

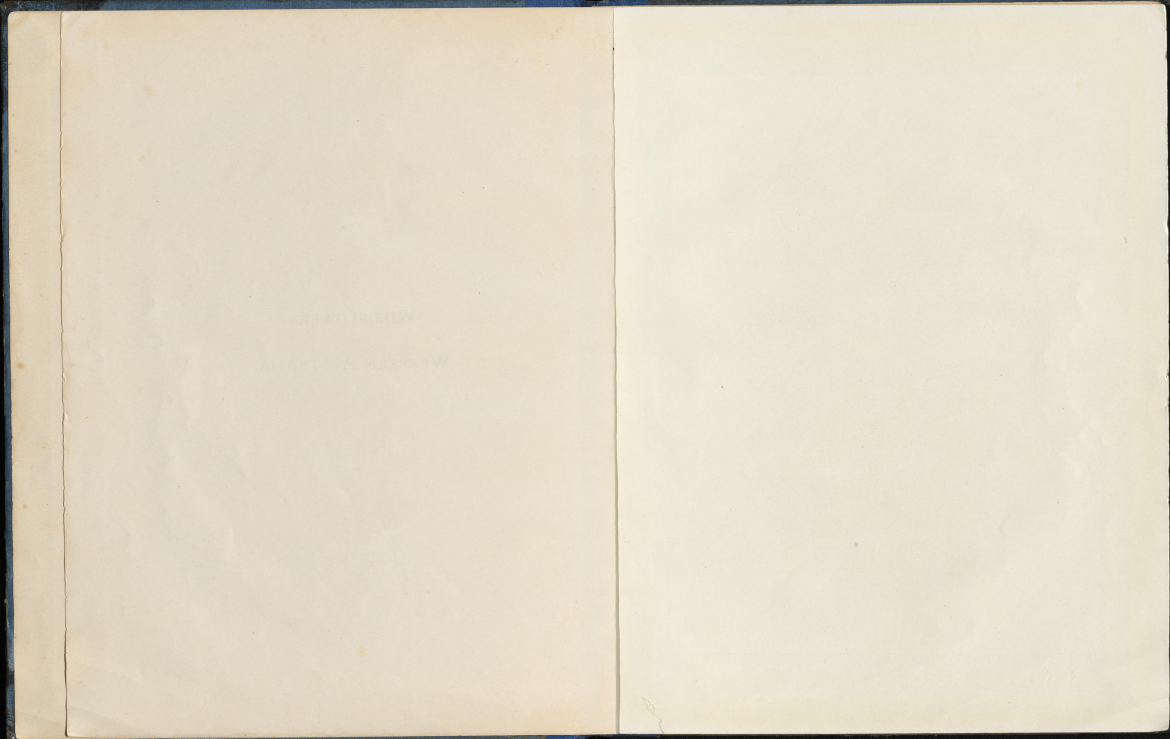
WILD FLOWERS
of
WESTERN AUSTRALIA

by
E. H. PELLOE

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WILDFLOWERS
OF
WESTERN AUSTRALIA





WILDFLOWERS
OF
WESTERN AUSTRALIA

BY
EMILY H. PELLOE

*"With heat and drought striving
Some blossoms still living
May render thanksgiving
For dawn and for dew."*
A. L. GORDON.

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TO MY HUSBAND

PREFACE.

The non-existence of a simply-written book dealing with the flora of Western Australia is a great handicap to people having no special botanical knowledge, yet wishing to know something of the names and characteristics of the most familiar of the beautiful native flowers for which Western Australia is famous. This little book, written from notes made while painting and classifying a fairly representative set of sketches of West Australian wildflowers, may be found of interest and use.

I am very deeply indebted to Mr. W. B. Alexander, late of the Perth Museum, for his constant assistance in connection with my study of the wildflowers of Western Australia, and it is difficult to express my great appreciation of his courtesy and kindness.

My thanks are also due to Mr. D. A. Herbert (Government Botanist, W.A.), Mr. C. E. Lane-Poole (Conservator of Forests, W.A.), Mr. J. H. Maiden (Government Botanist of N.S.W.), and his assistant botanists at the Sydney Botanic Garden, Messrs. Cheel and Hamilton, for much information on various matters dealing with the West Australian flora; and to my friend Mr. C. A. Gardner (Botanical Collector for the Forestry Department, W.A.) for assistance regarding localities and situation of the species mentioned.

EMILY H. PELLOE.

Perth, W.A., 1921.

CONTENTS.

CHAPTER	PAGE
I.—INTRODUCTORY	11
II.—JANUARY TO JUNE	19
III.—JULY AND AUGUST	29
IV.—SEPTEMBER AND OCTOBER	41
V.—NOVEMBER AND DECEMBER	66
VI.—FAMILIES AND GENERA	81

APPENDIX.

BIOGRAPHICAL NOTES	113
GLOSSARY OF BOTANICAL TERMS	117
INDEX	121

LIST OF ILLUSTRATIONS.

	PAGE		PAGE
ACACIA DUFREYI (Plate II.)	.. facing 26	GRISTILLERA WILSONII (Plate III.)	.. facing 29
ANDERANTHUS BARBIGERII (Plate IV.)	.. 34	GUM NUTS	.. 21, 22
ANDERANTHUS TORENTORUS (Plate VI.)	.. 66	HARDENBERGIA COMPTONIANA (Plate II.)	.. facing 26
ANDERANTHUS BICOLOR (Plate I.)	.. 41	HIBBERGIA HYPERICOIDES (Plate II.)	.. 26
.. FLAVIDA (Plate I.)	.. 41	HIBBERGIA HIBBERGII (Plate V.)	.. 47
.. BUNDELII (Plate I.)	.. 41	HELICHSYRUM	.. 95
.. MANGLESII (Plate I.)	.. 41	HELIPTERUM	.. 95
.. FULCHERIANA (Plate I.)	.. 41	HEMIANDRA FUNGENS (Plate III.)	.. facing 29
.. PERISSII (Plate I.)	.. 41	HOVEA CHROMOLAEPIDIA (Plate II.)	.. 26
.. RUFA (Plate I.)	.. 41	.. THESPERIA (Plate II.)	.. 26
.. VIRIDIS (Plate I.)	.. 41	HYPOCALYMMA ROBUSTUM (Plate II.)	.. 26
ANTHOCEUTUS LITORALIS (Plate IV.)	.. 34	IONIDIUM CALYCINUM (Plate II.)	.. 34
ASTROLOMA XEROPHYLLUM (Plate IV.)	.. 34	ISOTOMA BROWNII (Plate IV.)	.. 34
BALAUSTRON PULCHERRIMUM (Plate VI.)	.. 66	JACKSONIA STERNBERGIANA (Plate II.)	.. 26
BRATTONIA SUTABORNA (Plate VI.)	.. 66	KENNELIA PUNCTATA (Plate II.)	.. 26
BORONIA CYTHIA (Plate III.)	.. 29	KERAUDRENIA INTEGRIFOLIA (Plate VI.)	.. 66
.. MEGASTOMA (Plate III.)	.. 29	LARICHEA PUNCTATA (Plate IV.)	.. 34
.. PULCHRELLA (Plate III.)	.. 29	LACINIOSYRIS WALTONII (Plate V.)	.. 47
BOSCHIA RHIOCARPA (Plate IV.)	.. 34	LAMBROSTIA MULTIFLORA (Plate III.)	.. 29
BRAUNIA AUSTRIACA (Plate VI.)	.. 66	LESCHAULTIA BILOBA (Plate IV.)	.. 34
BURKHARDIA UNDELLATA (Plate IV.)	.. 34	.. LINARIOIDES (Plate IV.)	.. 34
BUTONIA SCABRA (Plate IV.)	.. 34	LOBELIA TENUICOR (Plate III.)	.. 29
CALANDINIA FLAVA	.. 62	LYPERANTHUS NIGRICANS	.. 48
.. MENTHOSI	.. 54	LYTHRUM GLAUCUM (Plate II.)	.. facing 26
.. PATRICKII	.. 33	MACROPODIA FUMOSA (Plate I.)	.. 41
CALOTYMA CYANEA (Plate II.)	.. facing 26	MAP	.. 18
CALOTYMA ROBUSTA	.. 77	MARIANTHUS RINGENS (Plate V.)	.. facing 47
CALLISTHEMUS SANGUINEUS (Plate IV.)	.. facing 34	NOVRIA PLOMBICHA	.. 70
CALCAREA GLAUCA	.. 105	OXYLYRUM CAPITATUM (Plate II.)	.. 26
CERIALOTUS POLYCARPUS (Plate V.)	.. facing 47	PATERSONIA OCCIDENTALIS (Plate III.)	.. 29
CHAMALACIUM UNGUINATUM (Plate V.)	.. 47	PILANTHUS FILIPOLUS (Plate VI.)	.. 66
CHORISMA DICKSONII (Plate III.)	.. 29	PINELIA SPICATILIS (Plate III.)	.. 47
CLANTHUS DAMPETER (Plate VI.)	.. 66	POSTICHA GRACILIDENS (Plate V.)	.. 47
CONOSPERMUM HOOKERII (Plate III.)	.. 29	PRASOPHYLLUM FUMOSA	.. 63
.. BROWNII (Plate VI.)	.. 66	PYROSTYLIS REFLEXA	.. 36
.. TRIPLENSENUM (Plate VI.)	.. 66	RHINOCARPUS GLAUCUM (Plate IV.)	.. facing 29
CONOSTEPHUM FERRUGINEUM (Plate IV.)	.. 34	SCERVOLOA GRANDIFLORA (Plate III.)	.. 29
CONOSTYLIS GARDINIANA (Plate II.)	.. 26	.. PLATYHYLLA (Plate III.)	.. 29
CROTALARIA CUNNINGHAMII (Plate V.)	.. 47	.. STRIATA (Plate III.)	.. 29
CROWEA ANGUSTIFOLIA (Plate IV.)	.. 34	SHEED-VESSEL OF EUCALYPTUS	.. 21, 22
CYANOTHEGIA ANGUSTIFOLIA (Plate VI.)	.. 66	SOVEREIGN LAXIFLORA (Plate IV.)	.. facing 34
DAMPIERIA ERIOCHRYSA (Plate VI.)	.. 66	STYLIUM JUNCUM (Plate IV.)	.. 34
.. LINKEANS (Plate III.)	.. 29	SYMPHILEA POLYCARPA (Plate IV.)	.. 34
DAVIDSONIA JUNCIFOLIA (Plate II.)	.. 26	TEMPLETONIA RETUSA (Plate II.)	.. 26
DIPTILOLENA GRANDIFLORA (Plate V.)	.. 47	TETRASTACHYA NUDA (Plate II.)	.. 26
DUTCH LONGIFOLIA	.. 57	THELYSTRA FUMOSA	.. 75
DRACULA ELASTICA	.. 51	THELYSTRA DICHROMIS (Plate III.)	.. facing 29
DREYANOVA FLOREBUNDA (Plate IV.)	.. facing 34	THACHTHENA CESTRIFOLIA (Plate V.)	.. 47
EREMOPHILA ERIOCALYX (Plate IV.)	.. 66	THICINUM DARMONDI (Plate IV.)	.. 34
ERIOSTOMON SPICATUS (Plate IV.)	.. 34	VERTICORDIA GRANDIS (Plate V.)	.. 47
EUCALYPTUS SPICIFOLIA	.. facing 66	.. SYDNEY (Plate V.)	.. 47
GRISTILLERA EXCELSUM (Plate VI.)	.. facing 66	XANTHOSIA NOTENIFOLIA	.. 57

WILDFLOWERS OF WESTERN AUSTRALIA.

CHAPTER I.—INTRODUCTORY.



NO book has as yet been published in the English language dealing exclusively with the extensive and diversified flora of Western Australia. In 1845, Ludwig Preiss, a German botanist who had spent four years in Western Australia, published in two volumes, *Plantae Preissianae*, edited by Dr. Lehmann, which describes West Australian plants in Latin. In 1905, two German botanists, Drs. L. Diels and E. Pritzel, after visiting the State, produced *Fragmenta Phytographiae Australiae Occidentalis*, an illustrated book written partly in Latin and partly in German. A year later, one of these men, Dr. L. Diels, issued *Die Pflanzenwelt von West-Australien*, freely illustrated, and written entirely in German. These books are not of much use to the average Australian.

However, in any large Public Library, Benthams's *Flora Australiensis* may be found. This work, compiled by George Benthams, a celebrated English botanist, with the assistance of Baron von Mueller, was published in London in 1870 in seven volumes, and deals exhaustively with Australian native plants. It is now out of print, and secondhand sets are practically unobtainable. Identification of specimens from it by other than experienced botanists is difficult, as the descriptions are extremely technical. There are no illustrations, and the colours of the flowers are not always given.

Many interesting and informative papers on subjects dealing with West Australian wildflowers have been written for and read at meetings of different societies interested in botanical matters. Some of these have been issued in pamphlet form by the Royal Society of Western Australia, and copies may be obtained from the Secretary.

With William Dampier, who visited the north-west coast of Australia in 1688 and 1699, rests the honour of having given to the world the first information regarding the flora of Western Australia. Referring to his landing at Shark's

Bay in 1699, where he collected botanical specimens which are still preserved in the Museum at Oxford, in the published account of his Voyages, Dampier says:

"Most of the Trees and Shrubs had at this time either Blossoms or Berries on them. The Blossoms of the different sort of Trees were of several colours, as Red, White, Yellow, etc., but mostly Blue: and these generally smelt very sweet and fragrant, as did some also of the rest. There were also beside some Plants, Herbs, and tall Flowers, some very small Flowers growing on the ground, that were sweet and beautiful, and for the most part unlike any I had seen elsewhere."

It is appropriate therefore that Dampier's name is commemorated by a genus of plants bearing intensely blue flowers—*Dampiera*.

The flora of Australia is particularly interesting, because it is different to that of any other part of the world. For the reason of this it is necessary to go back to the Coal Measure Age in far-off prehistoric times, when Australia, India, and South Africa were joined and formed one vast continent known as Gondwanaland. Vegetation consisted of huge ferns, fern-like plants, club mosses, cycads, and other primitive forms of plant life which bore no flowers. From these, modern plants have sprung. Subsidence of parts of this great land area took place later, and Australia was cut off from the other present-day continents by stretches of water. The plants at the time of separation were probably very similar throughout Gondwanaland, but variations started to occur. A very small difference in structure made a plant more suited to its habitat than its fellows, and gave it a greater chance of propagating its kind and passing on this special structure to its progeny. Other plants not possessing this character were suppressed in the struggle for existence through their progeny being crowded out by their more specialised relations, so that in time and in different localities, large numbers of quite distinct forms of plants sprang from the same primitive ancestor.

In Victoria, preserved in the rocks of the Permo-carboniferous Age, leaves of the original ancestral plants have been found, and the same plants have been discovered in rocks of similar age in South Africa.

In relatively arid lands, such as South Africa and Australia, the struggle for existence in plant life is greater than in places blessed with a more abundant rainfall, and development has been slower. The stage now reached by the Australian flora was attained millions of years ago by that of the northern hemisphere, where more favourable conditions have resulted in the earlier forms dying out before their more specialised descendants.

In the Eastern States of Australia, where rain falls in summer, competition between plants is keener, and the more primitive forms have been driven out. The vegetation of Western Australia is therefore more typically Australian than is that of the south-eastern portion of our continent and the northern tropical areas.

A plant consists of root, stem, branches, leaves, flowers, and fruit. The root holds the plant in the ground and absorbs moisture by means of thin-walled hairs

on the rootlets. The stem supports the leaves and branches, and the sap ascends through it to the foliage, where evaporation takes place.

The leaf is the chief organ by which the plant nourishes itself. Air enters it by minute pores or stomata, which open and close, and thus check or increase the amount of evaporation or transpiration from the leaf. The great bulk of the woody tissues of plants is not derived from the water supplied through the roots, but from the atmosphere, which contains carbonic acid gas, the source of the element carbon the chief constituent of wood. The extraction of carbon is effected by the vital action of the leaves in their performance of the function of respiration. Large trees must have sufficient water to enable the leaves to carry on their work, or their growth will be proportionately restricted.

The function of the flower is to produce seed, and so perpetuate the species. The essential parts are the stamens and pistils. The pistil is in the centre of the flower, and contains the female organs. At its base is the seed-vessel or ovary containing the unfertilised seeds. At the tip is the stigma, the part of the flower adapted to receive the pollen or male element. The stigma is often supported by a stalk called the style. Round the pistil the stamens are arranged. They consist of a stalk known as the filament, and an enlarged tip, usually yellow, the anther. Here the pollen is borne. It consists of very minute yellow grains which escape by the opening of the anther. Before seed can be developed, fertilisation or union must take place between the male and female elements. The pollen grain is conveyed from the anthers to the stigma. It there penetrates through the loose tissues of the style into the ovary, enters the cell contained in one of the ova where fertilisation takes place, and the ovule commences to develop into seed. The pollen is carried by the wind, insects, or birds. Insects and birds help the flowers by helping themselves to honey and pollen, and the pollen is rubbed off on them and taken to the next flower visited. This is called cross fertilisation. The organs of the flower are enclosed in the protecting calyx, which is again surrounded by the corolla, usually brightly coloured and composed of the petals. Calyx and corolla together constitute the perianth.

The fruit is the ripe seed-case for the protection of the seed, especially in the early stage of its development. When the seed is ripe, it has to be scattered. If it merely fell to the ground below the parent plant, it would be choked out of existence, or perish for want of sufficient light and air. Nature's methods in accomplishing this end are varied. The seeds may be so small and light as to be blown about by the wind, assisted in their flight by wing-like margins. Those of some families, such as *Pittosporum* and *Billardiera*, are sticky, or as in *Marianthus*, provided with hooked points. These seeds cling to or catch on the fur of passing animals and are carried away. The whole fruit in many cases becomes sweet and succulent, attracting birds who eat it, and through them the seeds are widely distributed.

The brilliant colouring of many West Australian flowers is due to unfavourable climatic conditions. Wherever a plant has to struggle for existence, there is

generally found a corresponding increase in vividness of colour and strength of construction in the flowers. Weakly-fashioned flowers are destroyed when a bird inserts his bill to obtain the honey. The most conspicuous flowers are more readily noticed by birds and insects. They, and those rigidly formed, have thus a better chance of becoming fertilised, and so these characters are passed on.

Drought, periodic and constant, is the most prominent feature of the environment of plants in Western Australia. In only a few other regions of the earth's surface is aridity of climate so pronounced as in the interior districts. Yet this dry area is furnished with plants able to survive and propagate their kind; and Nature's methods of adapting their construction to enable them to live through the long dry summers are remarkably illustrated.

Moisture is obtained, even in the dry season, by an extension of the root system to the deeper strata of the soil, which are less subject to the drying influence of the sun and atmosphere than the superficial layers. *Nuytsia floribunda*, the well-known Christmas Tree, and *Calythrix flavescens*, a small yellow-flowered shrub less than a foot high, blooming gaily in the sandy scrub during the hottest months of summer, are examples of this.

The root system is modified in many ways to overcome droughty conditions, and instances of this can be seen in bulbs, tubers, and various forms of swollen roots or underground stems in which water is stored during the wet season, so that the germ of the plant may be kept alive through the dry time. It is not solely in the underground parts of the plant that this storage of moisture is effected. It is seen in the stems and branches of plants, also in the leaves, as is the case with *Mesembryanthemum* ("Pig-face"). *Lobelia*s, too, frequently have their juices so carefully stored and protected from evaporation in the stem and flower that plants may be found standing upright in the ground, flowering and ripening their seed, although the root and lower part of the stem with the leaves on it are apparently dead and brittle.

Leaf-reduction, whereby the breathing surface of the leaf is considerably lessened, is one of Nature's principal methods of assisting a very large number of West Australian native plants to withstand drought, their foliage being of a very stiff and spiny character, the soft cellular tissues reduced to a minimum, the leaves narrow with prominent mid-ribs and ending in sharp points. The *Acacias alata*, *stenoptera*, *diptera*, and *glaucoptera* form the series *Alata* (winged), peculiar to Western Australia, of the genus *Acacia*. Not only are the leaves in these plants reduced to phyllodia (leaf-stalks), but they enter into the formation of the stem and branches, providing them with wings and having only their tips free.

The copious rainfall of the winter months encourages a luxuriant growth of some broad-leaved plants, and these have to be protected in summer. The leaves of the *Eucalypts*, some of the *Acacias*, and other plants are set in a vertical position, so that their surfaces receive a minimum of the sun's rays during the mid-day heat, while others have a covering of wax. Very often leaves are protected by a hairy growth, especially on the upper surface, and sometimes they or the whole plant are

enveloped in a covering of hairs so dense and matted together as to resemble thick flannel or blanket. Species of *Lachnostachys* are a striking example of this.

Marvellous is the curious mechanism of the flowers of the Trigger-plants (*Stylidium*) and Hammer Orchids (*Drakea*, *Caleana*), by which effectual insect pollination is ensured.

Bloodthirsty savages of plant life are the pretty Sundews (*Drosera*) and the Pitcher-plant (*Cephalotus*). Their carnivorous habits are exemplified by their absorption of animal food, which they trap in the form of flies and other insects by means of leaves often sticky, provided with glandular hairs which contract when touched, and hold the prey; or pitcher-like leaf formations with lids that close tightly upon the victims. It is said that these plants can digest raw meat.

All these wonderful characteristics are of intense botanical interest, and Mr. Maiden in his pamphlet, *Australian Vegetation*,* quotes a contention† that they prove the Australian flora to be highly specialised, and anything but primitive!

With such an immense land area as the State of Western Australia possesses, climatic conditions and types of country are naturally much diversified. In the north-west, tropical conditions result in tropical vegetation. The plants of the desolate sandy wastes of the dry interior have adapted themselves in a wonderful manner to their arid situation, and the beauty and variety of the flowering shrubs on the areas known as "sand-plain" are amazing.

All over Western Australia the display of wildflowers is especially extensive in the springtime, but the bush always holds something to interest the collector. The development of the native vegetation in the forests and gullies of the south-west, where the rainfall is heavy, has been greater than in the dry districts. In the rocky and hilly country around Albany, where the climate is delightfully cool and bracing, the Pitcher-plant (*Cephalotus follicularis*), *Banksia coccinea*, *Crowea*, and numerous other plants that are not found far from the south coast, flourish. District Eyre is quite a narrow strip along the coast to the east of King George's Sound, and there are found many quite distinct types of plant life not seen elsewhere. The slopes of the Stirling Range, though somewhat inaccessible, may well be termed a paradise for botanists and the Mecca of enthusiastic collectors.

All present-day vegetation is classified into species, which are grouped into genera. The various groups of genera form Orders, or Families as they are termed in modern botany, which are grouped again and again until the primary types are reached.

Each individual plant has two names. The genus comes first with a capital letter, then the species, which is only written with a capital when a surname has been Latinised to form the name.

In botanical literature the name placed immediately after a species is that of the botanist who first recorded it. The name of the genus is usually of Greek

* *Australian Vegetation*, by J. H. Maiden, F.L.S. Reprinted from the Federal Handbook of Australia, 1914.

† Spencer Moore, *Suggestions upon the Origin of the Australian Flora*, Nat. Sci. XV., 1899, p. 207.

derivation, and that of the species Latin. Unless the names have been adapted from surnames, they generally refer to some characteristic of the family or species; for instance, *Eucalyptus ficifolia*, the Crimson-flowered Gum—*Eucalyptus* translates, *eu*, well; *kalypto*, I cover; and the reference is to the little cap which covers the unexpanded flower. The name of the species, *ficifolia*, means fig- or fig-leaved.

A number of flowering plants and trees have been called after distinguished botanists and others. Many of these adapted names are most euphonious and easily remembered, as *Hovea*, *Boronia*, *Banksia*, *Mirbelia*, *Kennedyia*, *Grevillea*, *Croceia*, etc.; and what better or more eternal memorial could be dedicated to those who loved and studied the botanical glories of Nature, than the forever association of their names with beautiful flowering plants? Biographical notes regarding most of those whose memory has thus been perpetuated through the medium of the flora of Western Australia will be found alphabetically arranged on page 113.

The study of wildflowers is most fascinating. Everyone cannot paint them, but carefully pressed and properly arranged named collections are very interesting. Children should be encouraged to collect and learn the names of the flowers, and the main characteristics of the Families to which they belong. Perfect botanical specimens are those with leaves, flowers, and fruit (if possible), showing somewhat the habit of growth without being too large, and should be mounted each on a fairly stiff sheet of paper, not stuck on, but fastened in position by narrow strips of adhesive paper, and the name neatly written or printed, with the month and locality when and where procured—the latter are most important, and add much interest and value to the collection. The specimens should be so arranged that all of one genus are together, and the genera grouped under the headings of their respective Families. It is not difficult to press flowers successfully. Place a piece of absorbent paper above and below each specimen, and put them all between two pieces of stout cardboard beneath a heavy weight. Leave for a week or more, changing the sheets of paper if they become at all damp, which they probably will do, or mildew will be the result. Another method, and one that preserves the colours well, is to dry the flowers in hot sand, and press them lightly when dry.

Indiscriminate and unnecessary gathering of wildflowers should be discouraged. Of what use is it to pick, tear down, or drag out by the roots, armfuls of flowers that cannot possibly be used? Flowers should ever be regarded as something too beautiful and precious to be wasted. Use them freely by all means, for in the city they bring a breath of the bush and recall happy memories to many a tired heart, in the home they add a dainty charm to the rooms, and as a gift to the sick are always welcomed.

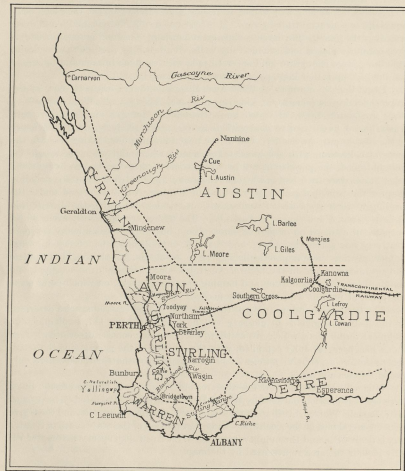
Most wildflowers are very effective for indoor decoration. But a great deal depends upon their arrangement. The best guide for this is to study the natural habit of the flowers. For instance, orchids do not grow in masses. They and other delicately formed flowers should therefore be lightly and daintily grouped, just several in one vase or specimen-glass. Flowers that bloom in clusters can always be massed in bowls with good result—a memory of a bowl of blue

Leschenaultia standing on a dull-polished table in a "brown" room lingers with me. *Leschenaultia* wilts quickly when picked, but revives and lasts well when put into water. Kangaroo Paws are a little difficult to manage, but loosely placed, with their stalks left as long as possible, in rather large vases or bowls, they look well, especially in a neutral-tinted room. It is best not to mix flowers, and avoid overcrowding the vases. For large rooms, great bowls of the vivid orange Christmas Tree carefully placed look wonderfully well. Banksias, too, are most effective in something large enough to hold several heads with as much branch and foliage as possible, set up rather high, as on a corner of a mantelpiece.

Regarding the number of West Australian wildflowers, without those of the tropical north-west (over 2,000, which are not considered typically West Australian), there are about 4,000, of which more than 3,000 are only found in Western Australia. I have tried to deal with these comprehensively by describing many of the best-known species in detail in the next four chapters, taking them in the order of collection, with the locality and month where and when the specimens were obtained, the popular names by which some of them are known by, and the other States they are found in when not endemic; and by defining in the concluding chapter the principal genera represented in Western Australia placed under the heading of their respective Families, with particulars regarding the distribution of both Families and genera in Australia. The figures are sufficiently accurate for purposes of comparison or general information, but in some cases many new and relatively rare species have been added to the unpublished lists. Exact information concerning these is practically impossible to obtain. A thoroughly complete and up-to-date work on the flora of Australia—one that would be accepted as a standard for the classification and naming of certain genera, on which point some confusion at present exists—is badly needed.

The derivation and meaning of the names of the genera and species described in this book are given. A glossary will be found on page 117, explaining the technical terms used, which are at times necessary for concise description. The index has been carefully compiled, with the number of the page giving the actual description of a genus or species in heavier type than that of those where only casual reference is made.

It is a little difficult to define the areas of the different species *exactly*, but I have used the districts outlined by Messrs. Diels and Pritzel, illustrated on next page, viz.: Darling, Warren, Stirling, Eyre, Avon, Irwin, Austin, Coolgardie, and these give a good general idea of the localities. Only that portion of the State south of Shark's Bay is dealt with, and the numbers given for West Australian species in Chapter VI. only include the area represented by the map.



CHAPTER II.—JANUARY TO JUNE.

THANKS to the Eucalypts clad in their enveloping mantles of dainty bloom, the splendour of the crimson-flowering gums contrasting richly with the creamy fluffiness of most of the other gum blossoms, the floral world of Western Australia welcomes the New Year in festal attire.

Eucalyptus scicifolia, the West Australian Red-flowering Gum that has become so popular all over Australia, is native only in quite a small area near Nornalup Inlet on the south coast, and all young trees grown in nurseries and gardens come originally from seed gathered there, where the flowers are bright red. The many shades of pink and white, so far as is known, only appear in plants grown from seeds under cultivation—a theory being that hybridisation by bees is responsible, the species being crossed with a white-flowered variety, *Eucalyptus calophylla*, the Red Gum of Western Australia. This variation of colour is curious, as it does not seem to occur when the trees grow in a wild state in the forest, even when surrounded by many white-flowered gums. Seeds from cultivated trees can never be depended upon to produce plants with blossoms of a similar shade to those of the parent tree. There is a splendid avenue of these gums in King's Park, Perth, where the flowers vary in colour from white through many shades of pink to deep crimson, and the sight of the glorious masses of colour when the trees are in full bloom is one to remember.

Residents of Perth are fortunate in the possession of King's Park. It is a reserve of 1,020 acres on the heights of Mt. Eliza, overlooking the city, Perth Water with the Darling Ranges in the distance, South Perth and Mill Point, The Narrows, Canning River, and the wide expanse of Melville Water fringed by low tree-clad hills. The Swan River, with the wonderful colouring of its deep stretches of water broken by the transparent delicate tints of shallow sand-banks and sharply defined gleam of shining white sand-spits, ever changing, from the opalescent haze of morning to the clarity of mid-day and afternoon, and again to the rosy glow of sunset and evening shadows, ever beautiful, is a setting for a city unsurpassed for loveliness in Australia. Except for small portions near the various entrance gates, King's Park is virgin bush, and very many of the wildflowers native to Western Australia may be seen growing there in their natural state, protected from vandalism by stringent by-laws. To be able to walk or ride through still scrub-tangled flowery glades shaded by great trees, within a mile and a half of the heart of their capital city, is a joy West Australians should truly appreciate.

Many Banksias, usually found in poor sandy country, bloom quite early in the year. Their fresh and brilliantly coloured flower-spikes stand as stiffly erect as the remains of those of the last season withered and dry, the gaping seed pods breaking the symmetry of their conical form, but proudly upright, sentinel-like, until the very end.

The seed-vessels of the Eucalypts vary a great deal in size and shape, those of some of the largest trees being small and inconspicuous, as Salmon Gum, Wandoo, Morrell, York Gum, and Karri, while the fruit of a straggling species, *E. macrocarpa*, which has very large red flowers, is sometimes 3 inches across. When dry the Gum Nuts (as they are called) make quaint mounts for leather bags, especially appropriate for those decorated with poker-work or stamped designs of Gum-leaves or blossom. They were largely used during the Great War as "protectors" for knitting needles.

The West Australian bush during the hot and dry summer months, often blackened and desolate after bush fires, is somewhat uninteresting and monotonous. Compared with its beauty in the spring, it is like the setting for night illuminations seen by daylight. One would naturally suppose a roaring bush-fire tearing across the country would utterly destroy the wildflowers; but it is curious how some of them, particularly the Flannel-flowers, Orchids, and many Everlastings, flourish where fires have been. However, many plants though seen at their best in the spring, remain in bloom for several months. The beautiful *Verticordia grandis* with its upright spikes of large crimson blossoms, and the conspicuous orange-flowered *Grevillea eriostachya*, both found in District Irwin, are examples, retaining the vivid tints of their gorgeous inflorescence well into the new year.

Calythrix flavescens, a little bush covered with masses of starry flowers, bright yellow with long hair-like points between the petals; and *Backea camphorosma*, a heath-like shrub with its branches terminating in slender spikes of tiny pink or white flowers, are both conspicuous for their free flowering during the summer. The latter is largely used for medicinal purposes.

In April blooms the *Hovea*, with its flowering spikes of royal purple, one of the earliest of the winter-flowering plants, and a worthy herald of the procession of floral magnificence to follow. Of the six West Australian species of *Hovea*, the one most common about Perth is *H. trisperma*, which is occasionally white-flowered. An early-flowering variety in the Darling Ranges is *H. chorizemifolia*, with holly-like prickly leaves.

The beautiful *Hibbertia*, represented by many species in Western Australia, and almost always more or less in flower, begins to gild the bush in earnest—its yellow-flowered shrubs give one the impression of being covered with primroses.

Other plants unfold their lovely blossoms so rapidly as the season advances that the bush in the coastal regions, the tropical north-west, the forests of the south-west, the dry interior, on the slopes and in the gullies of the ranges, right to the outskirts of Perth itself, and even on vacant allotments within the city boundaries, is very quickly transformed by kaleidoscopic masses of flowers of every colour, size, and shape.

Templetonia, of shrubby growth, with large and handsome red flowers, is very plentiful about Fremantle and on the limestone hills along the coast. It flowers in May, and brilliant patches of it can be seen from the train near Fremantle.

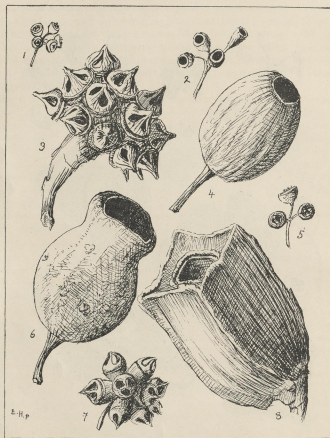


"GUM NUTS."

Seed-vessels of Eucalypts.

1. *E. jaranda*, var. *longipetala* (York Gum).
2. *E. salubris* (Gimlet-wood).
3. *E. torquata* (Goldfields Red-flowering Gum).
4. *E. diacincta* (Karri).
5. *E. macrocarpa* (Blue Gum).

6. *E. Preissiana*.
7. *E. patens* (Blackbutt).
8. *E. pomphocypala* (Taart).
9. *E. marginata* (Jarrah).
10. *E. pyramidalis*.
11. *E. macrocarpa*.



"GUM NUTS."

Seed-vessels of Eucalypts.

1. *E. salmonophloia* (Salmon Gum).
2. *E. rotunda* (Wandoo).
3. *E. lehmannii*.
4. *E. ficifolia* (Red-flowering Gum).

5. *E. longicornis* (Morrell).
6. *E. calophylla* (Red Gum).
7. *E. coriata* (Yate Gum).
8. *E. tetraptera*.

Down in the south-west, one of the most beautiful of the *Hakeas* (*H. laurina*), a large shrub or small tree, also flowers in May. Its blossoms are a combination of crimson, white, and cream. When seen in full bloom from a little distance the trees have the appearance of being covered with gaily-coloured parrots.

Calythrix Fraseri, usually found in damp swampy thickets, has flowers similar in form to those of its relative, *Calythrix flavescens*, but larger and bright purplish-pink, which come out early in the year, and bloom freely until June.

EUCALYPTUS FICIFOLIA, fig-leaved. "W.A. Red-flowering Gum." (King's Park, Jan. Cultivated.) An umbellaceous tree, 20 to 40 ft., about 1 ft. dia. Leaves lanceolate, dark shining green, standing out flatly, and not edgewise, as is usual with the Eucalyptus family generally. Flowers large, red, usually in umbels forming a terminal corymbose panicle. Fruit ovoid, $\frac{1}{2}$ in. long, contracted at the orifice, capsule deeply sunk.

W.A.—Dis. Warren.

EUCALYPTUS MACROCARPA, large fruit. "Sand-plain Gum." "Blue Gum." "White-leaved Gum." "Rose of the West." (King's Park, Jan. Cultivated.) A shrub or small tree of straggling growth, 6 to 10 ft., usually more or less mealy-white. Leaves opposite, sessile, broadly cordate-ovate, often 6 in. long, very thick and rigid. Flowers red, very large, solitary, on short thick axillary peduncles. Calyx-tube about $\frac{1}{2}$ in. dia. Fruit 2 to 3 in. dia.

W.A.—Dis. Stirling. Sand-plain.

EUCALYPTUS MARGINATA, leaves with recurved margins. "Jarrah." (King's Park, Jan.) A large tree, 90 to 100 ft., 2 to $\frac{3}{4}$ ft. dia. Bark persistent, dark grey, fibrous, deeply indented in longitudinal furrows. Peduncles axillary or the upper ones without floral leaves, terete or flattened, each with 8 or more, rarely only 3, creamy-white flowers, on pedicels of 2 to 3 l., forming an almost globular head. Calyx-tube short and very open, 2 to 3 l. dia. Operculum oblong-conical, to twice as long as the calyx-tube. Stamens 3 to 4 l. long, the filaments very flexuose, but not inflected in the bud. Fruit obovoid, $\frac{1}{2}$ in. dia. or more, contracted at the orifice, valves small, not protruding. The principal tree of the W.A. forests. The timber is deep red in colour, heavy, and hard, equally suitable for railway sleepers, etc., and highly polished furniture. Also makes the best charcoal in the State.

W.A.—South-western division of State. Usually gravelly, sandy soil.

EUCALYPTUS CALOPHYLLA, thick-leaved. "Red Gum." (King's Park, Jan.) A forest tree of an umbrageous and spreading character; next to the Jarrah, the most widely distributed in the timber regions of W.A. The bark is hard and rough, with an irregularly furrowed or broken appearance. Leaves ovate to lanceolate, obtuse or sharply-pointed, rather rigid with very numerous parallel veins. Flower-heads loose with rather large creamy-white flowers in a terminal corymbose panicle. Peduncles flattened, pedicels longer than the calyx-tube. Stamens $\frac{1}{2}$ to 1 in. long. Fruit when perfect, 2 in. long and about 1 in. dia., very thick and hard, with a wide neck contracted at the orifice. Capsule deeply sunk. The gum, which exudes from this tree like thick treacle during the summer, is used for tanning and medicinal purposes. The timber is not of first-class quality, owing to the gum veins which intersect it in every direction, but in short lengths the wood is excellent, and largely used for axe and other handles, spokes, maves, etc., and also for firewood. It is not used for underground work, as it is readily absorbed by white ants.

W.A.—South-western division of State. Gravelly and sandy soil.

EUCALYPTUS LEHMANNI, after J. Lehmann. "Bald Island Marlock." (King's Park, Jan. Cultivated.) A tall shrub or small tree with smooth, reddish bark, coming off in irregular sheets. Leaves from ovate to oblong or almost lanceolate, obtuse, under 3 in. long, very thick. Flowers greenish-yellow, often twenty or more together in dense heads on thick recurved peduncles 1 to 3 in. long, sometimes much flattened, the receptacle forming a globose mass of $\frac{1}{2}$ in. or more dia., in which the calyx-tubes (usually 2 to 3 l. dia.) are more or less immersed. Operculum cylindrical, dilated at the base, horn-like, often $\frac{1}{2}$ in. long. Stamens $\frac{1}{2}$ to 2 in. long, erect in the bud. Fruits half-immersed in the receptacle, about $\frac{1}{2}$ in. dia., rim very narrow, capsule not depressed, the valves converging into a cone tapering into the persistent base of the style.

W.A.—Dis. Warren, Stirling, Eyre. Granite country.

EUCALYPTUS CORNUTA, horned. "Yate Gum." (Donnelly Riv., S. from Nannup. Jan.) A moderate-sized or tall tree with a bushy head, the bark brown or black, rough and rugged at the bottom, but deciduous at the top, leaving the branches white like the Karri. Leaves lanceolate,

mostly under 4 in. long, rather thick. Peduncles axillary, terete, or slightly compressed, each bearing six to twelve or more greenish-yellow flowers, sessile, but not immersed in the receptacle. Calyx-tubes oblong-turbinate, about 3 1/2 in. long, and rather less in dia. Operculum from 1 to 1 1/2 in. long, more or less tapering upwards, but obtuse. Stamens erect or slightly flexuose in the bud, but not inflected, the outer ones often above 1 in. long, inner ones shorter. Fruit about 4 1/2 in. long, rim narrow, scarcely distinct from the slightly convex summit of the fruit. Grows in small patches only, in low-lying parts where the soil is deep and fairly moist. Timber good, suitable and used for shafts, spokes, felloes, naves, boat-ribs, etc.

W.A.—Dis. Warren, Stirling. Granite country.

EUCALYPTUS MEOCARPA, large-seeded. ("Blue Gum." (Warren, Jan.) A tree of up to 70 or 80 ft. in height, from 1 to 3 ft. dia., with a smooth white deciduous bark. Leaves lanceolate-falcate, 4 to 6 in. long, thick and smooth. Peduncles axillary or lateral, thick and flat, each bearing usually two sessile cream-yellow flowers. Calyx-tube broadly turbinate, smooth, under 6 1/2 in. long, the margin acutely prominent in the bud. Operculum shortly conical. Stamens about 3 in. long, inflected in the bud. Fruit depressed-globular, thick and hard, 1 to 1 1/2 in. dia., the rim very convex and prominent. Timber of no special value.

W.A.—Dis. Warren, Stirling, Eyre.

BANKSIA ATTENUATA, narrow leaved. (King's Park, Jan.) A tree up to 40 ft. high. Leaves linear with serrated edges, 3 to 6 in. long, 3 to 5 1/2 broad towards the end, rather thick, flat, hairy, with transverse veins. Flower-spikes yellow, 4 to 8 in. long, oblong. Bracts densely hirsute at the end. Perianths glabrous, tube about 1/2 in. long. Fruiting-cone thick, with capsules scarcely protruding from the remains of the flowers.

W.A.—Dis. Darling, Warren, Stirling, Irwin. Sandy or limestone country near the sea.

PRONATA ELIDANS, elegant. (Darlington, Jan.) A twining plant, lower leaves often coarsely toothed or lobed, the others lanceolate, 1 to 1 1/2 in. long, entire, firm, the margins recurved. Flowers blue or white, in a dense terminal corymb. Petals about 3 in. long, ovate, spreading. Berry oblong-cylindrical.

W.A.—Dis. Darling. Gravelly soil.

BANKSIA CAMPHOROSMÆ, camphor-scented. (Glen Forrest, Jan.) A heath-like shrub either low and spreading, or erect and 2 ft. high or more, branches usually long and slender, with numerous small branchlets. Leaves crowded, linear, mostly 1 1/2 to 2 1/2 in. long, or those on the upper branches longer and distant. Flowers white or pink, on very short pedicels, solitary or more frequently clustered on a very short common peduncle, usually forming a long terminal one-sided leafy raceme. Calyx-tube broadly turbinate, 1 1/2 in. long, lobes broad and short. Petals 5, above 1 1/2 l. dia. Stamens 10. Style immersed in a deep central depression.

W.A.—Dis. Darling, Warren, Stirling. Gravelly soil.

STYLIDEM SCANDENS, climbing. (Torbay, Jan.) A glabrous plant, the stems in small specimens slender but nearly erect and simple, when luxuriant very flexuose or climbing to 2 or 3 ft., and branching at some of the stem-joints. Leaves all collected in dense, whorl-like, distant tufts, linear 1 to 2 in. or longer when luxuriant, with a hooked point. Racemes terminal, solitary or two or three together, shortly pedunculate, loose but few flowered, and almost always simple. Corolla pink, with more or less prominent appendages to the throat and lip.

W.A.—Dis. Warren, Stirling, Eyre. In thickets near rivers.

ACACIA STENOPTERA, narrow wings. (Parkerville, Jan.) A rigid undershrub or low bushy shrub. Leaf-stalks forming long opposite wings 1 1/2 to 2 or 3 l. broad, the free part lanceolate or linear-falcate, rigid, tapering to a pungent point. Stipules small, not pungent. Peduncles under 1 in. long, bearing each a globular head of yellow flowers. Pod very much falcate, acuminate, 1/2 in. broad in the middle.

W.A.—Dis. Darling, Warren, Stirling. Sandy and gravelly soil.

EUCALYPTUS PATENS, spreading. ("Black-butt." (Childs Wells, Feb.) A tree attaining 140 ft. in height, 4 to 7 ft. dia. The bark is persistent, hard, deeply fissured, and dark grey in colour. Leaves lanceolate, mostly falcate, 3 to 6 in. long, with fine diverging rather numerous veins. Peduncles axillary or lateral, or forming short panicles, short, terete, or slightly angular, each with three to six cream-white flowers on short pedicels. Calyx-tube turbinate at the base, very broad and open above the ovary, about 3 1/2 in. long. Operculum hemispherical, not so long as the calyx-tube. Stamens about 3 1/2 in. long, inflected in the bud. Fruit globular-truncate, rim narrow, the capsule sunk, but not deep. Timber light in colour, hard, tough, and durable.

W.A.—Dis. Warren, Stirling, Avon.

INOMIOPERA HIBSUTA, hairy. (Beacons, Feb.) A prostrate or ascending branching annual, 1 to 2 ft. high, hairy. Leaves pinnate, leaflets seven to eleven, obovate or oblong, 1 to 1 1/2 in. long. Racemes usually dense, shortly pedunculate, 1 to 4 in. long. Flowers purple, pea-shaped, standard 3 1/2 in. long, narrowed into a distinct claw. Pod very hairy, about 1/2 in. long, quadrangular, reflexed on the peduncle.

W.A.—Nor'west district. Gravelly soil. S.A. N.S.W. Q. N.A.

HELIORHYZUM COARCTATUM, leaves heart-shaped. (King's Park, Feb.) An undershrub with long flexuose reclining or almost climbing branches, closely covered with white cottony wool. Leaves petiolate, the lower ones cordate-ovate, 1 to 2 in. long, smooth on the upper side, densely cottony underneath, the upper ones few and small. Flower-heads small and numerous, in little compact corymbs, forming a large, loose, almost leafless panicle. Involucre turbinate-campanulate, about 2 1/2 in. long, woolly-white, the inner and intermediate bracts with small white glabrous spreading tips. Florets about twenty, a very few of the outer ones female. Everlasting, and much used for interior decorations. Found chiefly near the coast.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

BANKSIA VERTICILLATA, whorled. ("River Banksia." (Wilgarup R., March.) A fair-sized tree. Leaves in whorls of four to six, oblong-lanceolate or broadly linear, recurved margins, white petiolate, the lower ones cordate-ovate, 1 to 3 in. long, obtuse, entire, or slightly toothed. Flower-spikes oblong-cylindrical, 4 to 8 in. long. Bracts woolly. Perianths yellow, silky, nearly 1 in. long, style scarcely longer, hooked. Fruiting-cones long and narrow, the perianths deciduous, leaving the closely packed bracts hoary with a more glabrous centre, or with slightly protruding flat capsules, 1 to 1 1/2 in. broad, the valves not thickened.

W.A.—Dis. Warren. Never far from running water.

EUCALYPTUS COMPTONCEPHALA, wedge-shaped head. ("Tuart." (Near Fremantle, March.) A handsome tree, sometimes 150 ft. high and 12 in. or more dia., with greyish-white bark, smoothly crinkled and persistent. Leaves lanceolate, mostly falcate and acuminate, often exceeding 6 in., bright green, thick, and shining. Peduncles axillary or lateral, thick, hard, broad, and flat, 1 to 1 1/2 in. long, each with several flowers either sessile or on very short, thick, flat pedicels. Calyx-tube obovoid, 4 to 6 1/2 in. long, and about 4 1/2 in. dia. Operculum globular, very thick and hard, broader than the calyx-tube. Stamens nearly 4 1/2 in. long, inflected in the bud. Fruit 1/2 in. long, rim broad and convex, capsule scarcely sunk, conical in the centre, the open valves protruding.

The timber of this species is hard and dense with an interlocked grain, yellow, very strong and tough, much used for railway track construction.

W.A.—Limestone country from Lake Pinjar southward to Busselton. Dis. Darling, Warren.

HOVEA CHORIZEMIFOLIA, leaf like Choriema. ("Prickly Hovea." (Glen Forrest, April.) A stout branching shrub of several feet, occasionally with stems simple from a thick stock. Leaves from ovate to lanceolate, sharp-pointed and prickly toothed, 1 1/2 to nearly 3 in. long. Flowers purple, pea-shaped, two to six together, rather small. Bract-stalks subulate. Calyx 3 to 3 1/2 in. long, upper lip very large and broad, lower lobes very small. Pod glabrous, about as broad as long.

W.A.—Dis. Darling, Warren, Stirling. Gravelly hills.

