

Environment



The Natural Environment

By Robin Allison,
Friends of the Royal Botanic Gardens, Cranbourne

The Centenary of Federation in 2001 calls us to reflect on the historical development of the nation and of our local areas. As Cranbourne developed as an agricultural area, a look at the vegetation gives an interesting key to the history and a comparison between what is now, and what may have been before exploration and settlement. In Cranbourne there is a unique opportunity to explore the vegetation through exploring the Royal Botanic Gardens, Cranbourne.

In describing the Royal Botanic Gardens, Robin Taylor mentions that the sandy heathlands were formed from sand being blown up from the dry seabeds of Port Phillip and Western Port a million years ago, in the Pleistocene epoch.¹ This is considered geologically recent, much more recent than the age of dinosaurs. The animal life of Australia probably already resembled the species we know today, although perhaps larger.² How this touches the imagination and makes us wonder what has been happening around Cranbourne in all that time.

¹ Taylor, R. 1999 *Wild Places of Greater Melbourne*, p.140

² *Encyclopedia of Australian Wildlife* 1997 p.30-31

Long before the early nineteenth century when Europeans settled in the area, the original bare sand dunes had developed into heathlands on the slopes, and swamplands in the hollows. The soil type of the area is described as 'Tertiary Sands', commonly known as 'Cranbourne Sand'.³ Some areas of the district have clay soils deriving from much older Silurian sediments, this soil type is commonly known as 'Narre Clay' so named for its occurrence through Narre Warren. It is more nutritious and holds more water, and thus is able to support grassy woodlands on some of the slopes.

Aboriginal tribes found the birds of the swamps a great source of food, and in the grassy woodlands they hunted kangaroos, possums and emus.⁴ The vegetation of the area was a source of aboriginal food supply and other commodities. Tubers of orchids and other plants were eaten along with berries, seeds and fruits of many plants; the cones of banksias were soaked to get nectar.⁵ Archaeological studies in the area of the Royal Botanic Gardens, Cranbourne have revealed evidence of Aboriginal sites⁶, indicating good available food supply.

The early European explorers and settlers found the vegetation of Australia so profoundly different from that known and studied in Europe, that it was difficult for them to describe, and difficult to recognize potential uses of the plants. Many of their strategies, based on the best of intentions, are now with hindsight seen as most unfortunate moves for example excessive clearing and introduction of plants which became weeds and exotic birds such as sparrows. In 1864 it was stated, 'Victorian farmers and gardens suffer very much from the depredations of insects, and therefore any of the soft-

billed birds of Europe, or other temperate countries, are desired in unlimited numbers.⁷ The introduction of sparrows was seen as an answer to this problem.

Descriptions of the vegetation found by the first explorers and settlers are scant, and very general in relation to landmarks. George Bass, who explored the coast of Western Port Bay in 1798, stated that 'the grass and ferns grow luxuriantly, and yet the country is but thinly and lightly timbered. The gum tree, she and swamp oaks, are the most common trees. Little patches of brush are to be met with everywhere...'.⁸

Among early botanists to visit with explorers were Robert Brown and Ferdinand Bauer who accompanied Matthew Flinders on board the 'Investigator' in 1801.⁹ Wiry Bauera Bauera rubiodes and Juniper Wattle *Acacia ulicifolia* ssp. *brownii* named in honour of these men are known to be indigenous to the Cranbourne area. Botanist George Caley visited with James Grant on board the 'Lady Nelson'.¹⁰ Grant was responsible for planting wheat, a variety of vegetables, and fruit on Churchill Island.

