone was not enough to sustain life. It is reported that thiaminase in Nardoo may have induced beri-beri rather than cause starvation, ie the Nardoo was not prepared according to indigenous instructions.

An unusual fern, which grows in shallow seasonal water. When the water dried up, the hard spore cases were collected. They were broken up on grindstones and the spores were separated from the outer cases. The spores swell when moistened and were made into damper. Although used in drier areas such as Cooper’s Creek, Nardoo is said to have been largely a standby food when other things were in short supply. Aboriginal people in north west Victoria collected the spore cases when the water dried up. They roasted them, discarded the cases then ground the spores to make cakes.
Native Cypress-pine  
*Calliandra* (various species)

**Habitat:** Inland and coastal woodlands  
**Season:** All year

Murray River people used the *resin* from *Callitris* species as an adhesive for fastening barbs to reed spears and axe-heads to handles.

From the long **branches**, they made canoe poles, which doubled as fish spears.

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**Axe-head attached with resin from the Native Cypress-pine.**  
These types of axes were used in Victoria, north-western parts of NSW and in Queensland.

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**Fish spear**

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Native Raspberry  
*Rubus parvifolius*

The red **fruits** of this plant are a delicious food, but not as sweet as the European raspberry.

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Native Raspberry

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**Native Raspberry**

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**Riceflower**  
*Pimelea linifolia*

**Habitat:** Heaths: mountain forests  
**Season:** Flowers in spring and summer

We know the **bark** of the riceflower as ‘Bushman’s Bootlace’, but here’s how to make a string:
Riceflower (Continued)

Strip the bark, dry it, place in stream for about one week, dry in sun, soften by chewing/beating with sticks and stones, roll on the thigh and spin into fine, strong thread.

During summer, people came to the high country to feast on thousands of Bogong moths. They caught them in strong, delicate string nets made from *Pimelea* bark.

‘They had very fine meshes and were manufactured with great care, and being attached to a couple of poles they could be readily folded up when they had to be withdrawn from the crevices.’ Helms 1895:594

She-oaks
*Casuarina* and *Allocasuarina* (various species)

Habitat: High rainfall areas, along water courses
Season: Winter – Spring (cones)

Imagine chewing these needle-like stems to quench your thirst? (Note the small scaley leaves along the green stems). In the Canberra region, people ate the leaves and young cones of *Allocasuarina verticillata* (previously known as *Casuarina stricta*).

The Ngarrindjeri people of the lower Murray River (Coorong) made shields, clubs and boomerangs from the hard wood.
**Soft Tree-fern**  
*Dicksonia antarctica*

Habitat: Gullies of tall, moist forests  
Season: All year

People used the soft, starchy *pith* from the top part (0.5m) of the stem. They split the stem, scooped out the pith and ate it raw or roasted in ashes.

The Tasmanians preferred the Rough Tree-fern, *Cyathea australis*, because it tasted better than the smooth Tree-fern. The smooth Tree-fern is the one which is usually grown in home gardens.

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**Spiny-headed Mat-rush**  
*Lomandra longifolia*

Habitat: Widespread, particularly sandy soils  
Season: All year

Women gathered the smooth strap-shaped leaves from the water’s edge to make baskets. They split each rush, tied them in bundles to be soaked allowing the fibres to become pliable for weaving.

Flowers provided nectar.

The illustration below shows how Aboriginal people used a combination of weirs and basketry traps for fishing.
At Lake Condah, Victoria, Aboriginal people still make these traditional eel traps.

This is a funnelled basket used as an eel trap, made by people from Lake Condah.

Today, people at Lake Tyres, Victoria and Eden, NSW are carrying on their basketry traditions and experimenting with new materials and designs.

Stages in making a basket.

Coiled basket being woven from Spiny-headed Mat-rush at Lake Tyres on the east coast of Victoria
Yam daisy or Murnong
*Microseris lanceolata*

**Roots** were important vegetable foods in the south-east. Some of the plants whose roots were eaten include *Bulbine bulbosa* (Bulbine Lily), *Arthropodium milleflorum* (Vanilla Lily), *Burchardia umbellata* (Milkmaid) and *Microseris lanceolata* (Murnong or Yam Daisy) formerly known as *Microseris scapigera*.

Yam Daisy was a most important staple food. Women dug the **roots** with digging sticks and then roasted them in baskets in an earth oven.

Digging for roots turned over the soil and thinned out the root clumps, two ways of encouraging plant production. Aboriginal people didn’t take the lot or there’d be none left for next time!

Aboriginal people believed that the **roots** of ‘murnong’ should not be collected before the plants flowered. This was probably because during the drier winter period before springtime flowering, the roots would not be fully developed.

Yam Daisy roots collected in bowl made of eucalyptus bark.

Digging stick made from wattle wood and used by women.
This small perennial plant has a radish-shaped tuber, which is renewed each year. In the spring the plant forms a yellow flower-head like a dandelion, and in the summer the leaves die off and the tuber becomes dormant. The tubers are cooked in baskets in an earthen oven, producing a dark sweet juice which was much liked. Once a common plant, Murnong became scarce due to grazing by sheep.

The roots or underground stems of other plants were also eaten.