BOSSIA ELORA, two-lobed. (Glen Forrest, April.) A small shrub, stems erect, little branched, 1 to 1 1/2 ft. Leaves linear-cuneate, very obtuse, retuse or two-lobed, sometimes all under 1 in., and rather broad, sometimes narrow to 2 in. long, rigid, with edges rolled back. Flowers a dull brownish-pink, pea-shaped. Calyx 4 to 5 1/2 in. long, the lobes longer than the tube. Standard broad, nearly twice as long as the calyx, wings and keel shorter. Pod 1 to 1 1/2 in. long, rather broad.

W.A.—Dis. Darling, Warren, Stirling. Sandy thickets or gravelly soil.

HEBERETIA HYPERICOIDES, like Hypericum (St. John's Wort). (Glen Forrest, April.) A low shrub with spreading branches. Leaves linear-oblong, very obtuse, 1/2 in. long or more, the thick edges much rolled back into a keel. Flowers yellow, sepals 5, broad, petals 5, 2-lobed, stamens 12 to 15.

W.A.—Dis. Darling, Warren, Stirling, Avon. Very common about Perth. Sandy soil.

ANDERSONIA SPRENGELIODES, like Sprengelia. (Glen Forrest, April.) An erect shrub either densely branched, corymbose and under 1 ft., or sometimes taller and loosely branched. Leaves crowded, spreading, broad and concave at the base, contracted into a long point, 3 to 5 1/2 in. long, the floral ones broader with shorter points. Flowers pink and blue, in short dense terminal heads, each one sessile within a floral leaf. Bract-stalks leaf-like, keeled, shorter than the floral leaf. Sepals much longer than the floral leaves, from 3 to 4 1/2. Corolla nearly as long as the calyx, the lobes much shorter than the tube, recurved at the end and slightly bearded. Anthers oblong-linear, attached below the middle. Style slender.

W.A.—Dis. Darling, Warren, Stirling, Eyre. Sandy hills.

BANKSIA LITORALIS, coastal. "Sea-side Banksia," "Swamp Banksia," (Denmark, April.) A tree of 20 to 40 ft., the branches closely tomentose. Leaves scattered or irregularly whorled, linear, broadly and distantly serrate, tapering into a petiole, 4 to 8 in. long, the under surface hairy. Flower-spikes oblong or cylindrical, 6 to 10 in. long. Bracts hairy at the end, truncate. Perianths silky, yellow, nearly 1 in. long. Style longer than the perianth, remaining hooked, with a very small ovoid stigmatic end. Fringing-cones tomentose with the closely packed bracts after the perianths have fallen away, capsules shortly protruding, rounded not thick, $\frac{1}{4}$ to $\frac{1}{2}$ in. broad. This species is very near in some respects to the eastern *B. collina*, but at once distinguished by the long leaves.

W.A.—Dis. Warren, Stirling. Near the sea, moist, low-lying land.

EUCALYPTUS LONGICORNIS, with long horn-shaped operculum. "Morrell." (Government Dam, Moojahing, May.) A tree of up to 60 to 80 ft., to 4 ft. dia. Leaves narrow-lanceolate or linear, usually under 3 in. thick, always conspicuously black-dotted, especially underneath, very rich in oil. Peduncles axillary, rather short, terete, each with an umbel or head of six to eight small creamy-white flowers. Calyx-tube about $\frac{1}{4}$ l. long, sessile or tapering into a thick pedicel. Operculum conical, as long or rather longer than the calyx-tube. Stamens about 2 l. long. Fruit 2 to nearly 3 l. dia., the capsule sunk.

Timber a dark-brown colour, heavy, hard, and very strong in every way, especially in its lateral tension. Used for wheelwright work, tool handles, etc.

W.A.—Scattered throughout the country between Three Springs in the north, Katanning in the south, and Southern Cross in the east, in stony soil.

TEMPLETONIA RETUSA, leaves retuse. "Cookies' Tongues." (Fremantle, May.) A tall glabrous shrub. Leaves from broadly ovate to narrow-oblong, from under $\frac{1}{2}$ to above 1 in. Calyx 3 to 4 l. long, with four very short broad teeth. Flowers handsome, red, standard over $\frac{1}{2}$ in. wide at base, and up to 1 in. long, deeply grooved and pointed, keel narrow, petals erect, loosely united. Pod nearly 2 in. long, about 5 l. broad, with a rigid hooked point.

W.A.—Dis. Darling, Warren, Avon, Irwin, limestone hills near the sea. Stirling, Eyre, rocky and gravelly places distant from the sea.

ACACIA ALATA, winged. (Glen Forrest, May.) A tall shrub, 5 to 6 ft. or more, but flowering only when 1 or 2 ft. high. Leaf-stalks flattened, forming opposite wings along the erect or spreading stems, bearing globular heads of yellow blossom.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

EUCALYPTUS SALMONOPHLOIA, salmon-tinted bark. "Salmon Gum." (Gnowangerup, May.) A tree ranging from 80 to 100 ft., having bark with a reddish burnt appearance, somewhat persistent. Leaves 3 to 5 in. long, sickle-shaped or narrow-lanceolate, oil-dots copious. Umbels with ten or less yellowish-white flowers, solitary, axillary or lateral. Calyx-tube semi-ovate. Operculum conical, semi-ovate, slightly larger than the tube. Stamens not infected in the bud. Fruit semi-ovate, $\frac{1}{2}$ in. broad.

Timber hard, heavy, and durable, used greatly for mining purposes.

W.A.—Principally found eastward of the Darling Range from the upper reaches of the Swan River to the dry inland districts of the goldfields, usually in clay soil.

BANKSIA BAXTERI, after W. Baxter. (Kalgan Plains, May.) A tall shrub. Leaves mostly 3 to 4 in. long, divided to the middle into ovate-triangular acute segments, the larger ones 1 in. long and $\frac{1}{2}$ in. broad at the base, but mostly smaller, flat, rigid. Flower-spikes globular, yellowish, 2 or 3 in. dia., the outer linear bracts plumose with long fine hairs. Perianths hairy, $\frac{1}{4}$ in. long. Style incurved at the base, erect, thick, and rigid, densely hairy. Capsules prominent, very thick and woody, $\frac{1}{4}$ in. broad.

W.A.—Dis. Warren, Stirling, Avon, Irwin. Sandy soil.

THOMASIA FOLIOSA, leafy. (Darlington, May.) A shrub with numerous, rather slender branches. Leaves petiolate, ovate-cordate, rather deeply sinuate-lobed, rarely exceeding 1 in., lightly hairy above, densely hirsute underneath. Racemes numerous, often branched, slender, hairy. Flowers many, small on slender pedicels. Bractless small, linear. Calyx hirsute, about $\frac{1}{4}$ l. dia., deeply divided into five acute usually converging lobes. Petals none. Stamens as long as the ovary, anthers short and obtuse. Ovary tomentose, three-celled, style glabrous.

W.A.—Dis. Darling, Warren, Stirling, Eyre. Gravelly soil.

DODONAEA LONGULATA, leaves lobed. "Native Hop." (Yorkraine, May.) A shrub, leaves linear or linear-ovate, obtuse, 1 to 2 in. long, toothed or divided with short obtuse lobes, leathery and rigid. Flowers few in short racemes, reddish-brown tinged with green. Sepals thin, broad, ovate. Capsule winged. Seeds smooth and shining.

W.A.—Dis. Avon, Coolgardie. Gravelly or granite soil. S.A. N.S.W.



PLATE II.

1. *Daviesia juncea*.
2. *Acacia dyptera* ("Wattle-grass").
3. *Hovea choricemifolia*
("Prickly Hovea").
4. *Hovea triperna*.
5. *Hippocalymma robustum*
("Swan River Myrtle").
6. *Lyriscaea ciliatum*.
7. *Lewisia calycina* ("Wild Violet").
8. *Conostylis sandwicensis*.
9. *Templetonia retusa*.

10. *Oryzobium capitatum*
("Racon and Eggs").
11. *Tetralochea uida*.
12. *Calceolaria cynnsa*
("Stars of Bethlehem").
13. *Jacksonia Stenoberyptera*.
14. *Hardenbergia Comptoniana*
("Wild Sarsaparilla").
15. *Hibbertia hypericoides*.
16. *Kesudya gracilis*
("Red Runner").



E. J. H. H. H.

HAKIA LAURINA, laurel-like. "Emu-bush." (Tambellup, May.) A shrub of 10 ft. or more, or a small tree up to 30 ft. Leaves lanceolate, mostly 4 to 6 in. long, tripinnate besides the thick nerve-like margins, and sometimes with an additional longitudinal vein between the nerves. Flowers *crimson* and *white* and *cream*, in large dense globular clusters, over 1 in. dia., sessile in the axils. Fruit 1 to 1½ in. long and ½ in. broad, or longer and more crested, with a very short small beak.

W.A.—Dis. Warren, Stirling. Sandy soil.

HAKIA PREISSII, after L. Preiss. "Needle-tree." (York, May.) A tall shrub or tree up to 30 ft. with very rigid branches. Leaves terete, smooth, very thick and rigid, pungent-pointed, 1 to 1½ in. long. Flowers *pale greenish-yellow*, in axillary clusters. Pedicels 2 to 3 l. long. Perianths silky-pubescent, the tube slightly dilated towards the base, scarcely 2 l. long, and much revolute upwards. Fruit about ½ in. long, 3 or 4 l. broad, with the horns of the valves sometimes very prominent.

W.A.—Dis. Darling, Avon, Coolgardie. Sandy soil.

STYPIHELLA TENUIFLORA, slender-flowered. (Serpentine, May.) An erect bushy glabrous shrub of 2 to 3 ft. Leaves nearly sessile, from broadly ovate to lanceolate, sharp-pointed, about ½ in. long. Flowers *white*, solitary in the axils, sessile. Bracteoles scarcely 1 l. long, very broad and obtuse. Sepals obtuse, smooth, about 2½ l. long. Corolla-tube very slender, fully 1 in. long, *without* tufts of hairs inside, the lobes short and thinly hairy inside, linear, and much rolled back. Fruit an ovoid drupe, nearly twice as long as the calyx.

W.A.—Dis. Darling, Warren, Stirling. Open forest country.

DILLYWYNIA CENERASCENS, ash-coloured. (Perth, June.) A heath-like shrub, with slender branches. Leaves ½ to 1 in. long or more, slender, obtuse or with a short point, usually recurved at the edge. Flowers *red* and *yellow*, in small terminal almost sessile corymbs or short racemes, or rarely also in the upper axils. Calyx 2 to 2½ l. long, lobes short, the two upper ones united into a broad upper lip. Wings nearly as long as standard, keel much shorter, obtuse. Pod ovate, very obtuse, exceeding the calyx.

W.A.—Dis. Darling, Warren, Stirling. S.A. Vic. Tas. N.S.W.

HOVEA TRISPHEMA, three-seeded. (Mt. Lawley, June.) A small shrub with ascending or almost erect stems of 1 to 2 ft. Lower leaves ovate or elliptical, ½ to 1½ in. long, upper ones lanceolate or linear, 1 to 3 in. long, obtuse with a short point, or acute. Flowers *purple*, pea-shaped, usually two or three together on short pedicels. Bracts and bracteoles subulate. Calyx 3 to 4 l. long, the tube very short, upper lip very large and rounded-truncate, the lower lobes not as long. Pod as broad as long. There are several varieties of this species.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

CALYTRIX FLASKEI, after C. Fraser. (Bayswater, June.) A glabrous shrub of 1 to 2 ft., with spreading branches. Leaves spreading or recurved, mostly linear, obtuse, rather thick, rarely above 2 l. long. Flowers few in the upper axils below the ends of the branches, rather large, pinkish-mauve. Bracteoles free, not 2 l. long. Calyx-tube about ½ in. long, the long slender upper portion free, enclosing the style, lobes truncate with very fine long hair-like awns. Petals 5, very deciduous, acute, about 4 l. long. Stamens numerous.

W.A.—Dis. Darling, Irwin. Sandy, swampy soil.

BANKSIA SPLEBOCARPA, round-fruited "Brown Banksia." (Woodlupine, June.) A shrub of 3 or 4 ft., hairy. Leaves linear with close rolled back entire margins from 1 to 3 in. long. Flower-spikes *brownish-orange*, globular or nearly so, 2 to 3 in. dia. Perianths silky from 1 to 1½ in. long. Fruiting-cone globular, dense, capsules slightly prominent.

W.A.—Dis. Darling, Warren, Stirling, Irwin. Sandy and stony country.

BANKSIA PHONOTES, serrated. (Bolgart, June.) A tree of about 30 ft., with thick branches, tomentose. Leaves 8 in. to over 1 ft. long, ½ to 1 in. broad, truncate, with numerous rather regular lobes not exceeding half-way to the midrib, broader than long, rounded, flat, with short rigid points. Flower-spikes thick, *woolly-white* and *yellow*, oblong, 3 to 5 in. long. Perianths incurved and erect, nearly 1 in. long, hairy. Style rigid, incurved at the base, then erect. Fruiting-cones showing the prominent conical tomentose ends of the bracts, capsules prominent, rounded, rather thick, about ½ in. broad, the lateral base of the style more or less prominent.

W.A.—Dis. Darling, Avon, Irwin. Sandy soil.

CHLORANTHES COCCINEA, scarlet. (Wagin, June.) An erect, slightly branched undershrub or shrub of 1 to 2 ft., the stems usually clothed with white cottony wool. Leaves opposite or in whorls of three, narrow, nearly terete owing to the revolute margins, obtuse, ½ to 1 in. long. Flowers *red*, nearly sessile, axillary, but collected into short spikes or heads at or near the tops of the branches. Chloranth

4 to 5 l. long, deeply divided, hairy. Corolla-tube about $\frac{1}{2}$ in. long, gradually dilated upwards, lobes acute, 3 l. long, stamens exerted from the tube.

W.A.—Dis. Stirling, Coolgardie. Sand-plains.

FRANKLANDIA FUCIFOLIA, leaves like a seaweed. (Tambellup, June.) An erect glabrous shrub, 2 to 5 ft., the leaves and flowers and sometimes the whole plant sprinkled with glandular lumps. Leaves repeatedly forked, with erect terete rather thick segments of $\frac{1}{4}$ to 1 in., the whole leaf 2 to 6 in. long. Racemes terminal or in the upper axils, 3 to 6 in. long, the flowers yellow, spotted with red, distant. Perianth-tube 1 to 1 $\frac{1}{4}$ in. long, the lobes linear-lanceolate, spreading, $\frac{1}{2}$ in. long. Fruit a spindle-shaped nut, crowned by a dilated concave disk bearing on its margin long fringe-like hairs, resembling the brush-like centre of some Everlastings.

W.A.—Dis. Stirling, Eyre. Sandy hills, among scrub.

LORANTHUS PENDULUS, hanging, "Mistletoe." (King's Park, June.) Glabrous. Leaves mostly opposite, variable in shape, usually 2 or 3 in. long. Flowers red, in axillary cymes. Petals free, 1 to 1 $\frac{1}{4}$ in. long. This species is common on the Eucalypts, particularly Salmon Gum, Wandoo, Tuart, and York Gum.

W.A.—Dis. Darling, Avon, Coolgardie. S.A. Vic. N.S.W. Q. N.A.

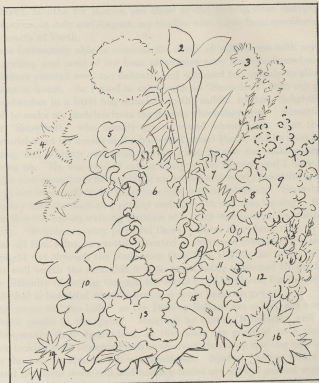


PLATE III.

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| 1. <i>Fritslea spectabilis</i> ("Bush Rose"). | 9. <i>Boronia megastigma</i> |
| 2. <i>Pteronocia confertifolia</i> . | ("Sweet-scented Boronia"). |
| 3. <i>Conospermum Hupeii</i> . | 10. <i>Scavola striata</i> . |
| 4. <i>Thysanotus dichotomus</i> | 11. <i>Boronia cynosa</i> ("Pink Boronia"). |
| ("Fringed Lily"). | 12. <i>Boronia pulchella</i> ("Pink Boronia"). |
| 5. <i>Labella tenuis</i> . | 13. <i>Dampiera linearis</i> . |
| 6. <i>Grevillea Wilsonii</i> ("Native Puchsia"). | 14. <i>Scavola glandulifera</i> . |
| 7. <i>Lambertia multiflora</i> . | 15. <i>Hemianandra pungens</i> ("Snake-bush"). |
| 8. <i>Choricarpus Dicksonii</i> . | 16. <i>Scavola platyphylla</i> . |

CHAPTER III.—JULY AND AUGUST.

WONDERFUL months for flowers are these in the metropolitan district. With a few exceptions, in July and August, my studies were made from specimens gathered in the vicinity of Perth.

I was fortunately able to combine the study of wildflowers with my favourite pursuit, riding, and most of my bush excursions were made on horseback. Many of the flowers painted were too delicate, and withered too quickly to allow of their being done at home. So I used to sally forth on "Snowdrift" with my paints and some sandwiches in a little bag attached to the saddle, for long delightful days in the bush to make my sketches from the flowers where they grew. Sometimes I took oats for "Snowdrift," who usually grazed round where I sat. But there is not much nourishment for horses in the bush feed round Perth, and he used to get tired of waiting, and whinny and neigh loudly when he saw me making preparations for moving on. He was fond of eating many of the flowers, and I have been very cross with him sometimes for gobbling up some particularly beautiful specimen. I used to go out frequently to the limestone hills beyond Jolimont. "Snowdrift" hated that locality with its thick and prickly undergrowth and rough going. It is a good place for flowers, within walking distance of a tram terminus and a railway station (Subiaco). Orchids are very plentiful there. There is a plank road to the ocean from the old lime-kilns, so prettily situated at Jolimont overlooking a lake, but to ride straight out through the bush from One Tree Hill to the beach (about three miles) is well worth the scramble it is to avoid being scratched by prickly shrubs and the difficulty of getting through the scrub at all in places, for the joy of seeing so much that is beautiful and not found in spots easier to get at.

Excursions to "the hills," as the Darling Ranges are called, are very popular with Perth people in the spring. Many go by motor, Mundaring and Armadale being frequently their destination, as the roads are good to both these places. The view looking back towards Perth as the road climbs up the long hills to Darling-ton, on the way to Mundaring, is magnificent. Special "flower trains" are run. These and the usual week-end and holiday trains are always packed with city folk eager to explore the bush and gather the lovely flowers. Glen Forrest (late Smith's Mill), Darlington, Gooseberry Hill, Kalamunda, and Serpentine are all favourite haunts of the flower-seekers. The best bit I know of in the ranges for flowers is between Swan View and Darlington. These two places are on different lines, and to go to one station and walk across country to the other is a delightful way of spending an afternoon in the early spring. If the expedition is for the sole purpose of flower-hunting, be sure to go from Swan View to Darlington, and turn your back on the view. Otherwise, you will spend a lot of time gazing out over that wide expanse of country with the ocean gleaming in the distance, and possibly miss many of the floral treasures at your feet.

Orchids are certainly well represented in Western Australia. Many beautiful and interesting species are very plentiful, some thriving in any situation, others having to be sought for among and usually close to big trees, especially round those with trunks charred by bush fires. But people, and I have met more than a few, who argue vaguely about the supremacy of Western Australia over the other States regarding orchids, are—well, just unaware of cold facts, which show that out of the 48 genera (439 species) by which the *Orchidaceae* Family is represented in Australia, only 18 are found in Western Australia, with about 80 species. In *Caladenias*, Western Australia holds a big lead, having 21 species out of 27 in Australia. *Caladenia Patersoni*, however, the beautiful white "Spider Orchid," with its long spider-like petals and fringed lip, one of the most popular of West Australian wildflowers, is native also of South Australia, Victoria, New South Wales, and Queensland. With *Thelymitras* the proportion in favour of Western Australia is even greater, 12 species out of 16 in Australia being its share. The *Diuris* family ("Doubletails"), to which the well-known "Donkey Orchid" (*Diuris longifolia*, Victoria, Tasmania, South Australia, and Western Australia) belongs, has 13 species in Australia, but 4 only in Western Australia. The genera *Prasophyllum* ("Leek Orchids") and *Pterostylis* ("Greenhoods") are not at all well represented, only 9 species out of 23 of the former, and 7 out of 24 of the latter, being found in Western Australia. With the *Glossodias* ("China Orchids") the honours are equal, Western Australia having 2 out of the 4 Australian species. In the notes under the heading "*Orchidaceae*," in Chapter VI., page 105, particulars of the principal West Australian orchids and their distribution are given. Although Western Australia, compared with the rest of Australia, may fail to lead in regard to numbers of genera or species, she scores over the Eastern States in the lavish manner Nature has distributed those varieties of orchids she does possess.

Two handsome plants, both belonging to the Leguminosae Family, are very common about Perth, and flower freely in July and August. They are *Kennedya prostrata* ("Red Runner"), a creeper with large brilliantly-red flowers, its handsome foliage consisting of wide leaves set in groups of three on the trailing stalks; and *Hardenbergia Comptoniana*, sometimes called "Sarsaparilla" or "Blue Kennedy," a beautiful climber with clusters of small pea-shaped flowers, which practically covers with a mantle of purple the bushes, tree-stumps, and undergrowth on which it loves to spread.

The *Daviesias*, bushy plants covered with small pea-shaped blossoms, brighten the bush with glowing masses of yellowish red. Tall bushy shrubs of *Dryandra floribunda* are covered with stiff brush-like cream-coloured flowers; while the *Hakea* bushes are just masses of strongly-scented tiny whitish blossoms.

The numerous varieties of leguminous plants, with their pea-shaped blossoms, almost make one falter in an effort to classify them. However, the fact that they have pea-shaped flowers and bear pods settles the question of their Family, *Leguminosae*; and after a little study of the outstanding features of the different genera, one begins to recognise their characteristics. For instance, the *Daviesias*

all have triangular-shaped pods. These pods keep them beautiful for quite a long time after the flowers have withered, the bushes appearing as though covered with a swarm of lightly-poised butterflies with folded wings shaded from deepest crimson to palest yellow. *Hoveas* are readily distinguished by their usually purple flowers and inflated pods. Other genera are identified by the relative size and shape of the different parts of the flowers, the arrangement and number of the seeds, shape and size of pods, etc.

"Granny Bonnets" (*Isotropis striata*), large yellow pea-shaped flowers shaded with deep reddish purple, the back of the standard veined or streaked with crimson; "Wild Violets" (*Lonidium calycinum*, classified by some botanists as *Hybanthus*), purple flowers, sometimes very pale in tint, with flattish petals suspended from a tiny bell-shaped calyx; and "Pepper and Salt" (*Eriostemon spicatus*), with its spiky clusters of little pinkish-mauve, star-like blossoms, spring up everywhere, and their flowers are very dainty and delicate compared with the somewhat coarse and woolly yellow, or white tinged with crimson, blooms of the many varieties of *Conostylis* rising on hairy stalks from tufts of stiff-pointed leaves, usually found near them.

The white starry flowers of *Burchardia umbellata*, called by the children "Wax," and the purple flower-heads of *Sowerbaea lasiflora*, contrast daintily as they sway on their long graceful stalks in luxuriant profusion.

The slender branches of *Hippocolymna robustum*, which has half a dozen or more different common names, but principally known as "Swan River Myrtle," terminate in spikes of a lovely shade of pinkish mauve, the fully-open flowers near the base pale, powdered with the golden anthers of their numerous stamens, and the colour of the not fully expanded blossoms deepening to the purplish crimson of the tightly-closed little buds at the top.

Stiff flowers, holding themselves very erect, with six sharply-pointed petals of many shades of bluish-purple and rigid bundles of red or yellow stamens, are the "Stars of Bethlehem" (*Calceolaria cyanea*).

Many varieties of heath-like plants, little bushes bearing numberless waxy flowers, are in full bloom, especially plentiful being *Conostephium pendulum*, its white blossoms tipped with pink, known to the children as "Pink-tipped Pearls," and often strung by them like beads into necklaces. *Astroloma xerophyllum* has also numerous white tube-like waxy flowers, each one crowned as though with a star cut out of white velvet.

Only found growing wild to the south and east of the Stirling Range is *Kennedya nigricans* ("Black Kennedy"), which is largely cultivated, and very popular as a garden climber both in Western Australia and the Eastern States. Its black flowers, to which, of course, its name refers, are splashed with yellow, and are both curious and handsome.

Boronia megastigma, with its sweet-scented little reddish-brown flowers, found in damp and swampy situations in the south-west, fills the bush there with

fragrance. It does not grow in a wild state about Perth, but large quantities are sent up for sale in the streets. This species thrives under cultivation, and is very popular in the Eastern States.

The prickly gorse-like bushes of *Acacia pulchella* are hidden beneath glorious drooping clusters of golden blossom, and the "Wattles" generally are in flower. *A. pulchella* is an interesting species on account of its prickles. It is one of the few Australian *Acacias* so armed, yet the genus takes its name from the Greek word *ac*, meaning a sharp point, referring, of course, to the majority of the species in other lands, which are prickly.

Western Australia possesses over 150 varieties of *Acacia*, more than any other State, but the proportion of large trees among them is small. *Acacia acuminata*, best known by its vernacular name of "Raspberry Jam" (from the resemblance of the smell of its wood to that of the homely preserve), is a large and beautiful tree. It is one of those *Acacias* having its inflorescence composed of spikes instead of balls of fluffy golden bloom.

A particularly handsome and well-grown species is *Acacia cyanophylla*, which makes many a delightful picture in the upper reaches of the Swan and Canning Rivers, its masses of yellow blossom contrasting harmoniously with, or reflected in, the blue water, against a background of misty distance terminating in the purple heights of the Darling Ranges.

Acacias are called "Wattles," because wattles or hurdles, made of the long pliable branches or of the split stems of the slender species, were used by early Australian settlers in building their houses, the hurdles being daubed with mud. This style of construction was known as "wattle and daub." Wattle is an old English word of Anglo-Saxon origin, meaning a hurdle twisted, interwaved, or bound with twigs.

"The folded flocks, penned in their wattled cotes."—*Milton*.

"And there he built with wattles from the marsh
A little lonely church in days of yore."—*Tennyson*.

KENNEDYA PROSTRATA, name referring to its prostrate habit. "Red Runner." (King's Park, July.) A creeping or climbing plant, with stems sometimes twining. Leaves obovate, about 1 in. long, in groups of three. Flowers scarlet, pea-shaped, about 1 in. long, standard obovate, keel long and curved.

W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy, gravelly soil. S.A. Vic. Tas. N.S.W.

HYPOCALYMYMA ROBUSTUM, a robust species. "Bush Myrtle," "Wild Peach," "Swan River Myrtle," "Pink-all-the-way-up," "Monkey-blossom." (Mt. Lawley, July.) An elegant shrub of from 1 to 3 ft., with erect, rigid, slender branches. Leaves linear, $\frac{1}{2}$ to 1 in. long, flat, with thick midrib. Flowers pale magenta pink, set close on to the stem in pairs, petals 5, stamens 30 or 40, nearly as long as the petals. The dainty gracefully tapering spikes of pink blossom are largely used for house and table decoration, and last well in water.

W.A.—Dis. Darling, common about Perth. Sandy soil.

DAVIESIA JUNCIEA, reed-like. (King's Park, July.) A glabrous shrub or undershrub, with long erect leafless slightly branched stems, terete and smooth. Leaves replaced by tiny scales, very rarely forming short pungent points. Flower clusters lateral, distant, very short, and few-flowered. Flowers small, pea-shaped, yellow and red. Calyx 1 to $\frac{1}{2}$ in. long, standard about twice as long. Pod $\frac{1}{2}$ in. long, triangular.

W.A.—Dis. Darling, Warren. Sandy soil.

DAVIESIA HORREIDA, prickly. (King's Park, July.) An erect, glabrous, rigid shrub of several feet, the smaller branches usually leafless. Leaves linear or linear-lanceolate, obtuse or sharply-pointed, rigid, $\frac{1}{2}$ to 4 and 5 in. long. Flower racemes always on leafless, thorny branchlets, rarely axillary, thacis often 1 in. long, but sometimes very short. Pedicels slender, as long as calyx or longer. Calyx about 2 in. long, teeth short, but all acute and distinct. Ovary, standard twice as long as calyx, keel small, obtuse. Pod triangular. The effect of the sun shining through a shrub of this species when in flower is a spectacle of blazing redness.

W.A.—Dis. Darling, Warren, Stirling. Sandy, gravelly soil. S.A.

XEROTES MICRANTHA, small-flowered. (Bickley, Darling Range, July.) A small plant with stems tufted, leafy at the base only. Leaves terete or slightly flattened and very narrow, 6 in. to 1 ft. long. Scape much shorter than the leaves, bearing in the males a panicle with spreading branches and very minute bracts. Flowers white, scattered, solitary, or two or three together under each bract, nearly sessile. Perianth segments all equal, very spreading, about 1 in. long. Female inflorescence much less branched and often quite simple, the flowers larger than in the males, often reflexed, the segments more rigid and less spreading. Capsule globular, nearly 3 in. dia., quite smooth, the persistent perianths closely pressed against its base.

W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy, gravelly soil. S.A. Vic. N.S.W.

MIRBELIA FLORIBUNDA, many-flowered. (Mogumber, July.) A low, much-branched shrub or undershrub. Leaves scattered or irregularly opposite or in threes, narrow-linear, usually under $\frac{1}{2}$ in. long. Flowers blue, numerous, although solitary in each axil, scattered along the branches. Calyx under 3 in. long, standard as long, wings shorter, and keel shorter than the wings. Pod oblong, 4 to 5 in. long.

W.A.—Dis. Darling. Yellow gravelly soil.

CALADENIA PATERSONI, after Col. Paterson. "Spider Orchid." (Albany, July.) This beautiful orchid is very common in W.A., and one of the most popular of the wild-flowers. Stems from 1 to 2 ft., leaf linear or lanceolate, about 2 in. long. Flowers one, two, or very rarely three, white, with long spider-like petals, large full curved lip, fringed with rose-pink calli (hair-like glands).

W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy soil. S.A. Vic. Tas. N.S.W. Q.

CALECTARIA CYANEA, blue-flowered. "Star of Bethlehem." (Baywater, July.) An erect plant, about 1 ft. high, with short often numerous branches, crowded with linear sharp-pointed leaves. Flowers terminal, solitary, sessile, $\frac{1}{2}$ in. in dia., petals 6, bluish-purple lanceolate, rigid, and horizontally spreading. Stamens in erect bundles, red, sometimes yellow.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil. S.A. Vic.

CONOSTEPHIUM PENDULUM, flowers hanging downwards. "Pink-tipped Pearl." (Baywater, July.) An erect branching, glabrous shrub, to 1½ ft. Leaves linear-oblong with a short point, convex or with recurved margins, mostly $\frac{1}{2}$ to 1 in. long. Bracts numerous. Flowers heath-like, waxy white, tipped with deep pink. Sepals about 4 in. long. Corolla about 6 in. narrow at the base, very much dilated above the middle, then conical with minute lobes.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.



Caladenia Patersoni.
("Spider Orchid.")
White.

HAKRA BIPINNATIFIDA, referring to the divided leaves. "Duck and Drake Bush." (Wanneroo, July.) A bushy shrub of several feet, branches and foliage glabrous. Leaves terete, once or twice divided with the lower segments forked, the whole leaf under 2 in. long. Flowers white, small, in short dense clusters, axillary or terminating leafy branchlets. Pedicels 1 to 3 l. long. Perianth glabrous, scarcely $\frac{1}{4}$ l. long, straight. Style short. Fruit nearly 1 in. long, 3 to 4 l. broad, smooth, tapering at both ends, the valves with a prominent dorsal horn near the end. The fruit strongly resembles a duck, hence the common name.

W.A.—Dis. Darling, Irwin. Sandy soil.

DRYANDRA FLORIBUNDA, many-flowered. "Prickly Banksia," "Shaving-brush Flower." (King's Park, July.) A bushy shrub of from 4 to 8 ft. Leaves sessile or nearly so, obovate to cuneate, more or less undulate and prickly-toothed, from 1 to 2 in. long or more. Flowers terminal, numerous, creamy-yellow, stiff and spiky, set in a kind of rosette of leaves, $\frac{1}{4}$ to 2 in. in dia. when fully open—when in bud the flower very much resembles a shaving-brush.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

OXYLOBIDION CAPITATUM, flowers sometimes in heads. "Bacon and Eggs," "Brown Hovea." (Mt. Lawley, July.) A shrub or undershrub of 2 or 3 ft., with rigid but not thick branches, minutely hoary or downy when young. Lowest leaves sometimes obovate, all others oblong, lanceolate or linear, 1 to 2 in. long, with a short usually recurved point, and prominent midrib. Flowers pea-shaped, orange and red, in axillary clusters, or sometimes forming a terminal compact head. Calyx 3 to 4 l. long, rather broad, divided to about the middle into acuminate lobes, the two upper ones united at the base. Standard nearly twice as long as calyx, wings and keel much shorter. Pod ovoid, scarcely acuminate, about 4 l. long.

W.A.—Dis. Darling, Warren, Irwin. Sandy soil.

HYPOCALYPTA ANOSTIFOLIUM, narrow-leaved. (Nedlands, Aug.) An erect bushy shrub from about 1 to 3 ft. high. Leaves narrow-linear, rigid, $\frac{1}{4}$ to 1 in. long. Flowers white or pale pink, with a deep pink centre, mostly in sessile pairs. Petals 5. Stamens long and crowded, adding a dainty lightness to the slender graceful flower-spikes. In places where this plant grows, when in flower, patches of it can usually be located by the hum of the bees surrounding them.

W.A.—Dis. Darling, Warren, Stirling. Sandy, granite soil.

ECALYPTUS PREISSIANA, after L. Preiss. (King's Park, Aug., cultivated.) A stout, rigid shrub of 8 to 12 ft. Leaves mostly opposite, from broadly ovate to ovate-lanceolate, very obtuse, 3 to 5 in. long, very thick and rigid, veins diverging and parallel, but not close. Peduncles axillary or lateral, very thick, each with three large yellow flowers, almost sessile. Calyx-tube broadly turbinate or almost hemispherical, very thick and smooth, 7 to 8 l. dia. Operculum only slightly convex, not broader than the calyx-tube. Stamens 6 to 8 l. long, inflexed in the bud. Fruit very hard and shining, 1 to $\frac{1}{4}$ in. dia., the rim fully 3 l. wide, the capsule slightly depressed, the valves flat.

W.A.—Dis. Stirling. Rocky slopes of Stirling Range.

SOVERBERIA LAXIFLORA, loose-flowered. (King's Park, Aug.) A graceful plant with violet, sometimes white flower-heads, consisting of a loose cluster of many small flowers with 6 petals and about 8 stamens, each on a slender stem of under 1 ft., or a stouter one up to 2 ft. Leaves long, narrow, and grass-like, crowded at the base of the stem.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

IONIDIUM CALYCINUM, referring to the calyx. "Wild Violet." (King's Park, Aug.) A small perennial, from 1 to $\frac{1}{2}$ ft. Leaves narrow-linear. Flowers violet, the lower petals united, appearing broadly ovate, 4 or 5 l. long, with markings of a deeper shade radiating from a yellow centre, as though suspended by a tiny bell-shaped calyx from a slender stalk bearing usually one and sometimes two fully-opened flowers and several buds.

W.A.—Dis. Darling, Irwin. Sandy soil.

TRICHINUM DUMMONDI, after J. Drummond. (King's Park, Aug.) A perennial grass-like plant, with flowers of the type known as "Everlasting." Leaves linear, sharply pointed. Flower-heads purplish-pink, ovate at base, pointed at the top, about $\frac{1}{2}$ in. in dia., on slender erect stems.

W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy and loamy soil.

BURCHARDIA UMBELLATA, flowers in umbels. "Wax." (King's Park, Aug.) Graceful plants with white flowers in umbels of several on a single slender stem, petals 6, stamens 6 flatly set, anthers erect. Seed capsule varies considerably in size according to age of flower. Leaves narrow-linear, from one to three at the base of the stem.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy, gravelly soil. S.A. Vic. Tas. N.S.W.



PLATE IV.

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|---|--|
| 1. <i>Cracca angustifolia</i> . | 11. <i>Eriostemon spicatus</i>
("Pepper and Salt"). |
| 2. <i>Conocetaphium pendulum</i>
("Pink-tipped Pearls"). | 12. <i>Ricinocarpus glaucus</i> . |
| 3. <i>Labichea punctata</i> . | 13. <i>Astrulouca xerophyllum</i> . |
| 4. <i>Adenanthos barbigera</i>
("Island-flower"). | 14. <i>Burchardia umbellata</i> ("Wax"). |
| 5. <i>Siglidium junceum</i> ("Trigger-plant"). | 15. <i>Boninia ericarpa</i> . |
| 6. <i>Fricksionia Drummondii</i> . | 16. <i>Anthocercia litorea</i> . |
| 7. <i>Scaevola laevigata</i> . | 17. <i>Leschenaultia linearis</i>
("Yellow Leschenaultia"). |
| 8. <i>Synaphea polymorpha</i> . | 18. <i>Dryandra leptandra</i>
("Prickly Banksia"). |
| 9. <i>Calochortus sanguineus</i>
("Death-flower"). | 19. <i>Lesdonia Beauvii</i> . |
| 10. <i>Leschenaultia biloba</i>
("Blue Leschenaultia"). | 20. <i>Burtonia scabra</i> . |



CRYPTANTHERA ARBUTIFLORA, arbutus-like flowers. (King's Park, Aug.) A shrub with twiggy branches, slightly hairy. Leaves narrow-linear, 1 to 3 l. long. Flowers white, heath-like, fragrant, sessile, or on very short stalks, on the smaller branches, numerous, glabrous, the broad brown bracts forming a minute cup at the base. Calyx about 2 l. long, broadly tubular with very short lobes.

W.A.—Dis. Darling, Eyre, Irwin. Sandy soil, and among granite rocks on hills.

HARDENBERGIA COMPTONIANA, after G. S. Compton. "Wild *Sarcasparilla*." (King's Park, Aug.) A climbing plant of free growth. Leaflets from ovate to linear-lanceolate, obtuse, usually $\frac{1}{2}$ to 3 in., sometimes 4 to 5 in. long. Flowers brilliant purple, abundant, small, pea-shaped, in tapering clusters with a drooping tendency. Often called "Blue Kennedy's" and "*Sarcasparilla*."

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

ISOTROPIS STRIATA, back of flower streaked. "Granny-bonnet," "Lamb Poison." (King's Park, Aug.) A perennial poisonous plant. Stems upright, $\frac{1}{2}$ to 1½ ft. high. Leaves not numerous, the lower ones varying considerably in size and shape, the upper ones narrow. Some branches quite leafless and divided. Flower large, pea-shaped, standard vivid yellow, shading to red in the centre, streaked at the back with reddish-purple, wings and keel purple.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

EROSTEMON SPICATUS, flowers in spikes. "Pepper and Salt." (King's Park, Aug.) A small heath-like shrub of 1 to 2 ft., with slender erect branches. Leaves erect or spreading, very narrow-linear, rarely exceeding $\frac{1}{2}$ in. Flowers pink or mauve, about $\frac{1}{2}$ in. dia., in loose terminal spiky heads of from 1 to 3 in. Petals 5, overlapping. Stamens shorter than petals.

W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy soil.

JACKSONIA STERNBERGIANA, after a personal name. (King's Park, Aug.) An erect shrub, attaining many feet in height, with drooping branches, the smaller branchlets rigid and sharp-pointed, usually slender and forked. Flowers pea-shaped, standard yellow, wings and keel brown, comparatively few, attached by short stalks to some of the larger branchlets terminated by many sharply-pointed buds.

W.A.—Dis. Darling. Sandy soil.

CHORIZEMA LILICIFOLIUM, holly-leaved. (King's Park, Aug.) A small weak shrub, flowering often the first year so as to appear annual, with slender branches, sometimes erect and rigid. Leaves ovate to lanceolate, $\frac{1}{2}$ to 1 in. long, undulate and bordered with prickly teeth. Flowers orange and red, pea-shaped, few and distant in axillary or terminal loose racemes. Calyx from 2 to 3 l. long. Standard broadly reniform, twice as long as the calyx, wings shorter than the standard, keel shorter than the calyx. Pod oblong, about 1½ in. long.

W.A.—Dis. Darling, Warren, Stirling. Sandy, gravelly soil.

CONOSTYLIS CANDICANS, whitish. (King's Park, Aug.) A tufted sedge-like plant, the branches and leaves densely clustered, leaves linear, up to over 1 ft. in length, varying in breadth from $\frac{1}{2}$ to 2 l. Flowers yellow, campanulate when fully open, with five sharply-pointed petals, ten to twenty in a globular head.

W.A.—Dis. Darling. Sandy soil.

CALOTHAMNUS SANGUINEUS, blood-coloured flowers. "Bush Honeysuckle," "Death-flower." (Wanneroo, Aug.) A shrub. Leaves sharp-pointed, terete, slender, from $\frac{1}{2}$ to 1½ in. long. Flowers red, a few together, or in short spikes. Calyx-tube broad, about 1½ l. long, lobes ovate, as long as the tube. Petals ovate, 2 to 3 l. long. Staminal bundles of a rich red, about 1 in. long, the two upper ones united, but readily separating, broad with very numerous filaments, the two lower ones narrow-linear, undivided, without anthers. Fruiting calyx globular, very thick and woody, quite smooth, 4 to 6 l. long.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

LYSINEMA CILIATUM, hairy. "Curry and Rice flower." (Wanneroo, Aug.) An erect shrub of 1 to 4 ft., with long, slender or short, rigid, and crowded branches. Leaves from ovate, crowded, not 2 l. long to lanceolate, erect, above 3 l. long, all obtuse, rather thick and more or less concave. Flowers white and star-like, usually in short dense terminal spikes, very variable in size. Bracts and sepals forming a sheath-like cylindrical tube, 4 to 6 l. long, pedicels brown in colour. Corolla-tube varying in length, sometimes longer than the calyx, separating into five petal-claws.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon, Irwin. Sandy soil.

RHYNOCARPUS GLAUCUS, grey-green. (Wanneroo, Aug.) An erect glabrous shrub of 1 to 2 ft. Leaves linear. Flowers numerous, waxy, white, with five petals narrow and obtuse, often solitary, but usually several together on pedicels of $\frac{1}{2}$ to 1 in.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon, Irwin. Sandy soil.

BANKSIA ELICITOLIA, holly-leaved. (Wardroo, Aug.) A tree of 20 to 40 ft., sometimes remaining shrubby and 8 to 10 ft. high. Leaves shortly petiolate, mostly oval, oblong, undulate and irregularly prickly-toothed, 1 to 3 in. long, green on both sides. Flower-spikes orange-red, terminal, depressed globose, sessile amongst the floral leaves. Bracts hairy, closely packed. Perianths erect, straight, 1 to $\frac{1}{2}$ in. long. Style not longer than the perianth. Fruiting cone very small.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.



Pterostylis reflexa.
("Shell Orchid.")

PTEROSTYLIS REFLEXA, bent back. ("Greenhood," "Frog's Mouth Orchid," "Shell Orchid.") (Osborne, Aug.) Small plants with slender stem of 6 to 9 in., without any rosette of radical leaves at time of flowering. Leaves lanceolate, under 1 in. long. Flowers whitish-green with reddish-purple striped markings. Hood-shaped upper lip up to $\frac{1}{2}$ in. long, curved, the sepal and petals tapering to fine points. Lower lip with lanceolate lobes tapering into long curved points.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil. S.A. Vic. N.S.W.

CALADESIA LONGICAUDA, long-tailed. "Yellow Spider Orchid." (Jolimont, Aug.) A variety of *C. Patersoni*.

W.A.—Dis. Darling. Sandy soil.

PLANTHERA GALIOPSIS, resembling a Galium. (Maylands, Aug.) An erect heath-like shrub or undershrub, with slender branches. Leaves usually about eight in a whorl, narrow-linear, about $\frac{1}{2}$ in. long. Pedicels slender, $\frac{1}{2}$ to 1 in. long. Flowers blue. Sepals narrow-lanceolate, 3 to 4 in. long. Petals nearly $\frac{1}{2}$ in. long, with a dark spot at the base.

W.A.—Dis. Darling, Warren, Stirling. Sandy, gravelly soil.

ASTROLOMA XEROPHYLLUM, dry-leaved. (Maylands, Aug.) An erect shrub of 2 to 3 ft. Leaves narrow-lanceolate, tapering to a sharp point, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Flowers white. Corolla-tube waxy, cylindrical, opening into five velvety lanceolate lobes 2 to $\frac{2}{3}$ in. long.

W.A.—Dis. Darling, Irwin. Sandy soil.

BURTONIA SCABRA, rough. (Maylands, Aug.) A heath-like shrub. Leaflets 3, sessile on the stems, narrow-linear, usually about $\frac{1}{2}$ in. long. Flowers pinkish-purple, pea-shaped, very beautiful.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

HAKIA SULCATA, furrowed. (Belmont, Aug.) An erect shrub up to 5 or 6 ft., but often low. Leaves linear-terete, rigid, from 2 to above 4 in. long. Flowers white, in dense axillary clusters. Fruit ovoid, about $\frac{1}{2}$ in. long, with a short straight beak.

W.A.—Dis. Darling, Warren, Stirling. Sandy, swampy places.

CROWEA ANGUSTIFOLIA, narrow-leaved. (Albany, Aug.) A small shrub with slender erect branches of 1 to 2 feet. Leaves sessile, linear, mostly acute, 1 to 2 in. long. Flowers star-like, pink or white, about $\frac{1}{2}$ in. dia., solitary or rarely two together, set along the stems on very short pedicels. Sepals very short. Style elongated with a small stigma.

W.A.—Dis. Warren, Stirling. Sandy, swampy places.

GLOSSODIA EMARGINATA, margin notched. "Pink China Orchid." (Jolimont, Aug.) A hairy plant of 6 in. to 1 ft. Leaf narrow-lanceolate, 1 to 3 in. long. Flowers pink, with waxy, obtuse sepals and petals, pale pink underneath, with deep pink spots. Column hooded.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

CALADESIA GEMMATA, gem-like. "Blue Orchid." (Jolimont, Aug.) From 6 to 8 in. high when one-flowered, a little taller when two-flowered. Leaves ovate or ovate-lanceolate, rarely above 1 in. long. Flower a beautiful deep blue, sepals and petals about $\frac{1}{2}$ in. long, obtuse, column short, lip covered with small calli in longitudinal rows.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

DIURIS LONGIFOLIA, long-leaved. "Donkey Orchid." (Jolimont, Aug.) Stems from 1 ft., leaves linear, narrow or broad, one sometimes very few. Flowers usually three to five, variable in size, yellow and brown. The two upper petals are battledore-shaped, erect, often $\frac{1}{2}$ in. long, and somewhat resembling the ears of a donkey.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Usually granite country. S.A. Vic. Tas.

DRYANDREA VILLOSA, white. "Honeycups." (Weldpool, Aug.) A dwarf shrub, rarely ascending to nearly 1 ft. Leaves 4 to 8 in. long, pinnate, divided almost or quite to the midrib into numerous regular triangular segments, 1 to $\frac{3}{4}$ in. long, all rather thick, white underneath. Flower-heads terminal, ovoid, pale yellow, closely surrounded by long floral leaves. Involucres erect, about 1 in. long. Bracts numerous, narrow. Perianths about 1 in. long, styles considerably longer.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

BANKSIA MENZIESII, after A. Menzies. (Bayswater, Aug.) A tree up to 30 or 40 ft., the branches thick and hairy. Leaves shortly petiolate, 6 in. to 1 ft. long, $\frac{1}{2}$ in. to 1 in. wide, truncate, bordered by short broad teeth. Flower-spikes thick, oblong, reddish-yellow, often deep crimson when young, sometimes pale yellow. Bracts marking the spike both when in the bud and after the perianths have fallen, with a lozenge-shaped pattern in numerous spiral rows. Very common about Perth.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

BORONIA MEGASTOMA, large stigma. (Mt. Barker, Aug.) A small shrub, with erect slender branches. Leaflets linear, obtuse, rarely $\frac{1}{2}$ in. long. Flowers very fragrant, numerous, set closely along the flowering stalks such as on a short pedicel, petals 4 up to 3 in. long, broad and overlapping, deep reddish-brown on outside, greenish-yellow inside. Stamens 8, 4 long from with purple anthers, 4 shorter with small yellow anthers. Stigma purple, very broad and thick, expanded laterally at the top to four thick prominent lobes. The species is very popular on account of its delightful perfume, and is largely grown under cultivation, especially in the Eastern States, for sale.

W.A.—Dis. Darling, Warren, Stirling. Swampy places.