Both French and British explorers were active in Bass Strait and Western Port in the early nineteenth century. The British Empire, which had already raised their flag and established a penal colony in New South Wales decided to establish a military settlement at Corinella in 1826 to secure their sovereignty in the south over the French.¹¹ In 1827, the overland explorer William Hovell made a number of explorations from Corinella, on one occasion going through to Port Phillip, probably going through the area destined to be named 'Cranbourne'.¹²

³ Ellender, I. 1998 *An archaeological survey for Aboriginal Sites in the Australian Garden* The Royal Botanic Gardens, Cranbourne. Unpublished paper

⁴ Taylor, R. 1999 p. 142

⁵ Wild Plants of Vic. Viridians Biological Databases 1998 (Compact Disc)

⁶ Ellender, I. 1991 *A Report on Aboriginal Archaeological Sites in the Royal Botanic Gardens, Cranbourne*

⁷ Lever C. 1992 *They Dined on Eland* Quiller Press Ltd. p.74, 77

⁸ Cole, Valda p. 4

⁹ Hewson, Helen '300 Years of Botanical Illustration' 1999 CSIRO p. 38, 41

¹⁰ Cole, V. 1984 *Western Port Chronology 1798-1839* p. vii-viii

¹¹ Connell, D. *Westernport An Ecological View* p. 14

¹² Cole, V. 1984 *Western Port Chronology 1798-1839* p. 56

The Royal Botanic Gardens, Cranbourne

By Robin Allison,
Friends of the Royal Botanic Gardens, Cranbourne



A close look at the Royal Botanic Gardens, Cranbourne, which is an annex of The Royal Botanic Gardens, Melbourne offers an insight into the ecological history of the district. It is indeed most fortunate that within the botanic garden reserve, remnant vegetation of the Cranbourne district is still present and protected.

The Royal Botanic Gardens, Melbourne were established in 1846.¹³ In the 1940's it was recognized that difficulties encountered in establishing native species could be overcome to some extent by using land where the soil was more sandy and less shaded than that in the Melbourne gardens. In addition to this it was recognized that more space was required and that this need could be best met outside Melbourne, in an area within reasonable travelling distance, and having different soil features.¹⁴ After considerable research a Commonwealth military reserve of 345 acres near Cranbourne was chosen, on the recommendation of adjacent landowner Alan Ritchie of 'Maintop'.¹⁵ The area was 'almost virgin heathland' on black sandy loam, featuring 'tea-tree, heath, wattles and ground orchids',

believed to be close to undisturbed vegetation.¹⁶ In 1969 the site was inspected by the Director and Government Botanist, both of whom were impressed by the suitability of the land 'for the purposes of growing and studying Australian native plants'.¹⁷ However it was not until 1970 that the purchase was actually made and the land secured as a permanent reservation as Botanic Garden and Research Institute. There were delays in negotiating an agreed price with the government, and intervention by the Department of the Interior who were unwilling to see the land released from military control due to Australia's role in the war in Vietnam.¹⁸ The Royal Botanic Gardens, Melbourne in association with the Royal Botanic Gardens, Cranbourne, the Herbarium (established by von Mueller, in 1853), and the Australian Research Centre for Urban Ecology, forms the oldest scientific institution in Victoria.

The Mission of the Royal Botanic Gardens is:

To advance the knowledge and enjoyment of plants, and to foster their conservation, in order to give people a better understanding of the essential part that plants play in all life on earth.¹⁹

¹³ Law-Smith, J. 1984 *The Royal Botanic Gardens Melbourne* p. 8-10

¹⁴ Twigg, K. 1996 *A Vision Shared* The Maud Gibson Trust p. 41

¹⁵ Twigg, Karen p.45

¹⁶ Twigg, Karen p. 42

¹⁷ Resource Inventory p. 20

¹⁸ Twigg, Karen p. 43-44

¹⁹ Royal Botanic Gardens Board Victoria, *Annual Report 1999/2000* p.1

The corporate strategies for gardens at Melbourne and Cranbourne include:

- 1 Diversity and richness of visitor experiences.
- 2 Superior management and enhancement of the collections, gardens, and natural habitats.
- 3 Leadership in research and conservation.²⁰

Projects within the Cranbourne gardens are specific to Australian species. In addition to the maintenance and protection of remnant vegetation, restoration of vegetation and cultivation of Australian plants there are scientific, recreational and tourist features.²¹ Facilities and activities in the Royal Botanic Gardens, Cranbourne include recreational walking tracks and visitor facilities. Visitor programs are conducted to promote appreciation of flora and fauna. Scientific research is ongoing and includes studies by scientists from other institutions. Important studies include the study of long range changes in vegetation, including carbon dating by Donna Aitken (1990)²² and an archaeological survey for Aboriginal sites by Isabel Ellender (1998).²³ Education programs are facilitated for primary, secondary and tertiary students.

