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CROWEA SALIGNA

A beautiful Sydney wildflower and the floral symbol of:

STONY RANGE FLORA RESERVE

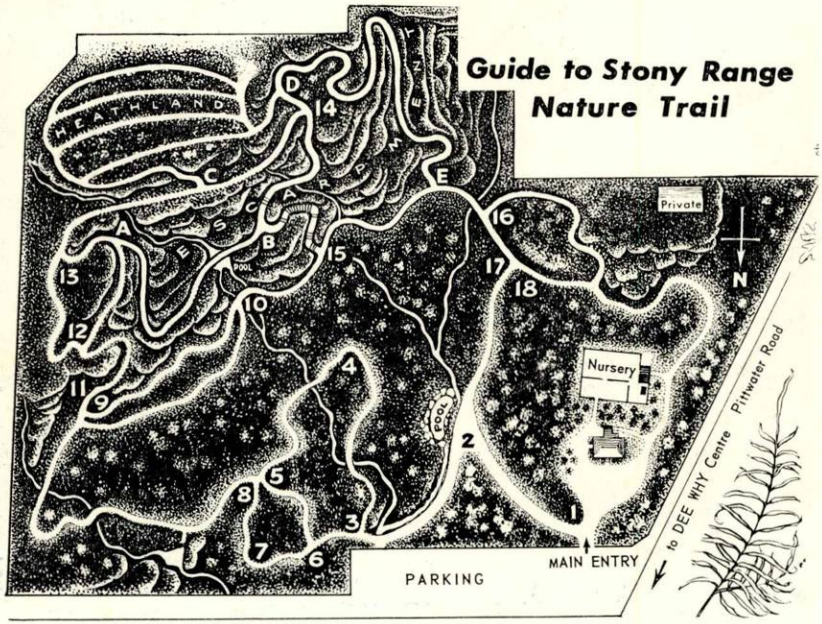
Contents of this Issue

This is a report on the cultivation of wildflowers in a reserve in the Sydney Metropolitan Area. The issue will be used as a handbook for those visiting the reserve but it will be of much wider interest. Just as an area of land in the heart of a residential-commercial-industrial district has been made to bloom with wildflowers, so too can you create a small wildflower section in your garden whether it be in Sydney, Melbourne, Adelaide, Perth, Brisbane or any other place in the temperate region. The more northerly areas will have to pay more attention to filtered sunlight and conserving ground moisture and the southern areas comprising a sunny exposure with wind protection, but the plants described can readily be grown. Achieving a well drained condition is a critical factor. It has been proved that the soil need not be sandy as at Stony Range, if adequate attention is paid to drainage and periodically opening up the soil. For your wildflower garden, build up with a good to light soil (not silt) and plant the wildflowers described. Our previous issue described wildflowers more suited to heavy soil and frost areas.

Wildflowers from all over Australia are grown in profusion at Stony Range although much attention has been given to those native to the Sydney area. It is not the usual practice to briefly describe so many plants in this periodical nor to repeat so many colour plates from past issues. However we have in mind an issue for the beginner, those who have only recently got the bug to grow wildflowers and need a reference to a wide range of hardy plants. We have also illustrated liberally with line drawings. The section on propagation will be of special interest, some simple proved methods being described.

THE SOCIETY FOR WILDFLOWER LOVERS

Those who enthusiastically tend the wildflowers at Stony Range in an honorary capacity are a small autonomous group and belong to the Australian wide "Society For Growing Australian Plants", office bearers listed on page 123. If you are interested in the preservation, cultivation or horticultural development of Australian wildflowers then enquire about the many society activities by writing to the Secretary listed for your State. You may, if you prefer, simply receive this periodical "Australian Plants" by sending the annual subscription of $1.20 to the Editor, 860 Henry Lawson Drive, Picnic Point, N.S.W. 2213.



The map above is contained in a leaflet (to a large scale) that visitors receive as they enter Stony Range, the numbers and numerals referring to a description of the area and the wildflowers in that section.

COVER PLATE—*Crowea saligna*, a beautiful small wildflower shown full size. Readers may forgive us using this cover plate again when they know that this wildflower is the emblem for Stony Range.

STONY RANGE FLORA RESERVE

by Alec M. Blombery

The Stony Range Flora Reserve is a public reserve which has been developed to its present stage by voluntary labour, under the supervision of a Management Committee, responsible to the Trustees, Warringah Shire Council. The greater part of the finance for the reserve is obtained by donations from the visiting public.

Outline and Topography for the Reserve

Situated within a built-up area and a quarter of a mile from the shopping centre of Dee Why, a northern beach suburb of Sydney, the reserve has an area of approximately 8¼ acres. The geological formation is typical Hawkesbury Sandstone, which is the middle series of the Triassic rock sequence of the Sydney basin. This Hawkesbury sandstone overlies the Narrabeen sandstones. Rising approximately 100 feet from the lowest to highest point, the upper section is characterised by large attractive sandstone outcrops. Much of the soil has been eroded from the upper area and, where present, is shallow.

Descending from the upper section, the formation changes to smaller rock, intermixed with the sandy soil derived from the breakdown of the sandstone. The lower section of the reserve is comparatively flat, with sandy soil varying in depth from 3 to 8 feet. Three small watercourses intersect the reserve, but these only hold water during rains.

Restoration of soil to the upper section has been carried out during development, and over 1000 tons of soil have been positioned.

Vegetation

The vegetation, which is scrub woodland commonly found on this type of sandy soil, had undergone considerable ecological changes prior to development commencing in 1957. There is only one small section, situated in the upper area, which could be classified as being in its natural state, and this is being maintained in this condition. Prior to development, most of the larger trees had been cut down, colourful plants, rocks and soil had been removed and quarrying had opened up some areas. A serious fire in 1936 also caused considerable ecological changes in the vegetation. As the reserve is surrounded by dwellings, exotic weeds were well established when development commenced.

The main flowering season is from the end of June until mid-October, with the main flush from mid-August to the end of September. Throughout the year, there are always some plants in flower.

Development

In carrying out development, the natural vegetation has been preserved and interplanted with plants from many parts of Australia, in a manner to preserve an informal appearance, to bring about ground cover, to overcome weeds and to present the plants in an attractive setting for the visiting public and extend the main flowering period for as long as possible.

Easy walking tracks have been constructed throughout the reserve. A contrast in the vegetation has been achieved by developing a small rain-forest adjoining one of the watercourses. The latest development is a small heathland of approximately ¾ of an acre. The sandy soil for the whole of this area has been brought in and spread to a depth of 2 feet.

Many of the areas have been created in the same manner as one would develop a home garden. Following a description of propagation methods and the methods of cultivation used, those plants and ferns that are well established are described.

THE NURSERY

The plant nursery is used primarily for providing a continuity of plants and for introducing new species to the reserve. Surplus plants are sold to the public and funds raised help to defray running expenses. Some thousands of plants are grown each year and propagated from seed, cuttings, plant division and transplants from other areas.

Considerable research work is carried out in all aspects of plant propagation and the techniques developed over the years give excellent results. The methods used are described below:

Propagation from seed:

The percentage of seed germination varies considerably with different batches of seed and experience has shown that, when there are poor results, it is not due to bad technique, but the result of infertile seed.

Preparation of seed:

All seed, except for legumes such as Wattles, Pea Flower and Cassia, Eastern Boronia family, Macadamia, palms and Eremophila are sown on to prepared mediums without any treatment as described under *Sowing Seed.*

Treatment of Wattles, Pea Flower and Cassia Seed:

Seed is rubbed between two sheets of diamond grit paper and then placed in a cup to which is added about 2 inches of boiling water and allowed to soak overnight. Seed which does not swell indicates insufficient rubbing, or dry infertile seed; after soaking seed is ready for sowing.

Nut type seed such as Macadamia, Eremophila and Palms:

These seeds are pressed into their sowing mediums and approximately one third of the seed is allowed to project above the soil.

Eastern Rutaceae:

Soil is obtained from around an existing Boronia or Eriostemon, which is then placed in a seed box and levelled. Seed of these particular plants is sown in the seed box and then covered to approximately the depth of the seed or seed is sown in the soil in the vicinity of an existing plant. Small twigs and leaves are then placed on the seed box or ground. The twigs are then set on fire and kept burning for about 10 minutes; after cooling the soil is then watered and treated as for other seeds. The seeds of these particular types of plants frequently have up to 95% of the seed infertile which results in poor germination.

Medium for Sowing Seed:

Many types of mediums have been used over the years for raising seed, such as vermiculite, perlite, light sandy soil, mixtures of various materials, all of which give reasonable results. It has been found that a simple mixture of coarse Nepean River Sand mixed with 1/6 of peat gives excellent results, prevents formation of algae, reduces damping off and is now used generally for germinating seed.

Seed Box:

Wooden boxes or plastic trays approximately 12 inches square and 3 inches deep are used for holding the sowing mixture even when only a few seeds are to be sown. Standing seed boxes in water for the purpose of germinating seed is avoided as there is poor root growth and fungal diseases are fostered which cause root rot.

Sowing Seed:

Seed boxes are filled with the above medium, which is levelled off with piece of flat timber.

The seed is then sown in rows or scattered over the surface, depending upon the number of seeds being sown, and then labelled with the name and date. Fine seed and large seed are separately grouped, as it is the practice to cover the seed to twice the thickness of the seed, and mixing fine seed and large seed together would result in the fine seed being covered too deeply. After the seed is covered, the seed box is placed in a protected but open, sunny position and is then watered well with a

hand-held hose with a fine spray. Seed boxes are watered twice daily during warm weather and daily during cooler weather with a hand-held hose.



Photography by F. W. Humphreys

BANKSIA SERRATA

With seedlings such as Waratahs, Banksias and Eucalypts which are subject to attack by fungi which cause root and collar rot, the seedlings are sprayed with Capthion when they appear above the ground. This spraying is repeated fortnightly until the seedlings have hardened off.

Seed usually takes from 2 to 3 weeks to germinate, and most seed is sown from spring to early autumn. When the seedlings develop their first set

of leaves (not seed leaves) they are ready for transplanting, commonly called "potting on".

Potting on Perennials:

Soft drink and beer cans are used for containers as there is no cost and their shape and depth encourage good deep root growth and are also easy to handle. The top is removed from the can and two holes are made in the side of the can at the bottom by means of a beer can opener.

Potting medium consists of equal quantities of coarse Nepean River Sand and sandy soil from the reserve. A small quantity of blood and bone is added to the soil mix, except for those species from sand-plain areas.

Tins are filled with the prepared soil, a hole is made in the soil and is then watered. A small seedling is pricked out and held with the roots in the hole previously made, which is then filled around the roots with soil. Care is taken to see that the seedling will be at approximately the same depth as it was growing in the seed box with the leaves above ground.

The plant is then watered and placed in a well shaded bush-house for one week, after which it is moved out into the open area of the nursery Plants are allowed to grow on for 3 to 6 months before planting out in the reserve.

Potting on Annuals:

Seed boxes are filled with a similar type of soil used for potting on seedlings; the seedlings are transplanted from the seed box to this prepared box two to three inches apart in a manner similar to that previously described. The boxes are well watered and the seedlings are grown on for approximately two to three months, when the seedlings are ready to plant out directly from the seed box into the ground.

Propagation from Cuttings:

Various methods are used for propagating plants from cuttings, but the same cutting medium is used, except with easily propagated species, and these are placed directly into the same type of soil used for potting plants or they are placed into the sandy soil of the reserve.

Cutting Medium:

A mixture of 4 parts of coarse Nepean River sand and 1 part of peat is used for all types of cuttings. Where possible the prepared mixture is steam sterilised, but, where this is not possible, boiling water is poured over the mixture after it is placed into the cutting tubes.

Preparation of Cuttings:

Cuttings are taken throughout the year, but best results are obtained from cuttings which are taken just as new growth is commencing. Cuttings are selected from the most vigorous plants, using side, leading shoots from 3 to 4 inches in length. Soft, fleshy cuttings are not used.

To prepare cuttings, the leaves are removed from that part of the cutting which will be in the cutting medium and a clean cut is made across the bottom of the cutting with a sharp blade. The number of leaves when large are reduced and soft fleshy new growth is removed. After preparation, the cuttings are placed in water containing "Formula 20" hormone solution for approximately one hour, after which they are ready to be placed in the cutting medium.

Glasshouse Propagation:

A glass-house 12 feet by 6 feet is used for producing large numbers of rooted cuttings. The glasshouse is constructed from a 1 inch galvanised pipe frame with walls 4 feet high and a pitched roof. Walls are asbestos cement and the roof and upper area of end are glass; a sliding door is used for access and ventilation. Benches 2 feet wide are provided along both sides and one end of the glasshouse; the benches are made from compressed asbestos cement sheets, supported on a pipe frame. Two thirds of the benches are provided with low voltage (30 volt) copper electrical heating wire at 3 inch spacing and controlled by a thermostat set at 22°C. The benches are covered to a depth of 4 inches with coarse river sand. Mist sprays are provided at 4 feet centres which are controlled by an automatic

adjustable electronic system which uses a paper detector to measure the degree of wetness.

The length of growing time for the plants is assisted by the use of artificial lighting to give a 16 hour day. The light consists of 20 watt globes at 3 feet centres and 3 feet above the cuttings.

Individual cutting tubes 3 inches long and 1¼ inches in diameter are used for each cutting in the glasshouse, as they assist in reducing rotting infections. Wire baskets, 2 feet by 1 foot, are used to support the tubes.

After filling the tube with the sand and peat mixture, which has been previously sterilised or treated with boiling water, the prepared cuttings are placed in position by making a hole in the medium with a piece of wire and then inserting the cutting to half its depth in the medium. Medium is consolidated around the cutting with a solution of Formula 20 in strengths recommended by the makers. Cuttings are labelled with the date and species' names. Except for soft, herbaceous species, periods of from 4 weeks to 3 months are required to root cuttings.

Cuttings are inspected weekly, and those which have developed roots are removed from the heat and placed on a section of the bench where there are no mist sprays and watering is carried out by hand for a week to harden cuttings, when they are ready for potting on.

Strict cleanliness is essential in the glasshouse, as fungi grow rapidly and considerable losses of cuttings can occur. Any cutting showing sign of dying is removed; spraying of cuttings with Captan is carried out at fortnightly intervals, during warmer and humid periods; floors, walls and benches are cleaned with copper naphthanate or chlorine bleach solution.

Ventilation of the glasshouse is essential and door is left open during hot days, otherwise cuttings become overheated and losses occur.

There is a general belief that a glasshouse with mist sprays and bottom heat is necessary to root cuttings. Whilst a glasshouse with these facilities is ideal for handling large numbers of cuttings, unless strictly controlled, considerable losses can occur and the methods described below can give equally as good results as the glasshouse for smaller numbers

Bushhouse Propagation:

The bushhouse approximately 40' x 40' built with a pipe frame and covered around the side with "sarlon" and the top lightly shaded with twigs, as well as serving to handle newly potted plants, is also used for cuttings of species easily propagated. The cuttings, which take approximately 3 months to root, are dealt with in the various ways as listed:-

(a) Beer cans are filled with potting soil and placed in a protected section of the bushhouse. Cuttings which have been prepared as previously described are placed one to each tin to half their depth, and then watered well; watering is carried out once or twice daily as required until rooted, when they are then moved out to the open area of the nursery and allowed to grow on.
Cuttings of Prostanthera, Sollya and Scaevola are commonly rooted in this manner.