HAKIA LISSOCARPEA, smooth-seeded. (Belmont, Aug.) A densely branched rigid shrub of several feet. Leaves pinnately divided into three or seven rigid sharp-pointed segments, all entire or some of them forked, the whole leaf 1 to $\frac{1}{2}$ in. long. Flowers white, small, in dense almost sessile axillary clusters. Perianth glabrous, scarcely $\frac{1}{2}$ in. long, straight, the globose limb erect in the bud.

The leaves of this species, when not much divided, resemble those of some forms of *H. varia*, but the flowers are different, those of *H. varia* having the perianth recurved under the globose limb.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

LOTUS AUSTRALIS, southern. (Skull Creek, Laverton, Aug.) A poison plant, perennial, sometimes almost shrubby at the base, with spreading, ascending or erect stems. Leaflets varying from obovate, and all under $\frac{1}{2}$ in. long to linear and 1 to $\frac{1}{2}$ in. long. Flowers usually pink, varying from white to purple-red, from five to ten in an umbel, pea-shaped. Calyx-lobes narrow and sharply pointed, longer than the tube. Standard fully 5 l. dia., wings nearly as long, but the size of the flowers varies. Pod, linear, terete, straight, rather slender, 1 to $\frac{1}{2}$ in. long.

W.A.—Dis. Warren, Stirling, Ryrie, Austin. Yellow soil near creeks. S.A. Vic. Tas. N.S.W. Q. N.A.



Diuris longifolia.
("Donkey Orchid.")
Brown and Yellow.

KENNEDYA NIGRICANS, black-flowered. "Black Kennedy." (Cape Riche, Aug.) A large twining species, resembling somewhat *K. rubicunda* (Vic., N.S.W., Q.). Leaflets broadly ovate, obtuse or emarginate, 2 to 3 in. long, and very often only one to each leaf. Stipules small. Flowers above 1 in. long in racemes shorter than the leaves, all turned to one side, deep violet-purple, almost black, with a large greenish-yellow blotch on the standard. Standard narrow-obovate, reflexed, wings narrow, about as long as the keel, with the tips spreading. Pod flattened, 2 to 4 in. long.

W.A.—Dis. Stirling. Sandy thickets.

HAKIA GLABRELLA, hairless. (Belmont, Aug.) An erect or spreading shrub, sometimes growing into a small tree of 12 to 15 ft., sometimes low and prostrate. Leaves sessile, obovate to oblong-ovate, entire or more frequently sinuate or prickly-toothed, deeply cordate, stem-clasping, the whole leaf $\frac{1}{2}$ to 3 in. long. Flowers creamy-white, glabrous, numerous in axillary clusters or short racemes. Perianth-tube 2 to $\frac{1}{2}$ in. long, reflexed under the limb. Style long. Fruit 1 to $\frac{1}{2}$ in. long, 6 to 7 l. broad, with a broad obtuse slightly incurved beak.

W.A.—Dis. Darling, Warren, Stirling, Irwin. Sandy soil.

PERIBONIA SACCATA, pouched. "Sweetie Bobs." (Cannington, Aug.) An erect shrub of 2 to 6 ft. Leaves linear-lanceolate, 2 to 4 in. long or more, more or less grooved underneath. Flowers greenish-yellow on pedicels 2 to 3 l. long, mostly at the ends or below the ends of the branches, and crowded into racemes. Perianth very oblique, hairy, about $\frac{1}{2}$ in. long, the upper segment pouched below the anther. Ovary contracted into a short thick style curved into the cavity of the upper perianth-segment. Fruit obovoid, under $\frac{1}{2}$ in. long.

W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy soil.

ATRIPEX NUMMULARIA, round, resembling a coin. "Salt-bush." (Burbanks, Aug.) An erect shrub of several feet, with spreading branches, the whole plant covered with a scaly tomentum. Leaves on rather long petioles, mostly orbicular, thick, entire, or scarcely sinuate-toothed, more rarely bordered by numerous small teeth, $\frac{1}{2}$ to 2 in. dia. Flowers whitish, daisy-like, the male clusters forming dense oblong or shortly cylindrical spikes, in more or less branched terminal panicles, either leafless or sparingly leafy at the base, the females also clustered in dense terminal rather more leafy spikes or panicles, with a few flowers also in the axils of the upper stem-leaves. Fruiting-perianth sessile, from ovate to orbicular, 2 to 3 l. long, rounded at the base.

W.A.—Dis. Austin, Coolgardie. Gravelly soil.

PTEROSTYLIS VITTATA, with a fillet round the head, referring to the lobes of the lower lip clasping the hood. "Greenhood." (Darlington, Aug.) An early orchid. A rather stout plant, stems from 8 in. to above 1 ft. high. Leaves lanceolate, narrow or broad, acute, usually stem-clasping, the lower one or two reduced to sheathing scales. Flowers greenish with brown markings, in a compact raceme with leaf-like bracts, hood-shaped, upper lip 5 to 6 l. long, broad very much curved near the base and above the middle, helmet-shaped, with a short point in front directed downwards; lower lip rather broadly ovate, shorter than the upper, recurved, with two short acuminate lobes. Lip in a rather long claw, oblong, about 2 l. long, slightly contracted and emarginate and two-lobed at the end. Column wings with an oblong lower lobe densely ciliate at the end, the middle of the column rather broadly winged.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

CYRTOSTYLIS RENIFORMIS, kidney-shaped. (Cottesloe, Aug.) A small delicate glabrous plant. Leaf orbicular-cordate or reniform, radical, sessile, the blade varying from under $\frac{1}{2}$ in. to $\frac{1}{2}$ in. dia. Scape from under 2 in. high and one-flowered, to 6 or 7 in. with four or five pale red flowers. Bracts subtending the pedicels, short, broad, loose, and truncate, or rarely acuminate. Dorsal sepal 4 to 5 l. long, lateral sepals, and especially the petals, often shorter and very narrow. Lip nearly as long as the dorsal sepal, obtuse, emarginate, or with a short point. Column slender, shorter than the dorsal sepal, the wings sometimes very short under the anther, sometimes extending half-way down.

W.A.—Dis. Darling, Warren, Stirling. Sandy, swampy soil. S.A. Vic. Tas. N.S.W. Q.

BOSSELIA ERIOCARPA, woolly-fruited. (Belmont, Aug.) A rigid shrub of from 1 to 2 ft. Leaves linear, very often with a bristle-like revolved point, $\frac{1}{2}$ to $\frac{1}{2}$ in. Flowers pea-shaped, dull brownish-yellow and purple, calyx 3 to 5 l. long, lobes much longer than the tube, all acuminate. Standard twice as long as calyx, wings and keel shorter.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

CANDOLLEA HUGELII, after C. von Hugel. A shrub with stiff branches, often elongated. Leaves narrow-linear, 1 to 2 in. long, the floral ones dilated and stem-clasping at the base. Flowers yellow, nearly sessile, with small bracts at the base. Sepals pale green, $\frac{1}{2}$ in. long, ovate-acuminate. Petals very deciduous, narrow-obovate. Stamens in five bundles of about five each. The spider-like form of the floral leaves is a distinctive feature of this species.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

SYMPHYA POLYMORPHA, form variable. (Belmont, Aug.) A rigid prickly shrub, 1 to 2 ft. high, leaves numerous, once or twice deeply divided into two or three-lobed or toothed segments, with prickly points, the whole leaf spreading to 2 or 3 in. in dia. Flower-heads long, composed of many small yellow tube-like flowers, $\frac{1}{2}$ to $\frac{1}{2}$ in. long.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

LEPTOSPERMUM ELLIPTICUM, elliptical. "Tea-tree." (Belmont, Aug.) A tall, erect, glabrous shrub. Leaves numerous and small. Flowers rather small, numerous, solitary, white and pink, often almost terminal. Petals 5, obovate, stamens about 15.

W.A.—Dis. Darling, Warren, Stirling. Sandy, swampy soil.

ACACIA FULGURELLA, beautiful. (King's Park, Aug.) An elegant shrub, branches slender, prickly. Leaves small, pinnate, leaflets one pair usually, on a common petiole. Peduncles axillary, bearing each a cluster of yellow flowers of the usual wattle-blossom type. Pod flat, 1 to 2 in. long.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy, gravelly soil.

ACACIA COCHLEARIS, spoon-shaped pod. (King's Park, Aug.) A rigid shrub of several feet. Leaves linear-lanceolate, rigid, tapering to a pungent point, 1 to 2 in. long. Flower-stalks solitary or two together, 2 or 3 l. long, bearing a globular head of yellow flowers of the usual wattle-blossom type. Pod 1 to 2 in. long, 2 l. wide, flat, with thickened margins.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil. S.A.

ACACIA DIPHYLLA, two-winged. "Wattle-grass." (Maylands, Aug.) One of the species of *Acacia* showing pronounced leaf reduction. A small shrub with slender and elongated branches, Phyllodes few, distant, forming long opposite wings, sometimes very narrow, to 4 or 5 l. broad. Flower-stalks slender, solitary or two together, or forming a slender leafless spike or flower-head. Flowers yellow.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

ACACIA CYANOPHYLLA, blue-leaved. "Wattle." (Crawley, Aug.) A tall, graceful shrub or small tree, its drooping habit somewhat resembling that of the Weeping Willow. Leaves from linear-oblong to lanceolate-falcate, the lower one sometimes above 1 ft. long, the upper ones 6 in. or less and narrower, especially towards the base. Flower-clusters pendulous, with globular heads of bright yellow blossoms.

This species is closely allied to *A. pyramidalis*, the Golden Wattle of the Eastern States.

W.A.—Dis. Darling, Stirling. Sandy, gravelly soil.

ACACIA ACUMINATA, sharp-pointed leaves. "Raspberry Jam." (York, Aug.) A large tree of particularly beautiful habit of growth. Height from 30 to 40 ft. Leaves long-linear, somewhat falcate, narrowed at each end, from 3 in. long and 2 or 3 l. wide to 10 in. or more long. Flower-spikes golden yellow, nearly sessile, more than 1 in. long. The wood smells strongly of raspberry jam. The timber of this species is practically indestructible.

W.A.—E. of Darling Range. Dis. Warren, Stirling, Avon, Irwin. Yellow, sandy soil.

PIRHELEA SUAVEOLENS, sweet-scented. (Darlington, Aug.) An erect shrub from under 1 ft. to 2 or 3 ft., glabrous except the inflorescence. Leaves opposite, from ovate-lanceolate to oblong-linear, concave, $\frac{1}{2}$ to 1 in. long. Flower-heads yellow, nodding, glabrous. Involucral bracts 4 to 8, broad, often as long as the flowers. Perianth-tubes slender, from 5 to 7 l. long, lobes about 2 l. long.

W.A.—Dis. Darling, Warren, Stirling. Gravelly soil.

ACACIA ANETHRA, leaves obscurely nerved. "Mulga." (Laverton, Aug.) A shrub or tree, sometimes 20 to 25 ft. high and 12 in. dia., branchlets terete. Leaves narrow-linear, obtuse, or with a recurved or oblique callous point, usually flat but thick, $\frac{1}{2}$ to 3 in. long, 1 to $\frac{1}{2}$ l. broad, but varying to very narrow and almost terete. Flowers yellow, spikes shortly pedunculate, about $\frac{1}{2}$ in. long. Pod thin, flat, very obtuse, narrowed at the base, 1 to $\frac{1}{2}$ in. long, about 4 l. broad, bean-like.

W.A.—Dis. Austin. Arid interior, in yellow, sandy, or gravelly soil. S.A. N.S.W.

PODOLEPSIS FALLIDA, white. (Kalgoorlie, Aug.) An erect annual, more or less hairy. Leaves linear or lanceolate, stem-clasping. Flower-heads usually corymbose on rather short stalks. Involucre hemispherical, $\frac{1}{2}$ in. dia. or more. Bracts numerous, their blades large, ovate-lanceolate, acute, transversely wrinkled. Flowers white, daisy-like, ray-florets very numerous, with three or four narrow lobes.

W.A.—Dis. Austin, Coolgardie. Gravelly soil.

DIOSKIRA STOLONIFERA, bearing stolons (branches inclined to root at the joints). (Mundaring, Aug.) A bulbous plant of variable habit, but usually with a rosette of radical leaves, obovate, tapering at the base, rarely above $\frac{1}{2}$ in. long, with a leafless scape of 3 to 6 in., bearing a loose cyme of rather numerous white flowers, and three or four barren branches shorter than the scape, each with several whorls of two to four leaves. Sometimes continued beyond the first rosette, producing a second or even a third rosette or tuft of leaves, the scape and barren branches proceeding from the uppermost rosette, or with lateral leafy branches terminating in a small cyme, or two or three scapes each with a cyme proceeding from the primary tuft, or rarely the side branches are again branched, but in all the forms the leaves are all opposite or in whorls or rosettes. Calyx under 2 l. in flower, nearly 3 l. in fruit. Styles 3.

W.A.—Dis. Darling. Common in wet, sandy places.

PHYLLOGLOSSUM DRUMMONDII, after J. Drummond. (Albany, Aug.) A small stemless, greenish-yellow plant, with a tuberous root-stock and radical leaves and peduncles. Leaves few, linear, $\frac{1}{4}$ to $\frac{1}{2}$ in. long, in a radical tuft. Peduncle usually about twice as long, bearing an erect, cylindrical spike of 2 to 3 l. Bracts broad with an erect point, shortly exceeding the spore-cases, sessile in the axil of the bracts of a pedunculate spike, filled with powdery minute spores. This little plant is wonderfully interesting, because it is a *club-moss*, one of the primary types of plant life.

W.A.—Dis. Darling, Stirling. Clay soil. N.S.W.

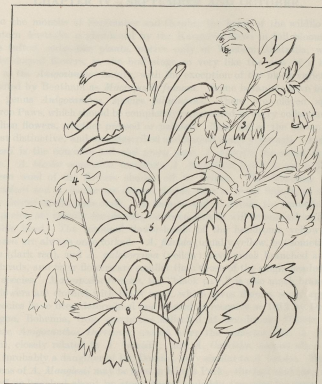


PLATE I.
KANGAROO PAWS.

- | | |
|------------------------------------|--------------------------------------|
| 1. <i>Anigozanthos Manglesii</i> . | 5. <i>Anigozanthos viridis</i> . |
| 2. <i>Macropodus fuscus</i> . | 6. <i>Anigozanthos bicolor</i> . |
| 3. <i>Anigozanthos rufa</i> . | 7. <i>Anigozanthos goldsmithii</i> . |
| 4. <i>Anigozanthos flavida</i> . | 8. <i>Anigozanthos humilis</i> . |
| | 9. <i>Anigozanthos Preissii</i> . |

CHAPTER IV.—SEPTEMBER AND OCTOBER.

DURING the months of September and October the heart of the wildflower lover in Western Australia is gladdened by the Kangaroo Paws in full bloom. These curious tufted, sedge-like plants, native only of Western Australia, with their quaintly-shaped flowers, in the bud stage so very like the paw of a kangaroo, belong to the *Anigozanthos* family, with the exception of the black variety, which is classified by Bentham as *Macropodia fumosa*. Some botanists have included it in the genus *Anigozanthos*, species *fuliginosus*. There are eleven species of Kangaroo Paws, which should be completely represented in every collection of West Australian flowers, whether pressed or painted. Nine out of the eleven varieties are most distinctive, and were described and named many years ago. *Anigozanthos Manglesii* is the common red and green paw, *A. humilis* the small orange and red one. *A. bicolor* somewhat resembles *A. Manglesii*, but it is not so large, and the green wool of the flowers shades off to yellow. The flowering heads of *A. Manglesii* and *A. bicolor* are always simple, that is, never forked, or more than the one cluster on the same stalk. *A. humilis* and *A. viridis*, the beautiful emerald green species, are usually simple also, but occasionally will be noticed with a forked or double head. The terminal flower-heads of the handsome yellow and red *A. Preissii* are always once forked. *A. flavida* (usually yellow, but sometimes red), *A. rufa* (dark red), and *A. pulcherrima* (yellow) have much branched and forked flower-heads, and their flowers are smaller than those of the single-headed or once-forked species. *Macropodia fumosa*, the "black paw," is also much branched—its green flowers are clothed with black wool, which gives them a sooty appearance. Two species have been determined and named as recently as 1912 by Dr. Domin, of Prague, Bohemia, from specimens collected at Cranbrook, District Stirling. They are *Anigozanthos Dorrienii*, named after the collector (Mr. A. A. Smith-Dorrien), closely related to *A. humilis*; and *A. Gabrielae*, named after Gabriele Domin (probably a daughter of Dr. Domin), very similar to *A. bicolor*. Magnificent specimens of *A. Manglesii* may be seen in King's Park—the fact that they are never eaten off or knocked about by stock there probably accounts for their luxuriant growth. *A. humilis* is also to be found in the Park. It has been noticed that the Kangaroo Paws sometimes grow very freely on land that has been swept by bush-fires, although not seen there before.

September, too, sees the *Verticordias* (Morrison-flower) in bloom, and the forty-one species of this genus, which is almost endemic to Western Australia, are very beautiful. They are mostly shrub-like, somewhat straggly in growth, sometimes attaining a height of several feet, and covered with fluffy masses of flowers, each one embellished with rings of cilia or hair-like fringe. The colour and size of the flowers vary considerably.

The lovely *Leschenaultia biloba*, that heaven-blue flower, considered by many, myself among the number, to be the most exquisite of all the West Australian wildflowers, almost intoxicates one with its beauty. More orchids and the *Stygidiums* (Trigger-plants) unfold their waxy blossoms. The blue *Lobelia* flowers freely, especially in King's Park and on the limestone coastal hills. *Pelargonium australe* ("Wild Geranium") in appearance so much like a cultivated garden flower, covers acres of country with its handsome sweet-scented foliage and flowers of delicate pink. "Swan River Daisies" (*Brachycome ibridifolia*) carpet the ground in places with their bluish-purple or white flowers. Two handsome purple-flowered *Scorolus*, abundant in the Darling Ranges (*S. striata* and *S. platyphylla*), get tangled at times with trailing masses of fluffy white *Clematis* (*C. aristata*).

From Geraldton in patches along the coast southward almost to Fremantle blooms *Chamelatium uncinatum*, the well-known "Geraldton Wax-flower," popular and easily cultivated as a garden shrub, and so beautiful with its numerous clusters of pink and white waxy blossoms with cup-like centres.

Over undulating expanses of bush land, the Smoke-bush (*Conospermum triplinervium*), which has greyish-white flowers, seems to hang like light clouds of drifting smoke.

It is the time of the "Everlastings," and out east and up north from Perth hundreds of acres are literally covered with *Helipterums*, *Helichrysums*, *Waitzias*, etc., which clothe the bare and barren country with largely-spread areas of gorgeous colour—yellow, pink, and white. Classification of some of these composite flowers is extremely difficult without considerable botanical knowledge. In many instances dissection of the flower-heads is necessary for the purpose of examining the parts under a microscope before absolute identification can be established. (See page 95).

Out in the dry area beyond the goldfields "Sturt's Desert Pea" (*Clianthus Dampieri*) appears like a sea of flaming vermilion. This beautiful plant was one of those collected by the gallant navigator William Dampier when he landed on the north-west coast of Australia in 1699, and was subsequently named in his honour by Cunningham. Its popular name commemorates a famous explorer of the desert interior of Australia, Charles Sturt.

Towards and around Geraldton is mostly found *Hibiscus Huegelii*, a tall shrub with strikingly handsome large mauve flowers, their petals arranged like the sails of a windmill.

In the Albany district only, the curious insect-catching pitchers of *Cephalotus follicularis*, the "Pitcher-plant," may be found in the bogs and swampy places among the rocky hills. Captain Stirling mentioned this plant in his report in connection with his visit to King George's Sound in 1827. His description of the plant—which reads:

"On the stalk, just above the soil, grow several flowers shaped similar to a pitcher, with a cover or top to them. When there is rain or heavy dew these covers lift up and receive and retain all the moisture that falls into them, and on its leaving off raining, the covers shut down and thus

prevent the water escaping. The pitchers thus contain sufficient to supply the plant with nourishment for the whole of the dry season. Each pitcher contains from one to three tablespoonfuls of water!"—

is very quaint, and shows the error was made then that people still make of mistaking the radical leaves forming the pitchers for the flowers. The Pitcher-plant sends up a leafless stalk with a narrow spiky cluster of white flowers at the top, in February or March, several months after the formation of the pitchers.

Another well-known plant, native to the Albany district only, is the "Southern Cross" (*Xanthosia rotundifolia*). Its large white flowers are formed of several clusters set round a central, with the effect somewhat of the stars in the constellation known as the Southern Cross.

Native only of the Phillips' River district is a very lovely large bell-shaped flower, greenish-yellow flushed with crimson, known as the "Qualup Bell" (*Pimelea physodes*). Specimens of it are greatly prized by collectors.

Patersonias flaunt their mostly purple flag-like flowers, which wither so quickly when picked, everywhere.

Stirlingia latifolia is specially plentiful in King's Park and in the bush around Perth. It is a plant several feet in height, with pale bluish-grey-green much-forked leaves, and long stalks bearing branched heads of little clusters of small red and yellow flowers which give a rusty appearance to the undergrowth generally. In the seeding stage, the withering flowers become surrounded by fringes of downy whitish hairs, transforming each cluster into a veritable ball of fluff.

And so one could go on indefinitely, the succession of beautiful flowers being almost too constant and varied to make general description possible!

Visitors to the cave country in the south-west (Yallingup and Margaret River) often find the wildflowers in the springtime more entrancing than the caves, beautiful and wonderful as they are.

The most conspicuously striking flowers about Yallingup in October are the *Pimeleas* and Pink *Boronia* (*B. elatior*).

The *Pimeleas* (called by the natives "Bunjongs") are delicately-tinted puffy balls of bloom which nod and sway on graceful slender stems, the large white variety, *P. spectabilis*, its flowers sometimes tinged with pink, being particularly plentiful.

Pink *Boronia* is found in swampy places and by the edges of the brooks. The terms "glabrous" (meaning smooth, without hairs) and "hirsute" (hairy), used freely in describing plants, may seem unnecessary at times, but there are many species very similar, yet which can be readily identified by this characteristic alone. *Boronia elatior* and *Boronia pulchella* are examples. They both have deep pink somewhat bell-shaped flowers so much alike that neither could be positively identified by an ordinary painting. Both are shrubs, but whereas *B. pulchella* is a perfectly glabrous plant, the branches of *B. elatior* are covered with long spreading hairs, and the sepals are usually ciliate. (*Boronia cymosa*, which grows freely in the Darling Ranges, is also known as "Pink *Boronia*," but it is quite different, having pale pink star-like flowers.)

Yellow Patersonias (*P. xanthina*) are plentiful at Yallingup, as also are orchids, especially *Caladenias*—the dainty and fragile "Spiders," the large deep blue one (*C. gemmata*), and the yellow variety known as "Cowslip Orchid" (*C. flava*); *Glossodias* or "China Orchids," pink and purple, shining like highly-glazed earthenware, spotted underneath; and *Thelymitra cristata*, a lovely blue orchid that should be specially interesting to the feminine mind, as it belongs to a genus that is distinguished by its hooded column, which is supposed to resemble the head-dress of a woman—and it does!

Fat white spikes of *Stackhousia*, or "Candles" as they are called, grow abundantly in the depths of the forest glades, and particularly fine specimens may be seen along the bush track between Cave House and Cape Naturaliste.

Tiny "Trigger-plants" (*Stylidium*s), pink and white, cover the slopes of the rocky hills, shaded by bracken fern (*Pteris aquilina*).

The commonest Kangaroo Paw in the Yallingup district is *Anigozanthos flavida*, and the tall strong plants bear much-branched heads of small rusty red flowers. In some districts this species is of much less vigorous growth, with flowers of clear bright yellow, and known as "Yellow Sword Lily." The fact that this Yallingup Paw belongs to the same species as the Yellow Sword Lily is puzzling to a beginner at classification. But colour and size count for little in the determination of species, and it is one of those cases where it is necessary to examine the internal organs of a flower, and compare structural details with a botanical description, a proceeding termed by botanists "running them out."

Around the caves at Margaret River glorious purple patches of *Hovea* (*H. elliptica*, a shrub-like variety) mingle with the vivid coral pink masses of the "Coral Creeper" (*Kennedia coccinea*), which clambers over bushes and trees in a bewildering tangle of beauty, often mixed with the creamy Clematis.

The bush in the vicinity of Margaret River is very lovely. Journeying through it as I did on horseback with a girl friend, we were able to take routes not possible for anything on wheels to negotiate. One patch of scrub extending for several miles, and known as "The Devil's Plantation," was so thick we found it difficult at times to force our horses through the tangled growth almost over our heads, and emerged from these thickets powdered with Nature's confetti, the petals of flowers of every hue.

Boranup (which to pronounce properly you must say quickly, like a railway guard, with all the emphasis on the second syllable "ran") is an old timber mill township in the Karri country, now deserted and in ruins, fast becoming overgrown with scrub. Great clumps of arum lilies have spread from the old gardens and run wild there, their stiff white blooms holding their own with semi-civilised dignity amid the riot and tangle of bush flowers flaunting their gay gowns with the careless abandon of native grace.

A curious old native legend was told to me by a lady at Margaret River, which is worth recording:

"THE LEGEND OF THE ORIGIN OF THE RIVER NOW CALLED THE MARGARET."

"Years and years ago there was a big lake far inland among the hills, and on its shores dwelt a tribe of blacks ruled by one Woodyche, their king. Woodyche had two lovely dusky daughters, and their charms captured the hearts of two young bucks from another tribe. Because of the obstinate opposition to their suit on the part of Woodyche (loath to part with the girls who fished and hunted for him, dug up and fed him with his favourite roots, and tended him generally), and aided and abetted by the girls themselves, they decided to elope.

"Now, Woodyche had a magic wolga or throwing-stick, which had only to be pointed at an object to change it to anything one wished. This wolga was his most cherished possession, and he always slept with it beneath his head, with his dog, a dingo he had captured when a pup and reared, on guard. This dog was rather pally with the daughters, so it was not a very difficult matter for one of them to take the wolga while her father slept. The dog was enticed away, and accompanied the lovers in their flight.

"When Woodyche awoke, the first thing he missed was his dog, then his wolga. Finding his lovely daughters gone also, his rage was truly royal.

"In haste he tracked them. He saw them on the other side of the lake; but they saw him also, and pointing the wolga over the water, changed the lake into a swift-running river, by which they ran and ran. Woodyche ran too, but was unable to head the rush of water, which twisted and turned among the hills on its way to the sea. When the river reached the ocean, the lovers considered themselves safe enough to realise they were hungry.

"Having nothing to eat, they killed the dog, and when poor Woodyche reached the ocean too, but on the wrong side of the river, and saw them feasting on his beloved dog, his rage overcame his discretion. Storming and fuming, he dashed into the stream in a vain endeavour to cross and wreak his vengeance upon them; but the swift rush of the oncoming waters bore him out to sea, and he was drowned.

"His body was turned into a rock, known to mariners as the Cow Rock, but called to this day by the natives the Old Man Rock.

"The lovers wandered on, seeking a suitable camping place. They came to a lagoon which held the reflection of the moon, and calling it Miceadarrabi, meaning 'The Moon's Bathing Pool,' they settled near it."

ANIGOZANTHOS HUMILIS, lowly. "Cat's Paw," "Small Orange Kangaroo Paw." (King's Park, Sept.) A sedge-like plant with hairy stems usually under 1 ft. high. Leaves chiefly radical, flat, usually under 6 in. long and 2 or 3 l. broad at the base, but they vary. Flowers nearly sessile in a simple terminal spike, or very rarely once forked forming a double spike, covered with a hairy-like wool, red, varying to orange and pale yellow. Perianth $1\frac{1}{2}$ to 2 in. long, slightly curved, the lobes falcate-lanceolate, 4 to 5 l. long, the lower ones shorter but more deeply separated than the upper, the tube readily splitting on the lower side almost to the base. Anthers short, without terminal appendages. W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy soil.

ANIGOZANTHOS MANGLESI, after Capt. J. Mangles. "Red and Green Kangaroo Paw." (King's Park, Sept.) A sedge-like plant, stems 2 to 3 ft. or more, slightly and loosely covered towards the base, and more densely so towards the inflorescence, with red wool. Leaves at the base of the stem, flat, 6 in. to above 1 ft. long, sometimes $\frac{1}{2}$ in. wide, quite glabrous. Flowers, the largest in the genus, in a simple terminal head, on pedicels of usually 2 to 3 l., the plumose wool very dense, green, except

at the base of the perianth, where it is *red*. Perianth at least 3 in. long, rather narrow and slightly incurved, the lobes narrow, 4 to 5 l. long, the tube usually splitting open almost to the base. Anthers linear, much shorter than the short flat filaments, the connective without any appendage.

W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy soil.

ANGOGANTHOS BICOLOR, two-coloured. "Kangaroo Paw." (Mt. Barker, Sept.) This species resembles *A. Manglesi* and *A. humilis* in habit and in the *red* base of the perianth, but distinguished readily from both by the shape of the flower, and the *green* wool of the perianth shading to *yellow*. It is usually of the low stature of *A. humilis*, rarely much above 1 ft. high. Leaves chiefly at the base of the stem, glabrous, under 6 in. long, narrower and more tapering to the point than *A. humilis*. Flowers from four to ten on pedicels of 3 to 4 l. in a simple terminal head. Perianth 2 to 2½ in. long, the tube at the base broad but tapering towards the middle, and much contracted in the upper half, much incurved at the end in the bud, the lobes about 4 l. long, and the tube usually split open on the lower side to near the base. Anthers linear, but shorter than in *A. Manglesi*.

W.A.—Dis. Darling, Warren, Stirling. Swampy soil.

ANGOGANTHOS VIRIDIS, green. "Green Kangaroo Paw." (Serpentine, Sept.) Stems 1½ to 2 ft. high or more. Leaves near the base of the stem, forming a broad sheathing base. Flowers *green*, very rarely with any tinge of yellow, in a compact, simple terminal head, or rarely the stem once forked forming a double head. Pedicels from 1 to 3 l. long, subtended by short narrow bracts. Perianth 2½ to 3 in. long, the tube of equal breadth, or very slightly contracted above the middle and splitting open underneath, lobes 4 or 5 l. long, usually reflexed when open. Anthers linear.

W.A.—Dis. Darling, Warren, Stirling. Sandy, swampy soil.

ANGOGANTHOS FLAVIDA, yellow. "Yellow Sword Lily." "Kangaroo Paw." (Albany, Sept.) Long radical leaves and a stem of 3 or 4 ft., bearing a much-branched forked flower-head as in *A. rufa*, but with the leaves longer, broader, and thinner. The stem at the time of flowering is quite glabrous up to the flower-head, as well as the leaves. Flowers in one-sided racemes on the branches of the panicle, on pedicels of 1 to 2 l., subtended by small narrow bracts, *yellow*, or sometimes *brownish-red*. Perianth-tube about 1½ in. long, lobes 4 to 5 l. long, the lower ones more deeply divided than the upper. Anthers oblong-linear, almost as long as the filaments, the connective tipped with a small gland-like appendage. Ovules rather numerous in each cell, crowded on oblong placentas. This species varies greatly in size and the colour of the flowers.

W.A.—Dis. Darling, Warren, Stirling. Damp, sandy soil.

ANGOGANTHOS PERISSI, after L. Preiss. "Kangaroo Paw." (Albany, Sept.) Stems 1 to 1½ ft. high, more or less clothed with loose reddish wool, more dense and redder towards the inflorescence. Leaves form a long sheathing base, the lower ones 6 in. long or more, the upper ones smaller and distant, all glabrous. Flowers few, usually three to six on the short branches of the once-forked terminal flower-head. Perianth at least 2 in. long, very much curved in the bud, and more oblique than in the other species, the base very globular—the whole perianth densely woolly outside and more or less red, glabrous inside, lobes narrow-lanceolate, nearly ½ in. long, the lower ones separated much lower down, and the tube often splitting between them. Anthers not very long, the connective tipped with a small gland-like appendage as in *A. flavida*. Ovules rather numerous, reflexed, and irregularly crowded on the face of the placenta.

W.A.—Dis. Warren, Stirling. Sandy soil.

MACROPODIA FUMOSA, smoky. "Black Kangaroo Paw." (Mogumber, Sept.) Leaves radical or nearly so, not above 1 ft. long, often ½ in. broad, tapering to a fine point, rather thin with sharp edges. Stem stout, 3 to 4 ft. high, glabrous except the inflorescence, which is forked with few rather large branches, densely covered as well as the buds with a thick wool, *very dark* when fresh, and *black* when dry. On the opened flower the black wool is more scattered or entirely disappears, leaving a dense *yellowish-green* covering. Flowers almost sessile in close spikes on the branches of the panicle. Perianth-tube about ½ in. long, much incurved, and expanded into the limb; lobes very oblique, nearly 1 in. long. Filaments almost as long as the lobes, anthers long and tipped with a small gland-like appendage as in *A. flavida* and *A. Preissi*.

Also classified as *Angoganthos fuliginosus*, dark-flowered.

W.A.—Dis. Avon, Irwin. Gravelly, hilly country.

STACHYOSIA PUBESCENS, downy. (Tammin, Sept.) A plant with stem erect, or with a slight graceful curve, 1 to 1½ ft. high. Leaves very narrow-linear, to 1 in. long, in the lower part of the plant. Flower spikes composed of small white flowerets, conical, elongating to 2 or 3 in., with flowers dense and expanded at the base, sharply pointed at the top with closely-packed unopened buds.

W.A.—Dis. Avon, Irwin. Among granite rocks.

LOUTONIA AUREA, gold-coloured. "Mustard Flower" (Tammin, Sept.). A shrub growing from 1 to 3 ft. high, with erect stems, simple or slightly branched. Leaves linear, distant, or more crowded towards the base of the stem, sometimes 2 in. long, often smaller. Flowers *golden yellow*, in loose terminal heads. Calyx-tubes four-winged, about 2 1/2 in. long, the lobes short and broad. Petals as long as calyx-tube. Stamens 8.

W.A.—Dis. Avon, Irwin, Coolgardie. Yellow, sandy, or gravelly soil.

HELICHRYSUM AMBIGUUM, doubtful. "Everlasting" (Yorkrakine, Sept.). A perennial plant with erect stems, 1 ft. or more high. Leaves linear. Flowers terminal, compound, button-like, with globular green base and flat yellow top.

W.A.—Dis. Avon, Coolgardie. Yellow, sandy loam. N.S.W.

HELICHRYSUM MANGELSHI, after Capt. J. Mangels. "Everlasting" (Yorkrakine, Sept.). An erect annual plant of 1 to 2 ft., stems branching. Leaves ovate-oblong or broadly lanceolate, stem-clasping. Flowers compound, with many rich pink bracts surrounding a yellow centre composed of tiny florets, 1 1/2 in. in dia. when fully opened. Outer bracts scale-like, of a greyish shade. Buds oval when small.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin, Coolgardie. Yellow, sandy loam.

HELICHRYSUM LAWRENCEI, after R. W. Lawrence. "Everlasting" (Yorkrakine, Sept.). An erect, slender branching annual often over 1 ft. high. Leaves linear, very narrow. Flowers compound, with pink bracts surrounding a yellow centre composed of tiny florets, up to 1 in. in dia., outer bracts brown.

In the Murchison district the flower-heads of this species are very large.

W.A.—Dis. Avon, Irwin, Austin, Coolgardie. Yellow, sandy loam.

CERPHALIFERUM DRUMMONDII, after J. Drummond. "Everlasting" (Geraldton, Sept.). An erect annual of 1 ft. or more. Radical and lower leaves oblong-spatulate, narrowing into a long petiole, upper ones linear or lanceolate. Flower-heads yellow, rather numerous, florets in a single terminal globular cluster, from 1/2 in. to 1 in. in dia.

W.A.—Dis. Irwin, Austin, Coolgardie. Yellow soil, among grass. S.A.

LARICHERA PUNCTATA, spotted. (Glen Forrest, Sept.). An undershrub, with ascending or erect simple stems of 1 to 1 1/2 ft. Leaves simple, the lower ones sometimes ovate, 1 to 2 in. long, the upper ones lanceolate or linear, often 4 or 5 in. long. Racemes very short and several-flowered. Flowers yellow, sepals 4, about 4 l. long. Petals 4, rather longer than the calyx. Anthers both of the same size.

W.A.—Dis. Darling, Stirling, Eyre, Avon, Irwin. Granite, gravelly soil.

HIBISCUS HUGGELI, after Baron von Hugel. "Mauve Hibiscus" (Geraldton, Sept.). A tall shrub. Leaves large, deeply three or five-lobed, from 1 to 3 in. long, coarsely toothed. Flowers extremely handsome, numerous, very large, of a lovely purple colour, petals 5, 2 to 3 in. long, overlapping like the sails of a windmill, softly veined. Pedicels rather long, with sometimes a small bract and, still more rarely, a second flower at the joint. Calyx 2 to nearly 1 in. long, deeply divided. Styles united almost to the stigma, which is white, large and spreading like a five-pointed star.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon, Irwin. Gravelly soil.

LACINOSTACHYS WALCOTTI, after P. Walcott. "Lamb's Wool" (Geraldton, Sept.). A tall shrub covered with a close but soft cottony wool. Leaves oblong-linear, obtuse, thick, 1/2 to 1 1/2 in. long. Spikes not very dense, but many-flowered, 1 to 2 in. long, numerous, in dense pyramidal clusters of several inches diameter, each flower a small white woolly ball, showing in the centre a small glabrous corolla only when fully open. This curious flower has exactly the appearance and texture of lamb's wool, and is a striking example of the way some W.A. plants protect themselves through the dry summers by hairy coverings. Very common in the arid districts, and when eaten by stock often causes death from impaction, the indigestible hairs matting together in the stomach of the animal. Cows and sheep are the worst sufferers, more so than horses and donkeys.

W.A.—Dis. Avon, Irwin, Austin. Open thickets in sand.

CHAMELAUCIUM UNICATUM, leaves with hooked points. "Geraldton Wax-flower" (Geraldton, Sept.). One of the prettiest and best-known of West Australian flowers. An erect and bushy shrub, height from 3 to 6 ft., leaves linear, from under 1/2 in. to above 1 in. long, hooked at the point. Flowers waxy-white, sometimes pink, numerous, in small terminal clusters of two to four. Calyx deeply cup-shaped, dark red or yellowish-green, petals 5, short and broad, well separated, set rigidly flat around the cup-like centre.

W.A.—Dis. Darling, Irwin. Plentiful on the limestone coastal hills.

DIPLOEUSA GRANDIFLORA, large-flowered. "Wild Rose." (Geraldton District, Sept.) A shrub 5 or 6 ft. high, with rigid and forked branches, hoary or rusty, with a close hairy covering. Leaves ovate or broadly oblong, very obtuse, 1 to 2 in. long, hoary on both sides, and especially underneath. Flowers very large and handsome, a rich shade of deep rose pink, $\frac{1}{2}$ in. in dia. Outer bracts 5, broadly ovate, united at the base, the hairy covering giving a whitish tint to the pink. Inner bracts numerous, much longer and narrower than the outer. The centre of the flower is composed of a cilia-like mass of petals and stamens.

W.A.—Dis. Irwin.

DIPLOEUSA DAMPieri, one of the species collected by Dampier in 1699, and named after him, is closely allied to *D. grandiflora*, but its flowers are not quite so large or the bracts so broad, and the leaves are quite glabrous. Green and smooth on the upper side.

W.A.—Dis. Darling, Irwin.

MARLEANTHUS RINGENS, gaping. "Orange Creeper." (Geraldton, Sept.) A beautiful climbing plant, twining with the stems very much twisted and interlaced, from a woody base. Leaves from broadly lanceolate to linear-acuminate, 2 to 3 in. long. Flowers vivid orange shaded to red, corolla $\frac{1}{2}$ to 1 in. long, narrow, the five squarely-tipped petals expanded and separated in a somewhat bell-shaped fashion. There are several species appearing almost to pass into this one.

W.A.—Dis. Irwin. On river banks.

ISOTOMA BROWNII, after Robert Brown. (Yorkrakine, Sept.) A glabrous, erect, simple or slightly branched annual, from 6 in. to 1 $\frac{1}{2}$ ft. high. Leaves narrow-linear, $\frac{1}{2}$ to 1 in. long. Flowers often numerous in a long terminal raceme of 6 to 8 in., corolla-tube cylindrical, nearly 1 in. long, petals 5, broadly spatulate, slightly unequal, spreading horizontally to a diameter of over 1 in. The size of the flowers varies considerably, also the colour from white to quite a deep mauve shade, with dark purple specks at the base of each petal.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon, Irwin. Sandy, granite soil.

BORONIA PULCHELLA, beautiful. "Pink Boronia." (Albany, Sept.) An erect branching shrub, perfectly glabrous, or the young branches minutely pubescent or slightly hairy. Leaves pinnate, numerous in a long terminal raceme of 6 to 8 in., corolla-tube leaflets usually seven to eleven, linear, obtuse, rarely above 4 l. long, the pairs not sewed. Flowers large, rich pink, sepals short, broad, and acute. Petals 3 or 4 l., overlapping, glabrous. Petals 8, stigma with a rounded head, rather large. Seeds smooth.

W.A.—Dis. Darling, Warren, Stirling. Sandy, swampy soil.

LYPERANTHUS NIGRICANS, black. "Potato Orchid." (Mt. Barker, Sept.) Stem upright, from a few inches to 1 ft. high, radical, broadly ovate, 1 to 2 in. long and often nearly as broad, thick and fleshy; empty sheath-like bracts (usually two or three) below the middle of the stem, loose and leaf-like. Flowers white striped with deep crimson, two to four, rather distant, nearly sessile, enclosed by sheathing bracts, upper sepal broad and hooded, lower ones and petals long, linear, curving gracefully. The whole plant turns black when dried, hence its name.

W.A.—Dis. Darling, Warren, Stirling, Eyre. Sandy soil. S.A. Vic. Tas. N.S.W.

LESCHENAUTIA BILOBA, two-lobed. "Blue Leschenautia." (Pickering Brook, Sept.) A weak shrub, 2 or 3 ft. high, leaves rather slender, not very crowded, $\frac{1}{2}$ to 1 in. long. Flowers blue, a few together on each branchlet, sometimes forming a broad leafy corymb. Petals 5, with lobes sharply



Lyperanthus nigricans.
("Potato Orchid.")

divided, two shorter than the others, marked with parallel transverse veins meeting at the angle made by the division of the lobes—similar veining is found in many species of the Goodeniaceae Family.

W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy, granite soil.

Leschenautia grandiflora is a larger-flowered form of this species.

LESCHENAUTIA LINARIODES, like *Linaria*, the "Toad-flax." "Yellow Leschenautia." (Geraldton, Sept.) A prostrate and forked branched shrub, the branches often much incurved at the ends, and sometimes several feet in length. Leaves not crowded, acute, slender, sometimes exceeding $\frac{1}{2}$ in. Flowers rather large, terminating short branches, often several together in a terminal leafy corymb, much incurved and twisted, the three lower petals large, bilobed, yellow shaded with pink, the upper petals red, oval-oblong, brought close together and arched inward with the points meeting.

W.A.—Dis. Darling, Avon, Irwin. Sandy places in limestone hills.

VERTICORDIA HUGGELII, after C. von Hugel. (Gossnells, Sept.) Erect with slender branches, 2 to 3 ft. Leaves linear, slender, 2 to 4 l., crowded on the short lateral shoots. Flowers cream-white and pink. Calyx-lobes 5, spreading to a dia. of 4 or 5 l., and divided into exceedingly numerous fine cilia, forming a dense circular fringe. Petals much shorter than the calyx-lobes, also fringed. Stamens very shortly united, anthers globose. Style bearded, attached to the lower surface of the stigma, which is larger than that of any other species.

W.A.—Dis. Darling, Warren, Stirling, Avon. Moist sandy soil.

VERTICORDIA ACROSEA, sharp-pointed. (Gossnells, Sept.) An erect shrub of 1 to 3 ft., leaves usually ending abruptly in a sharp point, varying from linear, slender and nearly $\frac{1}{2}$ in. long in fan-like clusters, those crowded on short lateral shoots usually the longest and most slender, but sometimes all long and narrow or all short and broad. Flowers yellow, rather small, in terminal clusters on pedicels of $\frac{3}{4}$ l. or more. Primary lobes 5, spreading to 4 or 5 l. dia., each deeply divided into five or seven hairy lobes. Petals divided almost to the base into five, seven, or nine very narrow tapering lobes, rigid and entire. Stamens very shortly united, anthers round.

W.A.—Dis. Darling. Sandy soil.

VERTICORDIA DENSIFLORA, many-flowered. (Mundaring, Sept.) An erect bushy shrub, 2 or 3 ft. high. Leaves linear, crowded, in tuft-like fashion on the side branches, usually few on the main stems. Flowers white or pink, on pedicels 2 l. long, in dense terminal leafy corymbs. Calyx-tube hemispherical, with long hairs at the base only. Primary lobes 5, spreading to 4 or 5 l. in dia., each one divided into several spreading lobes with tooth-like fringe. Petals short, fringed with numerous cilia. Stamens very shortly united, anthers round.

W.A.—Dis. Darling, Eyre, Irwin. Sandy, granite soil.

ECALYPTUS SALUBERRIS, healthy. "Gimlet-wood." (Wettonia, Sept.) A large tree. Bark strongly fluted or longitudinally twisted. Leaves thin, sickle-shaped or linear-lanceolate, from 3 to 6 in. long, $\frac{1}{2}$ to $\frac{3}{4}$ in. broad, shining and dark green on both sides. Flowers cream, in umbels of seven or less, on thick peduncles of about $\frac{1}{2}$ in. long. Calyx-tube semi-ovate, about 2 l. long. Operculum semi-elliptical, blunt, about double the length of the calyx-tube. Fruit about $\frac{1}{2}$ in. long, semi-ovate, three or rarely four-celled, rim narrow. Timber in general use on the goldfields.

W.A.—Dis. Avon, Irwin, Coolgardie. Grows with *E. salmonophloia* in the dry country east of the Darling Range.

FUSANUS SPICATUS, spiky. "Sandalwood." (Yorkrakine, Sept.) Often classified as *Santalum cynnabarum*. A small tree of 6 to 10 ft., with spreading branches. Leaves opposite from oblong-linear to broadly ovate or almost lanceolate, thick, midrib usually prominent underneath, 1 to 3 in. long. Flowers pale green, red inside, in axillary spike-like panicles, rather crowded and mostly sessile. Perianth-tube turbinate, about 1 l., lobes 4, triangular, about as long as the tube. Style very short. Fruit globose, $\frac{1}{2}$ to nearly 1 in. dia., outside covering reddish-brown, inner surface dull brown, lightly pitted, pale brown and smooth when water-washed.

W.A.—Dis. Stirling, Avon, Irwin, Austin, Coolgardie. Sandy loam.

AEOSTICLINUM STYPANDROIDES, like *Stypandra*. (Nedlands, Sept.) A plant with erect stems of 2 to 3 ft., leaves narrow-linear, with rather long sheaths, quite closed round the stem. Flowers blue, in a loose terminal raceme, simple or once-branched, pedicels often above 1 in. long, perianth 6 to 8 l. long, spirally twisted after flowering, petals 6, 5-nerved. Capsule about 2 l. dia.

W.A.—Dis. Darling, Warren, Stirling, Eyre. Swampy places.

CASUARINA FRAXILLANA, after C. Fraser. (Mundaring, Sept.) A tall, erect, discous shrub or tree, closely allied to *C. distyle* (W.A., S.A., Vic., Tas., N.S.W.) Cones nearly globose, 1 in. long or more, very woody, the valves shortly prominent.

W.A.—Dis. Darling, Warren. Sandy soil.

TRICORYNE ELATIOR, taller than the other species. (Glen Forrest, Sept.) Stems erect or ascending, more or less branched, 1 to above 2 ft. high. Lower leaves often grass-like, 2 to 4 in. long, 1-ranked with six or more blue flowers, the scarious bracts usually prominent. Perianth very variable in size, but usually about 4 l. long.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin, Coolgardie. Sandy, gravelly soil. S.A. N.S.W.

BLANCOA CANESCENS, hoary. (Guildford-Kalamunda Road, Sept.) A tufted herb with very short branching stems. Leaves rigid, 6 in. to 1 ft. long, about 2 l. broad. Scape shorter than the leaves, loosely tomentose, with usually a narrow-linear leaf over the base, and two or three short narrow ones each with two or three large pendulous brick-red flowers with small bracts. Perianths densely covered with loose plumose wool, the tube broadly cylindrical, about 1 in. long, the erect lobes 2 to 3 l. long, glabrous inside. Anthers much shorter than the lobes. Style usually shortly protruding from the perianth.

W.A.—Dis. Darling, near Guildford. Sandy soil.