A development in the Royal Botanic Gardens, Melbourne of significance to Cranbourne was the establishment of the 'Maud Gibson Trust' in 1945. Miss Maud Gibson wished to establish a memorial to her father that would benefit Melbourne, the city in which her father had prospered as a founding member of the firm 'Foy and Gibson'.²⁴ The Trust undertook to financially support the acquisition of more land, and has continued to support the development ever since. Further parcels of adjacent land have been purchased

with assistance from the fund, and the total area is now 363 hectares.²⁵ The initial land acquired was surveyed by the Lands Department in 1968 and described as:

Swamps and flats, and sandy undulation of moderate slopes, eucalypts were stunted and sparse (except on the eastern boundary), with dense undergrowth of tea-tree, hakea and melaleuca. Many sandy tracks traversed the area, and sand excavations extended along the northern boundary and caused erosion along this boundary.²⁶

The later land acquisitions included land cleared for farming and land from which vast quantities of sand had been mined. Sand mining also occurred on the land under military control between 1920 and 1970. The highest point in the sand dune ridges was thirty metres high and was known as Empire Hill.²⁷ This part of the ridge was mined for sand. The highest point remaining in the Gardens is Coronation Hill on which the Trigg Point Lookout was constructed.²⁸ This Lookout commands a 360° view over the vegetation of the park taking in the Dandenong Ranges, Gippsland Hills, Western Port Bay, Mornington Peninsula, and the skyline of Melbourne.

The 'Friends of Royal Botanic Gardens, Cranbourne' is a strong group of people interested in Australian vegetation and its preservation and the promotion and support of the Royal Botanic Gardens, Cranbourne. The 'Friends' have volunteer working bees to assist with maintenance and development at the gardens. They grow Australian plants to sell to raise funds for the Gardens and also to give to children attending educational programs. The group arranges seminars and

²⁰ Royal Botanic Gardens Melbourne, *Corporate Plan 1997-2002*, p. 16, 18, 21.

²¹ Resource Inventory p. 1

²² Aitken, Donna 1990 'A holocene history of the vegetation of the Royal Botanic Gardens Annexe at Cranbourne, Vic' Honours thesis, Department of Geography and Environmental Science, Monash

²³ Ellender, Isobel 1998 'An Archaeological Survey for Aboriginal Sites in the Australian Garden

²⁴ Twigg, Karen p.1

²⁵ Gardens brochure

²⁶ 'Resource Inventory', Unpublished paper, Compiled by Paul Goodison and Paul Dartnell, R.B.G.C. p. 5-6

²⁷ Resource Inventory p. 5

²⁸ Resource Inventory p. 20

runs functions in conjunction with the Gardens management. The Friends in return gain knowledge, experience and pleasure through meeting people with mutual interests and working alongside the staff of the Gardens. Many of the Friends enjoy walking through the park, observing vegetation and wildlife, and are sometimes able to report unusual and important sightings to the staff. Various other projects are undertaken by Friends including the writing of this paper.

The significance of the vegetation for the future is acknowledged by the City of Casey. It is believed that: ...protection of remaining significant vegetation is necessary for a range of reasons, including wildlife habitat, aesthetics, protection of biodiversity, cultural,

historical, educational and recreational values and cultural heritage. Special significance should be given to the habitats of endangered flora and fauna.²⁹

The City of Casey acknowledges, 'the scattered pockets of remaining remnant vegetation, single trees and wildlife corridors are therefore all the more precious due to their scarcity'.³⁰

As we celebrate the Centenary of Federation in 2001, we move forward with greater scientific understanding of our environment, but also with ever changing challenges in dealing with different problems. May we acknowledge that the natural vegetation is deeply rooted in our history, and that with our care the blossoms will shower over succeeding generations.