(b) Cutting tubes are filled with the cutting medium previously described and the tubes are then placed in trays for support. Cuttings of Lechenaultia are then placed in position and root in approximately 6 weeks and are then potted on.

(c) A plastic polythene tent, supported by a wire frame, 2' x 1' 6" and 1' 6" high, is placed over a tray containing coarse river sand. A front flap of plastic is loose and can be rolled up for access to the tent. Cutting tubes or 4" pots filled with cutting medium are stood on the sand inside the tent. Cuttings, prepared as previously described, are then placed into position and watered and flap at front of tent is closed. Watering is carried out daily or as required, until rooted, usually approximately 3 months, and cuttings are then removed for potting on. Cuttings of various plants as required, including *Eriostemon australasius,* are rooted in this manner.

(d) Plastic pots are filled with cutting medium and then prepared cuttings are placed into position and watered well. A simple wire frame is pushed into the sand and a clear plastic bag is drawn over the frame and pot and fastened with an elastic band. The pot is then placed in a half shaded position in the bushhouse and left undisturbed until cuttings have rooted in 3 to 4 months. During this period, if it is noticed that there is no moisture showing inside the bag, it can be removed, the plants watered and then the bag replaced. All types of cuttings have been rooted in this manner.

Propagating Using Glass Jars:

A selected area in a protected and half shaded section of the reserve, where the soil is deep, sandy and well drained, is dug over to spade depth. Beds approximately 4 feet wide and 6 inches above the surrounding ground are formed, and then well watered. Prepared cuttings are placed in position to approximately half their depth and then watered in. A glass jar, approximately 3 inches in diameter and 6 inches high, is placed over each cutting, and gently pressed into the sand. Watering is carried out when the ground shows evidence of becoming dry or bottles show lack of moisture inside. After heavy rains, it is necessary to break the seal between the jar and the sand formed by beating rain. The seal is simply broken by pushing the jar back and forth without removing.

When the cuttings are rooted, i.e. 3 to 6 months after placing in position, they are slowly hardened by removing the bottles for increasing periods, until fully removed and cuttings are hardened. The cuttings are then ready to pot on.

To pot on cuttings a trowel is pressed into the ground around the cutting, and the piece of soil including the cutting is removed, which is then potted into a tin.

Potting on Cuttings:

When cuttings have rooted, they are potted into tins for seedlings, using the same sand mixture.

With cutting tubes, the cuttings and medium are removed from the tube by inverting the container supporting the cutting and shaking sharply. The cutting is then placed into a tin, which has been previously part filled with potting soil and well watered. Soil is then filled around the cutting and watered well. Cuttings grown in pots are knocked out and the roots are gently separated and then handled in the same manner as for seedlings.

Newly potted cuttings are kept in the bushhouse for at least a week and are then grown on in the nursery in an open sunny position where they are watered at least daily and are allowed to grow on for at least 3 to 6 months. This is necessary as plants receive limited attention after planting out in the reserve, thus it is essential they be well rooted and be grown under open, hard conditions.

Ferns and shade-loving species are grown on in the bushhouse.

CULTIVATION

In carrying out planting in the reserve, the aim is to endeavour to maintain a natural appearance by using the newly planted shrubs and trees to complement the existing vegetation, or, in cases where there has been development work, to give a ground cover of vegetation in an attractive manner, where the plants are readily observed by visitors.

Preparing Plants

(1) Selected plants are prepared for planting by soaking the plant and container in a bucket of water until bubbles cease to arise from the plant and container. The plant is then removed from the water and allowed to drain; after which a knife is run around the inside of the container and the plant is ready to place in position. This is done by holding the plant between the fingers of the left hand, inverting the tin, and removing the plant and soil from the container.



CRIMSON BOTTLEBRUSH—*CALLISTEMON CITRINUS*

Planting amongst Trees:

(2) Planting in areas where there are existing trees and shrubs is carried out by digging a hole in the required position to the depth of a spade and all visible roots are removed from the hole. The hole is filled with water, which is allowed to soak away and the hole is filled with water again and, when it is almost soaked away, the plant is placed in position and held at approximately the same depth it has previously been growing. The hole is filled with soil and firmed with the feet and then watered well, and staked to mark its position for future watering and attention. During the first year, the plant is given a good watering every 3 to 4 weeks during dry weather.

(3) In areas where there are no plants or a few small plants, a hole is made in the ground where required to the approximate depth of the plant; the hole is filled with water and when it has almost soaked away, the plant is placed in position and filled in, as previously described.

(4) For larger growing plants and in the deeper sandy soils, approximately half a handful of blood and bone is mixed with the soil at the bottom of the hole, prior to filling it with water.

Watering:

As the soil is of a very sandy nature and, in many cases, rather shallow, regular watering is necessary during dry weather. Watering is carried out by a hand held hose and fixed and movable sprinklers. Epiphytic plants growing on trees require almost daily watering during warm weather, in order that similar environmental conditions to which these plants are accustomed can be provided. Care is necessary with watering during the summer months, particularly in shallow soils and with those plants which come from dry and winter rainfall areas, as they are subject to attack by various root rots. The worst conditions occur when soil temperatures are above 16°C and a plentiful supply of moisture is maintained, for this induces rapid growth of fungi that attack the roots of the plants. During extended periods of mid-summer rains, there are a number of plant losses in shallow soils.

Fertilising:

With plants, such as Waratahs, a light dressing of blood and bone is applied to the plants annually; use is also made of red Nitrophoska in plants in shallow soils at 3 monthly intervals during the growing period. Apart from the above, general fertilising of plants in the ground is not carried out.

Pest Control:

An all purpose spray known as Capthion is used, which contains both insecticides and fungicides. Spraying of plants is only carried out as required, when there is evidence of attack by pests. The same spray is used in the nursery on newly germinated seedlings subject to damping off, which is repeated at 2 weekly intervals during summer. It is usual to add Aquasol to the spray. Leaf miners present a problem with Lillypilly and thrips cause the loss of flowers and seeds on Christmas Bush.

Pruning:

Lack of labour prevents any general pruning program, but, when necessary, the pruning is carried out immediately after flowering and care is taken not to cut into old thick hard wood, as this can cause the plant to die. When a branch is pruned, wherever possible, it is cut back to a lateral lead. When time is available, old dead wood is removed from plants.

Cultivation of Orchids and Ferns:

Orchids and ferns are fastened to trees which do not lose their bark by tying on with wire or nylon fishing line. On rock faces, the rocks are drilled and a plug and nail are fastened and the wire or nylon line is attached to the nail. After the plants have affixed themselves to the bark or rock, the ties are removed. After fixing, the orchids and ferns are given a light dressing of poultry manure whilst copious watering is carried out.

Regular feeding of epiphytic orchids and ferns with fowl manure is carried out during the growing season at approximately 6 weeks intervals; care is exercised to limit the quantity given at any one time, for if applied too thickly, the heat formed during rotting burns the plants.

Copious watering of all epiphytic plants is carried out, particularly during the growing season, and daily handwatering is carried out wherever possible. Small orchids on trees, which are difficult to apply fowl manure to, are fertilised by using Aquasol, which is sprayed on with a hand spray; it is essential to give these plants extra watering, as the salts from the fertiliser can burn the plants.

Spraying of the orchids is carried out using Capthion, to which Aquasol is added. This is carried out during the growing season at the beginning of the flowering season. Ground ferns are watered by means of fixed or movable sprinklers, or by means of a hand held hose.

I am much indebted to Betty Maloney for her many line drawings of plants in the reserve and to Margaret Senior for her map of the reserve.

FERNS GROWING AT STONY RANGE

Adiantaceae

Adiantum aethiopicum, "Maiden Hair Fern", a fern, soft delicate pinnules on dark, slender stems.

**Cheilanthes tenuifolia,* a small fern with slender, dark green fronds.

Pellaea falcata, "Sickle Fishbone Fern", an erect fishbone fern, fronds dark green. Plate 1.

Pellaea paradoxa, an erect, clump-forming fern, pinnules heart-shaped.

Aspidiaceae

Polystichum proliferum, resembling a young tree fern, fronds dark green, with numerous brown scales.

* Plants native to the reserve or area.

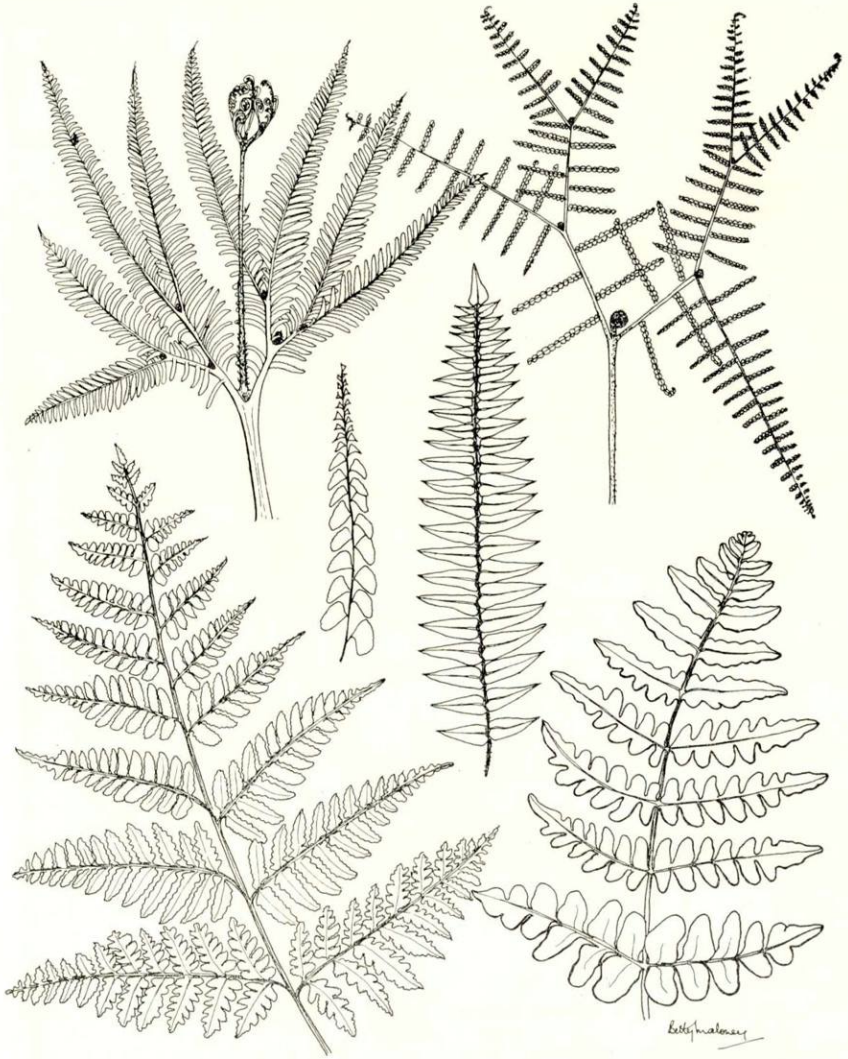


PLATE 1—*Sticherus flabellatus—Gleichenia dicarpa* (top); *Lindsaea linearis—Pellaea falcata* (centre); *Hypolepis muelleri—Histiopteris incisa* (bottom).

Aspleniaceae

Asplenium falcatum, an epiphyte, fronds dark green, pendulous.

Asplenium nidus, "Bird's Nest Fern", a large epiphyte, growing on trees and rocks, fronds long and broad, light green.

Blechnaceae

Blechnum cartilagineum, "Fishbone Fern", fronds fishbone-shaped, arising from a central clump, light green pinnules wavy.

Blechnum minus, resembling former, but fronds small, less wavy.

Doodia aspera, "Rasp-fern", a fishbone fern fronds rough, dark green and red.

Cyatheaceae

Culcita dubia, a bracken-like fern, fronds soft, light green, with soft brown hairs at base of frond.

Cyathea australis, "Rough Tree Fern", frond large, rough at base, reddish scales.

Cyathea cooperi, "Tree Fern", resembling former, fronds smooth, scales straw-coloured.

Dicksonia antarctica, "Soft Tree Fern", a tree fern with numerous slender fronds, soft brown hairs at base.

Dennstaedtiaceae

Dennstaedtia davallioides, a bracken-like fern with very soft, light green fronds.

**Histiopteris incisa,* "Batwing Fern", large upright fronds soft, light greyish green. Plate I.

**Hypolepis muelleri,* a common bracken-like fern in creeks, fronds light green. Plate 1.

**Pteridium esculentum,* "Bracken", a stiff fern, fronds shiny green to brown.

Gleicheniaceae

**Gleichenia dicarpa,* "Pouched Coral Fern", a spreading fern, fronds numerous, much forked, pinnules narrow and coral-like. Plate 1.

**G. rupestris,* "Coral Fern", resembling former, pinnules greyish beneath.

Sticherus flabellatus, "Umbrella Fern", a tall, erect fern, fronds terminal, arranged in an umbrella fashion. Plate 1.

Lindsaeaceae

**Lindsaea linearis,* "Screw Fern", a small clump-forming fern with slender fronds, pinnules triangular. Plate 1.

**Lindsaea microphylla,* a small fern. Delicate fronds with small pinnules.

Lycopodiaceae

Lycopodium deuterodensum, "Mountain Moss", stems erect to 12 inches, stem light green resembling minute pine trees.

Marsileaceae

Marsilea drummondii, "Nardoo", an unusual fern, clover-like fronds, growing in cool and moist positions.

Osmundaceae

Todea barbara, "King Fern", a tree fern-type fern, numerous erect, light green fronds from a central base.

Polypodiaceae

Dictymia brownii, a closely creeping fern, frond stiff, elongate to 9".

Microsorium scandens, a creeping fern on rocks and trees, fronds lobed or entire.

Platycerium bifurcatum, "Elkhorn", a large epiphyte, with numerous forked fronds.

Platycerium grande, "Staghorn", a very large epiphyte fern, large sheathing frond, two large, green, fertile fronds.

Pyrrosia confluens, extensive creeping fern on trees, fronds elongate to 4 inches.

Pyrrosia rupestris, "Rock Felt Fern", an extensive creeping fern on trees and rocks, fronds small, round or elongate.

Schizaeaceae

Schizaea bifida, fronds stiff, dark green forked, fertile, small, comb-like.

Selaginellaceae

**Selaginella uliginosa*, a fine, light green, prostrate creeping plant.

Thelypteridaceae

Cyclosorus nymphalis, erect, fishbone-type fern, fronds light greyish green, pinnules lobed.

FLOWERING PLANTS OF STONY RANGE

The flowering plants are now described in their families.



***BAUERA RUBIOIDES*—The River or Dog Rose**

A beautiful shrub easily grown in any garden. See page 106.

Agavaceae

Doryanthes excelsa, a plant with a number of long leaves arising from a base, flower red on a very long flower stem.

Amaryllidaceae

Calostemma luteum, resembling *C. purpureum,* but flowers yellow with red.

Calostemma purpureum, a bulbous plant, with long, narrow, fleshy leaves, fls. red to white.

Crinum flaccidum, "Darling Lily", a plant with fleshy, narrow leaves, flowers white.

Crinum pedunculatum, "Swamp Lily", a plant with large fleshy leaves to 4 feet, flowers white on a long flower stem.

Eurycles cunninghamii, a plant with heart-shaped leaves, flowers white.

Aizoaceae

Carpobrotus glaucescens, "Pigface", a prostrate plant, leaves long, fleshy, triangular, fls. pink.

Disphyma australe, "Pigface", prostrate, leaves short, cylindrical, flowers pink.