PIRILEA ROSEA, TOY. (Cannington, Sept.) A much-branched shrub, glabrous except the flowers, 1 to 2 ft. high or more. Leaves opposite, linear or linear-oblong, often above $\frac{1}{2}$ in. long, with recurved or rolled-back margins. Flower-heads pink or white, terminal, globose. Involucral bracts 4, often hairy inside or ciliate on the margins. Perianth-tubes 4 l. long or more, hairy. Filaments as long as the perianth-lobes, anthers oblong.

W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy, gravelly soil.

PIRILEA PHYSDOS, bellows-like. "Qualup Bell." (Ravensthorpe, Sept.) An erect shrub of about 3 ft., glabrous except the flowers. Leaves opposite, rather crowded, sessile, oval-oblong, acute or obtuse, rather thick, concave, $\frac{1}{4}$ to 1 in. long. Flower-heads large, terminal, nodding, completely enclosed in a large ovoid-globose involucre of about six broad obtuse bracts, yellowish-green flushed with crimson, the outer ones about 1 in., and the innermost often 2 in. long. Perianth-tubes about 5 l. long, hairy, lobes narrow-linear, about 4 l. long. This species differs largely from others of the genus in the shape of the perianth and the extraordinary development of the involucre.

W.A.—Dis. Eyre, Phillips' River district.

CALEANA NIGRITA, dark. "Lady's Slipper Orchid." (Cannington, Sept.) A small herb, with a radical leaf ovate or broadly lanceolate. Stem about 6 in. high, without any empty bract. Flowers reddish-green, one to three on pedicels of $\frac{1}{2}$ to 1 in. Sepals and petals linear, about 5 l. long. Lip with a claw of at least 3 l., the upper end or lobe twice as long as the lower lobe or appendage.

W.A.—Dis. Darling, Avon. Moist, sandy soil.

CALADENIA ROZEI, after L. J. S. Roe. (Yorkrakin, Sept.) A hairy plant 6 to 8 in. high. Leaf narrow-linear, the empty bract on the stem 3 to 5 l. long and almost leaf-like. Flower white, solitary, from a sheathing bract of 4 or 5 l. Sepals and petals 6 to 7 l. long, including the points which are much shorter than the dilated part. Lip with a distinct claw of about 1 l., lateral lobes very large and broad, not fringed, expanding to a breadth of nearly half an inch, the middle lobe much smaller, recurved, and fringed with short cilia. Column long, incurved, broadly and shortly winged under the anther.

W.A.—Dis. Avon. Sandy soil.

WAHLBERGIA GRACILIS, graceful. (Jelimont, Sept.) An exceedingly variable plant in stature, duration, and size of flowers, sometimes a slender branched annual of 6 in. to 1 ft., sometimes perennial with numerous ascending or erect simple or slightly branched stems, chiefly leafy on the lower part. Lower leaves from obovate under $\frac{1}{2}$ in. long to lanceolate or almost linear and 1 in. long or more when very narrow. Flowers blue, solitary, on long terminal peduncles. Corolla campanulate, more or less expanded, varying in size from $\frac{1}{2}$ in. to above 1 in. dia.

W.A.—Dis. Darling, Warren, Stirling, Sandy, gravelly soil. S.A. Vic. Tas. N.S.W. Q. N.A.

DRAKAEA ELASTICA, springy. "Hammer Orchid." (Maylands, Sept.) A small herb. Leaf radical, broadly ovate-cordate, or almost round with recurved margins, rarely above $\frac{1}{2}$ in. dia. Stem slender, 6 in. high or more, with a small empty sheathing bract below the middle, and a single reddish-green flower on a pedicel much longer than the subtending bract. Sepals and petals linear, 5 to 6 l. long, the lateral sepals and petals reflexed, free from the basal projection, the dorsal sepal usually

longer and erect. Lip hammer-shaped, moving readily. Column nearly as long as the sepals, abruptly incurved in the middle with very narrow wings produced into auricles at the base and somewhat dilated under the anther, the basal projection of the column supporting the lip about 3 l. long and linear like the claw.

W.A.—Dis. Darling, Warren, Stirling. Moist, sandy soil.

THELYMITRA ANTENNIFERA, bearing a feeler. (Yorkrakin, Sept.) A small herb, stems erect, wiry, flexuose, 6 in. to 1 ft. high, with narrow-linear rather thick leaves. Flowers one, two, or rarely three, yellow, sepals and petals 4 to 6 l. long. Column wings joined to the anther as high as the cells, with erect, dark-coloured, broadly-spatulate lateral appendages, longer than the anther, very obtuse or emarginate. Anther produced into a broad, thick, concave appendage, bent forward, very obtuse.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon, Sandy, granite soil. S.A. Vic. Tas.

STYLIDIUM BULBIFERUM, bulb-bearing. (Darlington, Sept.) A small much-branched herb, producing others, erect, or rooting at the lower tufts. Leaves very narrow-linear, from $\frac{1}{2}$ to above $\frac{1}{2}$ in. long, with a loose rosette of three to seven yellow flowers, rarely reduced to a single one. Bracts short and very narrow. Calyx-lobes free, very obtuse, not one-third the length of the tube. Corolla without appendages to the throat. Capsule narrow, slightly contracted upwards, but not beaked, under $\frac{1}{2}$ in. long.

W.A.—Dis. Darling, Avon, Irwin. Gravelly hills.

HAKEA MULTISENATA, many-lined leaves. "Bottle-brush." (Yorkrakin, Sept.) A tree or small shrub. Leaves linear-lanceolate to oblong-cuneate, very obtuse, tapering towards the base, 6 to 8 in. long when narrow, 3 to 5 in. when broad, flat, thick, minutely downy, streaked with numerous parallel not prominent nerves. Flowers red. Racemes axillary, sessile, very dense and spike-like, $\frac{1}{2}$ to over 3 in. long, rhachis and flowers glabrous. Perianth-tubes 2 to 3 l. long, slender, reflexed under the oblong limb. Style long. Fruit ovoid-globose, with a very short beak, about $\frac{1}{2}$ in. dia.

W.A.—Dis. Avon, Coolgardie. Gravelly soil.

STYLIDIUM REDUTICATUM, referring to the shape of the petals. "Trigger-plant." (Gosnells, Sept.) Leaves all radical, linear, sharp-pointed, 3 to 4 in. to 1 ft. long. Flower-stems leafless, 6 in. to 1 ft. or rarely more. Flowers pink or white, spotted at back, upright, with four rigid spatulate petals of waxy texture. The column is bent back normally, but when touched it suddenly straightens in trigger-like fashion—hence the common name.

Bentham mentions the Swan River species as being the largest, but the finest I have seen were at Margaret River (white variety), near the entrance to the Lake Cave, in October.

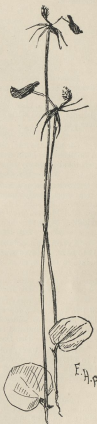
W.A.—Dis. Darling, Warren, Stirling, Eyre. Sandy, gravelly, or granite soil.

MESSEMBRYANTHEMUM AQUILATERALE, equal-sided leaves. "Pig-face." (King's Park, Sept.) A prostrate perennial with robust stems extending sometimes to a considerable length. Leaves opposite, stem-clasping, fleshy, equal-sided, 2 or 3 in. long. Flowers large, yellow, sometimes pinkish-mauve, often both on the same plant. Petals spreading to about $\frac{1}{4}$ in. dia. Styles and ovary-cells ranging from six to ten. Usually regarded as a weed.

W.A.—Dis. Darling, Irwin. Sandy soil. S.A. Vic. Tas. N.S.W. Q.

ERYTHRUM ROSTRATUM, beaked. (Mt. Lawley, Sept.) An erect plant 1 to 2 ft. high or more. Leaves deeply incised, linear, with teeth-like sharp-pointed lobes. Terminal clusters of ovoid-globose thistle-like flower-heads, composed of tiny white flowers which turn blue as they mature, surrounded by sharp, rigid, spiky bracts, set on stems radiating from the termination of a stout stalk.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil. N.S.W.



Drakaea elastica.
("Hammer Orchid.")

PHYLLANTHUS CALYCINUS, referring to the calyx. (Glen Forrest, Sept.) A glabrous shrub of 1 to 2 ft. Leaves oblong-cuneate, very obtuse, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Flowers *crappy-yellow*, monocious, on pedicels of 2 to 4 l., the females usually solitary. Male perianth-segments 6, sometimes 5, petal-like, ovate-oblong, about $\frac{1}{4}$ l. long. Stamens 3. Female perianth longer than the males, the segments broadly ovate, and after flowering, lengthening out to 3 l. or even more. Capsule globose, slightly depressed.

W.A.—Dis. Darling, Irwin. Sandy soil. S.A.

TETRATHENA HIBERTIA, hairy. (Glen Forrest, Sept.) A shrub with erect stems, $\frac{1}{2}$ to $\frac{1}{4}$ in. high, minutely downy, and often with a few long, spreading, reddish hairs. Leaves ovate, usually sessile, obtuse, $\frac{1}{2}$ to $\frac{3}{4}$ in. hairy. Pedicels $\frac{1}{2}$ to $\frac{1}{4}$ in. long, thickened under the reddish-membranous flowers. Petals 5, rather narrow, 4 to 6 l. long. Flowers when not fully expanded, nodding. Capsule usually ripening only one shining seed.

W.A.—Dis. Darling, Warren, Stirling. Sandy, granite soil.

ISOPOGON ROSEUS, rosy. (Glen Forrest, Sept.) A bushy shrub of 1 to 4 ft. Leaves once or twice divided, the segments entire or three-lobed, rigid, acute, the whole leaf from 1 to 3 in., including the petiole, which is as long as the undivided part. Flower-heads rich pink, terminal, globular, solitary, $\frac{1}{2}$ to 1 in. dia., or clustered and scarcely above 1 in. dia. Bracts numerous, lanceolate. Perianth-tubes glabrous, fringed with small tufts of hair. Fruit a round flattish nut with conical top, very hairy, over $\frac{1}{2}$ in. dia.

W.A.—Dis. Darling, Warren, Stirling, Avon. Gravelly soil.

ORTHOSEANTHUS MUELLERI, after F. von Mueller. "Morning-flower." (Glen Forrest, Sept.) A small slender herb, stems rarely 1 ft. high. Leaves shorter than the stems, 1 to $\frac{1}{4}$ l. broad, *flowers pale-mauve*, usually three or four in a terminal spike, petals 6, filaments short, anthers oblong.

W.A.—Dis. Darling, Warren, Stirling. Moist, sandy soil.

ADENANTHOS BARRIGERA, bearded. "Gland-flower." (Glen Forrest, Sept.) A showy plant, stems erect, nearly simple, 1 to 2 ft. high, or with several erect slender branches 2 or 3 to 4 ft. Leaves narrow from under 1 in. to linear-lanceolate 3 in. long, obtuse, or with a callous point, prominently veined. Flowers *bright red*, solitary, perianth above 1 in. long, the tube recurved and dilated above the middle. Style very long, curved right back to perianth, but ultimately extended and free.

W.A.—Dis. Darling, Stirling. Gravelly soil.

XYLOMELUM OCCIDENTALE, western. "Native Pear." (Cookernup, Sept.) A shrub or tree of 12 to 25 ft. Leaves ovate-elliptical or oblong, with a few coarse prickly teeth, $\frac{3}{4}$ to 5 in. long. Flower-spikes in the upper axils 3 to 5 in. long. Bracts 1 to 2 l. dia., very deciduous. Perianth-tubes, 5 to 6 l. long, hairy. Fruit pear-shaped, 2 to 3 in. long, and about $\frac{1}{2}$ in. dia. near the base, splitting open. Seeds 2, winged. This species is closely allied to *X. pygmaea*, the Native Pear of N.S.W.

W.A.—Dis. Darling, Warren, Stirling. Sandy, gravelly soil.

PODOTHECA GRAPHALOIDES, like *Graphalodes*, a composite genus. (Tammin, Sept.) An annual of 1 to 1 ft. high, with few narrow branches. Leaves linear or lanceolate, stem-clasping. Flower-stalks long and hollow under the head. Flower-heads globose, composed of many slender yellow florets crowning a cylindrical tube, $\frac{1}{2}$ to $\frac{1}{4}$ in. long, formed by the green bracts.

W.A.—Dis. Darling, Avon, Irwin. Sandy loam.

WATTIA AUREA, gold-flowered. "Evelasting." (Yorkkrake, Sept.) An erect annual shrub, 1 to 2 ft. high. Leaves linear, the lower ones often 2 to 3 in. long, stem-clasping at the base. Flower-heads in loose terminal clusters, with stiff yellow bracts surrounding a centre composed of tightly packed orange-coloured florets.

W.A.—Dis. Darling, Avon, Irwin, Coolgardie. Sandy loam.

SCHREINIA CASSINIANA, after H. Cassini. "Evelasting." (Yorkkrake, Sept.) An erect branched annual, 1 to 2 ft. high. Leaves lanceolate or linear, the lower ones oblong-spatulate, the longest above 2 in., the upper ones few and small. Flower-heads in a loose terminal cluster, *veid pink*, usually 1 in. in dia., with a ray of obtuse bracts surrounding a small centre formed of numerous yellow florets. W.A.—Dis. Avon, Irwin, Coolgardie. Loamy soil.

ACACIA MICROBOTRYA, small, grape-like flower clusters. "Manna Wattle." (Yorkkrake, Sept.) A tall shrub, glabrous except the inflorescence. Leaves lanceolate-falcate, obtuse, or with a short incurved point, 3 to 5 in. long, but very variable in size. Racemes $\frac{1}{2}$ to $\frac{1}{4}$ in. long, with from three to twenty small globose heads of yellow blossom. Calyx very thin, lobes short, often readily separating into distinct sepals. Petals with prominent midrib.

W.A.—Dis. Warren, Stirling, Eyre, Avon, Irwin. Sandy, granite, or gravelly soil.

HOYA FUNGENS, sharp-pointed. (Darling Range, Sept.) An erect, not much branched shrub of 1 to 2 ft. Leaves linear or lanceolate, $\frac{1}{2}$ to 1 in. long, very spreading, rigid, sharp-pointed, edges rolled back. Stipules bristly-limbed. Flowers *purple*, pea-shaped, one to three together on short pedicels. Bracteoles subulate. Calyx $\frac{2}{3}$ to 3 l. long, upper lip broad, lower lobes rather shorter. Standard about $\frac{1}{2}$ in. dia. Pod very oblique, rather longer than broad.

W.A.—Dis. Darling. Granite soil.

EUCALYPTUS PYRIFORMIS, pyramid-shaped. "Yellow-flowering Mallee." (Kookynie, Sept.) A shrub or small tree of from 8 to 12 ft. Leaves ovate-lanceolate, sharp-pointed, rarely exceeding 3 in. long, very thick, the numerous fine oblique parallel veins inconspicuous. Flowers large, red, in clusters of one to three together on thick turned-back stalks. Calyx-tube more or less prominently two to four-ribbed, or almost winged, $\frac{1}{2}$ to 1 in. long, as much in dia., tapering at the base into the thick stalk. Stamens often $\frac{1}{2}$ in. long or more, anthers ovate. Fruit almost hemispherical, very hard and woody, about 2 in. in dia., the rim formed by the disk remaining very prominent round the somewhat sunk, convex-topped capsule.

This species includes also the Red-flowering Mallee which flowers in December.

W.A.—Dis. Avon, Austin, Coolgardie. Yellow, sandy soil.

MELALUECA RADTIA. "Pink Bottle-brush." (Gosnell, Sept.) A tall glabrous shrub, with slender branches, leaves opposite, linear, up to 2 in. long. Flowers *pink*, up to $\frac{1}{4}$ in. long, sessile, in pairs at the base or below the ends of leafy branchlets, the pairs usually distant. Calyx-tube glabrous, lobes very short, broad. Staminal bundles nearly $\frac{1}{2}$ in. long, each with sixty or more filaments. Fruiting-calyx globose, 3 to 4 l. in dia.

W.A.—Dis. Darling, Avon, Irwin, Coolgardie. Granite soil.

PIZOSTYLIS TUTTOSIA. "Green Bird Orchid." (Mundaring, Sept.) Stem short and slender, one-flowered. Leaves short, sharp-pointed, all nearly equal and equally distributed along the stem. Flowers *greenish*, striped with red, transparent, the upper lip with a long thread-like point, the linear lower lip also with long points to the lobes, and bearded with long rigid hairs.

W.A.—Dis. Darling, Warren. Swampy soil.

PUTANEA STORIBILIPERA, bearing cone-like heads. (Cranbrook, Sept.) An erect, heath-like shrub of $\frac{1}{2}$ to $\frac{1}{4}$ ft., with terete minutely hairy branches. Leaves linear-terete, obtuse, 3 l. long or shorter, channelled above, thick, glabrous, smooth or slightly wrinkled. Flowers in dense terminal ovoid heads. Bracts numerous and closely overlapping, broad, shortly toothed, hairy or ciliate. Flowers pea-shaped, *yellow-orange*, small, calyx under 4 l. long, standard not half as long again, keel short. Pedicels crowded, 2 l. long.

W.A.—Dis. Stirling. Sandy soil.

DEACOPHYLLUM GRACILE, slender. (Albany, Sept.) A slender shrub attaining 3 or 4 ft., with long twiggily flowering branches. Lower leaves and those of the barren branches lanceolate, sharp-pointed, very spreading or recurved, not $\frac{1}{2}$ in. long, those of the long peduncle-like extremities of the flowering branches small and closely appressed. Flowers *white*, in dense ovate spikes of $\frac{1}{2}$ to 1 in., each one sessile within a bract as long as the calyx. Corolla-tube slender, cylindrical, as long as the calyx, lobes broad, nearly as long as the tube, with longitudinal folds at the base.

W.A.—Dis. Darling, Warren, Stirling. Moist, sandy soil.

CONVOLVULUS RUBESCENS, reddish. (Laverton, Sept.) A perennial plant with a creeping root-stock and slender prostrate trailing or rarely twining stems. Foliage variable, the leaves more or less cordate to $\frac{1}{4}$ in. long, sometimes nearly all small, or narrow-linear with either small or long basal lobes. Peduncles often as long as the leaves, one-flowered. Corolla pink, usually $\frac{1}{2}$ to $\frac{1}{4}$ in. long.

W.A.—Dis. Darling, Avon, Irwin. Granite soil. S.A. Vic. Tas. N.S.W. Q.

BRACHYSERPA APHYLLUM, without leaves. (Northampton, Sept.) Stems erect or spreading, 1 or several feet long, but with rigid leathery broad wings descending from the joints, truncate, and forming an obtuse notch at the upper end, tapering downwards to the next joint, glabrous, often glaucous. Flowers red, pedicellate and solitary in the upper notches. Calyx nearly 1 in. long, deeply divided into narrow lanceolate segments. Standard ovate, half as long, and the wings nearly as long as calyx, keel oblong-falcate, nearly 2 in. long. Pod cylindrical, turgid, $\frac{1}{2}$ to 2 in. long.

W.A.—Dis. Irwin. Yellow soil.

MACANTHURA AUSTRALIS, southern. (King's Park, Sept.) A plant with stems erect, twiggily, or rush-like, slightly branched, 1 to 2 ft. high. Leaves few and distant, linear, or reduced to small scales, the stems then appearing leafless. Flowers *white*, in short cymes or clusters, rarely sessile along the branches, or terminating short leafy branchlets, or loose irregular and few-flowered. Pedicels 1 to 2 l. long, calyx-segments $\frac{1}{4}$ l. long, petals scarcely exceeding the sepals.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

STYLISSIA LATIPOLIA, leaves with thick side edges. (King's Park, Sept.) An undershrub with stems 1 ft. or more high, simple or rarely branching, the leafless peduncle including the panicle 1 to 1½ ft. long. Leaves once or twice divided with flat, rigid, vertical segments, the whole leaf from 6 in. to 1 ft. long. Panicle usually much branched. Flower-heads globose, very numerous, perianths from 2 to 3½ long, greenish-yellow and red. Style erect, with pedate stigma. Nut densely hairy.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

DIANELLA REVOLUTA, leaves revolute. (Laverton, Sept.) A plant with linear radical leaves much revolute, the margins almost meeting on the under side, 18 in. to 2 ft. long, rigid. Flowers blue, nodding, in a loose, terminal cluster. Perianth segments closely recurved. Anthers orange-yellow, large and prominent.

W.A.—Dis. Avon, Austin, Coolgardie. In sandy soil or open forests, or in granite soil beneath *Acacia acuminata*. S.A. Vic. N.S.W. Q.

SPYRIDUM GLOBULOSUM, globose. (King's Park, Sept.) A tall, hoary shrub. Leaves ovate or oblong, very obtuse, to 2 in. long, glabrous above, hoary underneath. Flower-heads crumby, nearly globose, numerous in dense corymbose cymes in the axils of the leaves. Bracts brown, pubescent, shorter than the calyx. Calyx about 1½ long, broadly campanulate.

W.A.—Dis. Darling. Sandy soil.

COMESPERMA VIRGATUM, twiggy. (Waroona, October.) A glabrous plant, with erect, stiff, simple or branching stems, 1 to 2 ft. high. Leaves distant or crowded, linear or linear-lanceolate, about ½ in. long, midrib prominent underneath. Flowers blue or pink, in a raceme of 1 to 3 in., often lengthening out after flowering to nearly 6 in., pedicels from 1 to 2½. Outer sepals about 1½ long, the two upper ones united to near the top; inner sepals nearly 3½ long. Keel-petal very broad, with a horn-like appendage on the back near the top. Style winged towards the top.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon, Irwin. Recent country.

SPIDEROLIBUM MEDIUM, medium sized. (Ridge Hill, Oct.) Stems erect, 1 to 2 ft. high. Leaves on the barren branches small, sharp-pointed, often opposite, or in whorls of three, the flowering stems leafless. Flowers salmon-pink or yellow, pea-shaped, numerous, densely clustered in terminal racemes. Calyx about 2½ long, standard orbicular, longer than calyx, wings as long, keel longer, slightly curved, more or less acuminate. Pod 2½ in. dia.

W.A.—Dis. Darling, Warren, Stirling. Granite soil.

CALADENIA (LEPTOCERAS) MENZIESII, after A. Menzies. "Rabbit Orchid." (Ridge Hill, Oct.) Stems slender, 6 to 9 in. high. Leaf ovate-lanceolate, 1 to 2 in. long. Flowers pink, one or two on long pedicels, sepals lanceolate, acute, 4 to 5½ long, the dorsal one concave and incurved, the lateral ones falcate. Petals much longer than the sepals, erect, narrow-linear, giving the flower a two-horned aspect. Lip shorter than the sepals, ovate-oblong, erect at the base, recurved towards the end. Calli more or less arranged in two to four rows. Column rather broadly winged.

W.A.—Dis. Darling, Warren, Stirling, Irwin. Granite soil. S.A. Vic. Tas.

Caladenia Menziesii.
("Rabbit Orchid.")
Pink.

BOBONIA SPATULATA, leaves spatula-shaped. (Pinjarra, Oct.) A glabrous glaucous undershrub, with erect, simple, or branched stems, 1 to 1½ ft. high, sometimes 3 ft. Leaves not numerous, from obovate to lanceolate, to 1 in. long, thick, nerveless, entire. Flowers few, pink, rather large in irregular terminal cymes. Sepals usually very acute. Petals attaining 4 l. or more, overlapping, glabrous. Filaments ciliate.

W.A.—Dis. Darling, Warren, Stirling, Eyre. Often found growing in water.



GRYLLIA WILSONII, after T. B. Wilson. "Native Fuchsia." (Darlington, Oct.) An erect shrub of 3 to 5 ft. Leaves twice or thrice or rarely only once terminally divided into narrow-linear or tapering rigid, divided sharp-pointed segments, ½ to 1 in. long. Racemes loose, erect, often branched, flowers bright red, curiously shaped, about ½ in. long. Perianth-tube dilated at the base, then narrower, tightly closed at the end. Style very long, at first curved back to the perianth, then free and straight.

W.A.—Dis. Darling. Gravelly soil.

GRYLLIA REPENSATIFIDA, referring to the leaves. (Darlington, Oct.) A prostrate shrub of 3 or 4 ft. Leaves broad, pinnate, lobes or segments 9 to 21, either oblong or cuneate, sharp-pointed, the whole leaf usually from 3 to 4 in. long, and 2 to 3 in. broad, rather rigid. Flowers similar in shape to *G. Wilsonii*, but pink.

W.A.—Dis. Darling, Warren, Stirling, Avon. Gravelly soil.

BRACHYCOMME IRRIDIPOLEA, leaf like *Iberis* (Candytuft). "Swan River Daisy." (Rockingham, Jolmont, Oct.) An erect glabrous branched annual, about 1 ft. high. Leaves pinnately divided into narrow-linear segments. Flowers bluish-purple or white, compound, daisy-like.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil. N.S.W.

BOBONIA ELATIOR, taller than other species. "Pink Boronia." (Busselton, Oct.) A tall shrub, the branches hirsute with long spreading hairs. Leaves pinnate, leaflets 5 to 13 or more, linear, about ½ in. Flowers pink, sepals broad, usually ciliate and often coloured. Petals to 3 or 4 l., overlapping. Stamens 8, four with large black and four with minute yellowish anthers under the stigma. Ovary hirsute, with a large glabrous, thick, obtusely pyramidal stigma, four-lobed at base. Seeds shining.

W.A.—Dis. Warren, Stirling. Damp, sandy soil.

SENECIO LAEVIS, referring to fine appearance. (Jolmont, Oct.) An erect glabrous perennial from 1 to 4 ft. high. Leaves linear, entire, remotely toothed or deeply divided. Flower-heads daisy-like, up to a little over 1 in. dia., several in a loose terminal cluster. Ray-florets about 10 to 15, yellow.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon. Sandy soil. S.A. Vic. Tas. N.S.W. Q.

COMESPERMUM STYCHADIS, resembling *Lacynedia stachos*, named from a Greek work, meaning all in a row. "Smoke-grass." (Kellerberrin, Oct.) An erect rigid shrub of 3 to 4 ft. Leaves terete, rigid, slender, 3 to 6 in. long or more. Flower-stalks numerous, terminal, usually branched, 6 to 8 in. long, densely covered with a pale grey hairy-like substance. Flowers greyish-white, with short, broad bracts. Perianth 3 to 4 l. long, densely woolly-hirsute, except the small upper lip, which is almost glabrous.

W.A.—Dis. Darling, Eyre, Avon, Irwin, Coolgardie. Sandy soil.

COMESPERMUM TRIPLINERVUM, leaves three-nerved. "Smoke-bush." (Jolmont, Oct.) A shrub from 2 to 6 ft., branches erect, glabrous, or minutely silky when young. Leaves lanceolate, rather broad, acute, or with a callous point, three-nerved, ½ to 3 in. long, but varying to almost linear, and 3 or 4 in. long. Flower-stalks simple or branched, terminal or in the upper axils, from 6 in. to nearly 1 ft. long, more or less clothed with grey hairy substance, bearing several interrupted spikes of 1 to 3 in. Flowers greyish-white, with small acuminate bracts, otherwise similar to *C. stachadis*.

W.A.—Dis. Darling, Warren, Stirling, Irwin. Sandy soil.

RANUNCULUS LAPPACEUS, but-like, referring to the fruit. "Wild Buttercup." (Jolmont, Vallung, Oct.) A perennial plant more or less clothed with soft spreading hairs. Leaves chiefly radical on long stalks, usually divided into three or five deep lobes or segments, each often again lobed or toothed, and sometimes much cut into narrow lobes. Stems either a leafless one-flowered scape or branching and erect or prostrate, bearing several flowers and a few leaves smaller and less divided than the radical ones. Flowers rich yellow, sepals much shorter than the petals, petals usually 5, smooth and glossy, broadly obovate with a small glandular pit near the base. Pistils in a globose head, style recurved, usually short.

W.A.—Dis. Darling, Warren. Found in sandy shady woods not far from the sea. S.A. Vic. Tas. N.S.W.

STYLIDIUM JUNCHEUM, reed-like. "Trigger-plant." (Jolmont, Oct.) Leaves radical, linear, acute, 1 to 1½ in. long, sometimes all withered away at time of flowering. Stem or scape erect and rush-like, and 6 in. to 1½ ft. high, or more or less flexuose and twining, and then lengthening to 2 or 3 ft. or more, leafless except the bracts. Flowers small, about 6 l. long, nearly sessile in a short dense spike-like head. Bracts lanceolate, acute. Calyx-lobes narrow and very acute, all free. Corolla white, pink, or pale yellow, with small glandular appendages at throat, the lip lanceolate without appendages.

W.A.—Dis. Darling, Warren, Stirling. Moist, sandy places.

STYLIDIUM BRUNONIANUM, after R. Brown. "Trigger Plant." (Jolimont, Oct.) A glabrous plant. Radical leaves linear, 1 to 2 in. long or more, rather fleshy. Stipes usually 1 to 1½ ft. high, with two to five whorls of narrow, acute leaves. Racemes loose, 2 to 4 in. long, with numerous small pink flowers. Corolla with appendages to the throat, lip usually without any. Capsule small, globular.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy, gravelly, or granite soil.

ANTHOCERCIS LITorea, coastal. (Jolimont, Oct.) A glabrous shrub of 2 to 8 ft. Leaves from oblong-cuneate to obovate, quite entire or lower ones slightly toothed, mostly ½ to 1½ in. long, rather thick. Flowers yellow, often numerous on slender but short pedicels, forming at the ends of the branches irregular racemes or narrow clusters, often more or less developed into terminal branching leafless panicles of 1 ft. or more. Calyx-tube scarcely 1 l. long, lobes narrow, acute, longer than the tube. Corolla variable in size, usually 3 to 4 l., streaked inside with deep crimson, lobes narrow, acute, from rather longer than the tube to twice as long.

Cases of children having been poisoned through eating this plant have been reported with symptoms similar to belladonna poisoning.

W.A.—Dis. Darling, Warren, Stirling, Irwin. Sandy soil, near the sea.

SOLANUM SIMILE, like. (Jolimont, Oct.) A glabrous erect shrub, up to 4 or 5 ft. Leaves lanceolate or linear, usually obtuse, entire, or with one or two short lobes on each side near the base, usually 2 or 3 in. long. Flowers massed, about 1½ in. dia., petals 5, edges slightly frilled, deeply veined with two parallel nerves meeting at outside edge. Fruit a berry about ½ in. long.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Limestone country. S.A. N.S.W.

PATERSONIA OCCIDENTALIS, western. (Jolimont, Oct.) A sedge-like plant. Leaves rigid, often above 1 ft., usually 2 to 3 l. broad. Scapes shorter or longer than the leaves. Outer bracts ½ in. long or more. Flowers numerous, bluish-purple, flag-like, outer segments of perianth 3, broad and very obtuse. Staminal column, anthers white and spreading.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

COMPILOLOBIUM TOMENTOSUM, hairy. (Jolimont, Oct.) An erect shrub of 1 to 3 ft. Leaves pinnate, leaflets narrow-linear, almost terete, sharp-pointed, ½ to 1 in. long, more or less hairy. Flowers yellow, pea-shaped, terminal, calyx about 4 l., the lobes more or less fine-pointed. Standard about 6 l. long, keel somewhat shorter, broad, somewhat curved, the edges minutely ciliate. Pod as long as or rather exceeding the calyx.

W.A.—Dis. Darling, Warren, Stirling, Irwin. Sandy soil.

DASYPOGON BROMELIIFOLIUS, leaves like Bromelia. (King's Park, Oct.) A plant with stems erect or ascending, densely leafy at the base. Leaves 6 in. to 1 ft., 2 l. broad or more, tapering to a fine point, rigid, often twisted. Peduncle 6 in. to 1 ft. long, covered with brown bristles or rigid hairs. Flower-head globular, dense, about 1 in. dia., very spiky with the long bristles of the perianths, which fall and leave the fruiting-head almost or quite glabrous.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

PERLASEGNUM AUSTRALIS, southern. (King's Park, Oct.) A shrub, herbaceous, often flowering the first year, but forming a perennial root-stock, either horizontal or almost erect, or short and thick. Leafy stems lying on the ground or erect, sometimes short, but usually 1 ft. or more, and hairy. Leaves softly hairy, broad, sometimes 2 in. across, shortly divided into toothed, obtuse lobes, with edges often much turned in. Flowers pink, in terminal heads, sepals acute, 2 to 3 l. long, usually very hairy. Petals to about 6 l. long. Seed lobes hairy, the spike-like beak from ½ to 1 in. long.

W.A.—Dis. Darling, Warren, Stirling. Sandy, gravelly soil. S.A. Vic. Tas. N.S.W.

ISOPOGON SPHEROCARPUS, globular-headed. (Glen Forrest, Oct.) An erect shrub of several feet. Leaves linear, obtuse, with a short callous point, sessile, 2 to 4 in. long. Flower-heads yellow, staminal, or terminal, or two or three crowded at the ends of the branches, globular, ½ to 1 in. dia. Outer bracts not numerous, overlapping. Outer cone-scales ovate, inner ones narrow, all covered with fine hairs on the outside. Perianths about 1 in. long, the tube glabrous, the expanded portion at the top densely hairy.

W.A.—Dis. Darling, Warren, Stirling. Gravelly soil.

MELALEUCA VIMINEA, flexible. (Jolimont, Oct.) A tall glabrous shrub with slender branches. Leaves narrow-linear, ½ to 1 in. long. Flowers creamy-yellow, in terminal globular heads. Calyx-tubes under 1 l. dia., lobes short. Staminal bundles 2 to 3 l. long, anthers small. Fruiting-spikes cylindrical, rather dense, or interrupted, calyx about 1½ l. dia.

W.A.—Dis. Darling, Avon. Sandy soil.

MELALEUCA SCABRA, rough. (Darlington, Oct.) A bushy shrub, either low and spreading or several feet high, with twiggy branches. Leaves scattered, usually crowded under the flower-heads, linear-terete, ½ to 1 in. long. Flowers rose pink, in dense terminal globular heads, varying in size. Calyx-tube ½ to 1 l. long. Bracts and petals deciduous. Staminal bundles ½ to 1 in. long. Fruiting-heads globular and dense, calyxes truncate, more or less urn-shaped.

W.A.—Dis. Darling, Avon. Sandy, gravelly soil.

ALOPECURUM ALOPECUROIDES, having a spike like that of Alopecurus (Fox-tail Grass). (King's Park, Oct.) A perennial with ascending slightly branched stems of 1 to 3 ft. Leaves linear or lanceolate, acute, often several inches long. Flower-spikes green, on long terminal peduncles, becoming very soon cylindrical to 8 in. or more long, and from 1 to 1½ in. dia. Bracts broadly ovate. Perianths about ½ in. long. Stamens very unequal.

W.A.—Dis. Darling, Avon, Irwin, Austin. Sandy soil. S.A. Vic. N.S.W. Q. N.A.

CALYTRIX GLUTINOSA, sticky. (Darlington, Oct.) An erect, rather short, not much branched shrub of 1 to 2 ft. Leaves erect, linear-terete, rather thick, sharp-pointed, ½ to 1 in. long, the floral ones often shorter, dilated at base with short, stipule-like lobe on each side. Flowers pinkish-mauve, rather large, on short pedicels in ovoid terminal heads, or sometimes lateral by elongation of shoot. Bracteoles about ½ in., keeled, and more or less glutinous. Calyx-tube not exceeding bracteoles at first, but rather longer when in fruit, fusiform below the middle, the upper slender portion free enclosing style, lobes truncate, the rigid prominent midrib produced into a hair-like awn much exceeding the petals. Petals 5, pointed, about 4 l. long. Stamens from 10 to 20.

W.A.—Dis. Darling. Granite soil.

CONOSPERMUM HUGGELII, after C. von Hugel. (Darlington, Oct.) An undershrub with the leafy part of the stem very short. Leaves crowded, narrow-linear, from 1 to 2 in. long to 6 or 8 in. long. Flower-stalks erect, simple, leafless, often above 1 ft. long, with a single terminal ovoid or oblong spike of blue flowers with perianth-tubes about 3½ l. long.

W.A.—Dis. Darling. Granite soil.

CALOTRIUM QUADRIFIDUS, having stamens divided in four groups. (Darlington, Oct.) An erect shrub of 6 to 8 ft. Leaves crowded, linear, ½ to 1 in. long. Flowers crimson, of the "Bottle-brush" type, clustered and closely sessile, forming dense one-sided spikes of 1 to 2 in. Staminal bundles ½ to 1 in. long in groups of four each with fifteen to twenty or more filaments at or near the end. Fruiting-calyx 2 to 3 l. dia.

W.A.—Dis. Darling, Eyre, Avon. Sandy or gravelly soil.

CONOSTYLIS DISCOLOR, two-coloured. (Darlington, Oct.) A sedge-plant, with short leafy stems much branched in dense tufts. Leaves rather bluish, flat, but very narrow and grass-like, about 6 in. long. Scapes shorter than the leaves, white and woolly, with one or two bracts with broad sheathing bases below the inflorescence. Flowers white, six to ten in a terminal head, with very short, sharply-pointed bracts. Perianth 5 to 6 l. long, very hairy outside, shortly woolly inside, lobes narrow, much longer than the tube. Filaments shorter than the anthers.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon. Clay or sandy soil.



Xanthosia rotundifolia.
("Southern Cross.")
White.

LOBELIA FENSUOR, slender. (Jolimont, Oct.) An annual herb, with erect or ascending stems often 1 ft. high or more, each with a single terminal flower or branching into few long one-flowered peduncles. Radical leaves usually small, obovate and deeply toothed. Stem-leaves linear. Flowers bluish-purple, calyx-lobes almost subulate, longer than the tube. Corolla $\frac{3}{4}$ to nearly 1 in. long, the middle lobe very broadly obovate, the lateral ones shorter and oblong, and the lower ones much smaller, incurved. Anthers all tipped with a dense tuft of short bristles. Capsule when full grown 6 to 8 in. long, broad, tapering at the base. Seeds small, smooth, and shining.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

DALWIMIA CTRIOIDORA, lemon-scented. (Serpentine, Oct.) A spreading shrub of 1 to 2 ft. Leaves nearly opposite from narrow-oblong to almost ovate-lanceolate, obscure $\frac{1}{2}$ to $\frac{1}{2}$ in. long, or longer in the main branches, the margins recurved or rolled back. Flowers usually 4, in small terminal heads, petals 4, ovate, yellow, bracts reddish. Bracteoles broad and short. Calyx about $\frac{3}{4}$ in. long, the adnate part obtusely five-angled, lobes ovate, about half as long as the petals. Stamens didynamous.

W.A.—Dis. Darling, Stirling, Irwin. Granite or sandy soil.

LYOTRYX ACUTIFOLIA, sharp-leaved. (Kalamunda, Oct.) An erect heath-like shrub of 2 to 4 ft. Leaves scattered, crowded, linear, ending abruptly in a short point, 4 to 6 in. long, rigid and prominently keeled underneath. Flowers white, many sessile along the branches. Bracteoles as long as the calyx-tube, keeled, and acute. Calyx-tube cylindrical, five-ribbed, about 2 in. long, lobes 5, not $\frac{1}{2}$ in. Petals 5, over $\frac{3}{4}$ in. long.

W.A.—Dis. Darling, Stirling. Granite soil.

STYPIANDIA GLAUCA, grey-green. "Blind-grass." (Ridge Hill, Oct.) A leafy perennial with stems on a creeping root-stock, sometimes low and tufted, or weak and ascending, under 1 ft. high, or 2 to 3 ft. high, woody, branched at the base. Leaves in two vertical rows, usually concealing the somewhat flattened stem, the blade erect and spreading, linear or lanceolate, 3 to 4 in. long or more, and from 2 to 4 in. wide. Flowers blue, in a loose terminal forked raceme usually leafy at the base, the branches very spreading, pedicels recurved $\frac{1}{2}$ to 1 in. long, usually solitary, but sometimes two together at the ends of the branches. Perianth-segments 6, very acute, five-nerved, about 6 in. long. Stamens much shorter, with a dense oblong tow-like tuft of hairs under the anther. Anther much recurved, almost spirally after shedding the pollen. Capsule oblong, three-celled, several seeds in each.

In W.A. this plant causes blindness, paralysis, and even death when eaten by horses and other animals, although it is not considered harmful in the Eastern States.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy or granite soil. Vic. N.S.W. & Q.

JOHNSONIA LUTIFOLIA, like lupus, a species of hop. (Bassetton, Oct.) A tufted herb with stems flattened, 1 to 1½ ft. high. Leaves few, sheathing the base of the stem, the blades erect, the leaves usually shorter than the stem, from 1 to nearly 2 in. long. Flower-spikes pink, $\frac{1}{4}$ to 2 in. long. Bracts glabrous, overlapping all round, rigid, 6 to 9 in. long, broadly lanceolate and concave, each with a single sessile flower in the axil, the perianth about half as long as the bract, the lower bracts gradually smaller and empty, sometimes the lowest produced into an erect terete leaf $\frac{1}{2}$ to 1 in.

W.A.—Dis. Darling, Warren. Moist, sandy places.

BORJA NETIDA, shining. "Pinechions." (Armadale, Oct.) A densely tufted perennial or low shrub, very variable according to age and situation, sometimes forming short tufts with the leaves almost radical, and scape-like peduncles, but the stems often growing out to 6 in., or more, spreading, creeping, or rarely erect, simple or branched, the lower portion covered with the persistent bases of the leaves and occasionally rooting. Leaves crowded in the upper portion, erect, spreading or recurved, from under 1 to 2 in. long, always ending in rigid pungent points. Scape or peduncles erect, simple, rarely above 3 in. long. Flowers ovate, white, 4 to 6 in. diam. From three to seven of the outer bracts empty, very rigid and pointed, and some or all of them longer than the head; inner bracts brown or black, 2 to 4 in. long, all obtuse or a few outer ones acute, or empty and passing into the involucre bracts. Bracteoles enclosing the flowers as long as the bracts. Perianth-tube as long as the bract, the six lobes linear and nearly the same length.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon, Irwin, Coolgardie. Granite soil.

SCOEVOIA STRIATA, streaked with veins. (Darlington, Oct.) A perennial plant with spreading, trailing, or ascending, slightly-branched hairy stems of $\frac{1}{4}$ to 1½ ft., flowering sometimes the first year, and then more simple and erect. Leaves obovate, coarsely toothed, slightly stem-clasping. Peduncles axillary, usually one-flowered. Bracteoles large. Flowers purple, yellow at the base of the petals,

very handsome. Corolla five-lobed, often above 1 in. broad, elegantly marked with transverse veins. Indusium with a dense tuft of hairs.

W.A.—Dis. Darling, Warren, Stirling. Hilly country, clay soil.

SCOEVOIA PLATYPHYLLA, wide-leaved. (Darlington, Oct.) An erect shrub, woody at the base, with rigid herbaceous branches. Leaves sessile, stem-clasping, ovate-obovate or oblong, entire, or with a few coarse teeth, 1 to 2 in. long. Flowers handsome, reddish-purple, white at base of petals, large, in a terminal leafy spike. Bracteoles large and leafy. Corolla above 1 in. long, spreading like a fan, lobes 5 acuminate. Indusium with a dense tuft of hairs.

W.A.—Dis. Darling. Hilly country, clay soil.

SCOEVOIA GLANDULIFERA, gland-bearing. (Jolimont, Oct.) An erect rigid herb or undershrub covered with rough spread-hairs. Leaves linear or oblanceolate, coarsely toothed when broad, 1 to 2 in. long or more. Flowers blue, sessile in a terminal leafy spike. Bracteoles linear, smaller than the bracts. Corolla five-lobed, $\frac{1}{2}$ to 1 in. long, the whole inflorescence as well as the outside of the corolla pubescent with glandular hairs mixed with the rigid ones. Fruit a drupe prominently ribbed, otherwise smooth.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

SCOEVOIA CRASSIFOLIA, thick-leaved. (Jolimont, Oct.) A glabrous shrub either low and prostrate or very much branched, and attaining 2 or 3 ft. Leaves ovate, orbicular, or spatulate, 1 to 2 in. long, thick and rigid, toothed. Flowers blue, sessile, in rather dense spikes of one to three, several sometimes forming a terminal panicle. Corolla about $\frac{1}{2}$ in. long, glabrous outside. Indusium sparingly ciliate. Fruit small, hard, and almost woody.

W.A.—Dis. Darling, Irwin. Limestone hills. S.A.

DAMPiera LINEARIS, linear-leaved. (Kings Park, Oct.) A rigid herb or undershrub, stems usually erect from 1 to 1½ ft. Leaves linear-oblong, entire, or with a few teeth, rigid, $\frac{1}{2}$ to 1½ in. long. Peduncles in the upper axils, several-flowered. Bracteoles linear. Flowers blue, hairy. Corolla five-lobed, about $\frac{1}{2}$ in. broad.

W.A.—Dis. Darling, Warren, Stirling. Sandy or gravelly soil.

CHORIZEMA DICKSONII, a personal name. (Kalamunda, Oct.) An erect shrub of 1 to 3 ft. with numerous branches. Leaves rather crowded, oblong-lanceolate or almost linear, tapering to a pungent point, $\frac{1}{2}$ to $\frac{3}{4}$ in. long, thick, rigid, glabrous, and often shining, with prominent midrib and transverse veins. Flowers red, pea-shaped, in loose terminal racemes. Pedicels rather short. Calyx 4 in. long, lobes acuminate, the two upper broader and united above the middle. Pod acuminate, 4 to 5 in. long.

W.A.—Dis. Darling. Gravelly soil, in the hills.

PIRIMELA SPECTABILIS, referring to beauty of species. "Bush Rose." "Banjong" (native name). (Yallingup, Oct.) An erect shrub of 3 or 4 ft., glabrous except the flowers. Leaves mostly opposite, rather crowded, linear-oblong to lanceolate, flat, or with margins slightly recurved, $\frac{1}{2}$ to 1 in. long, the uppermost often shorter and broader. Flower-heads large, white tinged with pink, globose, surrounded by four to six ovate to ovate-lanceolate bracts, often coloured on the margins from half to nearly as long as the flowers. Perianth hairy on short hairy pedicels, tube slender, $\frac{1}{2}$ to $\frac{3}{4}$ in. long, lobes narrow. Stamens as long as the lobes, anthers oblong.

W.A.—Dis. Darling, Warren, Stirling. Gravelly soil.

CALADENIA DISCOIDEA, disk-like flower. (Bullbrook, Oct.) A hairy plant, 1 ft. or more. Leaf broadly linear or lanceolate, sometimes over 6 in. long. Flowers creamy-yellow, often two or three on the stem, sepals 6 to 7 in. long, acuminate, the dorsal one narrow erect incurved and concave, the lateral ones lanceolate, spreading, petals rather longer and narrower. Lip not much shorter than the sepals, broadly ovate, undivided, marked with dark brown diverging forked veins and fringed with rather long purplish hair-like calli. Column narrow and incurved at the base, broadly winged in the upper half.

W.A.—Dis. Darling, Warren, Stirling. Sandy places.

ANDERSONIA ARISTATA, awned. "Rice-flower." (Kalamunda, Oct.) An erect much-branched heath-like shrub of 1 to 2 ft., the branches slightly hairy. Leaves linear, about 2 in. long, the floral ones much longer with a broader base. Flowers numerous, white, in a dense terminal head, each one sessile within a floral leaf. Bracteoles sharp, leaf-like. Sepals narrow-linear, 3 to 4 in. long, tinged with pink. Corolla-lobes 5, as long as the tube, rolled back, densely bearded except the tips. Style long.

W.A.—Dis. Darling, Avon. Granite and gravelly soil.

PODOTHERA CHRYSANTHA, yellow. (Melville Park, Oct.) An erect annual, simply or slightly branched, rarely above 1 ft. high. Leaves linear. Peduncles rather long, dilated and hollow under the head. Involucre broadly turbinate-campanulate, 6 to 8 l. long, bracts thin, broad, not numerous, the innermost linear and scarious. Florets yellow, numerous.

W.A.—Dis. Darling, Irwin. Sandy soil.



Caladenia flava.
("Cowslip Orchid.")
Yellow.

BORONIA CYMOSA, flowers in cymes. (Darlington, Oct.) A glabrous undershrub or shrub with erect slender branches. Leaves sessile, linear-terete, often crowded towards upper part of branches or clustered in the axils, $\frac{1}{2}$ or 1 in. long or more. Flowers pink, usually numerous and cymose, on long

terracola *HOOKER*, after W. J. Hooker. (Cannington, Oct.) A swamp plant with slender scapes 3 to 5 in. high, bearing a single terminal purple flower. Leaves linear, often $\frac{1}{2}$ in. long. Bracts opposite or three in a whorl. Pedicel 2 to 4 l. long. Calyx-segments ovate, obtuse, coloured, $\frac{1}{4}$ l. long. Corolla: upper lip much contracted at the base, deeply divided into lobes about 2 l. long, lower lip almost reniform, entire or broadly three-lobed, $\frac{1}{2}$ to $\frac{3}{4}$ in. across, the palate with a small three or five-lobed protuberance at the base, spur obtuse, shorter than the upper lip.