**Milkmaid**
The long tuberous roots were available all year round and were cooked before eating.

**Bulbine Lily**
The edible corm is surrounded by swollen roots. This plant grows on Black Mountain, ACT

**Potato Orchid**
It has swollen underground stem (rhizome), rich in starch.
Some possible questions for students, and suggested responses

Discussion points (*in italics, in brackets*)

The questions are open-ended. Teachers need to select or modify, and provide resources and a time frame. Most benefit will be gained from discussion after the visit to the ANBG. Most questions make use of information in the brochure, with extension thinking and/or research. The “answers” below aren’t necessarily answers to the questions but more like reasons for the questions; you can go into far more depth or scope if you choose.

1. The Spiny-headed Mat-rush (*Lomandra longifolia*) was used by the local Ngunnawal people to make baskets and fish traps.
   - Suggest the kinds of things that would have been carried from camp to camp in baskets?
     (gets children thinking about carrying tools, equipment, utensils, ceremonial implements etc over long distances)
   - Find out how to make a basket from reeds or rushes in your area?
     (See bibliography for processes; perhaps there are some local Aboriginal people in your area)
   - Describe how you would set up an eel trap in a small stream?
     (gets children to place themselves in a real life situation and to think about the problem of catching fish for food)

2. The Bottle Tree (*Brachychiton rupestre*) had many different uses including making nets for catching water birds.
   - How might the local people of northern Australia have removed the bark without killing the tree?
     (what tools would have been available – sharp stones, axes? Only cut off some bark, don’t ring-bark the tree)
   - Find out how you might turn tree bark into string?
     (see bibliography. Make some string from a fibrous plant leaf)
   - Find out how to make a net out of string and make a small one for yourself?
     (see bibliography)
   - Describe how you might catch ducks using your net?
     (another real life situation to put oneself into; how can you improve your chances of capturing a bird?)

3. The Gymea Lily (*Doryanthes excelsa*) is only found near Sydney. Honey-eaters love the nectar from the large crimson flowers. The local Wodi Wodi people made good use of the gymea lily.
   - Suggest as many ways as you can? Perhaps you could investigate this plant more in your library or on the internet.
     (catch birds attracted by the nectar, leaf fibre for string or weaving? Perhaps leaves for wrapping food to be cooked? Perhaps flower stalks could be used as spear shafts as well as starchy food; roots for food)
4. Blackwood (*Acacia melanoxylon*) trees are found in cool, moist forests. The flowers of this and other wattles were used by Aboriginal people, as well as the bark and the wood.

- Investigate further and make a list of uses under the following headings:
  - Food (e.g., nectar dissolved in water as a drink)
  - Shelter (children might imagine leaves, bark, branches, firewood)
  - Tools and utensils (e.g., digging stick, bowl, fire sticks)
  - Toys (e.g., returning boomerang, animal figures with hot wire designs)
  - Weapons (spear tips, shield, boomerang, waddy)
  - Music and ceremony (clap sticks)
- Blackwood is grown commercially today, especially in Tasmania and Victoria. Find out why the timber is so valuable now? (quality furniture, other uses they might find)

5. Manna Gum (*Eucalyptus viminalis*) and other eucalypt trees produce sweet, chewy manna.

- Find some manna on an eucalypt tree in your area. (Compare with gums and resins from other plants eg wattles)
- The leaves of eucalypts and other closely related plants like tea-trees, bottlebrushes and paper-barks contain sweet-smelling oils. Find out how the leaves of these plants were used by Aboriginal people? (e.g., leaves heated to release oils and vapour breathed in for colds, oil squeezed onto cuts and scratches to help healing, see bibliography)
- Many of the plants mentioned above are now grown commercially for their oils. Find out about some of the plants and what the oils are used for today? (e.g., as insect repellents, deodorant additives, healing cuts and scratches because of antibacterial effects etc)
- Find out how Aboriginal people used the bark and the hard wood of some eucalypt trees. (e.g., bark for containers/bowls, string, shelter, canoes. Wood for weapons, tools, and hollowed branches for didgeridoos)
- We grow and cut down huge numbers of gum trees nowadays. Many people think this can be a good thing while others think this is not good at all. What do YOU think? Give reasons. (It’s the evidence gathered and thought processes that are important to develop)

6. Tree ferns (*Cyathea* and *Dicksonia* species) stems and roots of many other plants were used for food but Aboriginal people never camped in one place long enough to eat them all.

- Suggest why? (children might think about conservation issues – the group needs to come back here another time, so they leave enough plants to provide sustainable food supply; too difficult to carry food over long distances; too difficult to maintain gardens in many locations at once)

7. Aboriginal people have lived in Australia for at least 40,000 years. They were totally dependent on the bush for all their needs.

- How would YOU have survived in Australia 1,000 years ago? To help you with your investigations make a list of your basic needs, and another list of things that were important in the fabric of the society in which you lived. (Looks at basic needs for survival of any organism, and then the special needs of humans from a social point of view.)
Bibliography of South-eastern Australian Aboriginal Ethnobotany.

This select bibliography is in two parts. Part A lists material alphabetically by title where an author has not been identified. Part B lists material alphabetically by author/person primarily responsible for the work.

Part A.
The Kaurna People;Aboriginal People of the Adelaide Plains. 1989.Adelia:Education Department of South Australia.

Part B.
Nayutah, Jolanda, and Finlay, Gail. 1988. Our Land, Our Spirit; Aboriginal Sites of North Coast New South Wales. Lismore: North Coast Institute for Aboriginal Community Education.