Araceae

Alocasia macrorrhizos, a plant resembling an Arum, leaves light green, flower spathe green.

Araliaceae

Astrotricha floccosa, a tall, herbaceous plant, leaves lanceolate, flowers white.

Baueraceae

Bauera capitata, a small, erect shrub, leaves lobed flowers pink.

Bauera rubioides, "River Rose", a spreading bushy shrub, leaves with 3 leaflets, flowers pink. Colour plate on page 105.

**Bauera rubioides* var. *microphylla,* resembling former, but smaller in growth.

Bauera sessiliflora, an erect bushy shrub, leaves in 3 leaflets, flowers deep pink.

Bignoniaceae

Pandorea jasminoides, a climber with dark green, pinnate leaves, flowers white with reddish purple throat.

Pandorea pandorana, "Wonga Wonga", a climbing plant, leaves pinnate, flowers brownish cream with red.

Pandorea pandorana var. *oxleyi,* a climbing plant with fine, pinnate leaves, flowers brownish cream with red.

Caesalpiniaceae

Cassia odorata, an erect to prostrate shrub, leaves pinnate, light green, flowers yellow.

Cassia artemisioides, a bushy shrub, leaves pinnate grey, flowers yellow.

Cassia eremophila, an erect shrub, leaves double-lobed, flowers yellow.

Campanulaceae

Wahlenbergia gracilis, "Blue Bell", a slender plant, leaves basal, flowers blue to white.

Caprifoliaceae

Sambucus gaudichaudiana, a large bushy shrub to small tree, leaves large pinnate, flowers white in heads.

Caryophyllaceae

Scleranthus biflorus, a plant forming cushion clumps, leaves tiny light green, flowers tiny white.

Stellaria flaccida, a soft, spreading herb, leaves small, light green, flowers white.

Stellaria pungens, a prostrate herb with small sharp leaves, flowers white.

Cassythaceae

**Cassytha glabella,* a twining leafless parasite on trees and shrubs.

Commelinaceae

**Commelina cyanea,* "Wandering Jew", a soft spreading herb, leaves fleshy lance-shaped, flowers blue.

* Plants native to the reserve or the area.

The Plant Family Compositae

The Compositae or "Daisy" family, which is characterised by having a number of individual flowers arranged in a head, is one of the largest families of plants in the world. Although numerous exotic species are widely cultivated the many attractive Australian species have been neglected. There are both annual and perennial species all of which are easy to cultivate. Widespread are the everlastings (Helichrysum & Helipterum species) below. The *Senecio*



PLATE 2—*Helichrysum bracteatum—Helichrysum elatum—Senecio lautus—Brachycome iberidifolia Olearia picridifolia—Helipterum roseum.*

are dainty plants usually a bright yellow, some species being quite widespread and bright in the centre of Australia after rain. The Brachycome are beautiful small herbs, usually blue, and are a valuable addition to the rockery. Olearia have the characteristic daisy flower, are easily grown, and species may be found to provide small or large free flowering shrubs for the garden.



Colour photography by K. Hubner

PINK EVERLASTINGS

The upper flowers are *Helipterum roseum* commonly called "Acroclinium". The lower flowers are *Helipterum manglesii,* commonly called "Rodanthe".

Widely grown for the cut flower trade these showy everlastings are ideal annuals for the wildflower garden. The seed is best sown into seed boxes at the end of January and then pricked out into other boxes or small pots. Plant out in the garden in late autumn. As with exotic annuals, good friable soil and feeding give a special rewarding display with flowers throughout the spring. Pick for the house to maintain flowering.

The colour range for *Helipterum manglesii* is from white through shades of pink to red with either yellow or black centres on stalks to two feet.

Helipterum roseum are shorter with stalks to 18 ins. There are usually two shades of pink and white all with yellow centres.



Flannel flowers, *Actinotus helianthii* surround the Sydney "Native Rose", *Boronia serrulata* (see page 149). Although the flannel flowers look like Compositae, the "Daisy Family", they belong to the family Umbelliferae. While they self sow readily in open moist sandy soil conditions many people have trouble cultivating them. It is not usually realised that they are biennials and require to be regrown. Sow the seed direct into the garden bed where a patch of coarse sand has been prepared.

Compositae

Brachycome angustifolia, a small perennial herb, leaves linear, flowers blue.

Brachycome basaltica, a perennial herb, leaves round toothed, flowers blue.

Brachycome iberidifolia, "Swan River Daisy", a slender annual, leaves fine, flowers white, pink, blue. Plate 2.

Brachycome multiflora, a small bushy herb, leaves divided, flowers blue.

Brachycome stuartii, a small, clump-forming herb, leaves divided, flowers blue.

Calotis cuneifolia, "Burr Daisy", a small herb, leaves wedge-shaped, flowers blue.

Cassinia denticulata, an upright shrub, leaves stem-clasping, flowers yellow.

Helichrysum apiculatum, a small herb, leaves greyish narrow, flowers yellow.
Helichrysum bracteatum, "Yellow Paper Daisy", an upright to spreading herb, leaves lance-shaped, flowers yellow large. Plate 2.
Helichrysum diosmifolium, a tall bushy shrub, leaves narrow, flowers white to pink in heads.
Helichrysum elatum, "White Paper Daisy", an erect herb, leaves lance-shaped grey, flowers white. Plate 2.
Helichrysum semipapposum, resembling *H. apiculatum,* but leaves green.
Helipterum cotula, a small herb, leaves narrow grey, flowers white.
Helipterum manglesii, a soft annual herb, leaves stem-clasping, flowers white to red. Colour plate page 108.
Helipterum roseum, an erect annual, leaves narrow grey, flowers white to red. Plate 2. Colour plate page 108.
Leptorhynchos squamatus, "Button Daisy", a small perennial herb, leaves soft narrow greyish green, flowers yellow.
Olearia argophylla, a bushy shrub, leaves broad lance-shaped, flowers white.
Olearia gunnii, a bushy shrub, leaves lance-shaped, flowers pale blue.
Olearia microphylla, a bushy shrub, leaves very small, flowers white.
Olearia picridifolia, an annual herb, leaves elliptical, flowers blue-mauve. Plate 2.
Podolepis rosea, an erect annual, leaves stem-clasping, flowers pink.
Senecio lautus, an annual erect to spreading herb, leaves narrow, flowers yellow. Plate 2.

Convolvulaceae
Convolvulus erubescens, a small prostrate to twining plant, leaves from arrow-shaped to linear, flowers pink.

Cunoniaceae
Callicoma serratifolia. Erect tree, toothed leaves greyish beneath, flowers cream in heads.
**Ceratopetalum gummiferum,* "Christmas Bush", a shrub to small tree, leaves in 3 leaflets, flowers white, fruits red. Colour plate page 112.
Ceratopetalum apetalum, "Coachwood", an erect-growing tree, leaves lance-shaped dark green, flowers white, fruit reddish purple.

Cupressaceae
Callitris rhomboidea, "Port Jackson Cypress", an erect pencil-type pine, leaves dark green.

Cyperaceae
**Caustis flexuosa,* a plant with numerous slender pendulous leafless stems, flowers tiny cream in spikelets. Plate 23.
**Caustis pentandra,* a plant with numerous erect slender leafless stems, flowers as above. Plate 23.
**Gahnia clarkei,* a clump-forming plant, leaves long grass-like with sharp edges, flowers small brown in spikelets. Plate 23.

Dilleniaceae
**Hibbertia aspera,* a spreading small shrub, leaves small, flowers yellow.
**Hibbertia bracteata,* an erect bushy shrub, leaves oblong, flowers yellow.
Hibbertia dentata, a prostrate twining plant, leaves toothed, flowers yellow.
**Hibbertia fasciculata,* a small erect shrub, leaves fine, flowers yellow.
**Hibbertia linearis,* an erect shrub, leaves narrow, flowers yellow.
Hibbertia pedunculata, a prostrate plant, leaves small, flowers yellow. Plate 22.
Hibbertia scandens, a vigorous twining plant, leaves elliptical, flowers yellow. Plate 22.
**Hibbertia stricta,* a small bushy shrub, leaves small, flowers yellow.
Hibbertia stellaris, a small spreading plant, stems and leaves slender, flowers orange.

Elaeocarpaceae
**Elaeocarpus reticulatus,* "Blueberry Ash", a small tree, leaves elliptical toothed, flowers white, fruit blue.

The Family Epacridaceae

The Epacridaceae family of plants has many attractive members, one *Epacris impressa*, being the floral emblem of Victoria. The family is characterised by having tubular to bell-shaped flowers and small sharply-pointed leaves. There are 10 members of the family which are endemic to the reserve and these are listed with an asterisk on page 113. Some of these are shown below.



PLATE 3—*Epacris longiflora—Leucopogon ericoides—Woollsia pungens—Epacris microphylla.* Bottom: *Styphelia triflora—Styphelia tubiflora.*

BOOKS ON WILDFLOWERS

There are many books of reference to wildflowers. Past issues of this periodical "Australian Plants" are available as fully bound volumes as advertised on page 123. These should provide all the information that you need. For those especially interested in "The Flora of the Sydney Region", a book with this title by Beadle, Evans and Carolin is available by mail from the Editor for $13.95 plus 35c postage. Alec M. Blombery, author of the articles in this issue, has also authored a book "Guide to Australian Plants" available at $16.00 plus 40 cents postage from the Editor, 860 Henry Lawson Drive, Picnic Point, N.S.W. 2213.

N.S.W. CHRISTMAS BUSH



Photography by Frank Hurley *Blocks by courtesy of John Sands Pty. Ltd.*

CERATOPETALUM GUMMIFERUM—Christmas Bush of N.S.W.

The Christmas Bush grows naturally in the area but is only found in the deep well drained soil. As the soils become shallower the plant ceases to grow. To grow the shrub in the garden it is essential that the soil be at least two feet in depth and be well drained. It is the fruit which are the attractive part of the plant and these can vary from pale pink to deep red. In the seedlings some indication of this colour may be obtained by the new growth.

Epacridaceae

Astroloma humifusum, a small diffuse shrub, leaves pointed, flowers red.

**A. pinifolium,* a small diffuse shrub, leaves fine greyish, flowers red with yellowish green.

**Epacris longiflora,* "Native Fuchsia", a spreading shrub, leaves heart-shaped pointed, flowers red with white. Plate 3.

**E. microphylla,* an erect to straggling shrub, leaves small heart-shaped, flowers white. Plate 3.

E. obtusifolia, an erect shrub, leaves oblong and elliptical, flowers white.

E. pulchella, a slender upright shrub, leaves heart-shaped sharply pointed, flowers pink.



Photography by M. Baldwin

EPACRIS PULCHELLA

Epacris pulchella which is found in N.S.W. and Qld., is a small erect plant with numerous sharply pointed leaves. The flowers vary in colour from white to deep pink. The beautiful *Epacris longiflora* has white and red bells. Victoria's Floral Emblem *Epacris impressa* has flowers in colours ranging from white to deep red. The Epacris family are rather slow in the early stages but given a cool position make a delightful show.

**Leucopogon microphylla,* a bushy shrub, leaves small, flowers white.
**L. ericoides,* a bushy shrub, leaves linear, oblong pointed, flowers white. Plate 3.
**Lissanthe strigosa,* a small stiff bush, leaves greyish linear pointed, flowers white small.
Melichrus procumbens, a small stiff diffuse shrub, leaves flat linear pointed, flowers yellowish.
**Monotoca elliptica,* a small bushy tree, leaves oblong dark green, flowers white small.
Sprengelia incarnata, an erect shrub, leaves stem-clasping, flowers pale pink.
S. sprengelioides, a straggling shrub, leaves small stem-clasping, flowers white.
Styphelia laeta, an erect shrub, leaves oblong sharply pointed, flowers yellow to red.
S. longifolia, a tall erect shrub, leaves long tapered to a point, flowers greenish yellow.
**S. triflora,* an erect bushy shrub, leaves broad lance-shaped, flowers pink in groups. Plate 3.
S. tubiflora, a spreading shrub, leaves oblong dark green, flowers red or red with white. Plate 3.

Euphorbiaceae
**Breynia oblongifolia,* an erect shrub, leaves elliptical, flowers cream inconspicuous.
**Glochidion ferdinandii,* "Cheese Tree", a small tree, leaves oval reddish green, flowers tiny cream, fruits cream.
Omalanthus populifolius, a shrub to small tree, leaves heart-shaped green to red, flowers tiny in spikes.
**Ricinocarpos pinifolius,* a bushy shrub, leaves linear, flowers white 6 petals. Known in N.S.W. as the "Wedding Bush".

Goodeniaceae
Dampiera linearis, a small herb, leaves linear-lanceolate, flowers blue.
D. purpurea, an erect shrub, leaves elliptical, flowers blue.
**D. stricta,* a small erect plant, leaves variable, flowers blue. Plate 4.
D. teres, a slender upright herb, leaves few lance-shaped, flowers blue with white.
**Goodenia bellidifolia,* a low-growing herb, leaves broad and dandelion-like, flowers yellow. Plate 4.
G. ovata, an erect shrub, leaves heart-shaped, flowers yellow.
G. paniculata, a low growing herb, leaves narrow long, flowers yellow.
Scaevola aemula, a bushy spreading herb, leaves elliptical toothed, flowers blue. Plate 4.
S. calendulacea, a spreading fleshy herb, leaves elliptical flowers pale blue.
S. hookeri, a small ground-hugging plant, flowers blue.
S. ramosissima, a scrambling plant, leaves few narrow lance-shaped, flowers purple. Colour plate page 116.
S. striata, a spreading herb, leaves elliptical, flowers purple.
Lechenaultia biloba, an erect to spreading plant, leaves narrow, flowers blue. Plate 4.

The Lechenaultia are from Western Australia and have created considerable interest in the horticultural world. *Lechenaultia biloba* has delightful striking blue flowers and the small bush carries them in profusion if grown well. They prefer a good open friable to light well drained soil and some forms will sucker freely without becoming rampant. Very easily grown from cuttings, gardeners are advised to propagate from cuttings each year as the bush often collapses after a year or two following a wet summer.

All Lechenaultia are also well worth growing especially as pot plants.
L. floribunda, a slender erect plant, leaves narrow, flowers pale blue.
L. formosa, a prostrate to bushy plant, leaves fine, flowers red to yellow and orange.

The family Goodeniaceae of which Lechenaultia is a member are well worth growing in the garden. *Goodenia* usually have buttercup yellow flowers but some vary to pink or mauve. *Scaevola* and *Dampiera* with flowers of white to brightest blue and purple make an attractive addition in the garden.



PLATE 4: *Lechenaultia biloba—Dampiera stricta—Scaevola aemula—Goodenia bellidifolia—Viola hederacea—Viola betonicifolia*—see page 154.



Photography by Eric Gordon

SCAEVOLA RAMOSISSIMA

A beautiful scrambling plant for the garden. *Scaevola* are lovely garden plants, *Scaevola aemula* being the easiest to grow and produces an abundance of flower.

Iridaceae

Diplarrena moraea, clump-forming, leaves flat narrow stiff, flowers white with yellow.

Libertia paniculata, a small herb with flat narrow leaves, flowers white.