W.A.—Dis. Darling, Warren, Stirling. Sandy swamps.

POLYTHOPOLYX MULTIFIDA, much-divided (corolla). (Cannington, Oct.) A swamp plant with scapes from under 6 in., bearing only two or even one pink flower, or over 1 ft. high with a loose raceme of five or six flowers. Leaves radical, linear-spatulate. Calyx outer-segments rather unequal, broad and obtuse, little more than 1 l. long in flower, more or less enlarged in fruit, inner ones smaller and shorter. Corolla: upper lip deeply divided, lower lip large (about $\frac{1}{2}$ in. across), more or less deeply divided, the palate marked with a small five-lobed protuberance. Spur obtuse, shorter than the lower lip. Seeds numerous.

W.A.—Dis. Darling, Warren, Stirling. Sandy swamps.

CLEMATIS ARISTATA, awned. (Margaret River, Oct.) A climbing plant spreading in a net-like fashion over rocks and bushes, or ascending tall trees. Leaves mostly divided into three leaflets varying from ovate-cordate to narrow-lanceolate, 1 to 3 in. long, irregularly toothed when large, entire when small. Flowers white, often creamy, usually in small clusters in the upper axils. Sepals 4, or rarely 5, oblong or linear-lanceolate from $\frac{3}{4}$ to 1 in. long. Anthers tipped by a sharp-pointed appendage. Seeds numerous, each with a plumose tail often $\frac{1}{2}$ in. long.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Granite or sandy soil. Vic. Tas. N.S.W.

CALADENIA FLAVA, yellow. ("Cowslip Orchid.") (Yalligup, Oct.) A hairy plant, more glandular than most species, rarely 1 ft. high. Leaf lanceolate. Flowers large, yellow, usually two to four in a loose head. Sepals and petals broadly lanceolate, acute, contracted at the base, lateral sepals often above 1 in. long, with a somewhat darker middle line. Dorsal sepal rather smaller, with a less distinct reddish line or red blotches along the centre. Petals still shorter, more red in the centre. Lip 3 to 4 l. long, broad, deeply three-lobed, the middle lobe longer and lanceolate, bordered on each side by several long calli. Column winged from the base.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

LEUCOPOGON RICHI, after C. Riché. (Greenbushes, Oct.) A tall shrub or small tree. Leaves oblong-lanceolate, sometimes 1 in. long. Flowers white, in dense often rather long terminal spikes in the upper axils, obtuse, or with a small callous point, slightly convex or with recurved margins, finely hairy.

W.A.—Dis. Warren, Stirling, Eyre. Sandy swamps. S.A. Vic. Tas. N.S.W. Q.

terminal peduncles. Pedicels short. Sepals broad and short. Petals 4, about 3 l. long, stamens 8, filaments ciliate, anthers minutely sharp-pointed.

W.A.—Dis. Darling, Warren, Stirling. Granite or sandy soil.

PRASOPHYLLUM ELATUM, tall. ("Leek Orchid.") (Darlington, Oct.) Stem from under 2 to above 3 ft., the long leaf-sheath covering a great part of it. Flowers greenish-white, nearly sessile in a spike of 4 to 8 in. or more. Dorsal sepal and petals lanceolate, very acute, 4 to 5 l. long, lateral sepals often rather longer. Lip as long as the petals, ovate-oblong, the margins undulate, the inner plate occupying the greater part of the surface. Anther nearly 2 l. long.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil. S.A. Vic. Tas. N.S.W.

PRASOPHYLLUM FIMBRIA, fringed. ("Leek Orchid.") (Darlington, Oct.) A tall species with the habit and flowers of *P. elatum*, but with a different labellum, and tinged with violet. Sepals about 5 l. long, petals shorter, linear. Lip as long as the sepals, the upper part broad with fringed or crisped margins, the inner plate broad and ending above the middle in a broad free densely fringed margin, and within it in the centre of the lip a more or less conspicuous second plate with entire margins.

W.A.—Dis. Darling, Warren, Stirling, Irwin. Sandy soil.

MICROTIS ALBA, white. (Darlington, Oct.) A small orchid with stem about 1 ft. high or more. Leaf with a long sheath, and the blade often exceeding the spike. Flowers numerous, whitish, much incurved. Dorsal sepal prominent, concave, $\frac{1}{4}$ to 2 l. long, lateral sepals nearly as long, oblong, petals shorter and narrower. Lip as long as the sepals, narrow at the base, the upper half expanded into lobes, the margins always wavy, crisped or fringed.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Irwin. Sandy or gravelly soil.

THELYMITRA VILLOSA, hairy. (Darlington, Oct.) A rather stout species usually above 1 ft. high, remarkable for its ovate leaf, hairy on both sides, especially underneath as well as the sheath, the rest of the plant glabrous. Flowers rather large, yellow dotted with purple, in a loose raceme. Sepals and petals acute, nearly $\frac{3}{4}$ in. long. Column wings produced behind and over the anther into a broad hood.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon. Gravelly soil.

GLOSSOBIDIA BRUNKEA, after Robt. Brown. ("Purple China Orchid.") (Yalligup, Oct.) A hairy plant of 6 in. to 1 ft., with one or two rather large bluish-purple flowers. Leaf narrow-lanceolate, 1 to 3 in. long. Sepals and petals $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Lip reduced to an irregularly lanceolate or almost linear blade, often shorter than the column entire. Column half as long as the sepals, with a broad wing produced beyond the anther into a concave hood.

W.A.—Dis. Darling, Warren, Stirling. Sandy, gravelly soil.

STYLIDIMUM CALCARATUM, spurred. ("Trigger-plant.") (Yalligup, Oct.) A slender hairy annual. Leaves all radical, ovate, 1 to 3 l. long. Scapes 3 to 4 in. high, simple and one-flowered, or more frequently branched at the top with a loose cluster of pink or white flowers. Calyx-tube almost globular, about 1 l. long. Corolla-lobes nearly equal or two rather shorter, the irritible lip scarcely shorter, narrow, ascending, with no appendages to the throat. Stigma bearded.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon. Sandy or granite soil. S.A.



Prasophyllum fimbria.
("Leek Orchid.")

PIAMELEA SULPHUREA, yellow. "Bread." (King's Park, Oct.) An erect slightly branched shrub of 1 to 2 ft., glabrous except the inflorescence. Leaves opposite, ovate or ovate-oblong, 2 to 4 l. or rarely $\frac{1}{2}$ in. long, rather thick, flat or concave, the uppermost pair usually larger. Flower-heads pale yellow, nodding, involucre bracts 6 or 8, ovate, obtuse, thinner and larger than the stem-leaves, the inner ones elliptic on the margins and silky-hairy inside. Perianth-tubes 3 to 4 l. long, hairy, lobes narrow, over 1 l. long.

W.A.—Dis. Darling, Warren. Sandy soil.

PIAMELEA DEBRICATA, overlapping. (Darlington, Oct.) A small erect much-branched shrub from 6 in. to $\frac{1}{2}$ ft. high. Leaves usually crowded, either mostly alternate or nearly all opposite, from oblong-lanceolate and under $\frac{1}{2}$ in. long to linear over $\frac{1}{2}$ in., all flat or slightly concave. Flower-heads globular, white and pink. Involucral bracts 8 or more, much shorter than the flowers. Perianth-tubes hirsute with long spreading hairs, $\frac{1}{2}$ to 3 l. long, stamens nearly as long as the lobes. A variable species, the principal forms differing a little in growth, size of flower-heads and colour.

W.A.—Dis. Darling. Yellow sandy soil.

EUCALYPTUS TETRAPTERA, four-winged. (Stirling Range, Oct.) A shrub or small tree, the branches nearly terete or very prominently four-angled. Leaves oblong-lanceolate, more or less falcate, mostly under 6 in., but sometimes 10 in. or more, very thick and rigid, shining above, veins divergent and parallel but scarcely prominent. Peduncles axillary or lateral, recurved, very broad and flat but thick and undulate, bearing each a single very large red sessile flower. Calyx-tube at least $\frac{1}{4}$ in. long and $\frac{1}{4}$ in. dia., very prominently four-angled. Operculum pyramidal, four-angled, not half so long as calyx. Stamens inflexed in the bud, not $\frac{1}{2}$ in. long. Fruit prominently angled or four-winged, 2 or 3 in. long, the rim concave, the capsule deeply sunk.

W.A.—Dis. Stirling. Granite soil.

EUCALYPTUS TORQUATA, wreathed. "Goldfields Red-flowering Gum." (Coolgardie, Oct.) A tree of 30 to 35 ft., over 1 ft. dia. Leaves lanceolate, about 3 in. long. Peduncles about $\frac{1}{2}$ in. long axillary, each bearing one to six red or pink flowers on pedicels, 6 l. long. Calyx-tube cylindrical, about 4 l. long, with an enlarged wreath-like corrugated base. Operculum sharply conical from a spreading wreath-like corrugated base.

Used on the goldfields for firewood.

W.A.—Dis. Coolgardie. Gravelly hills.

DIPLOKLIS HUMOKLI, after C. von Huegel. (Serpentine Falls, Oct.) Sometimes a shrub of 2 or 3 ft., but flowering usually as an undershrub of 1 to $\frac{1}{2}$ ft., branches and foliage hoary or softly hairy. Leaves either undivided and from oblong-linear to broadly cuneate, entire or coarsely toothed, or with two or three-toothed lobes or segments, always narrowed at the base. Flowers pink, racemose along the simple branches of a terminal panicle, males and females usually in same raceme. Sepals broadly ovate, 1 l. long, petals spreading, orbicular, 3 l. broad.

W.A.—Dis. Darling, Avon, Irwin. Sandy soil. N.A.

BRACHYSEMA PLEMOBOSUM, referring to the bitten-off appearance of the leaves. (Kojonup, Oct.) A shrub of 2 or 3 ft., leaves mostly opposite, truncate or broadly lobed at the top, 1 to $\frac{1}{2}$ in. long and often as broadly lobed at the top. Flowers deep red, usually two on short axillary leafy branches, or on peduncles bearing a pair of small leafy bracts. Calyx hairy, $\frac{1}{2}$ in. or more long, deeply divided into lanceolate segments, the two upper ones broader and more or less united. Standard lanceolate, reflexed, wings nearly as long as the keel, which is fully 1 in. long. Pod ovoid, as long as the calyx.

W.A.—Dis. Avon, Stirling. Often found under White Gums.

ANDROZANTHOS RUFUS, red. "Red Kangaroo Paw." (Albany, Oct.) Radical leaves above 1 ft. long, flat but rather thick, glabrous when full grown, margins usually rough. Stems 3 to 5 ft. high, densely covered from the base up with short soft wool, bearing a few short leaves, branching at the top into a broad forked flower-head, with a small bract under each branch. Flowers on very short pedicels, the whole of the inflorescence covered with hairy wool of a red or rich purple colour, rarely varying to a brown or pale yellow. Perianth-tube including the base, about 1 in. long, lobes lanceolate, 4 to 5 l. long. Anthers oblong without any terminal appendage. Ovary short with only two reflexed ovules in each cell.

W.A.—Dis. Albany, Eyre. Sand-plain.

EUTAXIA VIRGATA, twiggly. (Cannington, Oct.) A glabrous plant of 2 to 3 ft., with long slender twiggly or rarely forked branches. Leaves narrow-linear, $\frac{1}{2}$ in. long on the main branches. Flowers yellow and red, pea-shaped, solitary in each axil, sometimes crowded near the ends of the branches or in pairs terminating short axillary shoots. Pedicels short, with linear-lanceolate bracteoles about the middle. Calyx over 2 l. long, six-ribbed, standard fully twice as long, keel short and narrow. Pod flat, about 3 l. long.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

MIRBELIA DILATATA, dilated. (Harvey, Oct.) An erect bushy shrub with angular branches. Leaves numerous, usually scattered, cuneate, much dilated at the end, with three, five, or seven-pointed lobes or teeth, $\frac{3}{4}$ to $\frac{1}{2}$ in. long. Flowers bluish-purple, shortly pedicellate, solitary in the axil or forming terminal leafy racemes. Calyx $\frac{1}{2}$ l. long, standard twice as long, wings nearly as long as standard, keel shorter, obtuse. Pod oblong, about $\frac{1}{2}$ in. long.

W.A.—Dis. Darling, Stirling, Avon. Gravelly soil.

ALBIZIA LOPEANTHA, tufted flowers. (Serpentine River, Oct.) A tall shrub or small tree. Leaves twice pinnate. Flowers creamy, in loose cylindrical axillary spikes of nearly 3 in. Stamens fully $\frac{1}{2}$ in. long. Pod 3 in. long or more, 4 to 6 l. broad, very flat. Seeds transverse, ovate.

W.A.—Dis. Darling, Warren, Stirling, river valleys.

CHAPTER V.—NOVEMBER AND DECEMBER.

Or the many gorgeous flowers of the late spring, those of a creeper from the sand-plains out towards the Eastern Goldfields are the most striking. The rich waxy red flowers are set upright on the prostrate stems almost as if each one were rooted in the sand. It is called *Balaustion pulcherrimum*, so named by Sir William Hooker because Balaustion was an old Greek name for the wild pomegranate, which also has a somewhat similar vividly red flower. The name has been immortalised by Robert Browning in his poem "Balaustion's Adventure," which is prefaced with the following explanation :

"After the ill-starred expedition under Nikias against Sicily and the crowning disaster of Syracuse had become known to the inhabitants of Rhodes, a great reaction against the supremacy of Athens set in, and a general determination to side with Sparta was expressed. Against this the girl Balaustion (Wild-pomegranate-flower) vehemently protested, and calling together those whom she could muster, they took ship to Athens. Encountering storms and pursued by pirates, they were driven upon Syracuse Harbour, where, however, they were at first refused admission and thrust back upon the pirates. At the last moment, however, curiosity was expressed as to Euripides, and Balaustion came forward and offered to recite the 'Alkestis,' which she did before the whole listening city."

In Browning's poem Balaustion sings a song by Æschylus to encourage the rowers in their exertions to escape the pirates. This has been overheard by those in the boat sent out by the Syracusans to intercept them, and, as an afterthought, after refusing them admission, they demand :

"That song was veritable Æschylus,
Familiar to the mouth of man and boy,
Old glory—how about Euripides ?
The newer and not yet so famous bard,
He that was born upon the battle-day
While that song and the salpinx sounded him
Into the world, first sound, at Salamis—
Might you know any of his verses, too ?"

The captain of the Athenian boat replies :

"Osp, boys, bring our owl-shield to the fore !
Out with our Sacred Anchor ! Here she stands,
Balaustion ! Strangers, greet the lyric girl.

"Why, fast as snow in Thracæ, the voyage through
Has she been falling thick in flakes of him ?

"And so, although she has some other name,
We only call her Wild-pomegranate-flower,
Balaustion : since where'er the red bloom burns
I' the dull dark verdure of the bounteous tree,

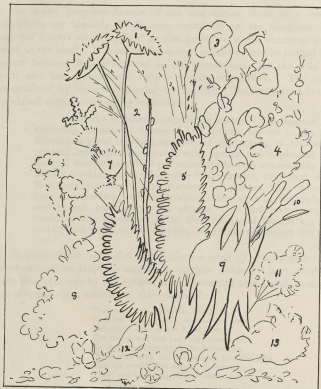


PLATE VI.

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| 1. <i>Brunonia australis</i> . | 7. <i>Boerhaavia squarrosa</i> . |
| 2. <i>Conospermum triplinervium</i>
("Smoke-bush"). | 8. <i>Ptilanthus filifolius</i> . |
| 3. <i>Eremophila ericoides</i>
("Wild Foxglove"). | 9. <i>Ceanothus Dampieri</i>
("Sturt's Desert Pen"). |
| 4. <i>Cyanostegia angustifolia</i> . | 10. <i>Angianthus tomentosa</i>
("Camel-grass"). |
| 5. <i>Grevillea exoniensis</i>
("Orange Bottle-brush"). | 11. <i>Conospermum Broussii</i> . |
| 6. <i>Dampiera ericophylla</i> . | 12. <i>Eukalium pulcherrimum</i> . |
| | 13. <i>Kerandenia integrifolia</i> . |



Dethroning, in the Roxy Isle, the rose,
 You shall find food, drink, odour, all at once;
 Cool leaves to bind about an aching brow,
 And, never much away, the nightingale.
 Sing them a strophe, with the turn again,
 Down to the verse that ends all, proverb-like,
 And save us, thou Balaustion, bless the name!"

Another brilliantly beautiful plant from the sand-plain district is *Pileanthus filifolius*, in habit somewhat like a *Verticordia*, with flowers of brilliant red, having black anthers and yellow sepals. When the crimson petals fall, the bushes appear to be covered with quite beautiful yellow blossoms.

Grevillea and *Callistemon* ("Bottle-brush") are two genera which provide interesting studies in form and colour, the great diversity in the habit and type of flowers in the many species of the former well justifying the naming of its Family, *Proteaceae*.

Conspicuous by the dazzling splendour of its orange-yellow bottle-brush-like flower-spikes, on the eastern sand-plains is *Grevillea excelior*, *Diels*, a tall shrub up to 20 ft. high. *Grevillea eriostachya* (Moore River district) is a smaller shrub, but with flower-spikes so similar to those of *Grevillea excelior* that identification of specimens of the two would be difficult without notes regarding habit and locality.

Verticordia nitens ("Morrison-flower"), a straggly shrub crowned by a mass of orange-coloured flowers, strikes a vivid note in the bush near Perth, especially round Bayswater and out towards Wanneroo.

Also plentiful on the sand-plains is *Verticordia Brownii*, a shrub known as "Wild Cauliflower." The form of its inflorescence is something like that of *Verticordia nitens*. Its tiny creamy-white flowers are very crowded, and the resemblance of the massed clusters of bloom to the heads of gigantic cauliflowers is most marked.

Contrasting pleasingly with so much that is brilliant and bizarre in colour are some beautiful blue flowers, *Brunonia australis* ("Wild Cornflower"), *Linum marginale* ("Wild Flax"), and *Trachymene carulea*.

Open in the mornings only are the quaintly shaped fringed mauve flowers of the many species of *Thysanotus* ("Fringed Lily"). The commonest of these is *T. dichotomus*, which remains in bloom right through the hot summer months. Its delicate satin-like flowers, usually only one, but sometimes two or even three, on the slender leafless stalks, at times appear to float in the air like butterflies apparently without support. Though each individual blossom of *T. multiflorus* is as beautiful as those of *T. dichotomus*, they lose charm by being clustered closely in a terminal head. Much smaller, but exact little replicas as regards colour, shape, and silken texture, are the blooms of *T. Patersoni*, which spreads like a wiry net over bushes and shrubs.

Hemianandra pungens ("Snake-bush") creeps and climbs everywhere, especially on the coastal limestone hills. It has long tube-like mauve flowers, spotted inside, varying greatly in size and shade.

Another sand-plain favourite is *Actinotus leucocephalus* ("Flannel-flower"). Western Australia has four out of the nine species of this genus, which is endemic to Australia, and belongs to the *Umbellifera* Family in spite of the daisy-like flowers; but the popular Flannel-flower of New South Wales (*Actinotus Helianthi*), a very large-flowered variety, is not among them. Flannel-flowers have been called "The Australian Edelweiss" from their resemblance to the *Edelweiss* of the European Alps (*Leontopodium alpinum*), which, however, belongs to the *Compositae* or Daisy Family.

In the far nor'-west, *Crotalaria Cunninghamii*, known as "The Green Bird Flower," blooms freely, and the further north the finer the flowers, which look exactly like green birds hanging by their beaks to the upright stalks. On Christmas cards decorated with pressed flowers, one of these Bird Flowers is usually placed as though hovering over a spray of other blossoms, with realistic effect.

The "Native Plum" or "Emu Bush" (*Podocarpus Drouyniana*), "Rottnest Cyprus" (*Callitris robusta*), "Zamia Palms," and "Blackboys" can hardly be classed as wildflowers, but they are such interesting types of plant life, I have included them. The firstnamed belongs to a family bearing fruit with the stone on the outside, which gave a slight foundation of fact to a description of Australia, believed to be correct by many people in England still, to the effect that it was a land where the flowers had no scent, the birds no song, and fruit grew with stones on the outside! Whoever invented the first two calumnies on the Australian bush must have been deaf, and devoid of all sense of smell.

One of the most delightful experiences I ever had was a moonlight ride through the Karri forest between Karridale and Augusta, with its beauties of light and shade, blue-black depths of shadow, shimmering radiance of tree-tops, ghostly outlines of dead trees, and delicate tracery of bough and leaf standing out against the moonlit sky. The sweet drifting scents of the bush I shall never forget. I had wakened early that morning and watched through a wide-open upstairs window the lovely tints of breaking day increase and fade in the sky behind the misty masses of the trees to the accompaniment of the joyous carolling of many magpies, and there was certainly music in their song!

Adam Lindsay Gordon incurred the displeasure of many lovers of the Australian bush by commencing his Dedication to Whyte-Melville of "Bush Ballads and Galloping Rhymes" with the lines:

"They are rhymes rudely strung with intent less
Of sound than of words,
In lands where bright blossoms are scentless,
And songless bright birds."

But as it is a fact that many brilliant Australian flowers have no scent, and the screeching of the cockatoos and parrots is anything but musical, Gordon should be forgiven this not quite undeserved criticism, which is by no means scathingly condemnatory of the whole flora or bird life generally of Australia. His appreciation of the scent of the wattle-blossom is expressed further on in the same poem:

"In the Spring, when the wattle gold trembles
Twixt shadow and shine,
When each dew-laden air draught resembles
A long draught of wine."

And again in the ballad of "Ye Wearie Wayfarer":

"Lightly the breath of the Spring wind blows
Though laden with faint perfume;
'Tis the fragrance rare that the bushman knows,
The scent of the wattle bloom."

"Zamia Palms" (*Macrozamia Fraseri*) and "Blackboys" (*Xanthorrhoea Preissii*) take the place in the landscape in undulating forest country, of the tree-ferns of the Eastern States, the Blackboys with their thick trunks and crowns of gracefully curved grass-like leaves being particularly effective. Blackboys are quite a commercial asset to Western Australia, as among the products obtained from the gum are glucose, treacle, perfumes, alcohol, and certain tar products, and from these latter again two dyes have been extracted. Picric acid, so much used in explosives, is also yielded by the tree. From the flaky outside sheathing of the trunk, used in almost every home in Western Australia for kindling fires, drying oils and turpentine substitutes suitable for paints and varnishes can be manufactured. Many people are surprised to learn that these curious trees belong to the Lily family.

The Zamia Palms are a great pest to stockowners in the south-west, as they are often eaten by cattle, with the result that the animals, the young ones especially, become badly afflicted with "rickets," a horrible disease which paralyses their hindquarters. These palms are said to contain a large amount of farinaceous matter that only requires to be washed, as with arrowroot and tapioca, to dissolve out the poison associated with it, to be converted into a wholesome food.

Macrozamia belong to the *Cycad* family, and, like the Club Moss (*Phyloglossum*), are examples of primitive forms of plant life.

Ferns (*Filices*) are poorly represented in Western Australia, only fifteen species being indigenous. The one variety of Maiden-hair (*Adiantum athiopium*) is plentiful in moist and cool places. Maiden-hair was named *Adiantum* by the Greeks from *adiantos*, meaning unwetted. Pliny is said to have observed, "You may dip that fern in water, but you cannot make it wet." Bracken (*Pteris aquilina*) covers a good deal of country. This species is very widely distributed over the world, and was named *aquilina*, like an eagle, by Linnæus, the great Swedish botanist and founder of botanical science, because when the stalk is cut across, the sectional marking according to the German mind resembles an eagle. English people, however, prefer to liken it to King Charles hiding in the oak tree.

Comparison of the Christmas flora of the different States of Australia and New Zealand is interesting. The people of New South Wales are rightly proud of their Christmas Bush or Tree (*Ceratopetalum gummiferum*, of the Family *Cunoniaceae*, until recently included in the Family *Saxifragaceae*), a tree up to 30 or 40 ft. high, with bright red starry blossoms; and Christmas Bells (*Blandfordia grandiflora*, *B. nobilis*, and *B. flammæa*, of the Family *Liliaceae*), which have beautiful drooping bell-shaped reddish-yellow flowers, the various species differing in size and shape.

Blandfordia flammea is also the Christmas Bell of Queensland.

The Victorian Christmas Bush is *Prostanthera lasiantha*, of the Family *Labiata*, an evergreen shrub of about 20 ft. high, generally found in gullies amongst the tree-ferns, with pinkish white flowers of the Foxglove type, spotted with purple.

Tasmania has a Christmas Bell of its own (*Blandfordia marginata*), and its Christmas Tree is *Bursaria spinosa* of the Family *Pittosporaceae*, an evergreen shrub or tree from 10 to 30 ft. in height, with white flowers, indigenous also to all the other States.

The New Zealand Christmas Tree (*Metrosideros tomentosa* of the Family *Myrtaceae*) is very beautiful. It is commonly known as "Rata," but is called by the Maoris "Pohutukawa," and is a tree with spreading branches and large terminal cymes of brilliant scarlet flowers, having numerous stamens over an inch long. The buds are snow white and woolly. This tree rarely grows far from the sea or an inland lake, and is found in all sorts of impossible looking places clinging to the sides of cliffs with long twisted roots. The branches often hang over and almost dip into the sea, and oysters may sometimes be gathered from them. When growing on level ground, great bunches of red fibrous rootlets often hang from the boughs. There is a Maori legend to the effect that a bough of Pohutukawa was the last earthly hand-hold of the departing spirit when it leaped off the world above into Reinga (the underworld).

For sheer gorgeous beauty the Christmas Tree of Western Australia (*Nuytsia floribunda*) need fear no rival. Its masses of flaming orange flowers crown and often exceed the dark and somewhat heavy foliage, radiating dazzling colour in the brilliant sunshine of December. Unfortunately this beautiful tree is difficult to propagate. Its seedlings rarely reach maturity. It is mostly reproduced in its natural state by suckers from the long underground parasitic stems thrown out by the roots in search of victims and moisture—one of these stems was traced 120 yards from a tree at Como, near Perth. The only superstition I have heard in connection with *Nuytsia floribunda* is that it is unlucky to pick the flowers before Christmas Day, and it is a pity this is not more generally believed, as much wicked destruction of the trees by the ruthless tearing down of the flowering branches might then be averted. The flowers wither off quickly after Christmas, and the glory of this magnificent tree fades out with the passing of the Old Year.

BALAUSTRON PULCHERRIMUM, most beautiful. (Kellerberrin, Nov.) A low glabrous shrub, with a short thick stalk, and numerous trailing and prostrate stems, extending to about 1 ft. Leaves linear, rigid, mostly under 1 in. long. Flowers red, solitary in the axils below the ends of the branches on pedicels of 1 to 3 l. Bracteoles small, ovate. Calyx-tube nearly 1 in. long, lobes 5, about 1 to 1½ l. long. Petals 5, about 5 l. dia., with a very short broad claw. Stamens about 30. Style long.

W.A.—Dis. Avon, Austin, Coolgardie. Sand-plains.

BORONIA TETRABDRA, having a four-lobed stigma. "Yellow Boronia." (Wanneroo, Nov.) An erect much-branched shrub, the branches more or less hirsute with spreading hairs. Leaves pinnate, leaflets usually seven to thirteen, in rather distant pairs, linear, obtuse, to 4 l. long. Peduncles axillary, one-flowered, very short. Sepals broadly ovate. Petals yellow, 3 or 4 l. long, glabrous, overlapping. Stamens 8. Stigma very large and thick, with four very prominent almost winged lateral lobes.

W.A.—Dis. Darling, Warren, Stirling, Eyre. Sandy soil. N.S.W.



CASSIA FLEUCOCARPA, having lines on the pod. (Yorkrains, Nov.) A tall erect glabrous shrub. Leaves abruptly pinnate, leaflets oblong-linear, $1\frac{1}{2}$ to 2 in. long. Flowers yellow, loosely racemose in the upper portion of the axillary peduncles. Sepals thin, broad, 3 to $3\frac{1}{2}$ in. long. Petals unequal, rather longer than the calyx. Pod flat, very obtuse, about 2 in. long and $\frac{1}{2}$ in. wide.

W.A.—Dis. Avon, Austin, Coolgardie. Gravelly clay soil. N.S.W.

PETROPHILA LINEARIS, linear-leaved. (Victoria Park, Nov.) An erect shrub of about 2 ft. Leaves linear, flat but thick above the middle, usually 2 l. broad above the middle, incurved towards the end, $1\frac{1}{2}$ to 4 in. long. Flowering-cones globular or ovoid, sessile at the ends of the branches, $1\frac{1}{2}$ to $2\frac{1}{2}$ in. dia. without the perianths. Outer bracts rigid, about 6 l. or more long, linear-subulate and often numerous. Perianths pinkish with dark grey tips, at least 1 in. long, densely covered with silky hairs. Fruit a broad and flat nut.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy soil.

LAMBERTIA MULTIFLORA, many-flowered. (Armadale, Nov.) A shrub of 3 or 4 ft. Leaves sessile, linear, 1 to 2 in. long, rigid, midrib prominent underneath. Flower-heads yellow, terminal, almost always seven-flowered, appearing more sometimes when two or more heads are closely clustered together. Perianths about $1\frac{1}{2}$ in. long, slightly dilated and incurved above the middle, tips of segments rolled back.

W.A.—Dis. Darling, Avon, Irwin. Gravelly soil.

MELALEUCA PERISPERMA, after L. Preiss. "Paper-bark." "Tea-tree." (Nedlands, Nov.) A tall shrub or tree with a thick spongy bark peeling off in papery layers. Leaves rather crowded, erect, lanceolate, flat, thick, and rigid, rarely exceeding $\frac{1}{2}$ in. in length. Flowers creamy-white, in loose oblong or cylindrical spikes, 1 to 2 in. long, rarely terminal, the axis growing out very early into a leafy shoot. Calyx-tube ovoid, thick, above 1 l. long, lobes much shorter. Petals about 1 l. dia. Staminal bundles 3 to 4 l. long.

W.A.—Dis. Darling, Warren, Stirling, Eyre. Swampy places. S.A. Vic.

TETRAETICA NUDA, bare. (Armadale, Nov.) A small shrub with numerous erect, slender, rigid, but rush-like stems $\frac{1}{2}$ to $1\frac{1}{2}$ ft. high, often ending in a sharp point. Leaves very minute and distant, or a few linear or oblong ones 2 to 3 l. long. Flowers pinkish-mauve. Pedicels slender, 2 to 3 l. long. Sepals and petals 5. Capsule obovate, glandular, hairy. Seeds smooth and shining.

W.A.—Dis. Darling. Gravelly places.

DROSERIA MACRANTHA, large-flowered. "Rainbow." (Armadale, Nov.) A bulbous plant with leafy stem, erect, flexuose, or climbing, to 2 ft. or more, hairy. Lower leaves few, reduced to fine scales, stem-leaves on slender stalks, orbicular, 2 or 3 l. dia., glandular, insect-catching. Flowers often large in a loose cyme, not usually numerous, white or pink, petals 5. Styles repeatedly branched.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Sandy, swampy soil.

BRUNONIA AUSTRALIS, southern. "Wild Cornflower." (Tammin, Nov.) A tufted perennial, clothed in every part with long silky hairs. Leaves radical, from obovate to linear-cuneate, entire, contracted into a petiole, 2 to 4 in. long. Scapes 6 in. to above 1 ft. high, bearing a dense globular or hemispherical flower-head, about $\frac{1}{2}$ in. dia. Florets numerous, blue, sessile, intermixed with bracts. Calyx-tubes short, lobes 5, $1\frac{1}{2}$ to 2 l. long, corolla-tube linear, shorter than the calyx-lobes, the five lobes oblong, about as long as the tube. Stigma shortly two-lobed, enclosed in a cup-shaped indusium.

W.A.—Dis. Avon, Irwin, Austin, Coolgardie. Sandy, gravelly soil. S.A. Vic. Tas. N.S.W.

LINUM MARGINALE, referring to the scarios margins of the sepals. "Wild Flax." (Armadale, Nov.) A glabrous herb with thick perennial root-stock, sometimes appearing annual. Stems erect, slender, 1 to 2 ft., very busily branched above the middle. Leaves linear from $\frac{1}{2}$ to 1 in. Flowers blue, on erect pedicels forming a loose, irregular, terminal corymb. Sepals 2 to 3 l. long, with a strong midrib. Petals 5, from a little longer to twice as long as sepals. Styles united to above the middle. Capsule divided into ten one-seeded cells.

W.A.—Dis. Darling, Warren, Stirling, Avon, Sandy, gravelly soil. S.A. Vic. Tas. N.S.W.

CROTALARIA CONVINCULAE, after A. Cunningham. "Parrot-plum." "Green Bird-flower." (Carnarvon, Nov.) A shrub of 2 or 3 ft., with slightly angular branches. Leaves ovate, obtuse, $1\frac{1}{2}$ to 3 l. long, hairy. Flowers in terminal racemes, large, greenish-yellow, resembling a bird with closed wings clinging by its beak to the stalk, calyx-tube about 3 l. long, the lobes varying to twice as long, all nearly equal. Standard about $1\frac{1}{2}$ in. long when fully developed, keel longer, wings shorter. Pod leathery, hairy, $1\frac{1}{2}$ in. long.

W.A.—North-west of State. Sandy soil. S.A. N.S.W. N.A.

PERALIMUM ARGENTUM, silvery. "Blister-plant." (Wanneroo, Nov.) A tall, stout, erect shrub, the younger branches angular and covered with white scurfy scales. Leaves lanceolate, 2 to 4 in. long, entire, flat. Flowers white, in small axillary or terminal, simple, or compound cymes, the whole inflorescence densely covered with silvery-scurfy scales. Calyx-lobes about as long as the tube. Petals 2½ to about 3 l. long, valvate. Stamens shorter than the petals. Ovary densely scaly.

W.A.—Dis. Darling, Warren. Sandy soil.

VERTICORDIA GRANIFLORA, large. "Crinoid Verticordia." (Geraldton, Nov.) A stout shrub of 3 to 6 ft., with erect or spreading branches. Leaves orbicular and half stem-clasping, 3 to 6 l. dia. Flowers red, axillary along the branches, each when fully out forming a densely plumose tuft of at least 1 in. dia. Calyx-tube about 4 l. long, primary lobes 5, spreading, divided into numerous long plumose lobes, five accessory lobes reflexed on the tube and turned up from the base fringed with fine cilia. Petals 5, orbicular, fringed with short teeth, inserted on the staminal tube considerably above the calyx. Stamens united at the base into a broad tube. Style long and projecting.

W.A.—Dis. Irwin. Usually found on sandy plains.

THYSANOTUS MULTIFLORUS, many-flowered. "Fringed Lily." (Jolimont, Nov.) Leaves all radical, numerous, densely tufted, erect, rigid, nearly 1 l. broad, much shorter than the scape in the typical form, but sometimes longer and flaccid. Scape simple, 6 in. to 1 ft. or rarely 1½ ft. high, bearing a single terminal umbel of numerous mauve flowers. Pedicels usually longer than the perianth. Perianth-segments about 6 l. long, the three outer ones narrow, acute and dark-coloured, the inner three rather shorter, much broader and fringed. Stamens 3 only.

W.A.—Dis. Darling, Warren, Stirling, Avon. Sandy soil.

THYSANOTUS DICHOTOMUS, forked. "Fringed Lily." (Yalligup, Nov.) Leaves radical, few, short, withering early. Stems exceedingly variable in habit, sometimes erect, 1 to 2 ft. high, usually rigid, sometimes with long and spreading solitary or clustered branches, or flexuose and forked. Umbels all terminal, reduced to one or two or rarely three mauve flowers, similar to *T. multiflorus*, but on pedicels shorter than the perianth. Stamens 6.

W.A.—Dis. Darling, Warren, Stirling, Avon, Eyre, Irwin. Sandy soil. S.A. Vic.

ACTINOTUS LEUCOPHYLLUS, white-headed. "Flannel Flower." (Tammin, Nov.) An erect plant with forked branches, more or less clothed with soft hairs, 1 to 2 ft. high. Leaves divided, with linear segments again divided. Flowers daisy-like, white, on long peduncles, involucre expanding to 1 or 2 in. dia., consisting of numerous lanceolate flannel-like bracts. Florets numerous, densely packed, the males in several rows at the outside of the disk, the central ones perfect. Fruit broad, above 1 l. long, very silky-hairy.

W.A.—Dis. Darling, Avon, Austin, Coolgardie. Sandy, gravelly soil.

PLEIANTHUS PILIFOLIUS, leaves thread-like. (Tammin, Nov.) An erect and branching shrub. Leaves linear-terete, obtuse. Flowers in the upper axils on pedicels often ½ in. long or more. Calyx-tube about 2 l. long, lobes yellow, nearly as long, obovate, slightly toothed. Petals 5, red, more than twice as long as the calyx, lobes obovate, shortly fringed. Stamens shorter than the petals.

W.A.—Dis. Avon, Irwin. Sand-plains.

BRAUFORTIA SQUARROSA, leaves rigidly spreading. (Tammin, Nov.) A straggling shrub of 2 or 3 ft. Leaves opposite, crowded and decussate on the smaller branches, broadly ovate, obtuse, rigid, 1½ to 3 l. long. Flowers red, in dense globose heads, the axis occasionally growing out before the flowering is over. Calyx-tube about 1½ l. long, lobes rigid, about half as long as the tube. Petals broad, about as long as calyx-tube, scarcely ciliate. Staminal bundles ½ in. long. Ovary with two rudimentary ovules in each cell under the perfect one. Fruit-spikes globose or oblong, the calyx-lobes at length wearing off.

W.A.—Dis. Avon, Irwin. Sand-plains.

DAMPiera ERIOCALYX, woolly-headed. (Tammin, Nov.) Leaves radical, obovate, oval or oblong, obscure, entire or toothed, rather thick, often several inches long, glabrous above, clothed underneath with a close white tomentum. Scape erect, woolly, 1 to 2 ft. high, leafless, simple below the flower-head or more or less corymbosely branched, with sessile oblong or linear leaves or bracts subtending the branches. Flowers blue, in dense terminal heads, rarely growing out in short spikes. Bracts lanceolate, ciliate. Calyx-lobes small. Corolla 6 to 8 l. long, hairy. Ovary one-celled, with one erect ovule.

W.A.—Dis. Stirling, Avon. Gravelly soil.

EREMOPHILA ERIOCALYX, woolly calyx. "Wild Foxglove." "Desert Pride." (Tammin, Nov.) A shrub of 3 or 4 ft., hoary with a close tomentum, the pedicels and calyx covered with a much looser wool. Leaves linear-lanceolate, obtuse, entire, flat, or with rolled-back edges, 1 to 2 in. long. Flowers pink, solitary, on pedicels shorter than the calyx.

W.A.—Dis. Avon, Irwin, Austin, Coolgardie. Sand-plains.

GREVILLEA PARADOXA, puzzling. "Bottle-brush." (Kellerberrin, Nov.) A stout, rigid, bushy shrub. Leaves very intricate, once, twice, or three times divided into linear-terete, rigid, forked, sharp-pointed segments, the whole leaf under 2 in. Racemes or spikes cylindrical, thick and very dense, red, sessile, the rhacis densely hairy. Pedicels ½ to 1 l., perianths straight or slightly curved, slender, 2½ to 3 l. long, the limb ovoid, erect. Style very long. Fruit ovoid, hairy, 2 to 3 l. long.

W.A.—Dis. Avon, Coolgardie. Sandy soil.

XANTHORHIZA PRELISII, after L. Preiss. "Blackboy." (Yanchep, Nov.) Trunk-like stem thick and simple, either very short or more or less elongated, attaining often 5 or 6 ft., sometimes 15 ft. Leaves from a short broad flat base, 2 to 4 ft. long, from 1 to 2 l. broad, very brittle when young. Scape 2 to 6 ft. long, including the spike, which occupies from one-half to nearly the whole length, and when fully out 1 in. or more dia. Flowers white, perianth segments 6, 3 to 3½ l. long. Stamens twice as long as the perianth.

W.A.—Dis. Darling, Warren, Stirling, Irwin. Swampy, sandy soil.

STACKHOLMIA BRUNONIS, after R. Brown. "Candles." (Armadale, Nov.) A glabrous plant, stems erect, simple or branched, 1 to 2 ft. or more. Leaves narrow-linear, small or scattered, ½ to 1 in. Spikes sometimes short and crowded, but usually elongated, with rather distant white stary flowers on short pedicels. Bracts subulate, very variable in length. Calyx-lobes narrow-linear. Corolla-tube slender, about 3 l. long, lobes narrow, acuminate, as long as the tube or shorter.

W.A.—Dis. Darling, Warren, Stirling, Avon, Irwin. Gravelly or swampy soil. N.A.

MILIALUECA SERIATA. (Kellerberrin, Nov.) A shrub with hairy or glabrous branches. Leaves scattered, erect or recurved, linear, obtuse, 3 to 4 l. long, thick but flat. Flowers purpleish-pink, in dense terminal globose heads, rhacis woolly. Bracts very deciduous. Calyx-tube about ½ l. long, lobes valvate. Petals under 1 l. dia. Staminal bundles 3 to 4 l. long.

W.A.—Dis. Avon, Coolgardie. Yellow, sandy soil on plains.

CYANOSTEGIA ANGUSTIFOLIA, narrow-leaved. (Tammin, Nov.) An erect glabrous shrub, the upper part often appearing glutinous. Leaves linear, obtuse, or with a short hooked point, often bordered by small distant teeth, 1 to 2 in. long, rather thick and nervelike, the floral ones much smaller, the upper ones reduced to small bracts. Pedicels opposite, upper ones usually short, one-flowered, with a pair of small bracteoles under the calyx, the lower ones often three-flowered or growing out into a flowering branch, the whole forming a loose pyramidal panicle. Flowers bluish-pink. Calyx at time of flowering not much longer than the corolla, when expanded under the fruit, up to ½ in. dia. Corolla about 3 l. long. Anthers purple, shortly protruding.

W.A.—Dis. Avon, Coolgardie. Sand-plain.

DRYANDRA ARMATA, armed with prickles. (Armadale, Nov.) A much-branched shrub of 2 to 4 ft. Leaves 2 to 3 in. long, deeply divided with lanceolate or triangular sharp-pointed lobes, very rigid, sometimes slightly hairy underneath. Flower-heads yellow, terminal, surrounded by floral leaves longer than the flowers. Involucre broadly ovoid or almost globose, about ½ in. long. Outer bracts broad, inner ones narrow. Perianths above 1 in. long, style exceeding the perianth with a very narrow furrowed stigmatic end of about 1 l.

W.A.—Dis. Darling, Warren, Stirling. Gravelly soil.

HEMIDRACHA FUSCENS, sharp-pointed. "Snako-bush." (South Perth, Nov.) A spreading, rarely erect shrub, sometimes quite dwarf, sometimes ascending to 1 or 2 ft. Leaves sessile, linear, rigid, acute with sharp points. Pedicels shorter than the leaves, bracts linear, sharp-pointed. Flowers very variable in size and colour, white, pink or mauve, spotted. Calyx two-lipped, the middle lobe of the upper lip broad, tapering to a point, the lateral lobes smaller and rounded, the lower lip smaller with two acute lobes. Corolla-tube dilated into a broad throat. Style shortly and equally two-lobed.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

POGONIA HAKEA-FOLIA, Hakea-like leaves. "Hibiscus." (Goomalling, Nov.) An erect shrub, flowering young, 8 to 10 ft. Leaves deeply divided, or the upper ones entire, often several inches long. Flowers large, mauve, on axillary peduncles. Involucre placed a little below the calyx, very small, divided into three to six short rigid unequal teeth. Calyx ½ to 1 in. long, deeply divided into lanceolate-acuminate lobes. Petals 5, 1½ to 2 in. long. Capsule five-celled.

W.A.—Dis. Stirling, Eyre, Avon, Irwin, Coolgardie. Clay soil.

AGONIS FLEXUOSA, bending branches. "Peppermint-tree." (Osborne, Nov.) A tall shrub or tree up to 50 ft. high, with dia. of stem 2 ft. or more at the base. Leaves lanceolate, acute, narrowed at both ends, 2 to 6 in. long. Flowers white, small, numerous, axillary. Calyx-tube 1 to 1½ in. long, the lobes much shorter. Petals 5, obovate, 2½ in. long. Stamens usually 20. Seldom seen more than 15 or 20 miles inland. The species is very handsome with dense drooping foliage. The leaves when crushed have a strong perfume resembling peppermint. The timber is hard, durable, and makes good firewood.

W.A.—Dis. Darling Warren. Sandy soil near the sea.

GASTROBIUM SPINOSUM, prickly. "Prickly Poison." (Armadae, Nov.) A shrub of 2 to 4 ft. Leaves mostly opposite, broadly ovate-cordate, ending in a pungent point, and usually bordered with pungent teeth. Flowers in loose racemes 1 to 1½ in. long, pea-shaped, yellow and red. Calyx broad, about 2½ in. long, the lobes much shorter than the tube, the two upper ones united nearly to the top. Standard 1 in. dia., wings rather shorter and scarcely exceeding the keel, which is broad and deeply coloured. Pod 4 to 5½ in. long.

W.A.—Dis. Darling, Stirling, Eyre, Avon, Irwin. Gravelly soil.

ANGIANTHUS TOMENTOSUS, hairy. "Camel-grass." (Yorkrakin, Nov.) An annual more or less clothed with white wool, the stems numerous, erect or prostrate, often above 1 ft. Leaves from oblong-cuspidate to linear, obtuse, narrowed at the base and slightly decurrent, the upper ones small. Clusters of flowers oblong or cylindrical, yellow, those terminating the stem ½ to 1 in. long, those on the branches smaller and more ovoid, all obtuse at the base. Florets toothed.

W.A.—Dis. Avon, Austin, Coolgardie. Loamy soil. S.A. Vic. N.S.W.

TRICHETUM MANGLESII, after Capt. Mangles. "Rabbit's Tail." (Armadae, Nov.) A perennial with stems prostrate, ascending or rarely erect, 6 in. to 1 ft., usually simple. Radical leaves on long petioles ovate to linear, 1 to 3 in. long. Flower-spikes globular or ovoid, above 2 in. dia., conspicuous by the bright purplish-pink tips of the perianths protruding from the long white hairs. Bracts and bracteoles broadly lanceolate, acuminate, the outer ones more or less brown in the centre, from half to three-quarter the length of the perianth. Perianths ½ to 1 in. long, the tube narrow, about 1½ in. long, hairy, segments with glabrous pink tips of 2 to 4 l., the remainder plumose with long white hairs.

W.A.—Dis. Darling, Stirling, Avon, Irwin. Sandy or gravelly soil.

TRICHETUM EXALATUM, tall. (Goomalling, Nov.) A stout perennial with a thick stock and erect stems of 2 or 3 ft., usually branched in the upper part. Radical and lower leaves oblong-lanceolate, 3 to 5 in. long, thick, contracted into a long petiole. Upper leaves small, sessile, broad or narrow, often crisped margins. Flower-spikes erect on long peduncles, at first ovoid-conical, at length oblong-cylindrical, about 2½ in. dia. Bracts and bracteoles rarely half as long as the perianth, ovate-lanceolate, sharp-pointed. Perianths rarely above ½ in. long, the segments narrow and almost acute, plumose outside with long white hairs, the short glabrous tips of a dull red, the inner ones densely woolly below the middle. Stamens unequal. Ovary usually glabrous in W.A. species.

W.A.—Dis. Avon, Austin, Coolgardie. Gravelly soil. S.A. Vic. N.S.W. Q. N.A.

HEMILEA PILOSA, hairy. (Jolimont, Nov.) An erect or spreading heath-like shrub of 3 or 4 ft. with twiggy branches. Leaves linear, 2 to 4½ in. long. Flowers orange-red, solitary, sessile within the last leaves surrounded by overlapping scale-like bracts, the inner ones nearly as long as the calyx-tube. Calyx-tube narrow, 1½ in. long, silky-pubescent, lobes triangular, much shorter than the tube. Petals about 1½ in. long. Stamens very numerous, slightly united in five bundles, but with several filaments free between them. Fruiting-calyx globular, very smooth and shining, above ½ in. dia.

W.A.—Dis. Darling. Sandy soil.

WATZIA NIVALIS, white. "Everlasting." (Yanchep, Nov.) An erect annual with linear leaves and flower-heads in a loose corymb, the involucres surrounded by a few floral leaves. Bracts pure white or pink, acute. Central cluster of florets yellow.

W.A.—Dis. Darling, Irwin. Sandy soil.