²⁹ 'Environment Effects Statement' Unpublished paper prepared by Kinhill Pty Ltd 1997

³⁰ City of Casey Conservation Strategy p.3 (in City of Casey Environmental Education Kit)

Vegetation

By Robin Allison,
Friends of the Royal Botanic Gardens, Cranbourne

Vegetation of the Royal Botanic Gardens, Cranbourne

The area of the Botanic Gardens includes the following six ecosystems,³¹ with the listed examples of typical indigenous plants:

1 Heathy Woodland

Coast Manna Gum *Eucalyptus viminalis*, Heath Tea-tree *Leptospermum myrsinoides*, herbs, lichens and mosses.

2 Grassy Woodland

Narrow-leaf Peppermint *Eucalyptus radiata*, Hedge Wattle *Acacia paradoxa*, Austral Bracken *Pteridium esculentum* and grasses.

3 Grassland, derived from altered Grassy Woodland

Narrow-leaf Peppermint *Eucalyptus radiata*, Various grasses

4 Wet scrub, occurring between sand ridges

Scented Paperbark *Melaleuca squarrosa*, Herbs

5 Swamp Scrub

Prickly Tea-tree *Leptospermum continentale* also Paperbarks, Sedges, and Coral Fern *Gleichenia microphylla*.

6 Wetland Complex,

occurring in natural depressions, and excavated areas. Sedges and Swards, Bladderwort, and Water-ribbons *Triglochin procera*.

³¹ Garden Facts sheet, Unpublished document, Royal Botanic Gardens, Cranbourne

Glossary

Biodiversity - The variety of all life forms – the different plants, animals and micro-organisms, the genes they contain, and the ecosystems of which they form a part.

Ecology - The study of the relationship between organisms and their environment.

Ecosystem - The complex relationship between all the living and decaying organisms (including plants and animals) and the non-living components (including soil, water, air, light) in a defined environment.

Pleistocene Epoch - 50,000 years ago.

Sources

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School Plantation

By Claire Turner, Casey Cardinia Library Corporation



Horticulture became a popular element of the Health and Social Reform Movement during the 1910s and 20s. It was believed to be beneficial for children to have experience with the natural environment and so the State School Horticultural Society was established.³² Cultivated seedlings were sent out to schools that joined the Society. Regardless of what the social theories of the time proclaimed, the children enjoyed these studies of

the world outside their classroom. Lotus Brady can remember that: 'Nature study walks and subsequent projects were always looked forward to...'.³³

From 1923, school forest plantations began and by 1929 there were 241 participating schools covering 3,000 acres in total.³⁴ Cranbourne Primary School had its own plantation located on Sladen Street (next to the Bear House Restaurant). The children would go there regularly to weed and to continue planting. You can still see some of the trees today. The routine of caring for the plantation continued for many years.

Children would also be taken for nature walks around the racecourse bushland and further down, along Cranbourne Clyde Road and into one of the commercial sandpits. Pam Ridgway describes the familiar scenario where a few kids spoil the others' fun on such occasions:

We used to observe bird nests and other items of interest and we would later check the progress of baby birds. On a couple of occasions boys robbed nests, causing the rest of us sadness. No sympathy for the culprits getting the strap.³⁵

³² Susan Priestly, *The Victorians: Making Their Mark*, Fairfax Symes Weldon Associates, NSW, 1984, p.194.

³³ Recollections of Lotus Brady (Bregazzi), in possession of the Casey-Cardinia Local History Archive, Melbourne, 2000.

³⁴ Susan Priestly, p. 194.