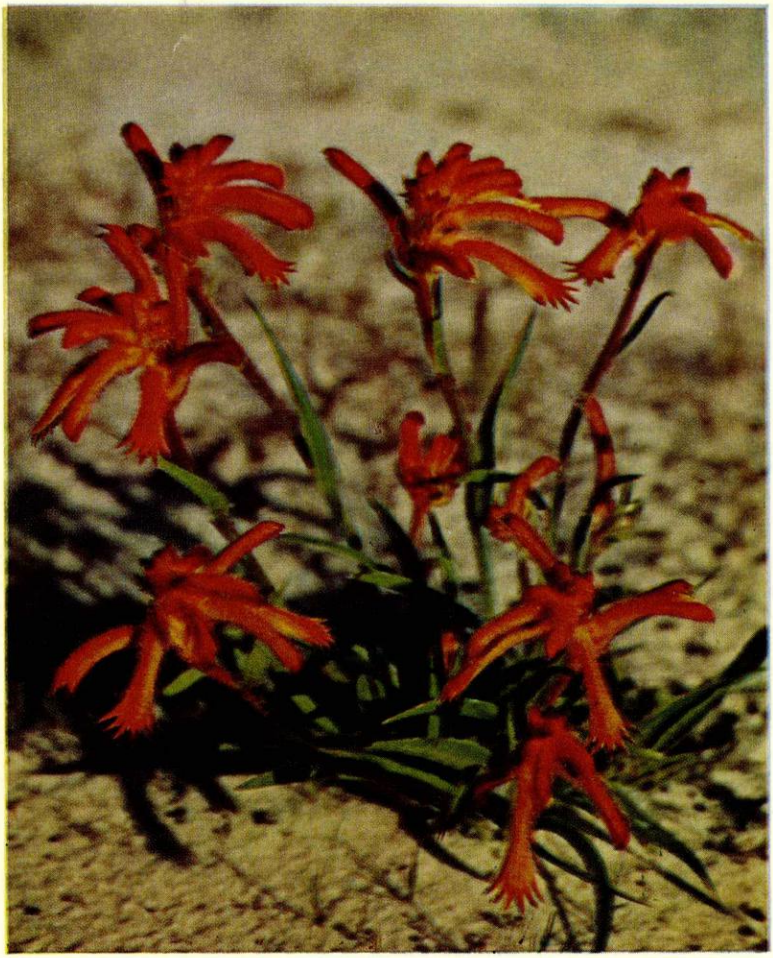
Orthrosanthos laxus, "Morning Iris", a tufted plant, leaves flat narrow, flowers 6-petalled pale mauve.

Patersonia longiscapa, "Native Iris", a clump-forming plant, leaves flat flowers purple. Plate 5.

**P. sericea,* "Native Iris", a clump-forming plant, leaves flat dark green, greyish green, flowers mauve. Plate 5.

KANGAROO PAWS

These unusual plants are easily grown in light soil conditions.



***ANIGOSANTHOS HUMILIS*—Cat's Paw**

Haemodoraceae

Anigosanthos bicolor, small clump-forming, leaves flat tapered, flowers red and yellow.

A. flavida, a plant forming large clumps, leaves flat smooth, flowers yellowish green, yellow to yellow and red. Plate 5.

A. humilis, "Catspaw", a clump-forming plant, leaves flat short, flowers yellow to orange.

A. manglesii, "Red and Green Kangaroo Paw", a clump-forming plant, leaves flat greyish, flowers red and green on red stem. Plate 5.

A. preissii, a small plant, leaves flat, flowers yellow with red.

A. pulcherrima, clump-forming plant, leaves flat, flowers orange, yellow with red stem.

A. rufa, "Red Kangaroo Paw", a clump-forming plant, leaves flat finely toothed on edges, flowers deep red. Plate 5.

A. viridis, "Green Kangaroo Paw", clump-forming with narrow leaves, flowers bright green.

Conostylis aculeata, a clump forming plant, flat leaves, flat narrow flowers, yellow heads.

Macropidia fuliginosa, "Black Kangaroo Paw", clump-forming leaf flat, flowers yellow and black.



PLATE 5—Top: *Anigosanthos manglesii; Anigosanthos rufa—Patersonia sericea—Anigosanthos flavida.*

Labiatae

**Hemigenia purpurea,* a small erect shrub, leaves narrow, flowers purple. Plate 6.

Plectanthus parviflora, a soft spreading herb, leaves round toothed, flowers purple small.

Prostanthera caerulea, an erect shrub, leaves lance-shaped coarsely toothed, flowers blue.

P. denticulata, a spreading plant, leaves small elliptical, flowers purple.

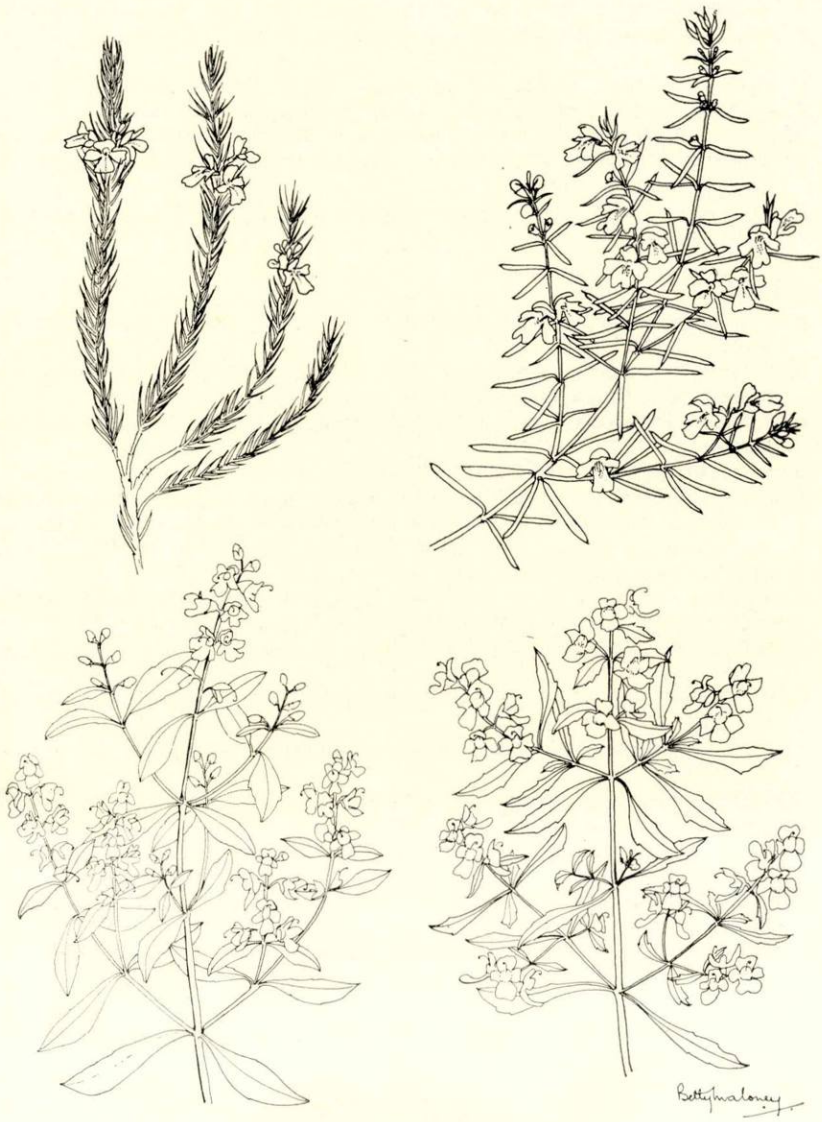


PLATE 6—*Hemigenia purpurea*—*Westringia longifolia*—*Prostanthera ovalifolia*—*Prostanthera sieberi* "Mint Bushes"—Species of Prostanthera—are so easy to grow.

P. incana, a bushy shrub, leaves round soft greyish green, flowers mauve.
P. incisa, an erect bushy shrub, leaves oblong coarsely toothed, flowers purple.
P. lasianthos, large bushy shrub, leaves lance-shaped toothed, fls. white with purple.
P. linearis, an erect shrub, leaves narrow, flowers pale mauve.
P. ovalifolia, "Purple Mintbush", an erect bushy shrub, leaves lance shaped, flowers purple. Plate 6.
P. prunelloides, an erect bushy shrub, leaves round, flowers pale lilac.
P. rhombea, a bushy shrub, leaves rhomboid, flowers mauve.
P. rotundifolia, an erect bushy shrub, leaves round, flowers purple.
P. scutellarioides, a bushy spreading shrub, leaves narrow, flowers purple.
P. sieberi, a bushy shrub, leaves oval toothed strong odour, flowers purple. Plate 6.
P. stricta. an erect shrub, leaves small round, flowers purple.
P. violacea, an erect shrub, leaves round, flowers mauve to pink.
Westringia eremicola, an erect bushy shrub, leaves narrow, flowers white.
W. fruticosa, "Coastal Rosemary", a bushy shrub, leaves lance-shaped, greyish, flowers white.
W. longifolia, a tall bushy shrub, leaves narrow, flowers pale mauve to white. Plate 6.

Liliaceae

Arthropodium milleflorum, bulbous plant with long narrow flat leaves, fls. white to pink.
Blandfordia grandiflora, "Christmas Bell", a tufted plant, leaves stiff grass-like, flowers bell-shaped red and yellow.
**B. nobilis,* "Christmas Bell", resembling former, but flowers smaller more tubular.
Bulbine bulbosa, an onion-like herb, flowers yellow.
**Dianella caerulea,* a straggling plant, leaves long and narrow, arranged in fan-like manner, flowers purple with yellow anthers, purple fruits.
D. tasmanica, a stiff-growing plant with long channelled leaves, flowers blue anthers yellow fruits blue.
Drymophila moorei, a small plant with a number of slender stems, arising from ground, leaves lance-shaped, flowers pale pink or white.
Kreyssigia multiflora, an erect-growing herb with stem-clasping lance-shaped leaves, flowers pale pink.
Schelhammera undulata, scrambling herb with soft lance-shaped leaves, fls. pale pink.
Sowerbaea juncea, a tufted plant with grass-like leaves, flowers mauve in heads.
Stypandra caespitosa, tufted plant with grass-like leaves, fls. purple anthers yellow.
**S. glauca,* a straggling plant with long narrow grey leaves, flowers blue anthers yellow.
Thysanotus multiflorus, a tufted plant with greyish grass-like leaves, flowers purple in heads.
**T. tuberosus,* a plant with long slender leafless stems, flowers purple.

Lobeliaceae

Isotoma axillaris, a soft upright herb, leaves lance-shaped toothed, flowers blue to pink.
Lobelia quadrangularis, a prostrate herb, leaves rhomboid, flowers pink.
Pratia pedunculata, a ground-hugging herb, leaves small light green, flowers pale blue.
**P. purpurascens,* a prostrate herb, leaves oblong dark green, flowers white.



CHRISTMAS BELLS

You may readily grow plants from seed that is available from most commercial seedsmen, using the method described on page 96. On a smaller scale you could sow some seed in a number of pots and plant out without disturbance to the roots by planting the "ball" from the pot into the garden. The plants seem to like to grow in groups. Plant out into raised beds of sandy soil and keep moist. Growth is slow for the first year and should not be planted out until one to two years old. Once established give occasional light dressings of blood and bone.

Loganiaceae

Logania albiflora, erect bushy shrub, leaves narrow lance-shaped, fls. small white.

**Mitrasacme polymorpha,* a small spreading herb, leaves small lance-shaped, flowers white.

Loranthaceae

**Amyema congener,* "Mistletoe", a parasite growing on the branches of trees, leaves elliptical, flowers red.

Malvaceae

Abutilon auritum, a straggling bushy shrub, leaves heart-shaped, fls. yellow.

Alyogyne hakeifolia, a shrub with lobed narrow leaves, flowers purple.

Gossypium sturtianum, "Sturt's Desert Rose", a bushy shrub with smooth heart-shaped leaves, flowers pinkish purple with purple red. Plate 7.

Hibiscus diversifolius, a bushy shrub, leaves dark green lobed, flowers deep yellow with red centre.

H. heterophyllus, a tall shrub to small tree, leaves lobed, flowers white with red. Plate 7.

H. splendens, large bushy straggling shrub, leaves lobed grey, flowers deep pink with red.

H. trionum, a small annual with lobed leaves, flowers yellow with purple black.

Pavonia hastata, an erect shrub, leaves arrow-shaped, flowers pink with red centre.



PLATE 7: *Gossypium sturtianum—Hibiscus heterophyllus*

Meliaceae

Melia azedarach var. *australasica,* "White Cedar", a large erect tree, leaves large bi-pinnate deciduous, flowers blue.

Toona australis, "Red Cedar", a large-growing tree, leaves large pinnate, flowers white.

Menispermaceae

Stephania japonica var. *discolor,* a twining plant, leaves round to heart-shaped dark green, flowers yellow, tiny.

THE SOCIETY FOR GROWING AUSTRALIAN PLANTS

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This is the only complete reference book to the epiphytic orchids of Australia and those terrestrial orchids found in the northern areas. Every species is shown in detail with enlargements of the parts on a separate full page beautifully drawn sketch. Each species has a full botanical description with references, but for the non botanist, the description is repeated in simple terms. No other book can match it for detail, accuracy or colour.

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This fine book was one of the first produced by the Society and has been so widely acclaimed and received that a reprint has been necessary. The number of colour plates has been doubled but the real value of the book even for those who have a copy of the first edition is that fully revised, it is the only reference ever produced to the flora of W.A. Price $3.00 + 20c postage.

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"A REFERENCE TO THE AUSTRALIAN FLORA"—"Genera"—"A Complete Index to *Australian Plants*" Vols. 1-6 inclusive. It seems that this work will have to be deferred. You will be advised in a future issue probably with reprint of Vol. 1 early in 1974.

WEST AUSTRALIAN PLANTS FOR HORTICULTURE Part 1, is a book by the Society available from the editor for $3.00 plus 20c postage. The format of the book generally is to have simple but adequate descriptions (using simple features that anyone can distinguish) of three species in one genus with a full colour plate of one of them on the opposite page. Directions as to cultivation are given for each species. Price $3.00 + 20c postage.

WEST AUSTRALIAN PLANTS FOR HORTICULTURE Part 2. This has many features that make it even better than Part 1 especially those sections dealing with cultivation. All the colour plates are new and spectacular. They have not appeared in past issues of "Australian Plants" or any of our publications and they alone make this book good value at $3.00 plus 20c postage. Available August, 1973.

OTHER NEW BOOKS

All books reviewed, in fact any book on wildflowers or the Australian scene are available by mail only, from the Editor, 860 Henry Lawson Drive, Picnic Point, N.S.W. 2213.
THE GRASS OF SOUTH-EAST QUEENSLAND by Tothill & Hacker — Price $8.00 plus 30c post.

Grass and its identification is a closed confused subject to most of us but the people of S.E. Qld. are very fortunate. This 300 page book has ideal presentation for such a subject. The introduction clearly describes the parts of the grass plant using sketches followed by a key to all the genera. There is also a pictorial key and the sketches should enable anyone to determine the genus of a species being considered. The bulk of the book comprises, on the left hand page, a large sketch of a species in each genus, with enlarged inserts of characteristic features, opposite, on the right hand page, a description of this species with adequate reference to the sketches. Following this description of this typical species in each genus is a key to other species in the genus and, where necessary, sketches illustrating these key features.

HOW TO KNOW WESTERN AUSTRALIAN WILDFLOWERS by Blackall & Grieve

The Society is collaborating with W.A. University Press to produce the Vol. 4 of the above series. Good colour slides are very hard to get, of the species treated. Will you please forward direct to Prof. Grieve, Botany Dept., University of W.A., Nedlands, W.A. what slides you have. Request him to examine the slides, retain those that may be of use recording the names in a letter of reply and return to you, slides now required as soon as possible.