EUCALYPTUS REDUNCIA, var. *clata*, curved. "White Gum," "Wandoo." (York Road, Nov.) A large tree, usually 60 to 80 ft. high. Bark smooth, white, stripping off in long papery pieces. Leaves lanceolate, under 3 in. long, thick, veins not prominent, oblique. Peduncles axillary or lateral, usually flattened, each with a dense head of six to twelve creamy-white flowers. Calyx-tube narrow, nearly 3½ in. long, tapering into a short thick or flattened pedicel. Operculum conical, acuminate. Stamens 3 to 4½ in. long, more or less inflexed in the bud. Fruit obovoid, 4 to 5½ in. long, and about 3½ in. dia., rim narrow, capsule sunk, the points of the valves rarely protruding.

W.A.—Dis. Darling, Stirling, Avon. Gravelly soil. Most abundant on the eastern slopes of the Darling Range.

GREVILLEA PETROPHILOIDES, like *Petrophila*. ("Pink Silk Flower." (Tammin, Nov.) A spreading shrub of 3 to 5 ft. Leaves pinnate, the segments usually again divided, linear, terete, slender, the whole leaf 1 to 2 in. long. Flowers in terminal spreading racemes, pink with green tips. Pedicels 1 to 2½ in. long. Perianths lightly hairy outside, bearded inside above the middle with short hairs, the tube 3 to 3½ in. long, somewhat dilated below the middle, attenuate and rolled back under the globular limb. Style long. Fruit smooth, 5 to 6½ in. long.

W.A.—Dis. Avon. Sand-plain.

ADENANTHOS SERICEA, silky. "Woody-bush." (South Perth, Nov.) A tall shrub or small tree of 10 to 20 ft., branches and foliage softly silky-pubescent or hairy. Leaves crowded, twice divided into linear-terete almost filiform segments, often ending in small glabrous gland-like tips and sometimes the lower segments short as if mutilated, with dilated gland-like tips, the whole leaf 1 to 1½ in. long, floral ones often larger. Involucres terminal, solitary, or rarely two or three together, almost concealed by the foliage, on peduncles of about 1½ in. the bracts silky-pubescent, the inner ones 2½ in. long. Perianth above 1 in. long, silky-villous, reddish, slender, densely bearded inside behind the anthers. Style glabrous, the end slightly thickened.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon, Irwin. Gravelly or sandy soil. S.A.

ATHYRIA AUSTRALIS, southern. (Garden Island, Nov.) An erect branched hairy annual about 1 ft. high. Leaves linear or linear-lanceolate, stem-clasping at the base, mostly above 1 in. long. Flower-heads about 1 in. dia. in a loose terminal cluster, rays white, toothed disk yellow. Involucres about 4½ in. long, hairy, bracts very numerous.

W.A.—Dis. Darling, Stirling, Irwin, Sandy soil.

BORONIA ALATA, winged. (Garden Island, Nov.) A much-branched shrub. Leaves pinnate, with a sweet strong scent, leaflets obovate, often ½ in. long. Flowers pale pink in terminal cymes, not exceeding the last leaves. Sepals small, lanceolate. Petals 4, about 5½ in. long, broadly lanceolate, glabrous outside with prominent midrib, minutely hairy and deep pink inside with midrib ciliate. Stamens 8.

W.A.—Dis. Darling, Warren, Irwin, Sandy soil.

SWAINSONA CANESCENS, whitish. (Abrolhos Island, Nov.) An undershrub with erect rigid but herbaceous hairy stems of 1 to 2 ft. Leaves pinnate, leaflets 9 to 15, hairy underneath, obovate or oblong-elliptical, obtuse or retuse; ½ to 1 in. long. Flowers blue or violet, variegated, with pink and a green blotch at the base of the standard, pea-shaped, nearly sessile, in many-flowered racemes on long silky-villous peduncles. Calyx about 2½ in. long, silky-hairy, the lobes about as long as the tube, standard about ½ in. dia., keel incurved not twisted, with a large callosity on each side at the end. Pod almost sessile, oblong, softly hairy, 7 to 8½ in. long. This species differs in general aspect, style, and pod from most others.

W.A.—Dis. Irwin, Coolgardie. Gravelly soil.



Thelymitra juco-lutea.

TRIBONANTHES LONGIPETALA, petals long. (Harvey, Nov.) A plant with stems usually $\frac{1}{2}$ to 1 ft. high, woolly in the upper part. Leaves nearly terete, rather thick and not long. Flowers white in a loose cyme of two to six on pedicels longer than the ovary. Bracts lanceolate or linear. Perianth segments 5 to 7 l. long, densely covered on both sides with a white cottony wool, the short erect bases distinct, but connected by their wool. Filaments short and flat, produced into three or four erect lobes always much shorter than the anther. Style reaching only to the base of the anthers.

W.A.—Dis. Darling, Stirling. Moist, sandy soil.

THELYMITRA FUSCO-LUTEA, brown and yellow-flowered. (Gossnell, Nov.) A stout glabrous herb of 1 to 1½ ft., rarely smaller or more slender. Leaves ovate or oblong-lanceolate, shortly acuminate, 2 to 4 in. long. Flowers few, rather large, yellow, in a terminal raceme. Sepals and petals broadly oblong-lanceolate, acute, usually about 1 in. long or more with dark-brown spots. Column exceedingly short below the anther, the wing produced behind and beyond the anther into a broad hood nearly 3 l. long, deeply cut into a fringe of linear lobes, shortly crested or bearded on the back in the centre, and with a dorsal club-shaped appendage proceeding from near the base, entire, or sometimes notched at the end.

W.A.—Dis. Darling, Warren, Stirling, Eyre. Sandy soil.

VILLARSIA ALBIFLORA, white flowers. (Bayswater, Nov.) A swamp plant, tall, erect, with radical leaves on long petioles, round, entire, or toothed, broadly cordate or truncate at the base, 1 to 2 in. dia. Stems 2 ft. or more, leafless except for the small bracts, or with a single petiole leaf at first branching. Flowers white in a large loose panicle. Calyx-segments 2 to nearly 3 l. long. Corolla lobes shortly exceeding the calyx, bearded inside at the base. Capsule opening at the top in four valves. Style rather short.

W.A.—Dis. Darling, Warren, Stirling. Wet places.

MACROZAMIA FRASERI, after C. Fraser. "Zamia Palm." (Yallingup, Nov.) A palm-like plant, the trunk 10 to 12 ft. high, often more. Leaves pinnate, leaflets numerous, acute, rigid, 8 to 10 ft. long and 3 to 4 l. broad, with the main stem raised longitudinally on the upper surface between the two rows of leaflets. Cones up to 10 in. long or more, 3 in. or more thick; the scales much flattened, the upper ones of the males tapering into an erect narrow point of $\frac{1}{4}$ to 2 in., in the females into a lanceolate point of 2 to 3 in.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil.

BANKSIA COCCINEA, red. (Albany, Nov.) An erect hairy shrub of 12 to 15 ft. Leaves sessile or almost so, from broadly oblong or obovate to almost orbicular or broader than long, bordered by small prickly teeth, $\frac{1}{4}$ to $\frac{1}{2}$ in. long, flat, rigid, and prominently veined underneath. Flower-spikes red, globose, about 2 in. dia., the florets regularly overlapping in vertical (not spiral) rows, the spike long, remaining elegantly striped by double rows of rich red arched styles, alternating with double rows of villous perianths, each perianth about 1 in. long. Fruiting-cones ovoid, 1 to $\frac{1}{2}$ in. dia., capsules very small, thin, and scarcely protruding.

W.A.—Dis. Stirling. Swampy places.

OXYLIORIUM PARVIFLORIUM, small flowers. "Box Poison." (Yoerkrakine, Nov.) A tall spreading shrub, very poisonous. Leaves alternate, opposite or in threes, entire, variable in shape, mostly about 1 in. long, leathery, glabrous above, minutely hairy underneath, the margins usually recurved. Flowers small, pea-shaped, orange-yellow and purple, in slender racemes 2 to 3 in. long, terminal or in the upper axils. Calyx about 2 l. long, lobes scarcely as long as the tube, the two upper ones broader, falcate, united nearly to the top into a truncate upper lip. Standard about 4 l. dia. Pod 4 to 6 l. long, hairy. Seeds often only one or two embedded in a pulpy substance lining the cell.

W.A.—Dis. Stirling, Eyre, Avon. Gravelly soil.

LESCHENAUZIA FORMOSA, handsome. "Scarlet Leschenaultia." (Wagin, Nov.) A weak, spreading, and much-branched plant, usually about 6 in. high. Leaves rather loosely scattered, 2 to 4 l. long. Flowers red, solitary, usually terminating short leafy branchlets. Calyx-tube longer than the surrounding leaves, lobes linear or linear-lanceolate. Corolla-tube 2 to 5 l. long, split to the base, lower lobes large and spreading, but not longer than the tube, upper ones broad, rounded, erect and converging, shorter than the lower ones.

W.A.—Dis. Stirling, Eyre. Sandy soil.

KUNZIA SERICEA, silky. (Yoerkrakine, Nov.) A tall shrub with very rigid forked branches. Leaves obovate, crowded on the short branchlets, $\frac{1}{4}$ to 1 in. long, or $\frac{1}{2}$ in. long and narrower on the larger branches, very rigid, and silvery-white on both sides even when old. Flowers large, red, poly-

gamous, on very short pedicels, the perfect ones almost always solitary, the males several together in a terminal cluster or very short raceme. Bracts broad, very deciduous. Calyx broadly campanulate, 3 to 4 l. dia., lobes lanceolate, thick, hairy, shorter than the tube. Petals 2 to $\frac{1}{2}$ l. dia. Ovary rudimentary or abortive in the male flowers, five or six-celled in the perfect ones, with numerous ovules. Capsule filling the slightly enlarged calyx-tube, but not projecting beyond it.

W.A.—Dis. Eyre, Avon. Granite rocks.

BANKSIA GRANDIS, large. "Bull Banksia," "Great-flowered Banksia." (Yanchep, Nov.) A tree of up to 40 ft. Leaves often 1 ft. long or more, divided to the midrib into ovate-triangular segments, the larger ones 1½ to 2 in. long and 1 in. broad at the base, the lower ones gradually smaller, under surface pale. Flower-spikes pale yellow, often tinged with pink, cylindrical, 8 to 12 in. long, perianths above 1 in. long. Fruiting-cone 6 to 8 in. or more long, 3 or 4 in. dia., tapering at the top. Seed capsules deeply sunk among the hoary persistent bases of the perianths.

W.A.—Dis. Darling, Warren, Stirling. Sandy soil, near the coast.



Fruit of *Calitris robusta*.

("Rottnest Cypress.")

about $\frac{1}{2}$ in. long, either equally two-lobed with two seeds or unequally so with one seed protruding from the larger lobe.

W.A.—Dis. Warren. Moist sandy soil.

CALITRIS ROBUSTA, robust. "Rottnest Cypress." (Rottnest Island, Nov.) A tree often exceeding 20 ft., sometimes reduced to a small shrub. Male amenta (form of inflorescence) solitary or in threes, 2 to 4 l. long. Fruit-cones solitary or few together, nearly globose, and usually about 1 in. dia.

W.A.—Dis. Darling. Near the sea. S.A. Vic. N.S.W. Q. N.A.

PRELIS AQUILINA, eagle-like. "Bracken." (East Perth, Nov.) Ferns. Fronds from 1 to 2 ft. and 8 to 10 ft. high, usually three pinnate.

W.A.—Dis. Darling, Warren, Stirling. Moist sandy soil. S.A. Vic. Tas. N.S.W. Q.

ADIANTUM ATROPHICUM, found in Africa. "Maiden-hair." (Yallingup, Nov.) Dainty ferns, with fronds usually from 1 to 1½ ft. high and 4 to 8 in. broad. Stalk slender, shining.

W.A.—Dis. Darling, Warren, Stirling. Moist sandy soil. S.A. Vic. Tas. N.S.W. Q.

CHEILANTHES TENUIFOLIA, slender-leaved. "Rock-fern." "Parsley-fern." (Darlington, Nov.) Ferns with a horizontal or shortly creeping root-stock, often knotty. Fronds from 2 to 3 in. to nearly 1 ft. high, pinnate, exceedingly variable in form and division, the leaves flat or with a very crisped appearance from the recurved margins.

W.A.—South-west of State in rocky places. S.A. Vic. Tas. N.S.W. Q. N.A.

PULTENEA UNODON, of glowing appearance. (Tammara, Nov.) A small plant with prostrate stems radiating from the root-stock. Leaves hairy, lanceolate, $\frac{1}{2}$ in. long. Flowers pea-shaped, in terminal leafy spikes, orange-yellow and crimson, standard $\frac{1}{2}$ in. dia., much broader than long, kidney-shaped, lower petals shorter. Calyx densely covered with long silky hairs, $\frac{1}{2}$ in. long, lobes all longer than the tube, the lower ones very narrow, tapering into long, fine, plumose points.

W.A.—Dis. Avon. Arid sandy soil.

TYPIA ANOSTRILLA, narrow-leaved. "Bulrush." (Cunningham, Dec.) A swamp plant, stems erect, up to 8 ft. or more high. Leaves often as long or longer than the stems, mostly about 3 l. broad, the dilated margins of the lower ones forming a sheath. Flower-spikes terminal, from 3 to 6 in. long, the upper male part close to the soft dense brown plush-like cylindrical pad of closely-packed florets forming the female part.

W.A.—Dis. Darling, Irwin. Vic. Tas. N.S.W. Q. N.A.

ANIGONANTHOS PULCHERRIMA, most beautiful. "Kangaroo Paw." (Mcgummen, Dec.) A species very closely allied to *A. rufo*, the inflorescence and flowers the same in structure and woody covering, but the leaves are hairy as well as the stems. Flowers yellow.

W.A.—Dis. Avon, Irwin. Sand-plain.

VIBURNUM DESUDATA, naked, without leaves. (Parkerville, Dec.) A glabrous shrub, sometimes erect, attaining 10 to 20 ft., with long very pendulous branches, or rarely low and spreading. Leaves reduced to filiform petioles, from 3 to 9 in., the lower ones of those of luxuriant branches sometimes bearing at the end, one to three leaflets of $\frac{1}{2}$ to $\frac{1}{4}$ in. Flowers small, yellow, in long terminal racemes. Calyx nearly 2 l. long, standard orbicular, wings and keel shorter. Pod sessile, ovoid-oblong, 2 to 3 l. long.

W.A.—Dis. Darling, Warren, Stirling, Irwin. Sandy, granite soil. S.A. Vic. Tas. N.S.W.

GERVILLIA ERIOSTACHYA, woolly spike. "Orange Bottle-brush." (Moore River, Dec.) A stout erect shrub of 3 to 6 ft. Leaves very narrow-linear, usually pinnate, with three to five long distant segments, rigid but not pungent, double-grooved underneath, 4 to 8 l. long. Racemes orange-yellow, terminal, erect, dense, 3 to 6 in. long, on short thick hairy peduncles, and sometimes several on a long leafless branch, but often the floral branches leafy, the whole raceme densely hairy. Perianths silky-villous outside, glabrous inside, the tube about $\frac{1}{2}$ in. long, slightly dilated at the base. Style long. Fruit thick but flattened, broad, $\frac{1}{2}$ in. long. Seeds broadly winged all round.

W.A.—Dis. Avon, Irwin, Coolgardie. Arid sandy soil or plains, among shrubs.

LASIOPHYLLUM FLORIBUNDUM, many-flowered. (Wellington District, Dec.) A shrub with slender branches, more or less hairy usually. Leaves petiolate, broadly ovate-cordate, obtuse, $\frac{1}{2}$ to 2 in. long. Flowers mouse, on slender cymes often twice forked. Calyx hairy at the base, the five segments 2 to 3 l. long, narrow-lanceolate, acuminate, glabrous inside. Petals none. Anthers nearly sessile.

W.A.—Dis. Darling, Warren, Stirling. Forest country.

SOLIDA HYPEROPHYLLA, variously-shaped leaves. (Darlington, Dec.) A climbing plant with stems flexuose and twining from a woody base. Leaves from ovate-lanceolate $\frac{1}{2}$ to 2 in. long or more to lanceolate or oblong-linear 1 to $\frac{1}{2}$ in., entire. Flowers blue, usually in terminal cymes, four to eight-flowered, but sometimes with twelve or more. Pedicels slender. Sepals narrow, acute, about 1 l. long. Petals 4 to 5 l. Berry cylindrical, obtuse, about $\frac{1}{2}$ in. long. Seeds numerous, densely packed in two rows in each cell.

W.A.—Dis. Darling, Stirling, Avon. Sandy or gravelly soil.

GOODEA GERULLA, blue. (Lion Mill, Dec.) A perennial plant, usually tufted. Stems several, angular, simple or branched, erect or ascending, often rigid, mostly $\frac{1}{2}$ to 1 ft. high. Leaves linear, rigid, the upper ones small and almost terete. Peduncles axillary, often longer than the leaves, spreading, and turned to one side. Bracteoles very small. Flowers blue, corolla about 2 in. long, hairy outside, the lobes all broadly and equally winged, the upper ones separated nearly to the base, and the outer ones fringed near the base. Anthers minutely pointed. Capsule ovoid, about 3 l. long. Seeds flat, round, winged.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon. Gravelly soil.

EUCLYPTUS FUCUNDA, var. *laeophylla*, veins slanting. "York Gum." (Yorakine, Dec.) A tree up to 100 ft. in height, but generally about 70 to 80 ft., with rough, dark-coloured, and persistent bark. Leaves lanceolate, acuminate, narrow, 4 to 5 in. long, rigid, with very oblique distant and prominent veins. Peduncles axillary or lateral, terete or slightly flattened, each with a dense umbel of six to twelve cream-white flowers. Calyx-tube 2 to 3 l. long, tapering into a short pedicel. Operculum shorter than the calyx-tube. Stamens about 2 l. long, inflected in the bud, anthers small. Fruit narrow-obovoid, truncate, about 3 l. long and 2 l. dia., the rim narrow, capsule deeply sunk. Timber exceedingly hard, heavy, and tough.

W.A.—Dis. Stirling, Avon, Irwin. Eastern slopes of Darling Range.

HYDROCOOTYLE VERTICILLATA, whorled. (Pictou, Dec.) An erect or spreading glabrous annual, from 2 to 3 ft. to twice that height. Leaves with a cuneate base tapering into the petiole, deeply divided into three cuneate lobes or segments again acutely two or three-lobed. Stipules very minute or none. Umbels sessile, six to twelve-flowered. Florets whitish-green, petals minute, broad, obtuse, slightly overlapping in the bud. Stamens and styles very short. Fruit on pedicels of about 1 l., very flat, 1 l. broad and not quite so long, smooth.

W.A.—Dis. Warren, Stirling. Wet places.

KUNZIA ERICIFOLIA, heath-leaved. (Cunning Bridge, Dec.) A tall shrub with twiggy branches. Leaves linear, 2 to 4 l. long. Flowers greenish-yellow, in dense globular heads. Bracts from half to nearly as long as calyx, deciduous. Calyx-tube nearly 2 l. long, lobes short, erect. Petals about 1 l. dia. Stamens numerous, two or three times as long as the petals. Fruiting-calyx considerably enlarged. Seeds black. This species is found chiefly in low wet places near the sea.

W.A.—Dis. Darling, Warren, Stirling.

CALLISTEMON SPECIOSUS, showy. "Bottle-brush." (Albany, Dec.) A tall bushy shrub or small tree. Leaves narrow-lanceolate, 3 to 4 in. long, with prominent midrib. Flowers large, rich red, in dense cylindrical spikes of 3 to 6 in. Calyx-tube often 3 l. long, lobes 1 to $\frac{1}{2}$ l. dia. Petals 2 to 3 l. Stamens usually about 1 in. long, more or less distinctly collected in clusters. Fruiting-calyx globular, about 3 l. dia., with a broad open orifice.

W.A.—Dis. Warren, Stirling. Sandy soil.

FUSANUS ACUMINATUS, sharp-pointed. "Native Peach." "Quandong." (Yorakine, Dec.) A tall shrub or tree of 20 to 30 ft. Leaves opposite, lanceolate, acute, 2 or 3 in. long. Flowers white, numerous, in a terminal pyramidal head. Perianth spreading to about $\frac{1}{2}$ l. dia. Free margin of the disk very prominent, broadly rounded between the stamens, which curve over the notches. Fruit globular, $\frac{1}{2}$ to $\frac{1}{4}$ in. dia., with a succulent outer covering, hard and bony inside, with surface much pitted.

W.A.—Dis. Stirling, Eyre, Avon, Irwin, Coolgardie. Clay soil. S.A. Vic. N.S.W.

TRACHYMENE GERULLA, blue. (Garden Island, Dec.) A rather coarse erect annual or biennial of 1 to 2 ft., more or less hairy. Leaves once or twice divided with incised acute lobes, the upper leaves small and simple, or three divided. Involucral bracts numerous, linear, nearly as long as the pedicels, strongly united into a turbinate base, the centre of the umbel occupied by a flat disk. Florets blue, sometimes tinged with purple, petals unequal, the external longer than the inner ones; the whole inflorescence sometimes quite flat, sometimes dome-shaped, to 2 in. dia.

This species can be easily grown from seed, and magnificent blooms produced by careful cultivation.

W.A.—Dis. Darling. Sandy soil.

BYLLIS GIGANTEA, very large. (Bayswater, Dec.) A more or less glandular-pubescent and viscid herb. Stems erect, stout, 6 in. to 1 $\frac{1}{2}$ or 2 ft. high. Leaves linear, subulate, terete or channelled above, often 6 in. to 1 ft. long. Peduncles mostly shorter than the leaves. Flowers blue, solitary, variable in size, sepals lanceolate, acute, 4 to 6 l. or more, three to four-nerved, either much shorter than the petals or produced into a glandular point sometimes exceeding them. Stamens 5, anthers usually linear, unequal, from 2 to 3 l. long, but variable.

W.A.—Dis. Darling, Avon. Moist sandy soil.

MELALEUCA HUEDELI, after C. von Huegel. (Ocean Beach Road, Jolinton, Dec.) A tall erect shrub, 4 to 6 ft. or more, with twiggy or spreading branches. Leaves alternate, spiral, sessile, attached by the broad concave base, ovate, sharp-pointed, 1 to 3 l. long. Flowers white, in rather dense but slender cylindrical spikes of 1 to 3 in., the axis growing out before the flowering is over. Calyx-tube broad, scarcely 1 l. long, lobes short, broad. Petals about 1 l. dia. Staminal bundles about 4 l. long. Fruiting-spikes terminal, not very dense, the calyxes about 2 l. dia., globular.

W.A.—Dis. Darling, Avon, Irwin. Coastal limestone hills.

CALYTRIX ANGULATA, angular. (Osborne Park, Dec.) A glabrous shrub, the young branches angular. Leaves linear, rather thick, 2 to 3 l. long, but often shorter and broader on the lateral shoots, and a few ovate, concave, about $\frac{1}{2}$ l. long. Flowers yellow, on short pedicels in the upper axils below the ends of the branches. Bracteoles about 3 l. long, united to the middle. Calyx-tube very slender, scarcely exceeding the bracteoles at first, half as long again when in fruit, slightly spindle-shaped below the middle, the slender upper portion free, enclosing the style, lobes 5, with a long hair-like appendage. Petals 5, about 3 l. long. Stamens numerous.

W.A.—Dis. Darling. Sandy soil.

MARIANTHUS COERULEO-PUNCTATUS, blue, spotted. (Darlington, Dec.) A tall climbing plant, first leaves occasionally toothed or lobed, all the others entire, lower ones sometimes ovate-lanceolate, 3 to 4 in. long, the upper ones lanceolate or linear, 2 to 3 in. long, almost sessile, firm, with recurved margins. Flowers blue, sepals very slender, hairy. Petals obovate, acute, and spreading, the upper ones sometimes spotted with a darker colour. Style slender. Capsule oblong with about six smooth seeds in each cell.

W.A.—Dis. Darling, Warren, Stirling. Gravelly soil.

CALYTRIX FLAVESCENS, yellow. (King's Park, Dec.) A small shrub, form rather slender, from under 1 ft. and simple to above 2 ft. and more or less branched. Leaves linear, slender, mostly 3 to 4 l. long. Flowers yellow, nearly sessile in the upper axils forming ovoid or oblong terminal spikes. Bracteoles free, narrow, 3 to 4 l. long, keeled and tapering into a fine hair-like point. Calyx-tube 6 to 8 l. long, spindle-shaped, and three or five-angled below the middle, lobes 5, 1 to 1½ l. long, with a fine hair-like appendage two or three times the length of the petals. Petals obtuse, 3 to 3½ l. long. Stamens numerous.

This species is a little difficult to identify from *C. angulata*.

W.A.—Dis. Darling, Stirling, Avon, Irwin. Sandy soil.

VEITICORDIA NITENS, shining. (Bayswater, Dec.) A small erect and corymbose-branched shrub, 2 or 3 ft. high. Leaves linear, mostly ½ to 1 in., lower ones above 1 in. long. Flowers orange-yellow, on slender pedicels, in a broad terminal corymb. Bracteoles very deciduous. Calyx-tube shortly turbinate, glabrous, primary lobes 5, spreading to about 4 l. dia., divided nearly to the base into seven to eleven fringed lobes. Petals 5, ovate or obovate, glabrous, about as long as the calyx, fringed with short irregular teeth. Stamens scarcely united at the base. Anthers globular.

W.A.—Dis. Darling. Sandy soil.

VEITICORDIA OVALIFOLIA, oval leaf. (Wallerawang, Dec.) A small shrub about 2 ft. high, with slender twiggy branches. Leaves, obovate, concave, erect, 2 to 3 l. long. Flowers white, tinged with deep pink, on pedicels shortly exceeding the leaves, not numerous, in a short terminal raceme. Calyx-tube about 2½ l. long, primary lobes 5, spreading to nearly ½ in. dia., deeply divided into eight or ten long plumose lobes, five accessory lobes thin and transparent, closely reflexed, almost covering the tube with their long marginal cilia. Petals 5, broad irregularly divided into five or six more or less fringed lobes.

W.A.—Dis. Darling, Avon, Irwin. Sandy soil.

NYCTIA FLORIBUNDA, many-flowered. "Christmas Tree." (Como, Dec.) A tree up to 25 ft., with spreading branches. Leaves linear, acute or obtuse, mostly 1½ to 3 in. long, entire, thick. Flowers brilliant orange-yellow, in showy racemes crowded at the ends of the branches. Calyx-limb unequally six-toothed. Petals 6, nearly ½ in. long. Fruit about ½ in. long.

W.A.—Dis. Darling, Warren, Stirling, Eyre, Avon, Irwin. Sandy soil.

CHAPTER VI.—FAMILIES AND GENERA.

THE different genera to which the species mentioned in this book belong, comprising the leading Families represented in the flora of Western Australia, will here be found classified, with notes on their general characteristics, the number of genera each family possesses in Australia and Western Australia, and the number of species each genus is represented by in Australia and in each State. It will be noticed that many genera and species are endemic to Western Australia.

ANGIOSPERMÆ.

Plants with the ovules enclosed in an ovary, subdivided into two classes, Dicotyledons and Monocotyledons.

DICOTYLEDONS.

Plants whose seeds divide into two lobes in germinating, and with net-veined leaves.

RANUNCULACEÆ.

A Family chiefly numerous in the temperate regions of the northern hemisphere, rare within the tropics. Mostly herbaceous perennials with underground stems, producing leafy or flower stems from year to year. Leaves usually alternate, very much divided; or climbers with opposite leaves. No stipules.

5 genera in Aus., 2 in W.A.

CLEMATIS, Linnaeus, from *klema*, a vine branch, because most of the species climb like a vine. A large genus dispersed over the temperate regions of the world. The Australian species are all endemic. Stems woody and climbing, or rarely dwarf and prostrate. Leaves opposite, usually divided. Sepals usually 4, petal-like. Petals none, or smaller than the sepals, and passing gradually into the stamens.

4 sp. in Aus. W.A. 3, S.A. 2, Vic. 2, Tas. 2, N.S.W. 4, Q. 2.

RANUNCULUS, Tournefort, from *rana*, a frog—many species are found in moist places where frogs are. Herbaceous plants. A large genus abounding in temperate or colder regions, almost confined in the tropics to the higher mountain ranges. The Australian species have no special character.

11 sp. in Aus. W.A. 3, S.A. 4, Vic. 11, Tas. 5, N.S.W. 10, Q. 3.

DILLENIACEÆ.

A Family practically confined to Australia, consisting mostly of trees and shrubs with alternate, usually leathery leaves and flattish or convex flower clusters.

5 genera in Aus., 3 in W.A.

HIBBERTIA, Andrews, after G. Hibbert. Shrubs or undershrubs. Leaves usually small, alternate in all Australian species, with midrib prominent underneath. Flowers yellow, primrose-like, solitary, and terminal. Sepals 5, spreading. Petals 5. Stamens indefinite, rarely fewer than twelve.

67 sp. in Aus. W.A. 50, S.A. 8, Vic. 10, Tas. 8, N.S.W. 20, Q. 20, N.A. 11.

DILLENIACEÆ—continued.

CANDOLLEA, Labillardière, after De Candolle. Shrubs or undershrubs with the habit of *Hibbertia*. Flowers yellow. Sepals 5. Petals 5. Stamens united to the middle or higher into five bundles, each bearing two to six anthers. This genus was founded by Labillardière in 1806, he apparently having overlooked the fact that the previous year he used the same name for the *Stylidium* Family (*Candollaceæ*). Some modern botanists have united the genus with *Hibbertia*.

W.A. 15 sp.

VIOLEACEÆ.

A Family dispersed generally over the world. Herbs or shrubs. Flowers often irregular.

3 genera in Aus., 1 in W.A.

IONIDIUM, Ventenat, from *ion*, a violet, and *cidos*, similar. A large genus classified by some botanists as *Hybanthus*, chiefly tropical. Herbs or small shrubs. Leaves usually narrow. Flower-heads axillary or in a terminal raceme, one or several-flowered.

7 sp. in Aus. W.A. 4, S.A. 3, Vic. 2, N.S.W. 4, Q. 2.

PITTOPOREACEÆ.

A Family almost confined to Australia. Trees and shrubs, often climbing. The relationships of the genera are very obscure.

9 genera in Aus., 7 in W.A.

MARIANTHUS, Hugel, derivation uncertain. Dr. Graham suggested that it may have been dedicated to the Virgin Mary, on account of the pure whiteness of the first discovered species. Undershrubs with trailing or more frequently twining branches. Leaves entire, toothed, or lower ones sometimes lobed. Flowers in terminal compact clusters, apparently axillary from the extreme shortness of the flowering branch. Petals joined at the base or above the middle, spreading at the top. Anthers shorter than the filaments.

16 sp. in Aus. W.A. 14, S.A. 1, Vic. 2, Tas. 1, N.S.W. 1, Q. 1.

BILLARDIERA, Smith, after J. J. Labillardière. An Australian genus. Undershrubs, with the branches usually twining. Leaves entire or sinuate. Flowers greenish-yellow, purple or rarely blue, either solitary or clustered and pendulous, or in terminal cymes and erect. Petals joined in a tube to above the middle, spreading at the top. Anthers oblong or ovate, shorter than the filaments. Fruit succulent or fleshy and indehiscent, ovoid or oblong. Seeds often enveloped in a viscid pulp. Differs from *Marianthus* only in the pulpy not capsular fruit. The solitary pendulous flowers frequent in *Billardiera* are only in one species of *Marianthus*, *M. bigynoniceus*, a yellow-flowered native of the ranges of Victoria and South Australia.

8 sp. in Aus. W.A. 6, S.A. 2, Vic. 3, Tas. 2, N.S.W. 3, Q. 1.

PRONAYA, Hugel, after M. Pronay, a French naturalist. A genus limited to a single W.A. species, *P. elegans*, closely allied to *Billardiera*.

W.A. 1 sp.

SOLLIA, Lindley, after R. H. Solly. An Australian genus. Twining plants. Leaves narrow. Flowers nodding, on slender pedicels, in terminal loose few-flowered cymes, or rarely solitary. Fruit an oblong berry.

W.A. 2 sp.

TREMADRACEÆ.

A small Family, confined to Australia, of herbaceous plants, usually heath-like. No stipules. Flowers regular. Stamens twice as many as petals.

3 genera in Aus., 3 in W.A.

PLATYTHECA, Steetz, from *platys*, wide, and *theca*, a cell. An Australian genus consisting of a single species, *P. galioidea*, native of W.A. only.

W.A. 1 sp.

TETRAATHECA, Smith, from *tetra*, four, *theca*, a cell, alluding to the four-celled anthers. Small shrubs or undershrubs. Leaves alternate, heath-like, and entire or flat and toothed, or reduced to minute scales.

18 sp. in Aus. W.A. 11, S.A. 2, Vic. 4, Tas. 3, N.S.W. 2, Q. 1.

MALVACEÆ.

A large Order, dispersed over all except the coldest regions of the globe. Herbs, shrubs, or trees with alternate leaves. Nostipules. Flowers hermaphrodite. Stamens indefinite. Anthers one-celled.

15 genera in Aus., 9 in W.A.

HIBISCUS, Linnaeus, probably derived from *hiss*, a stork, as that bird is said to eat some of the species. A large genus, widely distributed over the tropical regions of the world. Herbs, shrubs, or trees. Leaves various, often deeply divided. Flowers generally large, petals usually marked with a deeper colour at the base. Bracteoles narrow, sometimes very small. Calyx five-lobed. Staminal column bearing usually numerous filaments on the outside below the truncate or five-toothed summit.

26 sp. in Aus. W.A. 13, S.A. 9, N.S.W. 11, Q. 18, N.A. 15.

FUGOSIA, Jussieu, after B. Cienfuegos. An Australian genus of shrubs or undershrubs, with the habit of *Hibiscus*, but usually more glabrous, and differing in the style. Leaves entire or lobed, rarely divided. Flowers usually large, yellow or purple. Calyx five-lobed. Style thickened towards the top, grooved or divided into short erect lobes with decurrent stigmas.

7 sp. in Aus. W.A. 2, S.A. 1, N.A. 5.

STERCULIACEÆ.

A large Family, chiefly tropical. Herbs, shrubs, or trees, with alternate leaves. Stipules usually present. Stamens clustered, or if free, definite and alternate with the petals. Anthers two-celled.

19 genera in Aus., 11 in W.A.

KERAUDRENIA, Gay, after Keraudren. A genus united by F. von Mueller to *Seringia*. Shrubs more or less hairy. Leaves entire or lobed. Flower clusters terminal or opposite the upper leaves, few-flowered. Calyx five-lobed, the middle of each sepal usually thickened. Petals none. Stamens 5.

6 sp. in Aus. W.A. 2, N.S.W. 2, Q. 3, N.A. 2.

THOMASIA, Gay, after L. Thomas. An Australian genus, closely allied to *Lasiopetalum*, but differing in the calyx and lobes. Shrubs usually hairy. Leaves entire or lobed. Stipules leafy or rarely entirely wanting. Flower racemes leaf-opposed, simple, or rarely branched. Bracts narrow, deciduous. Bracteoles under the calyx 3. Calyx five-lobed, much enlarged and scarious or coloured after flowering, the sepals one-nerved and net-veined, with the middle usually thickened. Petals none or minute and scale-like. Stamens 5. Capsule enclosed in the calyx with from three to five valves.

25 sp. in Aus. W.A. 25, S.A. 1, Vic. 1.

LASIOFETALUM, Smith, from *lasios*, woolly, and *petalum*, a petal. An Australian genus. Shrubs more or less hairy. Leaves entire or rarely lobed, often leathery and glabrous on the upper side. Stipules none. Flowers in small drooping cymes contracted into heads, or in loose-branched cymes, or rarely in simple racemes. Calyx five-lobed nearly to the base, not much enlarged after flowering, without prominent ribs, the sepals obscurely several-veined at the base. Petals small and scale-like or rarely none. Stamens 5. Capsule three-celled, shorter than the calyx.

17 sp. in Aus. W.A. 12, S.A. 5, Vic. 5, Tas. 3, N.S.W. 8.

LINACEÆ.

A small Family. Herbs or shrubs, with undivided alternate leaves.

2 genera in Aus., 1 in W.A.

LINUM, Tournefort, from the Celtic word *lin*, a thread; whence the Greek *linon*, and Latin *linum*. A large genus widely distributed. The Australian species are endemic, but very closely allied to some of the commonest species of the northern hemisphere. Herbs. Leaves narrow, entire. Flowers blue. Sepals, petals, and stamens 5.

2 sp. in Aus. W.A. 1, S.A. 1, Vic. 1, Tas. 1, N.S.W. 1.

GERANIACEÆ.

A Family consisting of herbs or shrubs with toothed, divided, or compound leaves.

4 genera in Aus., 4 in W.A.

PELARGONIUM, L'Heritier, from *pelargos*, a stork—the capsules somewhat resemble the head and beak of a stork. A very large genus, principally confined to South Africa. Herbs, undershrubs, or shrubs. Leaves variable. Peduncles usually axillary, bearing an umbel of several flowers.

3 sp. in Aus. W.A. 2, S.A. 2, Vic. 2, Tas. 1, N.S.W. 3, Q. 3.

RUTACEÆ.

A large Family ranging over the hotter and temperate regions of the whole world, but chiefly abundant within the tropics; and containing many shrubs and trees, including the citrus family, but frequently of heath-like habit.

29 genera in Aus., 8 in W.A.

BORONIA, Smith, after F. Borone. Shrubs, undershrubs, or rarely annuals. Leaves opposite, simple, pinnate with a terminal leaflet, or once or twice compound. Flowers with four petals free, spreading. Calyx four-cleft. Stamens 8. Some species very fragrant.

47 sp. in Aus. W.A. 36, S.A. 7, Vic. 6, Tas. 0, N.S.W. 20, Q. 13, N.A. 5.

ERIOSTEMON, Smith, from *erion*, wool, and *stemon*, a stamen. Usually glabrous shrubs with alternate leaves. Flowers often solitary. Calyx-lobes and petals 8. Stamens 10, with hairy flat filaments. Anthers with a small pointed appendage.

15 sp. in Aus. W.A. 4, S.A. 9, Vic. 4, Tas. 2, N.S.W. 10, Q. 8.

CROWEA, Smith, after James Crowe. An Australian genus closely allied to and united by some botanists with *Eriostemon*, from which it differs chiefly in habit and the long hairy appendage on the anthers. Glabrous shrubs or undershrubs. Leaves alternate, simple. Flowers rather large, solitary, axillary or terminal.

4 sp. in Aus. W.A. 2, Vic. 1, N.S.W. 2, Q. 1.

PHORBALUM, Jusieu, from *phibale*, a myrtle. A genus almost entirely Australian, closely allied to and united by some botanists with *Eriostemon*. Shrubs, either glabrous or downy or clothed with soury scales. Leaves alternate, simple, entire or slightly toothed, the glands often large and prominent. Flowers axillary or terminal, small, white or yellow, usually forming an umbel-like short raceme. Petals 5, overlapping, but always with valvate inflexed tips. Stamens 10. Seeds usually solitary.

27 sp. in Aus. W.A. 8, S.A. 4, Vic. 3, Tas. 5, N.S.W. 23, Q. 3.

DIPLOLENA, Brown, from *diplos*, double, and *lena*, a cloak, referring to the double involucrum. Hairy shrubs. Leaves alternate, entire. Flower-heads terminal.

W.A. 4 sp.

STACKHOUSIACEÆ.

A Family limited to a single genus, almost endemic to Australia.

STACKHOUSIA, Smith, after T. Stackhouse. Herbs with erect stems from 6 in. to 2 ft. high. Leaves alternate, narrow, entire. Flowers in terminal spikes, rarely solitary.

10 sp. in Aus. W.A. 6, S.A. 6, Vic. 3, Tas. 4, N.S.W. 8, Q. 4, N.A. 3.

RHAMNACEÆ.

A large Family, ranging over the tropical and temperate regions of the world. Trees and shrubs with simple leaves.

12 genera in Aus., 2 in W.A.

CRYPTANDRA, Smith, from *cryptos*, hidden, and *aner*, a man, alluding to the stamens being concealed. Shrubs mostly heath-like or thorny. Leaves small. Flowers sessile or nearly so, mostly surrounded by persistent overlapping bracts, either distant along the smaller branches or clustered in terminal spikes or heads intermixed with leaves, never in cymes. Genus confined to Australia.

21 sp. in Aus. W.A. 11, S.A. 17, Vic. 2, Tas. 2, N.S.W. 9, Q. 2.

RHAMNACEÆ—continued.

SPYRIDUM, Fenzl, from a Greek word for a round basket. An Australian genus. Hairy shrubs. Leaves usually small. Flowers sessile in heads surrounded by small persistent bracts, the heads sessile, usually several together in a compound head or in corymbose cymes. Petals 5, hood-shaped, usually enclosing the anthers. Stamens 5, filaments short.

23 sp. in Aus. W.A. 13, S.A. 9, Vic. 5, Tas. 6.

SAPINDACEÆ.

A Family abundant within the tropics. Trees, shrubs, or climbers, with compound or simple leaves.

16 genera in Aus., 4 in W.A.

DIPLOPELTIS, Endlicher, from *diplos*, double, and *pelte*, a small shield. An Australian genus. Shrubs or undershrubs. Leaves alternate, entire, or divided. Panicles terminal. Flowers polygamous, white, pink, or violet, larger than in most *Sapindaceæ*. Sepals 5, persistent, overlapping in the bud, petals 4, the place of the fifth vacant, clawed, without a scale inside. Disk very oblique, produced into a concave or apparently double scale. Stamens 8. Style ascending, usually twisted. Capsule two or three-celled, seeds usually solitary in each carpel.

3 sp. in Aus. W.A. 2, S.A. 1, N.A. 2.

DODONÆA, Linnaeus, after R. Dodonæus. A genus of plants known as "Native Hop." Shrubs often tall. Leaves simple or pinnate. Flowers terminal or axillary, solitary, clustered or in short racemes or panicles. Sepals usually 5, valvate in the bud. Petals none. Stamens usually 8, very short. Capsule with vertical wings, hop-like. Species are very difficult to identify by positive characters, the form of the wings of the capsule being as variable as that of the leaves.

39 sp. in Aus. W.A. 23, S.A. 13, Vic. 9, Tas. 2, N.S.W. 22, Q. 17, N.A. 10.

LEGUMINOSÆ.

The largest Family next to *Compositæ*, widely distributed over the whole surface of the globe. Trees, shrubs, or herbs. Leaves alternate or rarely opposite, often compound. Pod-bearing West Australian varieties, with the exception of the *Acacias*, are of little economic value. Many species are poisonous to a virulent degree, and the cause of great losses in cattle and sheep. Beautiful plants, however, abound in the Family, and many species have been cultivated for years. The *Acacias* furnish good timber, tannin, and gum.

92 genera in Aus., 51 in W.A.

SUB-FAMILY I.—MIMOSEÆ.

Plants with flowers regular, small, in spikes or heads. Petals 5, 4, or rarely 3, valvate or very slightly overlapping. Stamens definite or indefinite.

ACACIA, Tournefort, from *ac*, a point, some of the species having thorns or prickles. Australian species commonly known as "Wattles." Trees, shrubs, climbers, or rarely undershrubs, with or without prickles or stipular spines. Leaves twice pinnate or reduced to a simple phyllodium or dilated petiole. Only about nine of the W.A. species retain their true leaves when developed beyond the seedling stage. Flowers yellow or white, in globular heads or cylindrical spikes. Several species in the desert regions are known as "Mulga." The bark of the *Acacias* is largely used for tanning purposes.

About 390 sp. in Aus. W.A. 190, S.A. 81, Vic. 60, Tas. 16, N.S.W. 124, Q. 82, N.A. 71.

ALBIZZIA, Durazini, after the noble Italian family of Albizzia. A genus chiefly tropical. Trees or shrubs without prickles. Leaves twice pinnate. Flowers in globular heads or rarely cylindrical spikes. Stamens white or pink, rarely yellow, much longer than in *Acacia*. Pod linear or oblong, straight, flat, thin.

5 sp. in Aus. W.A. 1, Q. 5, N.A. 1.

SUB-FAMILY II.—CÆSALPINIÆÆ.

Plants with flowers irregular, or rarely regular. Petals 5 or less, overlapping, the upper one inside. Stamens in Australian genera 10 or fewer.

CASSIA, Tournefort, an old Greek name derived from the Hebrew word *qetziab*. A large genus widely dispersed over the world, but particularly numerous in America. Many of the species are used in medicines. Trees, shrubs, or herbs. Leaves abruptly pinnate, the leaflets opposite. Flowers usually yellow, in axillary or terminal racemes, or solitary. Sepals and petals 5. Stamens usually 10. Pod cylindrical or flat.

27 sp. in Aus. W.A. 12, S.A. 12, Vic. 3, N.S.W. 16, Q. 22, N.A. 13.

LABICHEA, Gaudichaud, after M. Labiche. A genus of shrubs or undershrubs. Leaves unequally pinnate. Flowers yellow, few together, in short loose axillary racemes. Bracts small and deciduous. Sepals 4 or 5, overlapping. Petals as many as sepals, spreading, nearly equal. Pod oblong or lanceolate.

5 sp. in Aus. W.A. 3, Q. 3, N.A. 1.

SUB-FAMILY III.—PAPILIONACEÆ.

Plants with flowers having a winged corolla somewhat resembling a butterfly, as in pea-blossoms, the prevailing colours being red, yellow, and brown.

BRACHYSEMA, Brown, from *brachys*, short, and *sema*, a shield or standard. An Australian genus. Shrubs or undershrubs. Leaves opposite or alternate and simple, or all reduced to small scales. Flowers red or rarely yellow-green, or almost black, standard shorter than the wings, terminal or axillary, solitary or several together, or crowded on short rigid racemes, the pedicels usually recurved so that the keel is turned upmost. Pod ovoid or elongated, turgid, the valves usually leathery.

14 sp. in Aus. W.A. 11, Q. 1, S.A. 1, N.A. 3.

OXYLOBIUM, Andrews, from *oxys*, sharp, and *lobos*, a pod. An Australian genus of *deadly poisonous* plants. Shrubs or rarely undershrubs. Leaves on very short stalks, more or less distinctly whorled or opposite, occasionally scattered or rarely all alternate, simple, entire, or sometimes with sharp-pointed lobes. Flowers yellow, or with keel and base of standard purple-red, in terminal or axillary racemes. Calyx-lobes nearly of equal length. Petals clawed. Standard orbicular or reniform, emarginate, longer than the lower petals, wings oblong, keel broader than the wings and about the same length, obtuse. Pod ovoid or oblong, inflated, sharp-pointed.

This genus differs from *Chorizema* chiefly in habit and in the proportion of the lower petals, and from *Gastrolobium* only in the number of ovules, four or more, not two only.

27 sp. in Aus. W.A. 18, Vic. 3, Tas. 1, N.S.W. 7, Q. 4.

CHORIZEMA, Labillardière, from *choros*, a dance, and *sema*, a drink, so called because Labillardière and his party danced with joy at the spot where found when searching for Riche, lost in the vicinity of Esperance, as they were very thirsty and close by was a spring of fresh water. An Australian genus of shrubs or undershrubs. Flowers usually orange or red in terminal racemes or rarely axillary. Closely allied to *Oxylobium*, but differing chiefly in habit and in the short and sessile keel of the flower. The pod is also less swollen.

15 sp. in Aus. W.A. 14, N.S.W. 1, Q. 1.

ISOTROPIS, Benthams, from *isos*, equal, and *tropos*, turned. Herbs or undershrubs, with spreading or ascending stems. Leaves alternate, simple, herbaceous. Flowers pea-shaped, solitary or axillary peduncles, or forming a loose terminal raceme. An Australian genus closely allied to *Oxylobium* and *Chorizema*, but differing chiefly in habit, deeper-cleft calyx, and in the longer pod.

7 sp. in Aus. W.A. 6, S.A. 3, N.S.W. 2, Q. 1, N.A. 2.

MIRBELIA, Smith, after C. F. Brisseau-Mirbel. An Australian genus closely allied to *Oxylobium*, *Gastrolobium*, and *Chorizema*, differing chiefly in the remarkable two-celled pod, which is divided by a false dissepiment or partition more or less apparent in the ovary at the time of flowering. Shrubs. Leaves opposite, whorled or alternate, simple, entire or prickly-toothed. Flowers pea-shaped, yellow, purple-red, or blue, solitary or clustered in the axils of the leaves, or in axillary or terminal racemes.

16 sp. in Aus. W.A. 9, S.A. 1, Vic. 1, N.S.W. 6, Q. 4, N.A. 1.

SUB-FAMILY III.—PAPILIONACEÆ—continued.