³⁵ Recollections of Pam Ridgway

Cranbourne Meteorites

By Caroline Bell, City of Casey

The Cranbourne meteorites have a long history and are of interest not only to the Cranbourne community, but are also significant on a world scale.



Originally it is believed that the meteorites were of significance to the Aboriginal communities passing through the area. These strange rocks were believed to have special properties by the Aboriginals who viewed them as sacred. As a result they were often the focal point of ceremonies and celebrations.

There have been 12 meteorites discovered between the early 1850s and 1982, mainly in the Cranbourne area, but also scattered throughout Pearcedale, Langwarrin, Pakenham, Clyde, Officer and Beaconsfield. When referring to the map of the flight path, it is evident that with the exception of the Pakenham No. 6 and Pearcedale No. 11, the remaining meteors were all located in a perfectly straight line approx 21 kilometres apart.

Referred to by size, the meteorites ranged from Cranbourne No. 1 at 3.5 tons through to Cranbourne No. 12 at 23 kilograms. In fact, Cranbourne No. 1 and 2 at 3.5 & 1.5 tons respectively, are ranked in eleventh place on the list of the world's heaviest known meteorites, and in Australia second only to the Mundrabilla fall (on the Nullabor Plain, W.A.) boasting two large masses at 12 and 5 tons.

As outlined in Table 1, Cranbourne No. 1 first came to public attention at the Melbourne Exhibition in 1854. This exhibition featured an exhibit of a horseshoe made by a Melbourne farmer from (quote) *'a specimen of iron from Western Port'*. Investigation later showed that a small portion of the meteorite had been chiselled off the main mass located on a property off Craig Road, in Devon Meadows. Cranbourne No. 3 was later found on the same property in 1857.

Table 1

Meteorite No.	Year of Find	Original Mass	Present Location
1	1853	3,550 kg	British Museum, London
2	1853	1,525 kg	National Museum, Melbourne
3	1857	6.8 kg	Lost
4	1923	1,270 kg	National Museum, Melbourne
5	1923	356 kg	Victorian Mines Department, Melbourne
6	1928	40.5 kg	Victorian Geological Survey Museum, Melbourne
7	1923	153 kg	Geology Department, University of Melbourne
8	1923	23.6 kg	Victorian Geological Survey Museum, Melbourne
9	1876	75 kg	Probably widely distributed
10	1886	914 kg	National Museum, Melbourne
11	1903	762 kg	U.S. National Museum, Washington
12	1927/1982	23 kg	City of Casey, Narre Warren

Cranbourne No.s 4, 5, 7 and 8 were found in a neighbouring property in 1923 as a result of the owners ploughing these fields. No. 4 was the largest of these weighing in at 1.25 ton/1270 kilograms.

Cranbourne No. 2 was found some 6 kilometres away in approx. 1853, again on private property just off Patterson Road, in Clyde. This was the first of the meteorites to be reported in scientific journals and aroused considerable interest in Europe, where a meteorite of this size by far outweighed any other known meteorite.

Cranbourne No. 6 was actually found during road widening, on the Princes Highway in Pakenham, near the intersection of Cardinia Road in 1928. This meteor doesn't lie on the direct flight path of the others, and can now be found in the Victorian Geological Survey Museum, Melbourne.

Cranbourne No. 9 (or the Beaconsfield iron) was found in a railway cutting approx. 3 kilometres east of Beaconsfield station. It is believed that the meteorite

was uncovered some time between 1873 and its discovery in 1876 at which time the main Gippsland railway was under construction.

Scaled models of the Cranbourne meteorites can be found in the Cranbourne meteorite park on South Gippsland Highway, whilst a number of others are located in the National Museum, Melbourne. Cranbourne No. 12 is on display in the foyer of the City of Casey Council Offices, Narre Warren and can be visited any time during office hours.

To find out more about the meteorites, please refer to:

- Cranbourne Sun April 1982.
- Cranbourne Shire Historical Society collection.

References: The Good Country P 63-65
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