The following genera are included in Vol. 4. Any species in these being required: Solanaceae, Scrophulariaceae, Orobanchaceae, Lentibulariaceae, Myoporaceae, Plantaginaceae, Rubiaceae, Cucurbitaceae, Campanulaceae, Lobeliaceae, Goodeniaceae, Brunoniaceae, Stylidiaceae, Compositae.

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WATTLES

The genus Acacia is a most interesting group of plants for, although all have bipinnate leaves (as shown for *A. decurrens* below) in their infant stage many lose their true leaves and the leaf stalk assumes different shapes, performing the function of leaves.



PLATE 8—*Acacia decurrens—Acacia spectabilis—Acacia cyanophylla—Acacia elata*

Mimosaceae

Acacia alata, "Winged Wattle", small straggling shrub, stems flattened, winged, flowers yellow.

A. aneura, "Mulga", a bushy shrub, phyllodes grey narrow, flowers yellow.

A. armata, pendulous shrub, phyllodes triangular to lance-shaped, spined on stems, flowers yellow.

A. baileyana, "Cootamundra Wattle", a small bushy tree, leaves grey pinnate, flowers yellow.

GROW WATTLES FROM SEED

Wattles are readily grown from seed as described on page 96. Everyone can easily grow wattle trees and there is a wide range of species from which to choose. You can grow the small bushy plants such as *A. drummondii,* the open "Sunshine Wattle", flowering Acacia with "thorns" such as *A. oxycedrus* to ward off unwanted animals, or the free flowering "Sydney Wattle".



PLATE 9: *Acacia elongata—Acacia longifolia—Acacia lineata—Acacia fimbriata*



The Sunshine Wattle

Acacia botrycephala

A. botrycephala, "Sunshine Wattle", an erect shrub, leaves coarsely pinnate lighter beneath, flowers yellow.
A. brownii, a spreading shrub, phyllodes slender needle-like, flowers yellow.
A. cultriformis, a tall bushy shrub, phyllodes wedge-shaped, flowers yellow.
A. cyanophylla, a small tree, phyllodes long sickle-shaped, flowers deep yellow. Plate 8.
A. dealbata, a small tree, leaves greyish pinnate, trunk grey, flowers yellow.
A. decora, an erect shrub, phyllodes grey narrow oblong, flowers yellow.
A. decurrens. "Green Wattle", a bushy tree, leaves finely pinnate, flowers yellow. Plate 8.
A. doratoxylon var. *angustifolia,* erect shrub, phyllodes long narrow, fls. yellow.
A. drummondii, a small erect shrub, leaves pinnate dark green, flowers yellow.
**A. echinula,* a stiff bushy shrub, phyllodes tapered and needle-like, fls. yellow.
A. elata, "Cedar Wattle", a large bushy tree, leaves large pinnate dark green, flowers pale yellow. Plate 8.
A. elongata, erect bushy shrub, phyllodes long narrow, flowers deep yellow. Plate 9.
A. falcata, a tall shrub, phyllodes greyish sickle-shaped, flowers pale yellow.
A. fimbriata, tall bushy shrub, phyllodes linear to lance-shaped, fls. yellow. Plate 9.
**A. hispidula,* a small bushy shrub, phyllodes oblong, flowers pale yellow.
A. ligulata, straggling shrub, phyllodes lance-shaped pendulous, fls. yellow.
A. lineata, erect bushy shrub, phyllodes short narrow greyish, fls. yellow. Plate 9.
**A. linifolia,* a tall shrub, phyllodes long narrow dark green, flowers pale yellow.
A. longifolia, "Sydney Wattle", a bushy shrub, phyllodes oblong narrow to broad, flowers yellow. Plate 9.
A. maidenii, a bushy tree, phyllodes broad lance-shaped, fls. pale yellow.
A. melanoxylon, "Blackwood", a tall bushy tree, phyllodes long, fls. yellow.
A. myrtifolia, a bushy shrub, phyllodes broad lance-shaped, fls. pale yellow.
A. oxycedrus, erect bushy shrub, phyllodes triangular sharply pointed, fls. yellow.

A. parramattensis, a bushy tree, leaves dark green finely pinnate, flowers yellow.
A. parvipinnula, a small tree, leaves finely pinnate brownish green, fls. yellow.
A. penninervis, a large erect tree, phyllodes long falcate, fls. pale yellow.
A. podalyriifolia, "Queensland Wattle", a small bushy tree, phyllodes grey round to oblong, flowers deep yellow.
A. prismifolia, straggling shrub, phyllodes elliptical sickle-shaped, fls. yellow.
A. prominens, tall bushy shrub, phyllodes grey narrow lance-shaped, fls. yel.
A. pubescens, a bushy erect shrub, leaves finely pinnate greyish, fls. yellow.
A. saliciformis, a pendulous tall shrub, phyllodes narrow lance-shaped, fls. pale yellow.
A. spectabilis, "Mudgee Wattle", a tall bushy shrub, leaves pinnate grey, flowers deep yellow. Plate 8.
**A. suaveolens,* an erect shrub, phyllodes narrow lance-shaped, fls. pale yellow.
A. trinervata, a bushy shrub, phyllodes lance-shaped greyish, flowers yellow.
A. triptera, a spreading shrub, phyllodes flattened hook-shaped, fls. yellow.
**A. ulicifolia,* "Prickly Moses", a spreading shrub, phyllodes narrow tapered and needle-like, flowers yellow.
A. vestita, a pendulous shrub, phyllodes soft greyish globular, fls. yellow.
Albizia lophantha, an erect shrub, leaves pinnate, flowers pale yellow.

Myoporaceae

Myoporum debile, prostrate herb, leaves narrow lance-shaped, fls. white, fruit pink.

Myrtaceae

Acmena smithii, "Lillypilly", a bushy tree in rainforest, leaves shiny lance-shaped, flowers white, fruit cream.
**Angophora cordifolia,* a straggling shrub, leaves rough heart-shaped, fls. white.
**A. costata,* "Red Gum", an erect tree, leaves lance-shaped, bark pink, flowers white.
Backhousia anisata, a bushy shrub in rainforest, leaves lance-shaped, wavy on edges, flowers cream.
B. citriodora, a bushy shrub in rainforest, leaves lance-shaped, fls. white.
Baeckea imbricata, a bushy shrub, leaves round, flowers white.
B. linifolia, a pendulous shrub, foliage fine, flowers white.
B. ramosissima, a small spreading shrub, leaves small linear, flowers pink.
B. virgata, a tall bushy shrub, leaves small narrow oblong, fls. white. Plate 11.
Beaufortia purpurea, slender shrub, lvs. greyish narrow lance-shaped, fls. crimson purple.
Callistemon citrinus, "Crimson Bottlebush", bushy shrub, leaves lance-shaped, fls. crimson.
C. lilacinus, an erect shrub, leaves narrow lance-shaped, flowers lilac.
C. linearis, "Narrow Leaf Bottlebrush", erect bushy shrub, leaves narrow stiff, fls. red.
C. pinifolius, a bushy shrub, leaves narrow, flowers green.
C. rigidus, "Stiff Bottlebrush", a stiff bushy shrub, leaves stiff narrow lance- and partly sickle-shaped, flowers red. Plate 10.
C. salignus, "White Bottlebrush", a tall shrub to small tree, leaves narrow lance-shaped, flowers white to red. Plate 10.
C. viminalis, "Weeping Bottlebrush", pendulous shrub, leaves narrow lance-shaped, fls. red.
Calothamnus asper, a bushy shrub, leaves variable, flowers red. Plate 10.
C. villosus, a bushy shrub, leaves narrow linear grey, flowers red.
Calytrix fraseri, small bushy shrub, leaves small, fls. deep pink anthers yellow.
**C. tetragona,* an erect slender shrub, leaves tiny, flowers pale pink.
Chamaelaucium uncinatum, a bushy shrub, leaves slender, fls. pink to red.
Darwinia citriodora, bushy shrub, leaves lance-shaped light green, fls. reddish.
**D. fascicularis,* a bushy shrub, leaves slender, flowers white and red.
D. rhadinophylla, a prostrate shrub, leaves slender greyish, flowers red.

Eucalyptus botryoides, "Swamp Mahogany", a large bushy tree, bark rough stringy, leaves lance-shaped, flowers white.

E. camaldulensis, "River Gum", an erect bushy tree, bark smooth grey, leaves narrow lance-shaped, flowers white.

E. citriodora, "Lemon Scented Gum", a tall slender tree, bark smooth dove grey, leaves lance-shaped, flowers white.

E. eximia, "Yellow Bloodwood", an erect bushy tree, bark scaly yellowish, leaves lance-shaped, flowers white.

E. ficifolia, "Red Flowering Gum", a bushy tree, bark rough scaly, fls. red.

**E. gummifera,* "Bloodwood", a tall bushy tree, bark rough scaly, leaves lance-shaped.



PLATE 10: *Calothamnus asper—Eucalyptus leucoxylon* var. *macrocarpa—Callistemon salignus—Callistemon rigidus*

E. haemastoma, "Scribbly Gum", a small tree, bark smooth grey and cream, leaves lance-shaped, flowers white.

E. lehmannii, a bushy tree, bark rough, leaves lance-shaped, flowers green.

E. leucoxylon var. *macrocarpa,* a small slender tree, bark smooth, leaves lance-shaped, flowers red. Plate 10.

E. maculata, "Spotted Gum", tall tree, bark grey smooth, leaves lance-shaped, fls. white.

E. obtusiflora, a small mallee, leaves broad lance-shaped, flowers cream.

E. pauciflora, "Snow Gum", small tree, bark smooth grey, leaves lance-shaped, fls. white.

E. pilularis, "Blackbutt", a tall erect tree, bark rough at base, smooth above, leaves lance-shaped, flowers white.

**E. piperita,* "Sydney Peppermint", a spreading tree, bark rough greyish, stringy, leaves lance-shaped, flowers white.

E. preissiana, "Bell Fruited Mallee", a straggling shrub, leaves oblong lance-shaped, flowers deep yellow.

E. pulverulenta, a small spreading tree, leaves grey opposite round, fls. white.

**E. punctata,* "Grey Gum", spreading tree, bark grey patchy, leaves lance-shaped, fls. white.

E. rubida, a small bushy tree, bark smooth grey, leaves lance-shaped, fls. white.

E. scoparia, tall slender tree, bark smooth pink, leaves lance-shaped, fls. white.

**Kunzea ambigua,* a shrub to small tree, leaves small oval, fls. white. Plate 11.

K. baxteri, an erect bushy shrub, leaves small oval, flowers red.

**K. capitata,* an erect slender shrub, leaves small elliptical, fls. pink. Plate 11.

**Leptospermum attenuatum*, tall bushy shrub, bark stringy, leaves elliptical, flowers white.

L. flavescens, a tall shrub, leaves narrow elliptical, flowers cream.

L. juniperinum, a bushy shrub, leaves pointed, flowers white.

L. lanigerum, a spreading shrub, leaves linear oblong, flowers cream.

L. liversidgei, a bushy shrub, leaves fine and numerous, flowers pink.

L. petersonii, "Lemon Scented Tea-tree", erect bushy shrub, leaves lance-shaped, flowers white.

L. scoparium var. *rotundifolium,* a bushy shrub, leaves round, flowers pink.

**L. squarrosum,* "Peach Flowered Tea-tree", bushy shrub, leaves heart-shaped, pointed, flowers pink.

Melaleuca armillaris, large bushy shrub to small tree, leaves fine dark green, fls. white.

M. citrina, a bushy shrub, leaves heart-shaped, flowers yellow.

M. decussata, an erect shrub, leaves oblong opposite grey, flowers mauve.

M. erubescens, a bushy shrub, leaves small narrow, flowers mauve.

M. huegellii, large bushy spreading shrub, leaves elliptical, flowers cream.

M. hypericifolia, a large bushy shrub, leaves broad elliptical, fls. light red.

M. incana, a pendulous shrub, leaves soft grey, fls. yellow. Plate 11.

M. lateritia, "Robin Redbreast Shrub", an erect shrub, leaves narrow light green, flowers orange to red.

M. pulchella, an erect shrub, leaves heart-shaped, flowers pink.

M. quinquenervia, a bushy erect tree, leaves lance-shaped, flowers white.

M. squarrosa, a bushy shrub, leaves heart-shaped pointed, flowers lemon.

M. thymifolia, a small bushy shrub, leaves elliptical, flowers pink.

M. uncinatum, an erect bushy shrub, leaves narow stiff, flowers light yellow.

M. wilsonii, a spreading shrub, leaves narrow lance-shaped, flowers mauve.

**Micromyrtus ciliata,* a small bushy shrub, leaves tiny, flowers small white.

Syzygium crebrinerve, "Lillypilly", bushy tree, leaves lance-shaped, fls. white, fruit pink.

Tristania conferta, "Brush Box", bushy tree, leaves broad lance-shaped, flowers cream.

T. laurina, a small tree, leaves lance-shaped alternate, flowers yellow.

MYRTLES-BOTTLE BRUSHES-TEA TREES

A large family that includes red flowered bottle brush as shown in colour on page 101 and others with "pom-pom" flower heads in colours ranging from white through yellow to pinks and reds. The honey myrtle shown below provides contrast of colour to other more brightly flowered plants and a "mecca" for bees and birds.



Photography by Frank Hurley *Colour plate by courtesy of John Sands Pty. Ltd.*

KUNZEA AMBIGUA

Kunzea ambigua is one of the two species of Kunzea found in the reserve. A natural hybrid between this and the pink flowered *Kunzea capitata* was found in an area near the reserve and has been successfully propagated and planted out. The flowers are pink and the growth intermediate between the two species. Kunzea is one of the many genera found in the family *Myrtaceae*.

Verticordia chrysantha, a small bushy shrub, leaves narrow yellowish green, flowers yellow. Plate 11.

Nymphaeaceae

Nymphaea gigantea, Blue Waterlily, an aquatic plant in pool, leaves round, flowers blue.

Orchidaceae

**Acianthus fornicatus,* small herb, leaves heart-shaped at ground level, fls. small brown.



PLATE 11: *Kunzea capitata—Kunzea ambigua—Melaleuca incana—Verticordia chrysantha—Baeckea virgata—Bursaria spinosa—Pittosporum undulatum*

NATIVE ORCHIDS

Details of cultivation are given on page 102. Native orchids are grown in moist places and a feature of the park is the large flowering sprays of *Dendrobium speciosum* the "Rock Orchid", so easily grown.



PLATE 12: 1. *Dendrobium teretifolium;* 2. *Dendrobium kingianum;* 3. *Dendrobium beckleri;* 4. *Dendrobium falcorostrum;* 5. *Dendrobium gracilicaule.*

Bulbophyllum crassulifolium, a creeping plant in tree, leaves fleshy elliptical, flowers small yellow.