GOMPHOLOBIUM, Smith, from *gomphos*, a club, and *lobos*, a pod, referring to the pod, which is club or wedge-shaped. One strongly suspected of being poisonous. Shrubs or rarely undershrubs. Leaves usually compound. Flowers pea-shaped, reddish-yellow, solitary or in racemes, usually terminal. Stamens free. Pod broadly ovoid, inflated.

24 sp. in Aus. W.A. 15, S.A. 1, Vic. 3, Tas. 1, N.S.W. 8, Q. 4.

BURTONIA, Brown, after D. Burton. An Australian genus, closely allied to *Gompholobium*, differing chiefly in the ovules, always two ovules only, but one always curved or folded upwards, the other downwards. Shrubs or rarely undershrubs, with great diversity of foliage. Flowers yellow, orange, red, or purple, pea-shaped, solitary in the axils of the upper leaves or forming terminal racemes. Pod usually globular. Seeds small.

7 sp. in Aus. W.A. 6, S.A. 1, Q. 1, N.A. 2.

JACKSONIA, Brown, after G. Jackson. An Australian genus of much-branched shrubs or undershrubs, rigid and leafless, or with very few leaves. Flowers pea-shaped, yellow, or with purple shadings. Closely allied to *Gompholobium* and *Burtonia* in the deeply-lobed valvate calyx, but different in habit, pod, etc.

28 sp. in Aus. W.A. 27, N.S.W. 4, Q. 3, N.A. 4.

SPHEROLOBIUM, Smith, from *sphaire*, a globe, and *lobos*, a pod. An Australian genus readily known by its habit, and small stipitate nearly globular pod. Glabrous shrubs or undershrubs, with rush-like stems, often leafless. Leaves when present narrow, entire, alternate, or irregularly opposite or whorled. Flowers in terminal or lateral racemes or clusters. Style much incurved, usually with a longitudinal membrane or a ring of hairs under the stigma.

13 sp. in Aus. W.A. 12, S.A. 1, Vic. 2, Tas. 1, N.S.W. 1, Q. 1.

VIMINARIA, Smith, from *vinea* (L.) a twig, referring to the twigs osier-like branches. A genus limited to a single species, *V. densata*.

W.A., S.A., Vic., Tas., N.S.W., Q.

DAVIESIA, Smith, after Rev. E. Davies. A large Australian genus of shrubs or undershrubs. The leaves vary greatly. Flowers usually small, yellow, orange, or red. Calyx-teeth short. The pod is peculiar, being triangular-shaped, and characteristic of the genus, which is divided into nine series, distinguished chiefly by the foliage and development of the inflorescence.

55 sp. in Aus. W.A. 46, S.A. 8, Vic. 6, Tas. 2, N.S.W. 14, Q. 9.

DILLWYNIA, Smith, after L. W. Dillwyn. An Australian genus of heath-like shrubs. Leaves simple, alternate or scattered, narrow-linear or terete. Flowers yellow and red, pea-shaped, in axillary or terminal racemes or corymbs, or rarely solitary. Standard broad, stamens free. Pod round, swollen.

10 sp. in Aus. W.A. 7, S.A. 5, Vic. 5, Tas. 3, N.S.W. 7, Q. 3.

PULTENEA, Smith, after Dr. Pulteney. An Australian genus. The species differ considerably in foliage, inflorescence, and calyx, yet not generally difficult to distinguish. From *Gastrolobium* it differs chiefly in habit, in the persistent bracteoles, and the more sessile less turgid pod; from *Eutaxia* and *Dillegnia*, which are closely connected with it, the bracteoles close to or upon the calyx afford the most prominent distinction. Shrubs. Leaves alternate or rarely opposite, or in whorls of three, simple. Flowers pea-shaped, usually yellow-orange or mixed with purple, either axillary and solitary and then frequently clustered in leafy tufts near the ends of the branches, or crowded in terminal heads. Bracts under each flower. Bracteoles persistent (except in *P. pinnifolia*). Pod ovate, flat or turgid, two-valved.

80 sp. in Aus. W.A. 19, S.A. 20, Vic. 27, Tas. 11, N.S.W. 47, Q. 11.

EUTAXIA, Brown, from *eutaxia*, modesty; alluding to the delicate appearance of the plants in flower. An Australian genus, closely allied to *Pultenea*, differing only in the decussate leaves, and in the bracteoles neither close to nor joined to the calyx, although sometimes very near it. United by F. von Mueller with *Dillegnia*. Shrubs. Leaves small, opposite, decussate, entire. Flowers axillary, solitary or two to four together, sometimes crowded at the ends of the branches. Calyx five-lobed, the two upper lobes more or less united into an upper lip. Standard orbicular, wings oblong, keel nearly straight, obtuse, shorter than the wings. Pods ovate, flattened or swollen, two-valved.

8 sp. in Aus. W.A. 8, S.A. 1, Vic. 1.

SUB-FAMILY III.—PAPILIONACEÆ—continued.

GASTROLIPIUM, Brown, from *gaster*, the stomach, and *loba*, a pod. An Australian genus of *deadly poisonous* plants. Shrubs. Leaves simple and entire, usually rigid. Stipules bristle-like, rarely wanting. Flowers yellow and reddish-purple in terminal or axillary racemes, pea-shaped. Calyx five-lobed, the upper lobes usually broader and united higher up. Pod swollen. *Oxalis* 2.

35 sp. in Aus. W.A. 33, S.A. 2, N.S.W. 2, Q. 1.

BOSSIA, Ventenat, after Bossieu-Lamartinière. An Australian genus of shrubs or undershrubs, occasionally leafless. Leaves simple, entire or rarely toothed, often jointed on a short stalk. Flowers solitary or in clusters of two or three brownish-yellow. Stamens all united in a sheath open on the under side. Pod flat.

34 sp. in Aus. W.A. 16, S.A. 5, Vic. 10, Tas. 4, N.S.W. 16, Q. 10, N.A. 1.

TEMPTLETONIA, Brown, after J. Templeton. An Australian genus of glabrous shrubs or rarely undershrubs, occasionally leafless. Leaves alternate, simple, entire. Flowers axillary, solitary or two or three together, red or yellow. The two upper calyx-lobes united, lateral ones shorter, lowest one longest. Standard orbicular or obovate, usually reflexed, wings narrow, usually shorter than standard, keel as long as standard, petals slightly united. Stamens all united in a sheath open on the upper side. This genus has much variety of habit.

7 sp. in Aus. W.A. 6, S.A. 5, Vic. 3, N.S.W. 4, Q. 1, N.A. 1.

HOVEA, Brown, after A. P. Hove. An Australian genus closely allied to *Templetonia*, but easily distinguished by the habit, calyx, colour of flowers, and short inflated pod. Shrubs or undershrubs. Leaves alternate, simple, entire or prickly-toothed, glabrous above, often hairy beneath. Flowers purple, pea-shaped, with the stamens usually all united in a sheath.

11 sp. in Aus. W.A. 6, S.A. 2, Vic. 2, Tas. 2, N.S.W. 5, Q. 5, N.A. 1.

CROTALARIA, Hermann, from *crotalon*, a castanet, referring to the seeds, which rattle in the inflated pods when shaken. A large genus, widely dispersed over the tropical and warmer regions of the world. Herbs or shrubs. Leaves simple or compound. Flowers in simple terminal racemes, with a bract, often very small, under each pedicel.

15 sp. in Aus. W.A. 5, S.A. 5, N.S.W. 8, Q. 14, N.A. 13.

LOTUS, Tournefort, from the Greek word *lotos*. A widely-spread genus, much resembling clover, distinct from the family of water-lilies, and *Zizyphus Lotus*, the lotus of the lotus-eaters. Of the two Australian species, *L. corniculatus* has a very wide European and Asiatic range; the other is endemic. Herbs, or in species not Australian, undershrubs. Leaves of four or five leaflets. Flowers usually several together in an umbel, or an axillary peduncle with a leaf-like bract under the umbel. Probably poisonous.

3 sp. in Aus. W.A. 1, S.A. 3, Vic. 2, Tas. 2, N.S.W. 2, Q. 1, N.A. 1.

INDIGOFERA, Royle, from *indigo*, a blue dye, and *fero*, to bear, most of the species producing the dye called indigo. A very large and distinct genus widely spread over the warmer regions of the globe, and especially numerous in tropical and southern Africa. Herbs, shrubs or undershrubs, hairy. Leaves in Australian species usually single-leaved or pinnate with three or more leaflets. Flowers usually red or purple, pea-shaped. Pod oblong, linear or rarely globular, straight or incurved, two-valved, divided transversely between the seeds by cellular tissue. Probably poisonous.

17 sp. in Aus. W.A. 5, S.A. 8, Vic. 1, Tas. 1, N.S.W. 8, Q. 13, N.A. 13.

CLIANTHUS, Banks and Solander, from *kleos*, glory, and *anthos*, a flower, referring to the handsome flowers. A genus comprising two species only, one endemic to Australia known as "Sturt's Desert Pea," and one from New Zealand. Leaves pinnate. Flowers red, sometimes white, in short axillary racemes.

1 sp. in Aus. W.A. 1, S.A. 1, N.S.W. 1, Q. 1, N.A. 1.

SWAINSONA, Salisbury, after I. Swainson. A large genus of herbs or undershrubs. Leaves unequally pinnate, leaflets usually numerous, small, entire. Flowers purple, blue, red, white, or yellowish, pea-shaped, in axillary racemes. Bracts usually small. Standard nearly orbicular, wings oblong, keel sometimes twisted. Style incurved, bearded. Pod varies from oval and inflated to narrow and leathery, containing many small seeds. W.A. species of Swainsona do not seem to affect the brain of animals eating them, as some of those

SUB-FAMILY III.—PAPILIONACEÆ—continued.

of the Eastern States are known to do. *S. Gregaria* (S.A., Vic., and N.S.W.), known as "The Darling Pea," when eaten by stock, especially calves and young horses, sends them mad, a propensity to climb trees being one of the symptoms.

22 sp. in Aus. W.A. 16, S.A. 16, Vic. 8, Tas. 1, N.S.W. 22, Q. 13, N.A. 6.

KENNEDYA, Ventenat, after M. Kennedy. A genus closely allied to *Hardenbergia* in general habit, and particularly by the similarity of the seeds, which show the same excrescence at the eye of each one.

12 sp. in Aus. W.A. 12, S.A. 3, Vic. 3, Tas. 2, N.S.W. 4, Q. 3.

HARDENBERGIA, after Countess Hardenberg. A small Australian genus, distinct from *Kennedy* by the short calyx-teeth, small keel, and still more by the habit and numerous small flowers of a very different colour. Glabrous, twining herbs or undershrubs. Leaves of one, three, or five leaflets with stipules. Flowers small, violet, white or pinkish with a yellowish or greenish spot on the standard, in axillary racemes, usually in pairs or small clusters.

3 sp. in Aus. W.A. 1, S.A. 1, Vic. 1, Tas. 1, N.S.W. 1, Q. 2.

SAXIFRAGACEÆ.

A large Family ranging over the whole world, mostly represented by perennial herbs growing in crevices of rocks in mountainous regions. Shrubs or herbs. Leaves various. Flowers regular, or nearly so. Stamens usually definite.

20 genera in Aus., 3 in W.A.

CEPHALOTUS, Labillardière, from *kephalos*, headed, referring to the filaments of the stamens. A genus limited to the single W.A. species, *C. follicularis*, known as "The Pitcher Plant."

DROSERACEÆ.

A small Family, found in nearly all parts of the world. Herbs. Leaves fringed with glandular cilia. Flowers regular.

2 genera in Aus., 2 in W.A.

DROSEREA, Linnaeus, from *drosera*, dewy; referring to the dewy appearance of the leaves in many species, and known as "Sundews." Herbs. Leaves more or less covered on the upper side with glandular hairs or cilia and bordered with longer ones, usually irritable and closing over insects or other objects resting on them, the under side and stalks without these glandular hairs. The plants vary from tiny forms with rosettes of leaves scarcely more than 1 in. in dia., and flower scapes little more than 1 in. in height, to sturdy, erect, much-branched plants forked cymes, or on radical scapes or terminal peduncles, having great variety of colour—yellow, white, pink, scarlet, crimson, and purple.

39 sp. in Aus. W.A. 32, S.A. 10, Vic. 9, Tas. 6, N.S.W. 10, Q. 9, N.A. 3.

BYBLIS, Salisbury, after Byblis, daughter of Miletus, son of Apollo and Cyaneus. An Australian genus. Herbs. Leaves linear without stipules. Peduncles bearing a single blue flower. Calyx-segments or sepals 5, petals 5, broad, oblique; stamens 5.

2 sp. in Aus. W.A. 1, Q. 1, N.A. 1.

POLYGALACEÆ.

A large Family, widely dispersed over the whole globe.

3 genera in Aus., 1 in W.A.

COMESPERMA, Labillardière, from *come*, a head of hair, and *sperma*, a seed. An Australian genus. Herbs, undershrubs, or shrubs, erect or twining. Leaves alternate, usually small. Racemes terminal. Sepals unequal, the two innermost or wings large and petal-like. Petals 3. Stamens 8, united to above the middle. Ovary two-celled. Style incurved, more or less two-lobed at the top. Capsule leathery, usually uncinat. Seeds ovate or oblong, pendulous, hairy.

21 sp. in Aus. W.A. 16, S.A. 6, Vic. 7, Tas. 5, N.S.W. 8, Q. 7, N.A. 1.

HALORAGACEÆ.

A Family dispersed over nearly the whole globe. Herbs often aquatic, or undershrubs. Leaves opposite or alternate, without stipules. Flowers small, regular, often much reduced.

7 genera in Aus., 3 in W.A.

LOUDONIA, Lindley, after J. C. Loudon. An Australian genus. Glabrous herbs with a perennial root-stock and erect stems. Leaves alternate, linear. Flowers yellow, in dense terminal corymbose panicles. Calyx-tube or ovary with two to four longitudinal wings or angles, lobes 2 to 4, short, alternating with the wings. Fruit a small one-seeded nut.
3 sp. in Aus. W.A. 2, S.A. 2, Vic. 1, N.S.W. 1.

MYRTACEÆ.

A large Family of trees or shrubs, rarely undershrubs. Leaves opposite or alternate, without stipules, usually dotted. Flowers regular, or nearly so. The fleshy-fruited genera are widely spread over the tropical regions of the world, including many of the largest forest trees. The capsular genera are either all or chiefly Australian. The genus *Eucalyptus*, as in other parts of Australia, is the predominating element in the forest flora of Western Australia. The foliage of the *Eucalypts* and myrtaceous plants generally is permeated with glands containing essential oils of various qualities, useful for medicinal purposes, perfumery, etc. Many of the species have beautiful and showy flowers.

45 genera in Aus., 27 in W.A.

DARWINIA, Rudge, after Dr. Darwin. An Australian genus of shrubs of usually heath-like habit. Leaves small, opposite or scattered, entire. Flowers small, nearly sessile in the upper axils, or in terminal heads, the floral leaves or bracts either large and coloured or small like the stem-leaves. Calyx-lobes 5. Petals 5, entire. Stamens 10, alternating with as many long and more or less bearded towards the end.
36 sp. in Aus. W.A. 32, S.A. 2, N.S.W. 2, Q. 1.

VERTICORDIA, De Candolle, probably from two Latin words meaning turned heart. An Australian genus of heath-like shrubs, glabrous except the cilia on the edges of the leaves. Leaves opposite, or rarely alternate, entire. Flowers usually on slender stalks in the upper axils, forming often broad, terminal, leafy corymbs, or simple leafy spikes, or racemes below the ends of the branches. The genus is characterised by the calyx, the *oblongly plumose* rotating lobes often being coloured. Calyx-tube five-lobed, spreading, deeply divided with *fringed lobes* or long cilia, with sometimes accessory lobes with long cilia. Petals 5, entire, fringed or digitate. Stamens 10. Style rarely elongated. Fruit formed by the hardened base of the slightly enlarged persistent calyx. Seed usually solitary.
43 sp. in Aus. W.A. 41, S.A. 1, Q. 1, N.A. 2.

PILEANTHUS, Labillardière, from *pilæa*, a cap, and *anthos*, a flower, referring to the flower being enclosed before expansion in an involucre. A genus endemic to W.A. Heath-like shrubs, glabrous except the flowers. Leaves mostly opposite, linear. Flowers in the upper axils, forming terminal leafy corymbs. Calyx-tube turbinate or campanulate, lobes 10, spreading, all equal, broad, petal-like, entire. Petals 5, exceeding the calyx, spreading, shortly ciliate. Stamens 20. Ovary one-celled, with six to ten ovules. Fruit usually one-seeded, formed by the hardened base of the persistent calyx.
W.A. 3 sp.

CALYTRIX, Labillardière from *calyx*, a calyx, and *thrix*, hair (Calycothrix). An Australian genus. In habit the majority of the species are very much alike, the most striking characteristic being the shape of the calyx-tube and its relation to the ovary. Heath-like shrubs. Leaves scattered, not opposite. Calyx-tube elongated, usually slender, lobes 5, spreading, short, entire, spreading, very deciduous. Stamens indefinite, usually numerous.
40 sp. in Aus. W.A. 30, S.A. 2, Vic. 1, Tas. 1, N.S.W. 2, Q. 5, N.A. 7.

MYRTACEÆ—continued.

LHOTZKYA, Schauer, after Dr. Lhotzky. An Australian genus closely allied to *Calothrix*, but differing in the absence of the hair-like points to the edge segments. Heath-like shrubs. Leaves scattered or rarely opposite, small, rigid, entire. Flowers sessile or on short stalks, solitary in each axil along the branches, or forming terminal leafy heads. Bracteoles scarious on the margin, persistent, continuous with the rigid pedicel, often united at the base into a turbinate calyx-tube. Calyx-lobes 5, spreading, short, broad, very obtuse. Petals 5, entire, spreading, deciduous. Ovary one-celled, ovules 2. Fruit formed by the lower part of the calyx-tube, and crowned by the persistent remainder of the calyx.
10 sp. in Aus. W.A. 7, S.A. 3, Vic. 1.

BÆCKEA, Linnaeus, after Dr. Bæck. A large genus of heath-like glabrous shrubs. Leaves small, opposite, entire. Flowers small, solitary, white or pink. Calyx-lobes and petals 5. Petals orbicular, spreading. Stamens 10 or more. Fruit two or three-valved.
58 sp. in Aus. W.A. 43, S.A. 5, Vic. 7, Tas. 3, N.S.W. 15, Q. 4, N.A. 1.

HYPOCALYMMMA, Endlicher, from *hypo*, under, and *calymma*, a veil, referring to the bracts hiding the calyx from below. A genus endemic to W.A., and connecting in some ways *Bæckea* with *Leptospermum*, but differing from both in the staminal arrangement, having its stamens united at the base. Shrubs. Leaves opposite. Flowers axillary, usually in pairs. Calyx-lobes 5. Petals 5, broadly ovate, spreading, often persistent. Stamens numerous, not exceeding the petals. Seeds solitary or few in each cell.
W.A. 12 sp.

BALAUSTRON, Hooker, from the Greek name for the Wild Pomegranate flower. A genus limited to the one species, *B. pulcherrimum*, endemic to W.A.
W.A. 1 sp.

AGONIS, De Candolle, from *agon*, a struggle, and *gonia*, an angle, referring to the drooping habit of the genus, which is endemic to W.A. Shrubs or trees. Leaves alternate, often crowded on smaller branchlets, either small or long and narrow, entire. Flowers rather small, closely sessile, in globular, axillary or terminal heads, usually surrounded by scale-like bracts. Calyx-tube campanulate, lobes 5, ovate. Petals 5, spreading, exceeding the calyx-lobes, orbicular. Capsule three-valved, opening at the top, shorter than the calyx-tube. This genus is closely allied to *Leptospermum*, *Melaleuca*, and *Bæckea*.
13 sp. in Aus. W.A. 11, N.S.W. 2, Q. 1.

LEPTOSPERMUM, R. and G. Forster, from *leptos*, slender, and *sperma*, a seed, referring to the small narrow seeds. A genus consisting of shrubs or small trees, popularly known as "Tree-tees" because the leaves of a N.S.W. species were used by Captain Cook's sailors, and subsequently by the settlers, for making tea. Leaves alternate, small, rigid, entire. Flowers usually white, solitary or two or three together at the ends of short branchlets or in the axils of the leaves. Calyx five-lobed. Petals 5, orbicular, spreading, exceeding the calyx-lobes. Stamens numerous, free, not exceeding the petals. Fruit three to five-valved.
20 sp. in Aus. W.A. 7, S.A. 4, Vic. 5, Tas. 6, N.S.W. 12, Q. 8, N.A. 1.

KUNZEA, Reichenbach, after G. Kunze. An Australian genus. Shrubs often heath-like. Leaves usually opposite, small, entire. Flowers sessile in the upper axils, or more frequently in terminal heads, rarely an oblong spike below the end of the branch; with a broad scale-like bract and two smaller bracteoles under each flower, and sometimes several empty bracts overlapping round the head. Calyx-tube ovoid or globular, lobes 5, small. Petals 5, orbicular, spreading. Stamens longer than the petals, indefinite, free in one or several series. Capsule opening at the top, usually three-celled, seeds numerous.
17 sp. in Aus. W.A. 9, S.A. 1, Vic. 4, Tas. 1, N.S.W. 8, Q. 1.

CALLISTEMON, Brown, from *callistos*, beautiful, and *stemon*, a stemon, referring to the beautiful colour of the stamens. An Australian genus. Tall shrubs or small trees. Leaves terete, linear or lanceolate, entire, leathery. Flowers very handsome, mostly crimson, in dense oblong or cylindrical spikes, at first terminal, but the axis very soon growing out into a leafy shoot. Calyx five-lobed. Petals 5, orbicular, spreading, longer than the calyx-lobes. Stamens in most species 4 to 1 in. long or more. Fruit a three-celled capsule, opening at the top, containing many seeds. The genus is popularly known as "Bottle-brush."
18 sp. in Aus. W.A. 2, S.A. 4, Vic. 3, Tas. 1, N.S.W. 12, Q. 4.

MYRTACEÆ—continued.

MELALEUCA, Linnaeus, from *melas*, black, and *leuca*, white, because the trunk is black and the branches white. Some people ascribe this peculiarity to the first that sweep through the bush. A genus of shrubs and trees, closely allied to *Callistemon*, but easily distinguished by its five bundles of stamens, united by the filaments. Anthers versatile, the cells parallel, opening longitudinally. Ovary three-celled with indefinite ovules in each cell, either numerous or few. Several species of this genus are known as *Tea-tree*, others as *Bottle-brush*, and some as *Paper-barks*.

97 sp. in Aus. W.A. 75, S.A. 14, Vic. 11, Tas. 5, N.S.W. 23, Q. 15, N.A. 11.

BEAUFORTIA, Brown, after Mary, Duchess of Beaufort. A genus endemic to W.A. Rigid, often heath-like shrubs. Leaves opposite, or in one species, *B. sparsa*, scattered, small and rigid. Flowers usually red, sessile, solitary within each bract, in dense heads or short spikes, either terminal or at the base of the new branches formed by the growing out of the central axis. Bracts usually very deciduous, bracteoles small. Calyx-tube five-lobed. Petals 5, spreading. Stamens longer than the petals, united in five distinct bundles. Anthers very small, erect, the cells parallel, opening at the top in two valves. Ovary three-celled, with one perfect ovule in each cell. Closely allied to *Melaleuca*, with the habit and foliage of the smaller-leaved species of that genus, but differing in the anthers and ovules.

W.A. 13 sp.

CALOTHAMNUS, Labillardière, from *kalos*, beautiful, and *thamnos*, a shrub. A genus endemic to W.A. Shrubs. Leaves scattered, narrow, rigid, terete, or flat. Flowers showy, of the "Bottle-brush" type, usually red. Anthers oblong or linear, erect, attached by the base, the cells parallel and opening *inwards* in longitudinal slit.

W.A. 23 sp.

EUCALYPTUS, L'Heritier, from *euc*, well, *kalypso*, I cover. A large genus, with the exception of two species extending to Timor and one or two doubtful species from the Indian Archipelago, all Australian, popularly called "Gum-trees." Shrubs or trees, attaining sometimes a gigantic size, secreting more or less resinous gums. Leaves in the young saplings of practically all species horizontal, opposite, sessile, and cordate; in the adult shrubs or trees of most species vertical or sometimes horizontal, alternate, petiolate, and passing more or less from broadly ovate to lanceolate-acuminate and falcate, always rigid whether thick or thin, pinnately, the midrib conspicuous, primary veins often scarcely perceptible when the leaves are thick, varying greatly but always converging into an intramarginal vein, either close to or more or less distant from the edge. Flowers large or small in umbels or heads, usually pedunculate, rarely reduced to a single sessile flower. Calyx-tube truncate and entire after the falling off of the operculum or calyx-lid covering the young flower before the stamens expand, from which the genus takes its name. Fruit consists of the more or less enlarged, cuneate calyx-tube enclosing the seed-capsule, usually of a hard and woody texture. Seeds for the greater part abortive, but more or less enlarged—one or very few in each cell perfect.

Approximately 230 sp. in Aus. W.A. 46, S.A. 34, Vic. 35, Tas. 14, N.S.W. 48, Q. 50, N.A. 25.

EREMEA, Lindley, from *eremo*, desert, perhaps alluding to the solitary flowers. A genus endemic to W.A., differing from *Calothamnus* chiefly in the inflorescence and anthers. Bushy shrubs, usually more or less hirsute. Leaves alternate, flat and short, or narrow and heath-like, often crowded on the young shoots. Flowers solitary or few, sessile, more or less surrounded by overlapping scale-like bracts. Calyx-lobes 5. Petals 5, obovate, spreading. Stamens longer than the petals, more or less united in bundles. Anthers obovoid, erect on a short connective continuous with the filament; the cells placed back to back, opening *outwards* in longitudinal slit. Capsule enclosed in the hardened and enlarged usually smooth calyx-tube, opening at the top, three-celled.

W.A. 6 sp.

CHAMÆLAUCIUM, Desfontaines, from *chamai*, a dwarf, and *laucium*, a poplar. A genus endemic to W.A. Heath-like shrubs. Leaves small, narrow, and sessile. Flowers sessile, or on short stalks in the axils of the upper stem-leaves, or few in a terminal cluster with the floral leaves reduced to small bracts. Calyx-tube tubular-campanulate or turbinate, lobes 5, spreading, petal-like or ciliate. Petals 5, orbicular, longer than the sepals. Stamens 10. Anthers ovoid or globular. Style sometimes shorter than the petals, sometimes longer. Fruit formed by the hardened base of the persistent calyx. Seeds one or two.

W.A. 10 sp.

FICOIDEÆ.

A Family widely dispersed over the warmer parts of the world, the majority of species found on sandy or rocky sea coasts or dry places, or spreading as weeds, particularly abundant in South Africa. Herbs or rarely undershrubs, or almost shrubby. Leaves entire, often succulent.

8 genera in Aus., 5 in W.A.

MESEMBRYANTHEMUM, Linnaeus, from *mesembria*, mid-day, and *anthemon*, a flower, alluding to the flowers which close in the afternoon. A genus of herbs or undershrubs, more or less succulent, commonly known as "Pig-face." Leaves fleshy. Flowers showy, terminal, or in the forks of the branches or leaf-opposed.

3 sp. in Aus. W.A. 3, S.A. 2, Vic. 2, Tas. 2, N.S.W. 2, Q. 2.

MACARTHURIA, Huegel. A personal name. An Australian genus. Rigid, wiry, or rush-like herbs or undershrubs. Leaves few, alternate, narrow, often all reduced to scales. Flowers small in lateral short irregular cymes, or forming a spreading forked cyme with opposite bracts. Calyx-segments 5. Petals 5 or none. Stamens 3. Styles 3. Capsule enclosed in the persistent calyx.

3 sp. in Aus. W.A. 2, N.S.W. 1, Q. 1.

UMBELLIFERÆ.

A large Family of plants, producing flowers in clusters with the flower-stalks radiating from a common point, like the ribs of an umbrella, more or less represented nearly all over the world, especially in the temperate regions of the northern hemisphere. Herbs or very rarely shrubs. Leaves alternate, often much divided. Stamens as many as petals, and inserted with them round a disk.

13 genera in Aus., 8 in W.A.

HYDROCOOTYLE, Tournefort, from *hydro*, water, and *cotyle*, a cavity, referring to the plants growing in moist places, and the leaves being hollowed like cups. A genus dispersed over the warmer and temperate regions of the globe, most frequent in moist situations or floating in water. Herbs either prostrate and rooting at the nodes or erect and annual. Leaves either orbicular, petiolate, or deeply cordate and entire or divided, or cuneate at the base and divided. Stipules scarious, often toothed or jagged, especially in the annual species. Flowers small, sometimes unisexual, in simple umbels, and also verticillate on the pedicel below the terminal umbel, white or rarely purplish. Calyx-lobes minute or inconspicuous. Petals entire, acute, valvate or overlapping. Disk flat, with a raised ring-like or cup-shaped margin. Fruit, two smooth carpels, sometimes winged.

26 sp. in Aus. W.A. 19, S.A. 13, Vic. 9, Tas. 6, N.S.W. 13, Q. 6, N.A. 1.

TRACHYMENE, Rudge, from *trachys*, rough, and *hymen*, a membrane, alluding to the channels of the fruit. An Australian genus. Herbs, either annual, biennial, or perennial. Leaves divided, or rarely toothed only. Flowers white or blue in simple umbels, usually on terminal peduncles.

12 sp. in Aus. W.A. 11, S.A. 3, Vic. 3, Tas. 2, N.S.W. 5, Q. 4, N.A. 3.

XANTHOSIA, Rudge, from *xanthos*, yellow, referring to the yellow down with which some species are clothed. Herbs or small shrubs, often hairy. Leaves divided. Flowers in umbels.

13 sp. in Aus. W.A. 13, S.A. 2, Vic. 3, Tas. 3, N.S.W. 5, Q. 1.

ERYNGIUM, Tournefort, from *erys*, to eject wind—according to Dioscorides this plant is a specific against all complaints arising from flatulence. A genus spread over the warm and temperate regions of the world, most abundant and varied in South America. Herbs with prickly leaves and involucre, thistle-like. Flowers in compact spikes or heads. Calyx-lobes rigid, acute or sharp-pointed. Petals erect. Fruit obovoid, without vittæ.

4 sp. in Aus. W.A. 2, S.A. 3, Vic. 2, Tas. 1, N.S.W. 4, Q. 4.

UMBELLIFERÆ—continued.

ACTINOTUS, Labillardière, from *actinos*, rayed, referring to the daisy-like flowers. An Australian genus. Herbs either annual or perennial. Leaves divided. Umbels or flower-heads surrounded by a radiating involucre of herbaceous often woolly bracts. Fruit ovate—a single carpel with one seed. Species of this genus are popularly known as "Flannel-flowers." In *Flowering Plants and Ferns of N.S.W.* Mr. J. H. Maiden mentions a little catch in regard to the correct botanical classification of the Flannel-flower. Quoting briefly from his remarks:

"To the inexperienced it would appear to belong to the Daisy Family (*Compositæ*), judging by its daisy-like flowers. But the centre of the flower, a soft woolly hemisphere, consists of a very large number of flowers closely packed together, and the tiny flowers all radiate from one point like the spokes of an umbrella. It therefore belongs to the Order *Umbellifera*, and is closely related to such prosaic plants as the carrot, parsnip, and celery. What are usually called 'petals,' in the case of the Flannel-flower are bracts, forming an involucre which looks as though it were snipped out of white flannel. A bract may be described as a floral leaf, and is not an essential part of the flower."

9 sp. in Aus. W.A. 4, S.A. 1, Tas. 1, N.S.W. 5, Q. 2.

LORANTHACEÆ.

A large Family, chiefly abundant within the tropics. Parasitical shrubs and trees. Leaves opposite and alternate, without stipules. Stamens opposite the corolla-lobes or petals.

5 genera in Aus., 2 in W.A.

NUYTSIA, Brown, named because of its striking appearance in Nuyt's Land, as its locality was first called. A genus consisting of a single species, *N. floribunda*, endemic to W.A., and popularly known as "Christmas Tree."

W.A. 1 sp.

LORANTHUS, Linnaeus, from *loron*, a thong, and *anthos*, a flower, alluding to the long linear form of the petals. A very large genus almost wholly tropical or sub-tropical in America, Africa, and Asia. Australian species practically all endemic. A parasitical plant commonly known as "Mistletoe." Leaves opposite. Flowers hermaphrodite, axillary or terminal. Calyx short. Petals 4 to 8, free or more or less united in a tubular corolla, spreading at the ends. Fruit a berry.

19 sp. in Aus. W.A. 4, S.A. 10, Vic. 5, N.S.W. 14, Q. 14, N.A. 10.

COMPOSITÆ.

Known as the Daisy Family, the largest in the world of vegetation, and represented all over the globe. Herbs, shrubs, or very small trees. Flower-heads usually terminal, consisting of tiny flowers or florets collected together in a head, surrounded by an involucre of several bracts, either in one row or overlapping in several rows, usually having the appearance of a single flower. Many species are of the type known as "Everlasting."

94 genera in Aus., 50 in W.A.

BRACHYCOME, Cassini, from *brachys*, short, and *come*, hair. Herbs either tufted with one-headed scapes or annuals or perennials with erect or ascending branching stems. Leaves alternate, entire, toothed, or divided. Daisy-like flower-heads terminal, the ray white, blue, or purplish, very rarely yellow. The Australian species are all endemic. The genus is, however, nearly allied to *Bellis*, a group confined to the northern hemisphere. The majority of the Australian species differ in habit, but they are all distinguished by the dry or scarious margins of the involucre bracts.

36 sp. in Aus. W.A. 8, S.A. 18, Vic. 20, Tas. 10, N.S.W. 30, Q. 11.

COMPOSITÆ—continued.

PODOLEPIS, Labillardière, from *podus*, a foot, and *lepis*, a scale, referring to the flower-stalk being covered with scales. An Australian genus. Annual or perennial herbs. Leaves alternate, lanceolate or linear, more or less woolly, frequently stem-clasping. Flower-heads terminal, the ray-florets yellow, pink, or purple. Involucre hemispherical or ovoid, the bracts overlapping, in several rows, *thin and scarious, not petal-like*, by which this genus can be distinguished from *Helipterum* and *Helichrysum*. Florets of the circumference in a single row, female. Disc-florets hermaphrodite, tubular, with five or four narrow lobes. Pappus plumose.

12 sp. in Aus. W.A. 8, S.A. 6, Vic. 6, Tas. 1, N.S.W. 8, Q. 4, N.A. 1.

ATHRIXIA, Ker, from *a*, without, and *thrix*, hair, referring to the receptacle being without hairs. Herbs either annual or perennial. Leaves alternate, entire. Flower-heads on terminal peduncles, the ray-florets usually white. This species is readily distinguished by the involucre, which has *narrow-linear or sharp-pointed tips*.

5 sp. in Aus. W.A. 5, S.A. 1, Vic. 1.

WAITZIA, Wendland, after A. K.

Waltz. An Australian genus. Herbs usually annual. Leaves alternate linear. Flower-heads in terminal corymbs, or rarely in oblong leafy racemes. Involucral bracts usually serrate-ciliate at the base. Closely allied to *Helichrysum* and *Helipterum*, from which it differs in its *beaked achenes*.

6 sp. in Aus. W.A. 6, S.A. 1, Vic. 1, N.S.W. 1.

HELIPTERUM, De Candolle, from *helios*, sun, and *pteron*, a wing, alluding to the feathery pappus. A genus closely allied to *Helichrysum*, *ironia*, frequently annual, or slender branched shrubs with leafy stems. Leaves entire, alternate, or the lower ones rarely opposite. Florets yellow. Involucral bracts *petal-like*, usually white, yellow, brown, or pink, often varying in all these colours with intermediate shades in the same species. Pappus plumose, by which this genus can always be distinguished from *Helichrysum*.

48 sp. in Aus. W.A. 36, S.A. 21, Vic. 9, Tas. 2, N.S.W. 18, Q. 8.

HELICHRYSUM, Vaillant, from *helios*, sun, and *chryso*, gold, alluding to the brilliant flowers. A genus closely allied to *Helipterum*. Herbs, undershrubs, or shrubs, with leafy stems usually more or less clothed with cottony wool. Leaves usually alternate, entire. Involucre hemispherical or ovoid. Bracts overlapping in several rows, *petal-like, usually spreading*. Florets either all hermaphrodite and tubular, or a few in the circumference female, a few of the central ones sometimes sterile. Achenes not contracted at the top. Pappus simple or *barbellate*, or plumed at the end only. The *barbellate pappus* distinguishes it from *Helipterum*.

55 sp. in Aus. W.A. 21, S.A. 25, Vic. 19, Tas. 22, N.S.W. 37, Q. 13, N.A. 4.



Diagram from a sketch by Mr. C. A. Gardner, showing the difference between a plumose and a barbellate pappus (greatly magnified).

Fig. 1.—Plumose pappus of *Helipterum*.
Fig. 2.—Barbellate pappus of *Helichrysum*.

COMPOSITÆ—continued.

ANGIANTHUS, Wendland, from *angion*, a cup, and *anthos*, a flower. An Australian genus. Annual or perennial herbs, or in one species, shrubby, glabrous, or more or less cottony or woolly-white. Leaves alternate, entire. Clusters or spikes of flower-heads terminal, cylindrical, oblong-ovoid, globose or hemispherical, subtending bracts usually deciduous.

22 sp. in Aus. W.A. 20, S.A. 7, Vic. 5, N.S.W. 6, N.A. 1.

CETHELIPITERUM, Gray, from *kephale*, a head, and *pteron*, a wing. A genus consisting of a single species, *C. Drummondii*.

1 sp. W.A. and S.A.

CRASPEDIA, Foerster, from *craspedon*, a fringe, referring to the hairy border of the leaf. A genus closely allied to *Angianthus* and *Cotocophalus*. Herbs. Leaves entire. Clusters of flower-heads terminal, often rather large. Some species known as "Bachelor's Buttons."

4 sp. in Aus. W.A. 2, S.A. 4, Vic. 3, Tas. 1, N.S.W. 4, Q. 2.

SENECIO, Tournefort, from *senex*, an old man, referring to the white hairs of the pappus. The largest genus of the Order, and ranging nearly over the whole world, although the individual species are often very local. The rays are yellow in all of them except *S. leucophaeus* (white), a W.A. species. The genus is divided into two series, *Radiati*, flower-heads radiate; and *Discoides*, flower-heads small, consisting of upright tubular florets only, involucre cylindrical. Four of the seven W.A. species are included in the latter series. Herbs or very rarely shrubs. Leaves alternate, entire or divided, often rather thick. Flower-heads terminal, solitary, corymbose or branched.

28 sp. in Aus. W.A. 8, S.A. 14, Vic. 15, Tas. 13, N.S.W. 18, Q. 5.

SCHENIA, Cassini, from *schoina*, a rush. A genus limited to a single Australian species, *S. Cassiniana*, classified by some botanists under *Helichrysum*.

1 sp. W.A. and S.A.

PODOTHECA, Cassini, from *pus*, a foot, and *theca*, a cell or capsule, referring to the stalk. An Australian genus. Leaves alternate, entire. Flower-heads terminal, rather large, cylindrical or conical, sometimes very long, on peduncles which are dilated under the involucre. Florets all hermaphrodite, tubular, five-toothed. Achenes on slender stalks.

5 sp. in Aus. W.A. 5, S.A. 1, Vic. 1.

STYLIDIACEÆ.

A small Family, chiefly Australian. Herbs or rarely undershrubs. Leaves radical or scattered, or in whorl-like clusters. Flowers mostly irregular, the fifth lobe of the corolla usually different from the other four. Stamens 2.

Confusion has arisen in the naming and classification of this Family originally through an oversight on the part of Labillardière in bestowing the name "Candolleæ" on two distinct genera. Swartz endeavoured to correct this, but only made matters worse by changing *Candolleæ* (*Candolleaceæ*) to *Stylidium*, and the Family to *Stylidiaceæ*, as he unfortunately selected a name already applied by Loureiro in 1790 to a genus of *Cornaceæ*. F. von Mueller restored the name *Candolleæ* to the genus first named by Labillardière (*Candolleaceæ*), and united the other genus *Candolleæ* (*Dilleniaceæ*) with *Hibbertia*. However, the name *Stylidium* is the one mostly used in Western Australia, and under it the various species (popularly known as "Trigger-plants") are classified in the Government Herbariums of Western Australia.

3 genera in Aus., 2 in W.A.

STYLIDIUM, Swartz, from *stylos*, a column, referring to the stamens and style, which are joined. A large genus commonly called "Trigger-plants," from the elastic spring of the column when touched, and often mistaken for orchids by the inexperienced. Habit and foliage those of the Order. Flowers delicate and of great beauty, varying greatly in colour. The genus is distinguished by its irritable style, which results in the effectual pollination of the flowers by insects.

83 sp. in Aus. W.A. 60, S.A. 6, Vic. 4, Tas. 2, N.S.W. 7, Q. 13, N.A. 12.

GOODENIACEÆ.

A Family almost exclusively Australian. Herbs or undershrubs. Leaves variable. Flowers more or less irregular. Corolla 5-lobed. Stamens 5. Style with a cup-shaped or petate indusium under the stigma.

12 genera in Aus., 11 in W.A.

BRUNONIA, Smith, after Robert Brown. A genus of a single species, *B. australis*, endemic to Australia.

1 sp. W.A., S.A., Vic., Tas., N.S.W. Q.

DAMPiera, Brown, after W. Dampier. A large Australian genus. Herbs, undershrubs, or shrubs, with alternate leaves. Flowers usually blue, solitary, axillary or terminal, the margin of the corolla-lobes sometimes crinkled, with prominent lines decurrent inside the tube. Anthers united. Indusium two-lipped. Fruit small.

33 sp. in Aus. W.A. 30, S.A. 5, Vic. 5, Tas. 1, N.S.W. 8, Q. 5.

LESCHENAULTIA, Brown, after M. Leschenault. An Australian genus. Herbs, undershrubs, or shrubs. Leaves narrow-linear, entire, scattered, or crowded and head-like. Flowers either solitary and terminal, or leaf-opposed or several in compact, leafy, terminal corymbs, blue, white, yellow, red, or greenish. Calyx-tube linear, lobes linear or lanceolate. Corolla oblique, the tube slit open to the base or rarely closed, the lobes all or partially erect with the tips converging or spreading. Indusium broadly two-lipped, the upper lip shorter, glandular inside, and with a half-ring of short hairs on the outside at the base.

16 sp. in Aus. W.A. 14, S.A. 2, N.S.W. 1, Q. 1, N.A. 2.

SCÆVOILA, Linnaeus, from *scæva*, the left hand, alluding to the form of the corolla, which somewhat resembles an open hand, and in memory of Scævola, as Caius Mutius, a young Roman was called, because when he entered the camp of Porsenna, King of Etruria, to deliver his country of so dangerous an enemy, and was captured and taken before the king, he deliberately held his hand over an altar of burning coals until it was burnt off, as a proof of his fortitude. Herbs, undershrubs, or shrubs. Leaves alternate. Flowers solitary. Corolla-lobes spreading. Indusium cup-shaped, usually tufted.

50 sp. in Aus. W.A. 39, S.A. 12, Vic. 8, Tas. 3, N.S.W. 7, Q. 8, N.A. 9.

GOODENIA, Smith, after Dr. Goodenough, Bishop of Carlisle. An Australian genus. Herbs, undershrubs, or rarely shrubs. Leaves alternate or radical. Peduncles either axillary or in terminal racemes or panicles, one-flowered, or bearing a cyme or cluster of a few flowers. Calyx-tube shortly five-lobed. Corolla with five winged lobes. Indusium cup-shaped. Fruit a capsule splitting open, two-celled. Seeds usually flat, with a hardened or winged margin. A few of the species have the corolla and some others the habit of *Scævola*, but the majority differ from that genus in both respects, and all are readily known by the splitting capsule as well as by the seeds.

69 sp. in Aus. W.A. 41, S.A. 26, Vic. 16, Tas. 5, N.S.W. 28, Q. 24, N.A. 23.

CAMPANULACEÆ.

A considerable Family, most abundant in the temperate regions of the northern hemisphere and in South Africa. Herbs, usually with a milky juice. Flowers regular or irregular, often bell-shaped, of great beauty.

4 genera in Aus., 3 in W.A.

LOBELIA, Linnaeus, after M. Lobel. A large genus widely spread over the greater part of the world, chiefly abundant in America, South Africa, and Australia. Herbs, the Australian species either annual or creeping and rooting at the base. Pedicels one-flowered. Calyx-tube five-lobed. Corolla slit open on upper side to the base, five-lobed, the two upper lobes usually shorter, more deeply separated, and erect or curved upwards, forming a more or less distinct upper lip, the three lower spreading in a lower three-lobed lip. Stigma broadly two-lobed, and often surrounded by a ring of retractile hairs. Many species are poisonous.

18 sp. in Aus. W.A. 10, S.A. 12, Vic. 5, Tas. 3, N.S.W. 11, Q. 12, N.A. 3.

CAMPANULACEÆ—continued.

ISOTOMA. Brown, from *isos*, equal, and *tomo*, a section, referring to the flowers. A small genus closely allied to *Lobelia*. Herbs. Flowers axillary or in terminal racemes or solitary, on long scapes or peduncles, hermaphrodite in all the species known.

6 sp. in Aus. W.A. 4, S.A. 3, Vic. 2, N.S.W. 3, Q. 4.

WAHLBERGIA. Schrader, after G. Wahlberg. A large genus widely distributed over various parts of the world, most abundant in South Africa. Herbs. Leaves usually alternate. Flowers blue, resembling the English Harebell, terminal, or in the upper axils. Calyx usually five-lobed. Corolla campanulate or more or less turbinate at the base with as many lobes as the calyx. Style upright, stigma with as many lobes as ovary cells.

2 sp. in Aus. W.A. 1, S.A. 1, Vic. 1, Tas. 2, N.S.W. 1, Q. 1, N.A. 1.

EPACRIDACEÆ.

A Family of heath-like plants closely allied to the Erica family, almost confined to Australia, New Caledonia, New Zealand, and the Antarctic Islands. Leaves usually alternate, rigid. Flowers regular, *anthers one-celled*.

24 genera in Aus., 12 in W.A.

STYPHELIA. Solander, from *stypheles*, hard, referring to the habit of the plants. An Australian genus. Small shrubs, usually with sharp-pointed leaves. Flowers usually solitary and axillary, corolla-tube elongated, usually with tufts of hair inside, lobes hairy, much rolled back. Style longer than the corolla-tube, stigma small. Fruit a five-celled, five-angled drupe, with one seed in each cell.

11 sp. in Aus. W.A. 4, S.A. 2, Vic. 1, Tas. 1, N.S.W. 6, Q. 2.

CONOSTEPHIUM. Benthams, from *konos*, a cone, and *stephanos*, a crown. A genus endemic to W.A., allied to *Asteloma*. Leaves linear or ovate.

W.A. 5 sp.

LEUCOPOGON. Brown, from *leukos*, white, and *pogon*, beard, referring to the white hairs with which the corolla is bearded. A large genus united by F. von Mueller to *Styphelia*. Subshrubs of various habit, leaves small, heath-like. Flowers white, solitary, or in spikes, corolla-lobes spreading, densely bearded.

118 sp. in Aus. W.A. 80, S.A. 13, Vic. 13, Tas. 8, N.S.W. 29, Q. 15, N.A. 14.

ASTROLOMA. Brown, from *astron*, a star, and *loma*, a fringe, referring to the fringed star-like corolla-lobes. An Australian genus united by F. von Mueller to *Styphelia*, and closely allied to it and *Leucopogon*. Low shrubs with distinctive flowers, corolla-lobes spreading, hairy. Fruit a drupe, five-celled, each cell containing one seed.

18 sp. in Aus. W.A. 16, S.A. 2, Vic. 2, Tas. 2, N.S.W. 3.

LYSINEMA. Brown, from *lysis*, a separation, and *nema*, a filament; referring to the stamens being free from the corolla. An Australian genus. Erect, straggling, or virgate shrubs. Flowers almost sessile and solitary in the upper branches, usually forming leafy heads or spikes.

6 sp. in Aus. W.A. 5, N.S.W. 1, Q. 1.

ANDERSONIA. Brown, after W. A. W. and G. Anderson. A genus endemic to W.A. Shrubs. Leaves stem-clinging. Flowers either solitary or terminal, surrounded by numerous bracts, or solitary within each floral leaf. Sepals of a different texture from the bracts. Corolla, five-lobed, shorter than or scarcely exceeding the calyx, white, pink, or blue.

W.A. 19 sp.