B. exiguum, a small creeping plant in tree, leaves elliptical on small pseudobulb, flowers small yellow.

Caladenia alba, a small herb, with single leaf at ground level, flowers white.
Dendrobium aemulum, "Ironbark Orchid", an epiphyte on trees, pseudobulbs, short leaves oval, flowers white with pink.
D. beckleri, epiphyte with short stiff pencil-like leaves, fls. cream with purple. Plate 12.
D. cucumerinum, creeping epiphyte on tree, leaves cucumber-shape, fls. white with pink.
D. falcorostrum, "Beech Orchid", an epiphyte with light green fluted pseudobulbs, leaves lance-shaped, flowers white. Plate 12.
D. gracilicaule, an epiphyte, pseudobulbs slender, leaves lance-shaped, flowers small cream with brown. Plate 12.
D. gracillimum, an epiphyte with long pseudobulbs, leaves lance-shaped, flowers cream to yellow.
D. kingianum, an epiphyte growing on rocks, pseudobulbs tapered, leaves lance-shaped, flowers pink. Plate 12.
D. linguiforme, "Tongue Orchid", a creeping plant, leaves tongue-shaped, fls. white.
D. pugioniforme, a pendulous, epiphyte, leaves lance-shaped sharply pointed.
D. speciosum, "Rock Orchid", a plant forming large clumps on rocks, pseudo bulbs thick and tapered, leaves elliptical, fls. white to yellow.
D. speciosum var. *hillii,* resembling former, but pseudobulbs longer and not tapered, flowers smaller.
D. teretifolium, pendulous epiphyte, leaves long and pencil-like, fls. white with brown. Plate 12.
D. tetragonum, a pendulous epiphyte, pseudobulbs square and tapered, leaves oval, flowers cream and brown.
Diuris maculata, small herb with several grass-like leaves, fls. yellow with brown markings.
Glossodia major, a small herb with single leaf, flowers blue with white.
Liparis reflexa, a rock-growing plant with soft light green pseudobulbs and leaves, flowers small yellow.
L. coelogynoides, a creeping plant on trees with small pseudobulbs and leaves, flowers small yellow.
Plectorrhiza tridentata, "Tangle Orchid", an epiphyte, leaves flat and narrow, flowers small greenish yellow with red.
**Pterostylis acuminata,* "Greenhood", a herb with a rosette of soft leaves at ground level, flowers small cream green and brown.
**P. concinna,* "Greenhood", a herb with a rosette of soft leaves at ground level, flowers small cream and green.
P. curta, "Greenhood", a herb with a rosette of leaves at ground level, flower single cream green and brown with labellum twisted.
P. longifolia, "Greenhood", a herb with leaves at ground level and leaves on flowering stem, several flowers green with brown.
P. nutans, "Greenhood", resembling the former but flower bent forward.
Sarcochilus falcatus, "Orange Blossom Orchid", an epiphyte with flat light green falcate-shaped leaves, flowers white with yellow.
S. olivaceus, an epiphyte resembling former but leaves less falcate and darker green, flowers yellow green.



DENDROBIUM TETRAGONUM

Palmae

Archontophoenix cunninghamiana, "Bangalow Palm", a slender palm with large pinnate fronds, flowers lilac.

Linospadix monostachya, "Walking Stick Palm", a small palm with small pinnate fronds.

Livistona australis, "Cabbage Tree Palm", robust palm with fan-shaped fronds, fls. yellow.

Papilionaceae

Aotus ericoides, a bushy shrub, leaves narrow, flowers yellow.

**Bossiaea heterophylla,* erect shrub, leaves few, flowers yellow red in winter. Plate 13.

B. lenticularis, a bushy shrub, leaves round greyish, flowers yellow and red.

B. rhombifolia, a bushy shrub leaves rhomboid, flowers yellow and red.

B. scolopendria, a leafless shrub with flattened stems, flowers dark yellow, with reddish brown. Plate 13.

Pea Flowered Plants

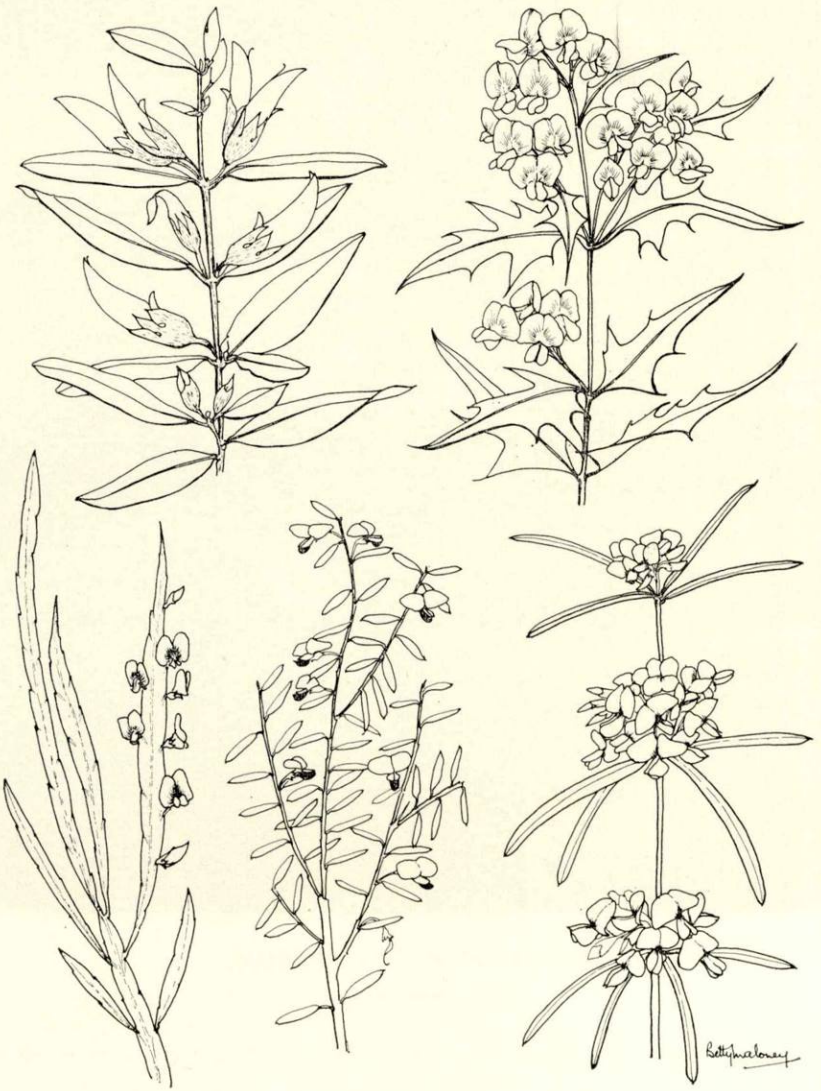


PLATE 13: *Brachysema lanceolatum; Oxylobium ilicifolium; Bossiaea scolopendria; Bossiaea heterophylla; Oxylobium robustum.*

Brachysema lanceolatum, "Swan River Pea", a bushy shrub, leaves broad lance-shaped greyish, flowers red. Plate 13.

Chorizema cordatum, a bushy shrub, leaves heart-shaped, fls. orange and red. Plate 14.

C. ilicifolium, resembling the former but leaves toothed and flowers on a longer slender inflorescence.

Daviesia acicularis, small bushy shrub, leaves sharp and needle-like, fls. deep red and yellow.

D. latifolia, an upright shrub, leaves broad elliptical, flowers red and yellow.

Pea Flowered Plants



PLATE 14: *Chorizema cordatum; Pultenaea flexilis; Gompholobium latifolium; Dillwynia retorta; Pultenaea stipularis.*

D. ulicifolia, a stiff shrub, branches angular, spines on stems, leaves ovate to narrow linear, flowers red and yellow.

**Dillwynia retorta,* "Eggs and Bacon", a bushy shrub with fine narrow leaves, flowers yellow and red. Plate 14.

D. sericea, a bushy shrub, leaves fine narrow, flowers orange and red.

Erythrina vespertilio, a bushy shrub, leaves in two leaflets, flowers red.

Glycine clandestina, a slender climber, leaves with 3 leaflets, flowers small pale blue.

Pea Flowered Plants



PLATE 15: Top: *Hovea lanceolata—Indigofera australis;* Centre: *Kennedia rubicunda;* Bottom: *Kennedia prostrata.*

Hovea acuminata, bushy shrub, leaves lance-shaped with extended point, fls. purple.

H. lanceolata, erect bushy shrub, leaves broadly lance-shaped, fls. purple. Plate 15.

**H. linearis,* a small erect shrub, leaves linear, flowers purple.

H. longifolia, an erect bushy shrub, leaves linear hairy, flowers purple.

Indigofera australis, a bushy shrub, leaves pinnate, flowers pink. Plate 15.



Photo by Loretto Williams

GOMPHOLOBIUM GRANDIFLORUM

Gompholobium grandiflorum, an erect bushy shrub with 3 narrow sharply pointed leaflets, flowers yellow.

**G. latifolium,* "Glory Wedge Pea", an erect bushy shrub, with leaves in 3 flat leaflets, flowers yellow large. Plate 14.

Goodia lotifolia, a bushy shrub, leaves with 3 leaflets, flowers yellow.

Hardenbergia comptoniana, resembling *H. violacea,* but leaves with 3 leaflets, fls. blue.

**H. violacea,* "False Sarsaparilla", a climbing or erect plant, leaves ovate to lance-shaped, flowers purple, pink or white.

Jacksonia scoparia, a leafless shrub, flowers yellow.

Kennedia beckxiana, climber with smooth tri-foliate leaves, fls. salmon red with green.

K. macrophylla, vigorous creeper, leaves large trifoliate, fls. reddish brown.

K. nigricans, vigorous creeper with dark green trifoliate leaves, fls. black with yellow.
K. procurrens, a small prostrate plant with trifoliate leaves, flowers red.
K. prostrata, "Travelling Postman", a prostrate plant with light green trifoliate leaves, flowers bright red. Plate 15.
K. rubicunda, "Red Bean", a vigorous creeper, leaves trifoliate with rusty coloured hairs, flowers red with black base. Plate 15.
Oxylobium ilicifolium, an erect shrub with 3-lobed toothed leaves, flowers yellow with red. Plate 13.
O. robustum, a spreading shrub, leaves narrow, flowers yellow. Plate 13.
Platylobium formosum, erect shrub, leaves broad lance-shaped, fls. yellow and red.
Psoralea adscendens, small shrub, leaves dark green with 3 leaflets, fls. reddish purple.
P. patens, a small shrub, leaves with 3 leaflets, flowers pink.
Pultenaea daphnoides, erect shrub, leaves linear wedge-shaped, fls. yellow and red.
P. flexilis, a large bushy shrub to small tree, leaves small elliptical, flowers yellow. Plate 14.
**P. stipularis,* an erect shrub, leaves narrow numerous, flowers yellow. Plate 14.
P. villosa, a soft pendulous shrub, leaves soft hairy, flowers yellow.
Viminaria juncea, a pendulous leafless shrub, flowers yellow.

Philydraceae
Philydrum lanuginosum, a reed-like water plant in pool, flowers yellow.

Piperaceae
Peperomia leptostachya, a soft herb on rocks and trees, leaves round fleshy opposite, flowers minute in slender spike.
P. tetraphylla, a small herb on trees and rocks, leaves round small in groups of four, flowers minute in spikes.

Pittosporaceae
**Billardiera scandens,* a slender twining plant, leaves lance-shaped, fls. yellow.
Bursaria spinosa, "Blackthorn", erect shrub, leaves small, spines on stems, fls. cream. Plate 11.
Hymenosporum flavum, erect tall tree, leaves broad lance-shaped, fls. yellow and cream.
Marianthus erubescens, slender twining plant, leaves elliptical, flowers orange.
Pittosporum phillyreoides, slender pendulous shrub, leaves narrow, fls. yellow, fruit yellow.
P. revolutum, bushy shrub, leaves oblong to elliptical, fls. yellow, fruit large yellow.
**P. undulatum,* bushy tree, leaves shiny lance-shaped, fls. cream, fruit yellow. Plate 11.
Sollya heterophylla, a twining to bushy plant, leaves dark green oblong lance-shaped, flowers blue or pink.

Podocarpaceae
**Podocarpus spinulosus,* a straggling shrub with narrow lance-shaped leaves, an unusual cone-bearing plant, fruit blackish purple.

Proteaceae
**Banksia asplenifolia,* a spreading shrub, leaves oblong dark green greyish beneath, flowers green. Plate 16.
B. collina, a bushy shrub, leaves narrow long finely toothed, fls. bronze and orange.
**B. ericifolia,* "Heath-leaf Banksia", a bushy shrub to small tree, leaves narrow small light green, flowers orange. Plate 16.
B. integrifolia, a shrub to small tree, leaves oblong to lance-shaped grey beneath, flowers yellow.
B. marginata, a bushy shrub with narrow dark green leaves, flowers yellow.
B. robur, straggling shrub, leaves large oblong to elliptical, fls. green.

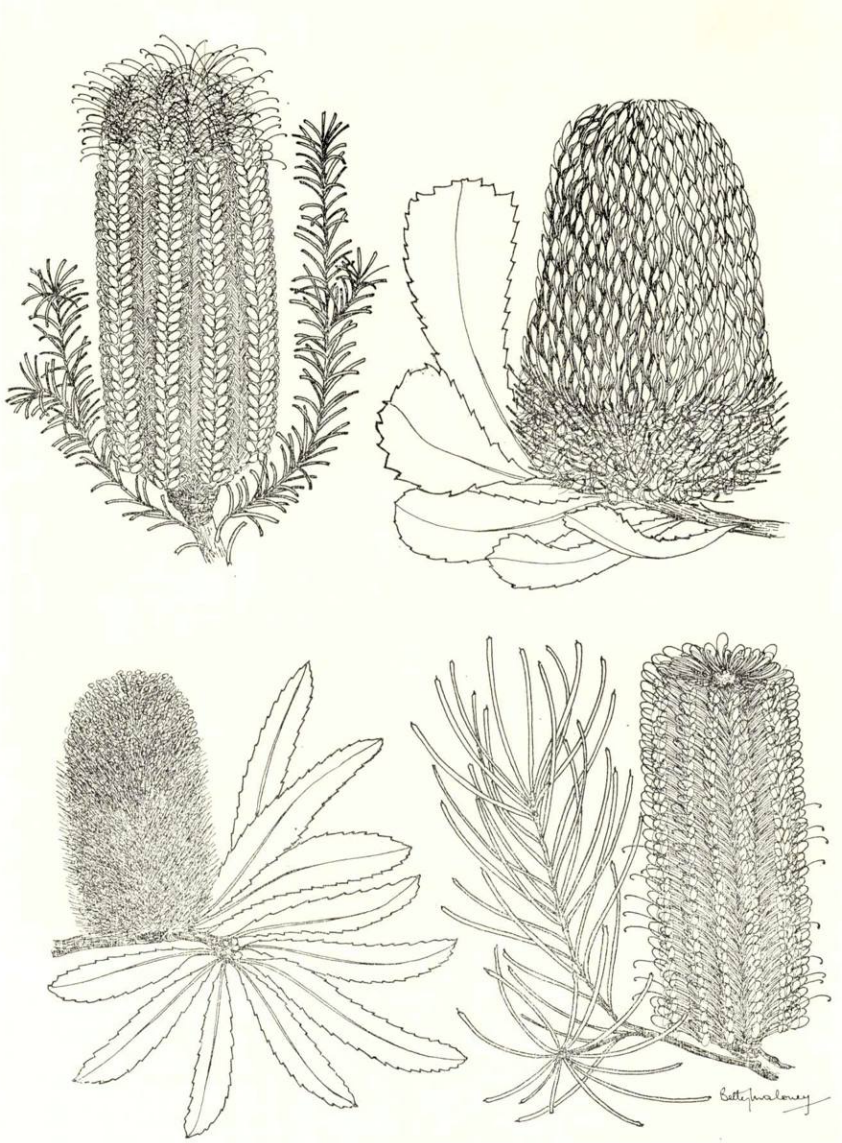


PLATE 16: *Banksia ericifolia—Banksia serrata—Banksia asplenifolia—Banksia spinulosa*

**B. serrata,* a large bushy tree with rough bark, leaves elliptical oblong-toothed, flowers greyish yellow. Plate 16. Full colour, page 97.

**B. spinulosa,* a bushy shrub, leaves narrow long, flowers orange and bronze resembling *B. collina.* Plate 16.

Conospermum ericifolium, an erect shrub, leaves small narrow, flowers small white in clusters.



PLATE 17: *Persoonia laevis—Persoonia pinifolia—Grevillea punicea—Grevillea buxifolia—Grevillea banksii.*

Grevillea alpina, a pendulous shrub, leaves oval, flowers orange and red.

G. arenaria, a bushy shrub, leaves narrow lance-shaped, flowers red and green in pairs.

G. banksii, a large bushy shrub, leaves pinnately lobed, flowers red. Plate 17.

G. barklyana, a spreading shrub, leaves oblong linear, flowers red. Plate 18.

G. baueri, a shrub, leaves soft, elliptical, flowers white and pink. Pl. 18.

G. bipinnatifida, shrub, leaves stiff pinnately lobed, fls. reddish orange.

G. caleyi, a shrub, leaves soft pinnately lobed, flowers deep red. Plate 18.

G. capitellata, a bushy shrub, leaves oval, flowers reddish black.

G. dielsiana, bushy shrub, leaves divided needle-like, fls. reddish cream.



Photography by E. A. Wilksch

GREVILLEA BUXIFOLIA

Grevillea buxifolia, "Grey Spider Flower", upright bushy shrub, leaves oval, flowers grey. Plate 17 and above in colour.

G. glabrata, a tall bushy shrub, leaves lobed greyish, flowers white.

G. hookerana, large spreading shrub, leaves greyish pinnately lobed, fls. red.

G. lavandulacea, shrub, leaves narrow sharply pointed, fls. red and cream.

G. linearifolia, spreading bushy shrub, leaves narrow, fls. white to pale pink.

G. longifolia, a large spreading shrub, leaves long toothed, flowers red.

G. longistyla, a spreading shrub, leaves pinnate, flowers orange and yellow.
G. mucronulata, a bushy shrub, leaves oval, flowers green with purple brown.
G. paniculata, spreading bushy shrub, leaves divided and needle-like, fls. white.
**G. punicea,* "Red Spider Flower", erect to bushy shrub, leaves oval, fls. red. Plate 17.
G. ramosissima, small straggling shrub, leaves divided toothed, flowers cream.
G. robusta, "Silky Oak", an erect tree, leaves large divided, flowers orange.
G. rosmarinifolia, large bushy shrub, leaves narrow needle-like, fls. pink and white.
G. sericea, "Pink Spider Flower", erect shrub, leaves elliptical, fls. pink. Plate 18.
G. sessilis, a large bushy shrub, leaves large divided, flowers cream.
G. shiressii, a tall shrub, leaves long, flowers green with purple brown.
G. thelemanniana, a spreading shrub, leaves divided, flowers scarlet.
G. tridentifera, a prostrate shrub, leaves divided light green, fls. white.
G. trifida, stiff spreading bushy shrub, leaves 3-lobed grey sharply-pointed, fls. white.
Hakea bakerana, a spreading shrub, leaves needle-like, flowers pink and white.
H. corymbosa, erect stiff shrub, leaves flat grey narrow sharply pointed, fls. green.
**H. dactyloides,* bushy shrub, leaves lanceolate, flowers white.
H. laurina, "Pincushion Hakea", large bushy shrub, leaves flat lance-like, fls. pink and white.
H. orthorrhyncha, a bushy shrub with forked sharply pointed leaves, fls. red.
H. purpurea, a spreading shrub, leaves forked sharply pointed, fls. red.
H. salicifolia, large bushy shrub to small tree, leaves lance-shaped, flowers white.
**H. sericea,* a bushy shrub, leaves needle-like, flowers cream. Plate 18.
**H. teretifolia,* "Dagger Hakea", tall straggling shrub, leaves long, needle-like, fls. white.
Hicksbeachia pinnatifolia, erect shrub to small tree, leaves large stiff pinnately lobed.
**Isopogon anemonifolius,* a spreading shrub, leaves divided, flowers yellow.
**I. anethifolius,* an erect shrub, leaves finely divided, flowers yellow.
**Lambertia formosa,* "Mountain Devil", bushy shrub, leaves narrow pointed, fls. reddish pink.
Lomatia silaifolia, an erect shrub, leaves much divided, flowers cream.
Macadamia tetraphylla, erect shrub small tree, leaves tough toothed lance-shaped, fls. pale pink.
**Persoonia lanceolata,* an erect bushy shrub, leaves lance-shaped, fls. yellow.
**P. laevis,* "Geebung", tall straggling shrub, bark flaky, leaves flat oblong, fls. yellow. Plate 17.
P. linearis, a bushy shrub, leaves long flat and narrow, flowers yellow.
P. pinifolia, "Geebung", bushy shrub, leaves long and slender, fls. yellow. Plate 17.
Petrophile sessilis, an erect shrub, leaves divided, flowers yellow.
Stenocarpus sinuatus, "Wheel Tree", erect bushy tree, leaves lobed, fls. orange red.
Telopea speciosissima, erect shrub, leaves toothed oblong to lance-shaped, fls. red. Emblem of N.S.W.—The Waratah.
**Xylomelum pyriforme,* erect shrub, leaves leathery lance-shaped, fls. brown.

Ranunculaceae

Clematis aristata, a twining plant, leaves lance-shaped, flowers white.
C. glycinoides, a twining plant, leaves compound, flowers cream.

Rhamnaceae

Alphitonia excelsa, "Red Ash", erect tree, leaves elliptical grey beneath, fls. yellow small.
Emmenosperma alphitonioides, "Bonewood", an erect bushy tree, leaves elliptical dark green shiny, flowers cream, fruit yellow.

Pomaderris andromedifolia, bushy shrub, leaves small elliptical, fls. yellow small in heads.

P. discolor, a tall bushy shrub, leaves elliptical grey beneath, flowers yellow.

P. lanigera, bushy shrub, leaves broad lance-shaped, soft hairy, fls. yellow. Plate 22.

P. multiflora, a bushy shrub, leaves elliptical, flowers yellow.

Rosaceae

Rubus rosifolius, "Wild Raspberry", a scrambling plant, stems with prickles, leaves pinnate, flowers white, fruit light red.

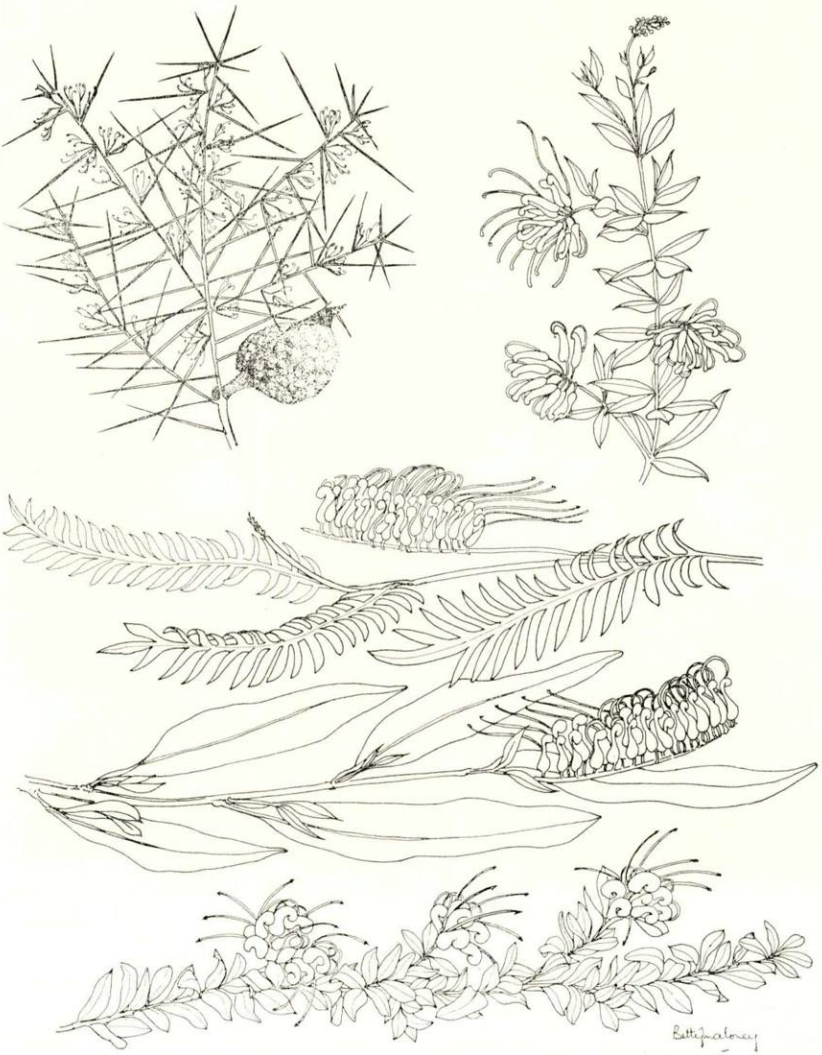


PLATE 18: *Hakea sericea—Grevillea sericea;* Centre to bottom: *Grevillea caleyi—Grevillea barklyana—G. bauera.*

Sydney Boronia

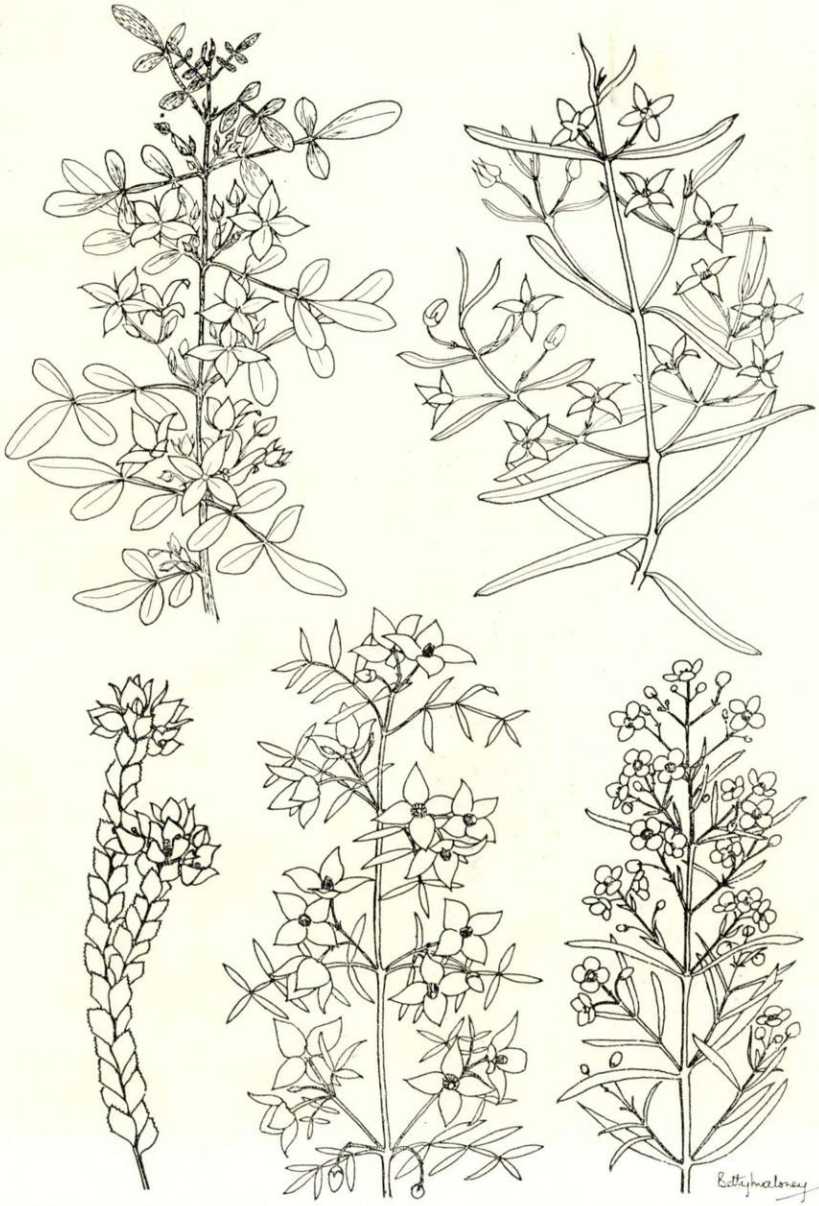


PLATE 19: *Boronia mollis—Boronia ledifolia—Boronia serrulata; Boronia floribunda—Boronia denticulata.*

Rutaceae

Boronia denticulata, erect shrub, leaves narrow lance-shaped finely toothed, fls. pale pink. Plate 19.

B. falcifolia, a small shrub, leaves narrow fine, flowers deep pink.

B. floribunda, "Pale Pink Boronia", a small bushy shrub, leaves finely pinnate, flowers pale pink. Plate 19.



Photography by M. Baldwin

BORONIA MOLLIS

B. mollis, a bushy shrub, leaves coarsely pinnate hairy, fls. deep pink.
B. fraseri, a small bushy shrub, leaves coarsely pinnate, flowers pink.
B. heterophylla, an erect shrub, leaves tri-lobed to pinnate, flowers red.
**B. ledifolia,* a shrub, leaves narrow lance-shaped, flowers pink. Plate 19.
B. megastigma, "Brown Boronia", a slender shrub, leaves narrow arranged around stem, flowers brown with yellow.
B. muelleri, an erect shrub, leaves pinnate, flowers pale pink.
B. microphylla, a small bushy shrub, leaves small pinnate, fls. pale pink.
**B. pinnata,* erect to spreading bushy shrub, leaves stiffly pinnate, fls. pink.



PLATE 20: *Eriostemon myoporoides—Eriostemon australasius—Crowea saligna—Eriostemon hispidulus* (centre)—*Eriostemon buxifolius.*

B. polygalifolia, a small shrub, leaves narrow lance-shaped spreading by underground rhizomes, flowers pale pink.

B. scabra, a bushy shrub, leaves coarsely pinnate.

B. serrulata, "Native Rose", slender bushy shrub, leaves rhomboid, fls. pale to deep pink. Plate 19. Colour plate page 109.

B. thujona, an erect shrub resembling *B. pinnata,* leaves strongly aromatic.

Crowea exalata, a small bushy shrub, leaves narrow, flowers pink.

**C. saligna,* bushy shrub, leaves lance-shaped, fls. deep pink to white. Plate 20.

Diplolaena grandiflora, bushy shrub, leaves broad lance-shaped, fls. red.

Eriostemon australasius, erect shrub, leaves narrow lance-shaped, fls. pink.

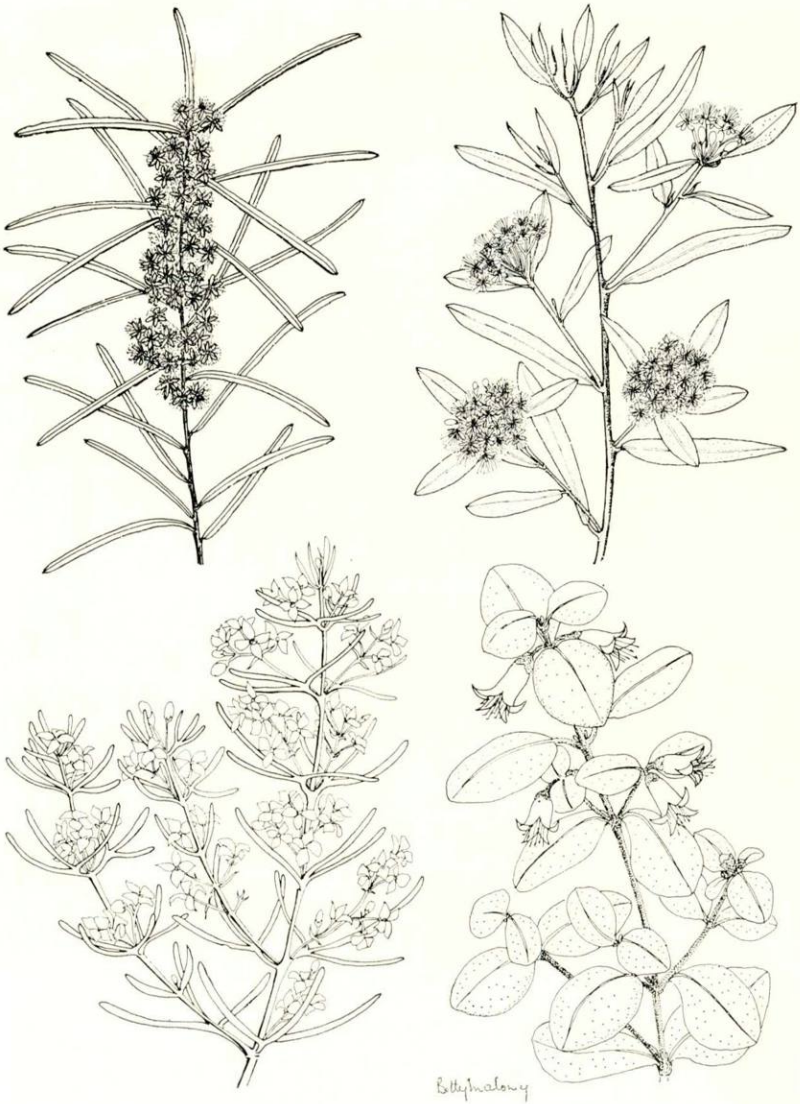


PLATE 21: *Phebalium dentatum—Phebalium squamulosum—Ziera laevigata—Correa alba.*

**E. buxifolius,* a bushy shrub, leaves obovate, flowers white to pink. Plate 20.

E. hispidulus, a bushy shrub, leaves broad linear rough, fls. white. Plate 20.

E. myoporoides, a bushy shrub, leaves lance-shaped greyish green, flowers white to pale pink. Plate 20.

Flindersia australis, an erect tree, leaves compound, flowers small white.

Correa alba, a bushy shrub, leaves grey oblong elliptical, flowers white. Plate 21.

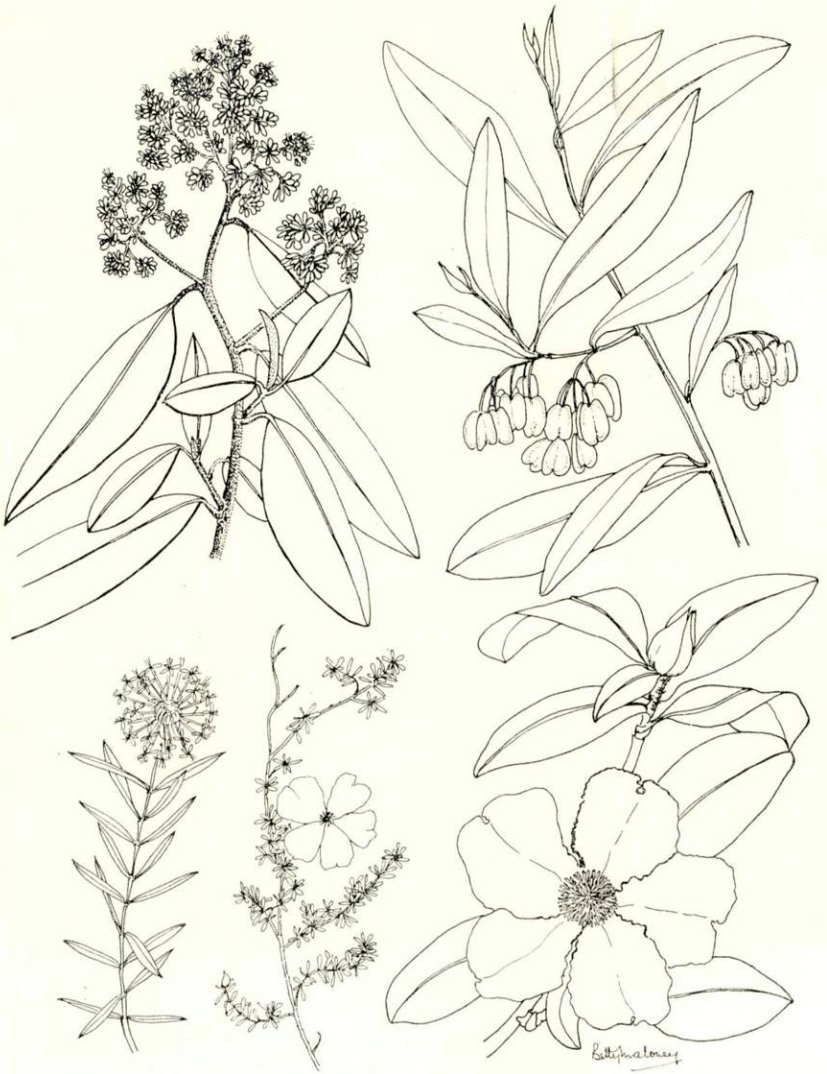


PLATE 22: *Pomaderris lanigera—Dodonaea triquetra—Pimelea linifolia—Hibbertia pedunculata Hibbertia scandens.*

C. baeuerlenii, an erect shrub, leaves elliptical rough, fls. greenish yellow.

C. reflexa, a spreading shrub, leaves rough brownish green lance- to narrow heart-shaped, flowers red with green.

C. "mannii", a small bushy shrub, leaves elliptical, flowers pink.

C. procumbens, a small spreading shrub, leaves elliptical, fls. red and green.



Photography by W. Morrison

PHEBALIUM SQUAMULOSUM

Phebalium dentatum, an erect bushy shrub to small tree, leaves linear, flowers pale yellow. Plate 21.

P. squameum, a shrub to small tree, leaves lance-shaped greyish fls. cream.

P. squamulosum, bushy shrub, leaves lance-shaped dark green and brown, fls. yellow. Plate 21.

Philotheca salsolifolia, a small shrub, leaves narrow, flowers pale mauve.

**Zieria laevigata*, small slender shrub, leaves trifoliate, fls. white to pale pink. Plate 21.

**Z. pilosa*, small bushy shrub, leaves trifoliate hairy, flowers white small.

**Z. smithii*, erect shrub, leaves trifoliate large dark green, fls. white small.

Sapindaceae

Dodonaea boroniifolia, "Hop-bush" a bushy shrub, leaves pinnate, flowers pink tiny, fruit red.

**D. triquetra,* an erect shrub, leaves dark green elliptical, flowers white tiny, fruit yellow green. Plate 22.

Scrophulariaceae

Parahebe perfoliata, a spreading shrub, leaves grey stem-clasping, fls. violet.

Solanaceae

Solanum aviculare, a tall spreading bush, leaves lobed, flowers violet.

Thymelaeaceae

Pimelea ferruginea, a bushy shrub, leaves round, flowers pink in heads.

P. ligustrina, erect bushy shrub, leaves broad lance-shaped, fls. white in heads.

**P. linifolia,* "Rice Flower", an erect shrub, leaves greyish green narrow to narrow lance-shaped, flowers white in heads. Plate 22.

P. rosea, a small shrub, leaves narrow lance-shaped, flowers pink in heads.

Sterculiaceae

Brachychiton acerifolium, "Flame Tree", erect growing tree, leaves lobed, fls. red.

B. rupestre, "Bottle Tree', a small tree, leaves entire or lobed, fls. cream.

**Lasiopetalum ferrugineum,* a straggling shrub, leaves soft covered with brown hairs, flowers brownish cream.

Stylidiaceae

Stylidium graminifolium, "Trigger Plant", a tufted grass-like plant, fls. pink.

S. laricifolium, an erect perennial herb, leaves narrow light green, flowers pale pink.

Tremandraceae

Tetratheca ericifolia, "Black Eyed Susan", small plant with small oval leaves, fls. pink.

Umbelliferae

**Actinotus helianthi,* "Flannel Flower", erect herb, leaves grey divided, fls. white. Colour plate on page 109.

**A. minor,* a small scrambling herb, leaves small divided, flowers white.

Hydrocotyle acutiloba, prostrate violet-like plant, leaves round, fls. tiny cream.

H. tripartita, prostrate herb, leaves light green divided, flowers tiny cream.

Platysace ericoides, erect shrub, leaves narrow fine, flowers white in heads.

**P. lanceolata,* erect shrub, leaves narrow lance-shaped to orbicular, fls. white in heads.

Trachymene caerulea, an annual herb, leaves divided, flowers blue.

**Xanthosia pilosa,* a small herb, leaves divided hairy, flowers small cream.

X. rotundifolia, "Southern Cross", an erect shrub, leaves round, flowers white.

Verbenaceae

Chloanthes stoechadis, an upright shrub, leaves greyish linear rough, flowers pale yellow.

Clerodendrum tomentosum, a bushy shrub, leaves broad elliptical, flowers white, fruit red with purple.

Violaceae

Viola betonicifolia, "Violet", a small tufted plant, leaves arrow-shaped, flowers purple with white. Plate 4.

V. hederacea, "Native Violet", a creeping plant, leaves kidney-shaped, flowers bluish purple with white. Plate 4.

Vitaceae

Cissus antarctica, a climbing plant, leaves heart- to egg-shaped toothed, flowers tiny cream, fruit purple.

C. hypoglauca, a climbing plant, leaves compound, flowers tiny, fruit purple.

Xanthorrhoeaceae

Xanthorrhoea arborea, "Black Boy", "Grass Tree", a plant with numerous long narrow tough leaves arising from the top of plant, flowers cream.

X. hastile, resembling former plant but leaves narrower.



PLATE 23—left to right: *Lomandra longifolia—Caustis pentandra—C. flexuosa—Gahnia clarkeii.*

Lomandra filiformis, a slender clump-forming plant, leaves narrow slender grass-like, flowers yellow in spikes.

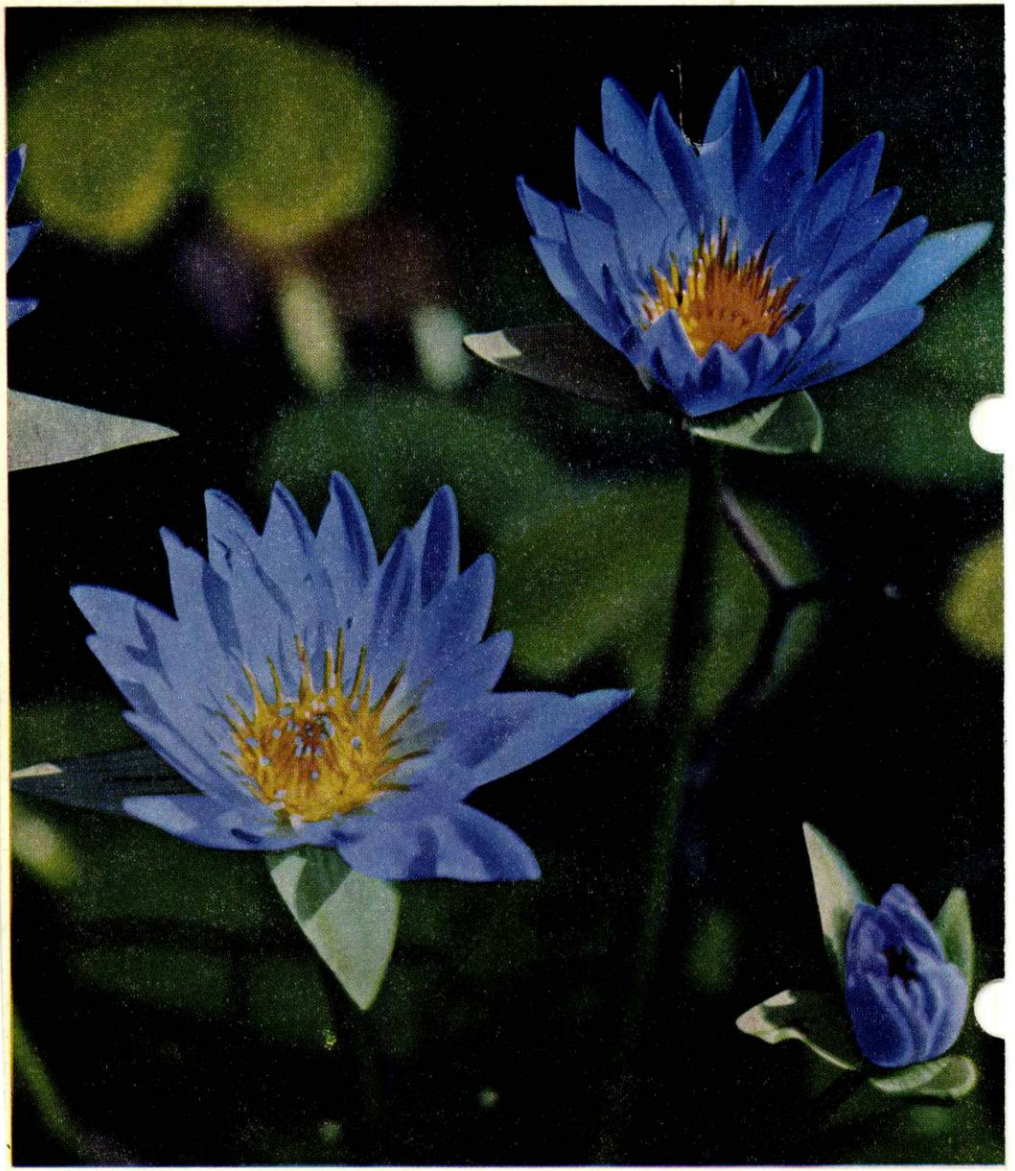
L. longifolia, a clump-forming plant, leaves long and linear, flowers yellow in long spikes. Plate 23.

L. multiflora, a small erect plant with narrow dark green grass-like leaves, flowers yellowish brown in clusters on stem.

L. obliqua, a small clump-forming plant, leaves grey narrow slender arranged in a fan-shaped manner, flowers yellow in spikes.

Zamiaceae

Macrozamia communis, "Burrawang", a palm-like plant, leaves large dark green palm-like.



BLUE WATER LILY

In error the species photographed above is *Nymphaea capensis* of South Africa. This species can be distinguished from our native *N. gigantea* by the large appendages on the stamens of the former species.

This photograph shows the long fleshy pedicel bearing these large bisexual flowers. The flowers have four sepals but numerous mauve petals. The outer larger stamens, which may or may not be fertile and, in some cases may even be petoloid, grade into the shorter stamens in the centre. This species is distinguished from our only native N.S.W. species by the relatively large staminal appendages seen in the photograph. The flat stigmatic surface atop the many carpels can be clearly seen in the flower at top right.

Then genus *Nymphaea* contains about 40 spp. of which at least six are found in Australia now, although this includes some which have been introduced.

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