DRACOPHYLLUM. Labillardière, from *drakon*, a dragon, and *phylon*, a leaf, the leaves resembling those of *Dracena Draco*. Shrubs or small trees. Leaves crowding at the ends of the branches or overlapping them, very concave above the sheathing bases, which fall off with the leaf, leaving annular scars on the denuded stem or branches. Flowers in terminal compound racemes or panicles or simple spikes or heads. Corolla-tube cylindrical, lobes 5, spreading, overlapping in the bud. According to Benthams three W.A. species of this genus form the section *Splenetoma*, which has been constituted a separate genus by some others.

9 sp. in Aus. W.A. 6, Tas. 2, N.S.W. 1.

GENTIANACEÆ.

A Family chiefly abundant in the temperate or mountainous regions of the northern hemisphere. Herbs with a bitter taste. Leaves usually opposite. Fruit a capsule, rarely remaining closed at maturity.

7 genera in Aus., 4 in W.A.

VILLARSIA. Ventenat, after D. Villars. Herbs, usually growing in marshes. Radical leaves on long petioles. Flowering stems erect, branched and leafless besides small bracts, or branching. Flowers yellow or white. Calyx 5, cleft nearly to the base. Corolla broadly campanulate, the tube short and broad, lobes 5, with broad, entire, or fringed margins.

9 sp. in Aus. W.A. 8, S.A. 1, Vic. 1, Tas. 1, N.S.W. 1, Q. 1.

CONVOLVULACEÆ.

A large Family widely spread over the globe, but most abundant in warm countries. Herbs, often twining, or rarely shrubs. Leaves alternate. Inflorescence various, usually axillary. Flowers large and showy.

11 genera in Aus., 7 in W.A.

CONVOLVULUS. Tournefort, from *convolvere* (L.), to entwine. Twining, prostrate, creeping, or erect herbs. Leaves entire or rarely toothed, lobed or deeply divided. Flowers axillary, solitary, or in corymbose or umbel-like cymes. Corolla campanulate, entire, angular or rarely lobed. Fruit a dry capsule.

6 sp. in Aus. W.A. 2, S.A. 2, Vic. 4, Tas. 3, N.S.W. 3, Q. 4, N.A. 2.

SOLANACEÆ.

A Family numerous in the tropical and warmer regions of the globe, and more especially South America, and including the potato, *Solanum tuberosum*. Herbs, shrubs, or soft-wooded trees. Leaves alternate. Flowers regular or nearly so. Fruit a berry or capsule. 7 genera in Aus., 6 in W.A.

SOLANUM. Tournefort, derivation uncertain, perhaps from *solanum*, nightshade, the common name of many of the species; *solanum*, from *sua*, being serviceable in disorders of swine; or *solor*, to comfort, referring to its soothing narcotic effects. Herbs, shrubs, or rarely low, soft-wooded trees, sometimes armed with prickles. Leaves alternate. Inflorescence normally in centrifugal cymes, sometimes lateral or reduced to a single flower. Calyx usually five-lobed. Corolla rotate, or very broadly campanulate, with five or rarely four petals, folded in the bud. Fruit a berry. Seeds several.

50 sp. in Aus. W.A. 18, S.A. 16, Vic. 8, Tas. 3, N.S.W. 27, Q. 38, N.A. 17.

SCROPHULARINACEÆ.

A large Family widely distributed over every part of the globe, united by F. von Mueller and some others with the Order *Solanecæ*. Herbs or rarely shrubs or small trees. Flowers irregular. Fruit a capsule, or very rarely a berry.

30 genera in Aus., 8 in W.A.

ANTHOCIRIS. Labillardière, from *anthos*, a flower, and *kiria*, a ray, referring to the radiated corolla. An Australian genus. Shrubs. Leaves entire or rarely toothed, often rather thick. Peduncles one to three-flowered, irregularly arranged in terminal racemes or panicles often leafy. Bracts very small or none. Corolla white or yellow, with five spreading lobes long and narrow, the campanulate tube usually streaked inside with purple or green.

18 sp. in Aus. W.A. 10, S.A. 4, Vic. 2, Tas. 1, N.S.W. 4, N.A. 1.

LENTIBULARIACEÆ.

A small Family dispersed over the greater part of the globe. Herbs either aquatic with floating leaves, or terrestrial with radical or without any leaves. Flowers irregular, the corolla 2-lipped. Stamens 2. Anthers one-celled. Fruit a capsule.

2 genera in Aus., 2 in W.A.

UTRICULARIA, Linnæus, from *utriculus*, a little bladder, referring to the small inflated appendages of the roots. A large genus widely dispersed over the world. Herbs, either floating with submerged root-like leaves divided into capillary segments and interspersed with little bladder-like vessels full of air, or marsh plants either leafless or with entire radical leaves. Peduncles or scapes radical or axillary. Flowers solitary or in a raceme. Calyx deeply divided into two lobes or segments. Corolla with a spur at the base, the mouth of the tube usually closed or nearly so by a convex plate, the upper lip erect, broad, the lower lip usually longer and broader, with the lobes reflexed or the whole lip spreading horizontally.

20 sp. in Aus. W.A. 6, S.A. 3, Vic. 2, Tas. 4, N.S.W. 6, Q. 12, N.A. 6.

POLYPOMPHOLYX, Lehmann, from *poly*, many, and *pompholux*, a bubble. A genus limited to two species, both of which are found in W.A. Marsh plants with radical leaves, leafless scapes, and racemose or solitary pink flowers. Characters and habit of *Utricularia*, except that the calyx has two additional inner lateral segments.

2 sp. in Aus. W.A. 2, S.A. 1, Vic. 1, Tas. 1.

MYOPORACEÆ.

A Family closely allied to *Verbenaceæ*, and almost wholly confined to Australia. Shrubs. Leaves alternate. Stamens usually 4 in pairs.

3 genera in Aus., 2 in W.A.

EREMOPHILA, Brown, from *eremos*, solitary, and *philos*, to love, found in the desert. An Australian genus. Shrubs. Leaves alternate or scattered. Flowers solitary or in a few species several together in the axils, usually pedicellate without bracts. Calyx divided to the base into five segments, or rarely five-lobed, often but not always enlarged after flowering. Corolla-tube usually broad from the base or constricted above the ovary, more or less elongated or incurved, the limb oblique or two-lipped, five-lobed. Stamens 4, in pairs of unequal length, projecting. Ovary two-celled. Fruit a dry or succulent drupe.

80 sp. in Aus. W.A. 60, S.A. 39, Vic. 4, N.S.W. 20, Q. 8, N.A. 4.

VERBENACEÆ.

A large Family ranging over both the new and the old world, but most abundant within the tropics, and including many plants noted for medicinal use and beauty of form. Herbs, shrubs, or trees. Stamens usually 2 or 4 in pairs. Many desert forms show flowers as well as leaves wrapped in coatings of dense wool.

20 genera in Aus., 12 in W.A.

LACHNOSTACHYS, Hooker, from *lachne*, wool, and *stachys*, spike, referring to the woolly flower-spikes. Erect shrubs clothed with a dense cotton or wool, consisting of intricately branched hairs. Leaves opposite, sessile, undivided. Flowers opposite and sessile in dense terminal woolly spikes. Calyx broadly campanulate, five to eight-lobed, densely woolly outside, glabrous inside. Stamens 5 to 8, exerted, anthers without appendages, style slender. Fruit enclosed in the calyx, hard, usually one-celled and one-seeded. A genus endemic to W.A.

W.A. 5 sp.

MALLOPHORA, Endlicher, from *mallos*, wool, and *phora*, bearing. A genus limited to a single W.A. species, *M. globiflora*, closely allied to *Nesocassia* and *Physopsis*, but with a more divided style, and inflorescence nearer to that of *Dieracystis*.

W.A. 1 sp.

VERBENACEÆ—continued.

CHLOANTHES, Brown, from *chloa*, grass, and *anthos*, a flower, referring to the green flowers of some of the species. An Australian genus. Perennials, undershrubs, or shrubs, more or less cottony, woolly, or covered with glandular hairs. Leaves opposite or in whorls of three, narrow, extended downwards along the stem. Flowers axillary, solitary, on short pedicels. Calyx more or less deeply divided into five narrow lobes. Corolla-tube elongated, usually incurved and dilated upwards, limb two-lipped, the upper lip erect at the base with two spreading lobes, the lower lip three-lobed, spreading. Ovary imperfectly two-celled. Fruit a dry four-celled drupe. Seeds solitary in each cell.

20 sp. in Aus. W.A. 18, N.S.W. 2, Q. 1.

CYANOSTEGIA, Turczaninow, from *cyanos*, blue, and *stegia*, a covering. An Australian genus, closely allied to *Chloanthos* and *Pitygodia*, but without any cottony wool. Glabrous shrubs. Leaves opposite, the upper floral ones reduced to small bracts. Peduncles axillary, one or three-flowered, forming a loose terminal panicle. Bracteoles small. Calyx broadly campanulate, expanding after flowering, opening very flat, the margin sinuate-toothed or five-lobed. Corolla broadly campanulate, the limb five-lobed, the two upper lobes much longer than the three lower. Stamens 4, anthers large, oblong. Fruit in the centre of the enlarged calyx, small, hard, and ripening one or two seeds.

4 sp. in Aus. W.A. 4, N.A. 1.

LABIATÆ.

A large Family, generally dispersed over every part of the globe. Herbs or shrubs. Leaves opposite. Stamens 2 or 4 in pairs. Style divided.

21 genera in Aus., 7 in W.A.

HEMIANDRA, Brown, from *hemi*, half, and *andros*, male. A W.A. genus. Shrubs or undershrubs, usually spreading. Leaves opposite, entire, narrow, rigid, sharp-pointed. Flowers axillary, solitary, with a pair of bracts under the calyx. Calyx two-lipped or five-toothed. Corolla with a broad campanulate throat, the upper lip short, the lower longer, spreading, three-lobed, the middle lobe often two-lobed. Stamens 4, in pairs. Style shortly divided at the end. This genus is united by F. von Mueller with *Hemigenia* (from *hemi*, half, and *genes*, an offspring, referring to only one of the cells of each anther being fertile), and only differs in the sharp-pointed leaves and the anthers.

W.A. 3 sp.

CHENOPODIACEÆ.

A Family widely distributed over the globe, chiefly in coastal or salty districts, classified by F. von Mueller as *Salsolaceæ*. Herbs or undershrubs, often succulent, and very frequently hoary or white, with a minute and mealy, or more dense and scaly tomentum, or in some genera hairy and woolly. Leaves usually alternate, sometimes none. Flowers small, perianth 5-lobed. Stamens 5. Most of the genera are commonly known as "Saltbush," and contain plants of great value as fodder, being found in the arid interior of the State especially, supplying large quantities of succulent foliage at times when little else is available for stock. Species of *Atriplex* are the main source of this fattening fodder, but *Kochia* and *Rhagodia* also furnish supplies. The branches of the plants are so brittle that continuous access of stock results in their extermination sooner or later. Pastoralists now recognise the Saltbushes as worth preserving by avoiding the overstocking of their runs, and by propagating the plants from seeds and cuttings planted in

CHENOPODIACEÆ—continued.

enclosures, where the branches can be cut when full grown and thrown to the cattle or sheep as required.

15 genera in Aus., 11 in W.A.

ATRIPLEX, Tournefort, from *ater*, black, or perhaps the same as *Atriplex*, a, without, and *triplo*, to nourish—plants yielding no nourishment, a name given by the Greeks to the Atriplex of the Latins, but which could hardly be said to apply to the Australian species. Herbs or shrubs, more or less mealy or scaly-tomentose. Leaves alternate, flat, entire, or toothed. Male flowers in globular clusters, either detached from the females in simple or branched spikes, or axillary and each cluster usually surrounded by females. Female clusters usually axillary. Male perianth nearly globular, deeply divided into five segments. Stamens 5 or less. Female perianth very small at time of flowering, two-toothed, or two-lobed, enclosing the ovary. Styles 2. Fruiting perianth much enlarged and variously shaped. Fruit enclosed in the tube or between the valves. Seeds compressed.

29 sp. in Aus. W.A. 12, S.A. 19, Vic. 8, Tas. 2, N.S.W. 19, Q. 10, N.A. 4.

AMARANTACEÆ.

A large Family spread over the temperate and warmer parts of the world, disappearing in high latitudes and in alpine regions. Herbs or undershrubs, rarely shrubs. Leaves alternate or opposite, without stipules. Perianths of flowers usually more or less dry. This genus is represented in Australia chiefly by the "Everlasting" species of *Trichinium*.

9 genera in Aus., 4 in W.A.

TRICHINIUM, from *trichinos*, covered with hairs, alluding to the hairy appearance of the flowers. An Australian genus, united by some botanists with *Ptilotes*. Herbs, undershrubs, or rarely shrubs. Leaves alternate, narrow, or rarely obovate. Flowers in dense globular, ovoid, or cylindrical spikes. Bracts and bracteoles dry and shining, sharp-pointed. Perianths usually pink or straw-colour.

47 sp. in Aus. W.A. 22, S.A. 18, Vic. 7, Tas. 1, N.S.W. 8, Q. 11, N.A. 20.

PROTEACEÆ.

A large Family, chiefly represented in Australia, especially in Western Australia. A large proportion are shrubby with rigid, spiny leaves, and flowers generally brilliantly coloured and curious in form, without petals. This Family is called, because of its great variety of foliage and inflorescence, after Proteus, the mythological sea-god, who possessed the power of changing his form.

29 genera in Aus., 15 in W.A.

STIRLINGIA, Endlicher, after Captain Stirling. Undershrubs or shrubs usually glabrous, branching, leafy at the base. Leaves forked. Peduncles terminal, leafless, long and simple or more or less branched and paniculate. Flowers small, hermaphrodite, perianth regular, the tube cylindrical separating into distinct segments recurved above the middle. Anthers erect on short thick filaments. Fruit a small dry hairy nut, the upper hairs usually forming a fringe. Classified by some botanists as *Sinisia*.

W.A. 5 sp.

PETROPHILA, Brown, from *petros*, a stone, and *phileo*, to love, referring to the places where the plants are usually found. An Australian genus closely allied to *Isopogon*. Shrubs with rigid, entire or divided leaves. Flowers usually white or yellow, in dense spikes or cones, each flower sessile within a persistent bract or scale. Fruit a small dry and induricent nut.

49 sp. in Aus. W.A. 33, S.A. 1, N.S.W. 3, Q. 3.

PROTEACEÆ—continued.

ISOPOGON, Brown, from *isos*, equal, and *pogon*, a beard. Shrubs. Leaves rigid, entire or divided. Flowers yellow, pink, or lilac, in dense spikes or cones, each flower sessile within a bract or scale, closely surrounded by floral leaves. Fruit a dry nut, usually ovoid-conical, hairy all over.

29 sp. in Aus. W.A. 26, S.A. 1, Vic. 1, Tas. 2, N.S.W. 6, Q. 1.

ADENANTHOS, Labillardiere, from *aden*, a gland, and *anthos*, a flower, referring to the glands of the flowers. Shrubs, sometimes small trees, not closely allied to any other genus, although with the inflorescence of the one-flowered species of *Lambertia*.

14 sp. in Aus. W.A. 15, S.A. 2, Vic. 1.

SYNAPHEA, Brown, from *synapheia*, a connection. A W.A. genus of shrubs or undershrubs, very distinct as a whole, but the different species closely allied. Leaves more or less divided, usually with prickly lobes. Flowers small, yellow, growing in spikes.

W.A. 8 sp.

CONOSPERMUM, Smith, from *konos*, a cone, and *sperma*, a seed. An Australian genus. Leaves quite entire. Flowers blue, lilac, pink or white (not yellow), in short dense spikes which are either sessile in compound heads, or solitary on axillary peduncles, or variously branched on axillary or terminal peduncles, each flower sessile within a broad sheathing bract, the rhachis of the spike often somewhat lengthened as the flowering advances. Flowers hermaphrodite. Anthers, style, ovary, and fruit are remarkably uniform in all the species.

33 sp. in Aus. W.A. 26, S.A. 1, Vic. 3, Tas. 1, N.S.W. 6, Q. 2, N.A. 1.

FRANKLANDIA, Brown, a personal name. Shrubs. Leaves alternate, divided into narrow forked segments. Flowers hermaphrodite in racemes either terminal or in the upper axils, solitary within small bracts. Perianth regular, tube long and slender, lobes spreading. Fruit a narrow nut crowned by hairs.

2 genera in W.A. only.

PERSOONIA, Smith, after C. H. Persoon. Shrubs or small trees. Leaves entire, usually alternate, sometimes almost whorled. Flowers yellow or white, solitary in the axils of the leaves or in short racemes, hermaphrodite, perianth regular, cylindrical in the bud, segments free, recurved in the upper portion. Fruit a berry-like drupe, with usually one seed. Species of this genus are commonly known in W.A. as "Scottie Bobs."

59 sp. in Aus. W.A. 25, S.A. 1, Vic. 8, Tas. 2, N.S.W. 32, Q. 9, N.A. 1.

XYLOMELUM, Smith, from *xylos*, wood, and *melum*, a pear, referring to the fruit. An Australian genus of trees or small shrubs. Leaves opposite, entire or prickly-toothed. Flowers in opposite dense spikes, axillary, or at first forming a terminal cluster, becoming lateral by the elongation of the branch. Flowers sessile, in pairs. Fruit large, pear-shaped, very thick and woody, splitting open. Seeds two-winged.

4 sp. in Aus. W.A. 2, N.S.W. 2, Q. 2.

LAMBERTIA, Smith, after A. B. Lambert. An Australian genus. Shrubs. Leaves mostly in groups of three. Flowers red or yellow, usually long and tubular in sessile clusters of seven, surrounded by bracts. Fruit a short, woody, truncate follicle, suture, and splitting open.

Seeds 2.

8 sp. in Aus. W.A. 7, N.S.W. 1.

GREVILLEA, Brown, after C. F. Greville. A genus limited to Australia with the exception of several New Caledonian species. Shrubs or trees. The form of the beautiful flowers is extremely varied. An unusually long style, generally curved back to the perianth-tube, and ultimately straightened and erect, is a typical feature, as is also a long, curved perianth-tube. Inflorescence usually terminal. Fruit a leathery, pod-like follicle, splitting open, containing one or two seeds. Seeds without wings, or the wings short at both ends, or all round.

156 sp. in Aus. W.A. 84, S.A. 16, Vic. 8, Tas. 2, N.S.W. 47, Q. 19, N.A. 1.

HAKEA, Schrader, after Baron Hake. An Australian genus of shrubs or rarely small trees. Leaves alternate, very diversified in shape. Flowers usually white, in pairs along the rhachis of a short and dense raceme or cluster, or rarely in a long raceme. Fruit a woody capsule splitting open, and containing two flat seeds winged chiefly or entirely at the upper end.

Identification of this genus is somewhat difficult, as it is closely allied to and often confused with *Grevillea*, and is often impossible without specimens of both flowers and fruit.

95 sp. in Aus. W.A. 73, S.A. 14, Vic. 11, Tas. 6, N.S.W. 17, Q. 10, N.A. 7.

PROTEACEÆ—continued.

BANKSIA, Linnaeus, after Sir Joseph Banks, who collected specimens when he landed at Botany Bay with Captain Cook. An Australian genus, principally represented in W.A. Trees or shrubs. Leaves usually narrow with numerous short teeth, lobes or segments, and minute white hairs covering the whole of the under surface, glabrous on top. Flowers sessile in dense terminal cylindrical, oblong, or globular spikes. In the fruit the bracts and bracteoles become consolidated with the rachis into a thick woody cone, either covered with the withered remains of the perianths, amongst which the seed-capsules are entirely concealed, or where the flowers are wholly deciduous, the valves of the capsules protrude more or less beyond the bracts. The proportion of perfect capsules is usually very small in relation to the number of flowers, of which there are often from 500 to above 1,000 on the same spike. The Banksias are more ornamental than useful. The wood of "*River Banksia*" (*B. verticillata*), which attains the dimensions of a fair-sized tree always found on the rich alluvial flats or banks of rivers, is soft and light-coloured, and is used in furniture-making and house-fittings. The timber of all the species is largely used for firewood.

45 sp. in Aus. W.A. 37, S.A. 2, Vic. 5, Tas. 1, N.S.W. 9, Q. 5, N.A. 1.

DRYANDRA, Brown, after J. Dryander. A genus endemic to W.A., somewhat similar to *Banksia*, but readily distinguished by the involucre, the flat or nearly flat receptacle, and the fruit. Shrubs, often low, or flowering near the base. Leaves alternate, very rarely entire, usually with prickly teeth. Flowers sessile, in pairs, in dense terminal or lateral heads and usually surrounded by a ring of floral leaves similar to the stem-leaves.

W.A. 47 sp.

THYMELEACEÆ.

A large Family widely distributed over most parts of the world. Undershrubs or herbs. Bark stringy. Leaves entire. Inflorescence varied, but never umbellate. Flowers mostly hermaphrodite.

4 genera in Aus., 1 in W.A.

PIMELEA, Banks and Solander, from *pimela*, fat, referring to the oily seeds. A large genus of shrubs, trees, or rarely herbs. Leaves always entire. Flowers in terminal or axillary clusters, heads, racemes, or spikes, rarely solitary, often surrounded by an involucre of four or more bracts differing more or less from the stem-leaves. Flowers hermaphrodite or rarely dioecious. Perianth simple, tubular, or campanulate, four-lobed in Australian genera. Stamens usually 2. Fruit an indehiscent nut, drupe or berry, or rarely a two-valved capsule.

67 sp. in Aus. W.A. 29, S.A. 17, Vic. 19, Tas. 18, N.S.W. 26, Q. 17, N.A. 5.

EUPHORBIACEÆ.

A large Family, most abundant within the tropics, of shrubs, trees, and herbs. A number of Australian species are of heath-like habit. Many are poisonous. Leaves alternate or opposite. Inflorescence very varied. Flowers usually small, strictly unisexual.

35 genera in Aus., 14 in W.A.

RICINOCARPUS, Desfontaines, having fruit like *Ricinus*, the Castor-oil plant. An Australian genus. Shrubs. Leaves alternate, entire, linear or lanceolate. Flowers monoecious, solitary or clustered. Calyx usually five-lobed. Petals as many as calyx-lobes. Stamens numerous.

13 sp. in Aus. W.A. 7, S.A. 1, Vic. 1, Tas. 1, N.S.W. 3, Q. 3, N.A. 2.

PHYLANTHUS, Linnaeus, from *phylon*, a leaf, and *anthos*, a flower, referring to the flowers being produced from the edges of the leaves. A large genus, mostly represented in Australia in N.S.W., Queensland, and N.A. Herbs, shrubs, or trees. Leaves alternate or entire. Flowers monoecious or rarely dioecious.

46 sp. in Aus. W.A. 5, S.A. 11, Vic. 3, Tas. 2, N.S.W. 15, Q. 21, N.A. 17.

CASUARINÆÆ.

A Family consisting of a single genus, chiefly Australian.

CASUARINA, Rumphius, so called because of the resemblance of the branches of the species to the feathers of the cassowary (derived from a Malay word, *kasuari*). Trees or shrubs, with leafless, wiry, erect, or pendulous branches. Leaves replaced by very small scales. Flowers very small—males in cylindrical spikes, females in globular or ovoid spikes or cones. Specimens of this genus are known popularly as "*She-oaks*," "*Bull-oaks*," 25 sp. in Aus. W.A. 16, S.A. 8, Vic. 3, Tas. 3, N.S.W. 12, Q. 5, N.A. 1.

SANTALACEÆ.

A Family widely dispersed over the temperate parts of the world, with a few tropical species, and closely related to *Oleaceæ* and *Loranthaceæ*. Shrubs, herbs, or rarely trees. Flowers usually hermaphrodite, often minute. Drupe indehiscent.

8 genera in Aus., 5 in W.A.

FUSANUS, Brown, from *fusius* (Fr.), a spindle-tree, referring to the semblance of the leaves and fruit. An Australian genus united by some botanists with *Santalum*, but considered distinct by Bentham. Trees or shrubs. Leaves usually opposite, the midrib only, or when old a few lateral veins, conspicuous. Flowers hermaphrodite. Perianth-tube turbinate, lobes 4, with a tuft of hairs behind each stamen. Filaments and two-lobed anthers short. Style very short. Fruit a globular drupe, more or less fleshy externally, the inner part hard and usually wrinkled or pitted.

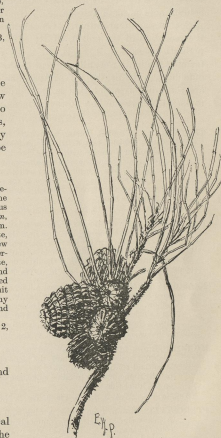
4 sp. in Aus. W.A. 3, S.A. 2, Vic. 2, N.S.W. 3, Q. 1.

MONOCOTYLEDONS.

Plants with one seed lobe, and parallel-veined leaves.

ORCHIDACEÆ.

A Family of terrestrial or epiphytcal plants, abundantly distributed over the whole globe, rare only in some alpine or extreme Arctic and Antarctic regions. Flowers irregular, curiously shaped, often resembling insects, the odd or lower petal (called the labellum or lip) being unlike the others, and sometimes of a strange



Leaves and Fruit of *Casuarina glauca*.

ORCHIDACEÆ—continued.

and unexpected appearance. In the centre of the Orchid flower is a peculiar structure, which is a distinctive character by which an Orchid can be readily recognised, called the column, formed by the combined stamens and pistil. The lower part is formed by the ovary, and near the top pollen is seen, showing that the column acts as pistil and stamen. (In West Australian Orchids there is but one perfect stamen and anther.) On the front of the column is a pad or cushion for the reception of the pollen, equivalent to the stigma of an ordinary pistil. The perianth consists of 3 sepals, the outer row, and 3 petals, alternate with them, forming the inner row, all adherent to the ovary. The sepals are generally darker outside than the petals. West Australian Orchids, excluding those of the tropical area, are all terrestrial, that is, they grow in the ground with tuberous or fibrous roots. Epiphytes adhere to the surface of rocks or trunks or branches of trees.

48 genera in Aus., 18 in W.A.

THELYMITRA, R. and G. Forster, from *thely*, a woman, and *mitra*, a cap, referring to the hooded column, which bears a fanciful resemblance to a woman's head-dress. Glabrous herbs. Leaf solitary, usually with a long sheath, the blade linear, often rather thick. One or two empty bracts along the stem. Flowers usually several in a terminal raceme, sometimes only one or two, blue, purple, red, or yellow, occasionally white. Sepals and petals all nearly equal and spreading. Lip similar to the sepals, and spreading with them. Column erect, rather short, very broadly winged. Anther erect or bent forward between the lateral lobes or under the hood.

16 sp. in Aus. W.A. 13, S.A. 14, Vic. 5, Tas. 7, N.S.W. 10, Q. 2.

DIURIS, Smith, from *dis*, double, and *uris*, a tail, referring to the two lower sepals. An Australian genus. Leaves narrow, few at or near the base of a stem, with a few sheathing bracts higher up. Flowers curiously shaped, one, two, or several, in a terminal raceme. The upper sepal is short and broad, and the two lower narrow and curved. Of the three petals, the two upper are battledore-shaped, while the lip is deeply three-lobed.

23 sp. in Aus. W.A. 4, S.A. 6, Vic. 6, Tas. 5, N.S.W. 17, Q. 7.

PRASOPHYLLUM, Brown, from *prason*, a leek, and *phyllon*, a leaf, referring to the leek-like leaves. Leaf solitary, usually with a long sheath. Flowers variously coloured, often pale or greenish-yellow, usually bent down over the ovary so as to appear very spreading or reflexed, numerous on a single stalk. Three sepals and two petals narrow and inconspicuous, the third petal or lip, on the upper side of the flower, broad and slightly waved at the edge.

23 sp. in Aus. W.A. 9, S.A. 14, Vic. 6, Tas. 12, N.S.W. 23, Q. 6.

MICROTIS, Brown, from *micro*, small, and *otis*, an ear, referring to the appearance of the anthers. Glabrous herbs. Leaf solitary, the blade elongated and terete, shortly opened out near the stem, and continued in a closed sheath down the stem. Flowers small, green or whitish, usually numerous in a terminal spike, the perianths often horizontal or reflexed, with the lip on the lower side.

6 sp. in Aus. W.A. 5, S.A. 3, Vic. 3, Tas. 2, N.S.W. 2, Q. 2.

PTEROSTYLIS, Brown, from *pteron*, a wing, and *stylis*, a style, referring to the winged column. A genus chiefly Australian, commonly called "Greenhoods," from the shape and usual colour of the flowers. Radical leaves ovate. Flowers curious, usually green, often tinged or streaked with red or brown. The main part of the hood is formed of the upper sepal and the two lateral petals, lightly attached. The two lower sepals are joined to form a kind of forked door to the front of the hood. The lip is usually small and tongue-like with a spur at its base, and is placed inside the two joined lower sepals. The column, concealed in the hood, has two wings at the top.

26 sp. in Aus. W.A. 8, S.A. 16, Vic. 13, Tas. 13, N.S.W. 26, Q. 9.

ORCHIDACEÆ—continued.

DRAKÆA, Lindley, after Miss Drake, a botanical artist. An Australian genus, commonly called "Hammer Orchids." Glabrous herbs, generally about 6 in. high. Leaf solitary at or near the base of the stem, usually broad, or none at time of flowering. Stems with one to three empty sheathing bracts. Flowers brownish, solitary, or several in a raceme, the subtending bracts small and narrow. The three sepals and two of the petals narrow and inconspicuous, the dorsal sepal erect, the lateral sepals and petals spreading or reflexed. The lip is large and hinged about the middle of its stalk, so that when touched it springs round against the column. Column elongated, narrow, wingless except one or two pairs of narrow auricles variously placed. Allied to *Acianthus*, *Calceana*, and *Cyrtostylis*.

5 sp. in Aus. W.A. 4, N.S.W. 2, Q. 1.

CALEANA or CALEYA, Brown, after G. Caley. An Australian genus, closely allied to *Drakæa*, but readily distinguished by the wide wings of the column, forming a kind of pouch open or closed by the elastic movements of the lid-like lip when touched. Glabrous herbs. Leaf linear-lanceolate or oblong, solitary at the base of the stem, which has also occasionally a small empty bract at or below the middle. Flowers one to three or rarely four, on short stalks, the subtending bracts acute. Ovary usually recurved, reversing the flower. Sepals and petals all erect, the lateral sepals and petals spreading or reflexed, but this position is apparently reversed.

3 sp. in Aus. W.A. 1, S.A. 2, Vic. 1, Tas. 2, N.S.W. 2, Q. 1.

CYRTOSTYLIS, Brown, from *kyrtos*, convex, and *stylis*, a style. A genus of a single species, *C. reniformis*, allied to *Drakæa*, and found in W.A., S.A., Vic., Tas., N.S.W., and Queensland.

LYPERANTHUS, Brown, from *lype*, sadness, and *anthos*, a flower, referring to the somber appearance of the flowers. An Australian genus. Herbs, which turn black when dried. Scapes or stems two or more flowered, either with one radical leaf or two or three almost leaf-like empty bracts, or with about two stem-leaves. The flowers look those of a coarse stout spider orchid, but the lip has no calli, and the upper sepal is broad and hooded. Allied to *Calceana*.

4 sp. in Aus. W.A. 2, S.A. 1, Vic. 1, Tas. 1, N.S.W. 4.

CALADENIA, Brown, from *kalos*, beautiful, and *aden*, a gland, referring to the lip being fringed with glands. A large genus, chiefly represented in W.A., commonly called "Spider Orchids." All the Australian species are endemic, and readily distinguished by the rows of glandular hairs or calli on the lip. Leaf solitary, linear-lanceolate or oblong. Flowers solitary or very few in a loose raceme on an erect scape, variously coloured. The dorsal sepal is usually erect, or even incurved over the column, while the lateral petals and the other two sepals are somewhat flat and spreading. The length and shape of the petals and sepals vary considerably in the different species, which may be divided into five distinct sections. Allied to *Lyperanthus*, *Glossodia*, and *Eriochilus*, which has its lip covered with hair in place of the coarser calli of *Caladenia*.

27 sp. in Aus. W.A. 18, S.A. 17, Vic. 9, Tas. 11, N.S.W. 16, Q. 2.

GLOSSODIA, Brown, from *glossa*, a tongue, and *oides*, like, referring to the tongue-like appendage within the flower. Herbs, usually hairy. Leaf solitary, oblong or lanceolate. Flowers one or two on an erect scape. Sepals and petals obtuse, nearly equal, spreading. The lip is quite smooth, but at its base are two calli or processes, distinct and large in W.A. species, sometimes united into one, as in *G. major*. The flowers of the W.A. species are very waxy, shining and purplish or pinkish, and commonly called "China Orchids." Allied to *Caladenia*.

4 sp. in Aus. W.A. 3, S.A. 1, Vic. 2, Tas. 1, N.S.W. 2, Q. 2.

IRIDACEÆ.

A large Family widely distributed over the world, but more abundant in temperate than tropical regions, and especially well represented in South Africa, where the flowers show a great variety of rich colours. Australian species mostly blue, white, or rarely yellow. Herbs, rarely annuals. Flowers regular, or nearly so. Leaves laterally flattened or terete.

7 genera in Aus., 2 in W.A.

IRIDACEÆ—continued.

PATERSONIA, Brown, after Col. W. P. Paterson. Herbs with a perennial root-stock. Leaves in radical tufts, long and grass-like, or rigid. Scapes long, erect, bearing a single terminal spike, with two outer bracts enclosing two sessile spikelets, each with one, two, or several flowers, and as many more bracts. Perianths bluish-purple or very rarely yellow or white, regular, with three outer spreading segments, the three inner ones very small and erect, or almost obsolete. Style with three broad stigmatic lobes, reflexed on the style in the bud, and spreading horizontally when in flower.

19 sp. in Aus. W.A. 14, S.A. 1, Vic. 4, Tas. 2, N.S.W. 3, Q. 2.

ORTHOSANTHUS, Sweet, from *orthos*, morning, and *anthos*, a flower. Herbs, with leaves mostly radical, long and grass-like or rigid. Spikes one or several flowered. Perianth with a short tube, and six nearly equal spreading segments.

5 sp. in Aus. W.A. 5, S.A. 1.

AMARYLLIDACEÆ.

A Family generally distributed over the warmer and temperate regions of the world, most abundant in dry sunny countries. *Anigozanthos* and other closely allied genera are classified by Bentham as a Section of *Amaryllidaceæ*, while other botanists, including F. von Mueller, have included them in the Family *Hemodoraceæ*, thereby causing confusion as to the Family heading under which the popular Kangaroo Paws of Western Australia should be grouped.

13 genera in Aus., 8 in W.A.

TRIBONANTHES, Radlacher, from *tribon*, a coarse cloak, and *anthos*, a flower. A genus endemic to W.A. Tuberculo-rooted plants. Leaves few, with dilated sheathing bases. Flowers solitary or few in a terminal cyme or head. Perianths persistent, more or less woolly, deeply divided into six nearly equal segments, erect at the base, then spreading. Stamens 6, filaments broad, lining the perianth-tube, and produced beyond it into two short erect entire or toothed appendages. Ovary three-celled, with a conical summit produced into a short style.

W.A. 5 sp.

CONOSTYLIS, Brown, from *konos*, a cone, and *stylos*, a style, referring to the united styles. A genus endemic to W.A., and closely allied to *Anigozanthos*. Tufted plants with woolly flowers, usually yellow, in terminal heads on hairy scapes.

W.A. 22 sp.

ANIGOZANTHOS, Labillardière, named from two Greek words, *anizos*, unequal, and *anthos*, a flower, slightly altered for the sake of euphony, referring to the unequal or oblique flower. A genus endemic to W.A., commonly known as "Kangaroo Paws." Herbs with a perennial root-stock. Leaves chiefly radical with a sheathing base, usually flat. Stems erect, generally with two or three small distant leaves. Flowers in close spikes or racemes at the end of a single stem, or on the branches of a forked spreading panicle, covered with dense wool, the stems usually bearing a shorter or looser hairy covering. Leaves usually glabrous.

W.A. 10 sp.

MACROPODIA, Drummond, from *makros*, large, and *pous*, a foot. A genus endemic to W.A., united by F. von Mueller with *Anigozanthos*, as a single species, *M. juncea*, commonly called "Black Kangaroo Paw," and known also as *Anigozanthos pulginosus*. A tufted herb with the habit and inflorescence of the branched *Anigozanthos*.

W.A. 1 sp.

BLANCOA, Lindley, probably after M. Blanco. A genus of a single species, *B. canescens*, endemic to W.A. It has been united by F. von Mueller with *Conostylis*, but considered distinct by Bentham. It is really more closely connected with *Anigozanthos*, but separated from both by certain distinct characteristics.

W.A. 1 sp.

LILIACEÆ.

A Family generally distributed over the warmer and temperate regions of the world, most abundant in dry sunny countries, known as "The Lily Family."

40 genera in Aus., 20 in W.A.

DIANELLA, Lamarck, after *Diana*, goddess of hunting. Clabrous perennials with thick fibrous roots. Scapes or stems erect, rigid, often several feet high. Leaves crowded and sheathing at the base of the stems. Flowers blue, nodding, in loose forked cymes collected in a terminal panicle, perianths persistent of six distinct oblong segments, stamens 6. Fruit a dark purple berry. Seeds few.

5 sp. in Aus. W.A. 1, S.A. 2, Vic. 3, Tas. 2, N.S.W. 4, Q. 4, N.A. 1.

BURCHARDIA, Brown, after Dr. H. Burchar. A genus limited to the single Australian species, *B. umbellata*, found in all the States.

THYSANOTUS, Brown, from *thysanotos*, fringed, alluding to the fringed petals, commonly known as *Fringed Lily*. Tufted perennials with radical grass-like leaves. Scapes leafless or nearly so, simple or branched. Flowers usually in terminal umbels, rarely reduced to a single flower, with three coloured sepals and three fringed petals. The perianths twist spirally after flowering. Gathered specimens are difficult to identify, as the roots and radical leaves supply the most constant characters.

19 sp. in Aus. W.A. 14, S.A. 6, Vic. 4, Tas. 1, N.S.W. 4, Q. 1, N.A. 1.

TRICORYNE, Brown, from *treis*, three, and *kyryne*, a club, alluding to the form of the capsules. An Australian genus. Herbs with stems usually wiry and branching. Leaves few and grass-like. Flowers in terminal umbels. Petals 6, stamens 6. Perianth spirally twisted over the ovary after flowering. Fruit carpels three-celled.

6 sp. in Aus. W.A. 2, S.A. 1, Vic. 1, Tas. 1, N.S.W. 2, Q. 4.

SOWERBEÆA, Smith, after J. Sowerby. An Australian genus. Tufted perennials. Leaves at the base of the stem, linear. Stamens or scapes leafless, simple or rarely branched at the base. Flowers in a single terminal umbel.

3 sp. in Aus. W.A. 1, Vic. 1, N.S.W. 1, Q. 1, N.A. 1.

STYPANDRA, Brown, from *stypa*, tow, and *aner*, an anther. An Australian genus. Perennials with erect or ascending stems. Leaves either all radical or spreading on the stem. Flowers blue, in a loose terminal cyme. Perianths segments 6, spreading. Perianths wither after flowering, but do not twist, at length deciduous. Stamens 6, with bearded filaments, anthers oblong, very much rolled back.

3 sp. in Aus. W.A. 1, Vic. 3, Tas. 2, N.S.W. 3, Q. 1.

AGROSTICRINUM, F. von Mueller, from two Greek words meaning field lily. A genus limited to one species, *A. stypandrioides*, endemic to W.A.

JOHNSONIA, Brown, after G. Johnson, an early settler in W.A. A genus endemic to W.A. Tufted herbs with radical leaves and a simple leafless stem. Flowers in oblong terminal spikes, covered by large overlapping dry bracts. Perianth withering after flowering, but at length deciduous, of six equal three or five-nerved segments. Capsule nearly globular, with one or two seeds in each of the three cells.

W.A. 3 sp.

BORYA, Labillardière, after Bory de St. Vincent. An Australian genus. Perennials with the stems either very short and tufted or elongated and branched, always densely covered with the closely overlapping persistent bases of the leaves. Leaves narrow-linear, much crowded at the base or on the upper part of the stems when elongated. Flowers in globular or ovoid heads on long peduncles. Bracts densely overlapping, forming an erect or spreading involucre, the inner ones broad, brown or black, each with a single sessile flower in its axil. Perianth withering but persistent, the tube slender, cylindrical, with six spreading nearly equal linear lobes. Stamens 6. Capsule enclosed among the persistent bracts, three-valved. Seeds few.

2 sp. in Aus. W.A. 1, Q. 1.

XEROTES, Brown, from *xerotes*, dryness. An Australian genus. Small plants with tufted stems, either densely leafy at the base only or slender elongated and leafy. Flowers dioecious, small, white, the males usually either in dense clusters or solitary along the branches of a panicle, the females either similar to the males or less branched, or reduced to single sessile

LILIACEÆ—continued.

globular heads, or rarely both sexes in dense globular or oblong heads along a simple stalk or connected into a long dense cylindrical spike. Males: perianth of six segments, stamens 6. Females: perianth six-lobed, persistent, firmer than the males. Stamens none. Ovary three-celled, each usually one-seeded.

29 sp. in Aus. W.A. 17, S.A. 10, Vic. 8, Tas. 1, N.S.W. 11, Q. 8.

DASYPOGON, Brown, from *dasy*, thick, and *pogon*, a beard, referring to the appearance of the flower-heads. Long-lived perennials, with a simple or slightly branched stem. Leaves crowded at the base of flowering stems, narrow-linear, spreading and rigid. Flowers in globular heads on long terminal peduncles.

W.A. 2 sp.

XANTHORRHOEA, Smith, from *xanthos*, yellow, and *rheo*, to flow, referring to exudation of yellow gum. An Australian genus known as "Blackboys." Long-lived perennials with a thick woody stem, from very short to tree-like. Leaves in a dense tuft at the top, long-linear, brittle, spreading or recurved. Scape or flower-stalk terminal, often several feet long, terminating in a dense cylindrical spike of numerous sessile flowers, closely packed, with numerous bracteoles surrounding each flower within a small subtending bract. Perianth persistent, of six distinct segments. Stamens 6. Capsule protruding from the persistent perianth, hard, brown, and shining, three-valved, seeds one or two. The stem in several species emits a copious dark or yellow resinous gum.

13 sp. in Aus. W.A. 5, S.A. 4, Vic. 2, Tas. 2, N.S.W. 6, Q. 4.

JUNCACEÆ.

A Family closely allied to *Liliaceæ*, and united with it by F. von Mueller.

10 genera in Aus., 10 in W.A.

CALECTASIA, Brown, from *kalos*, beautiful, and *ektasis*, extensions. A genus limited to *C. cyanea*, found in W.A., S.A., and Vic.

TYPHACEÆ.

A Family limited to the two genera represented in Australia, both widely distributed over the world, especially in the temperate regions.

2 genera in Aus., 1 in W.A.

TYPHA, Tournefort, from *typhos*, a marsh. A genus with a single Australian species, *T. angustifolia*, commonly known as "Bulrush."
W.A., S.A., Vic., Tas., N.S.W., Q., N.A.

GYMNOSPERMÆ.

Plants in which the ovules are *not* enclosed in an ovary.

TAXACEÆ.

A world-wide Family, at one time united to *Coniferae*.

4 genera in Aus., 1 in W.A.

PODOCARPUS, from *pous*, a foot, *karpos*, fruit, referring to the often large fleshy foot-stalk of the fruit. Trees or shrubs. Leaves usually alternate, placed in two vertical rows and flat, with a prominent midrib. Buds scaly. Amenta (form of inflorescence) axillary or terminal, solitary, or several together. Flowers dioecious or rarely monocious. Male amenta cylindrical. Stamens numerous. Female amenta of two to four bracts or scales more or less succulent and united with the rhachis. Seeds drupeaceous, the kernel enclosed in a double covering, the outer one succulent.

5 sp. in Aus. W.A. 1, Vic. 1, Tas. 1, N.S.W. 3, Q. 1.

PINACEÆ.

A world-wide Family of evergreen trees of the Cypress type, once like *Taxaceæ*, united with *Coniferae*.

3 genera in Aus., 2 in W.A.

CALLITRIS, Ventenat, from *kalos*, beautiful, and *tris*, three, referring to the leaves mostly being beautifully arranged in threes. A genus classified by some botanists as *Freziella*, of trees and shrubs, with slender terete or three-angled branches. Leaves in whorls. Male amenta (form of inflorescence) usually small, solitary or clustered at the ends of the branches, and rarely a few lateral ones. Female cones on short thick peduncles or branchlets, solitary or clustered, ripening usually the second year, and persisting many years after the seeds have fallen.

17 sp. in Aus. W.A. 6, S.A. 3, Vic. 3, Tas. 2, N.S.W. 8, Q. 6, N.A. 2.

CYCADACEÆ.

A Family extending over tropical America, subtropical and southern Africa, and tropical Asia. Two of the three Australian genera are endemic, viz.—*Macrozamia* and *Bowenia*, the latter a Queensland variety of a single species closely allied to *Macrozamia*. Palm-like plants. Trunks woody, usually simple, with a crown of large pinnate leaves. Flowers unisexual, without any perianth, forming cones consisting of numerous scales, sessile or very shortly pedunculate within the crown of leaves. Anther cells numerous on the concealed under side of the cone.

3 genera in Aus., 1 in W.A.

MACROZAMIA, Miquel, from *makros*, large, and *zamia*, loss, referring to the sterile appearance of the male fructification. A palm-like plant. Trunk from 8 to 10 ft., or sometimes twice that height, rarely branched at the top. Leaves 2 ft. long or more, pinnate, leaflets numerous, linear, with the midrib prominent underneath. Cones of both sexes ovoid-oblong or cylindrical or the females rarely nearly globular, the scales hard, more or less thickened at the apex, with an erect point. Scales of the females with one pendulous ovule and seed on each side.

5 sp. in Aus. W.A. 1, N.S.W. 4, Q. 5.

ACOTYLEDONS or CRYPTOGAMS.

Plants with no real flowers, that is, without stamens or pistils or true seeds, the reproduction being carried on by means of minute granules called spores.

LYCOPODIACEÆ.

A Family, spread over nearly the whole globe, of plants belonging to the primitive family of *Club Mosses*. Stem or root-stock bearing true leaves, either linear, or small and 1-nerved, or reduced to minute scales. Spore-cases solitary or few together, either all similar or with the spores varying in size, the difference generally admitted to be sexual. Some species are used in medicine, some as dye-producers. The powdery spores of some varieties are so inflammable that they have been used for making fireworks.

7 genera in Aus., 4 in W.A.

PHYLLOGLOSSUM, Kunze, from *phylon*, a leaf, and *glossum*, a tongue. A genus limited to a single Australian species, *P. Drummondii*, found in W.A., Vic., Tas., and N.S.W.

FILICES.

A beautiful Family of plants known as Ferns, abundant in all moist climates, hot or cold; less so in dry and arid countries.

38 genera in Aus., 8 in W.A.

ADIANTUM, Tournefort, called by the Greeks, *adianton*, unwetted. A large genus commonly called "Maiden-hair," widely spread over the tropical and temperate regions of the New and the Old World.

7 sp. in Aus. W.A. 1, S.A. 1, Vic. 3, Tas. 1, N.S.W. 5, Q. 7, N.A. 1.

PTERIS, Linnaeus, from *pteryx*, a wing. A large genus distributed over the temperate and tropical regions of the globe, commonly called "Bracken."

13 sp. in Aus. W.A. 1, S.A. 3, Vic. 6, Tas. 5, N.S.W. 5, Q. 12.

CHEILANTHES, Swartz, from *cheilos*, lip, and *anthos*, a flower, alluding to the lip-like form of the indusium. A considerable genus spread over the tropical and temperate regions of the Old and the New World. Root-stock creeping or tufted. Fronds usually small, twice or thrice pinnate, with small lobed segments.

2 sp. in Aus. W.A. 1, S.A. 1, Vic. 1, Tas. 1, N.S.W. 1, Q. 1, N.A. 1.

APPENDIX.

BIOGRAPHICAL NOTES.

ANDERSON, WILLIAM.—A navy surgeon and botanist who died while with Captain Cook on his Third Voyage.

ANDERSON, ALEX.—A Director of the Botanic Garden, St. Vincent.

ANDERSON, JAMES (1825-1839).—A Scotch botanist. Botanical collector on Captain P. P. King's voyage in H.M.S. *Atalanta*. On the homeward trip he remained in Sydney, and collected on his own account. For some years Superintendent of Sydney Botanic Garden.

The genus *Andersonia* was named by Robert Brown in honour of these three men.

BROWN, ROBERT (1773-1858).—The founder of Australian systematic botany. An army surgeon appointed by Sir Joseph Banks as naturalist to Flinders' voyage of discovery to Australia in the *Investigator*. Subsequently Keeper of Botany at the British Museum, and regarded as perhaps the greatest systematic botanist of all time. He was responsible for the naming of very many W.A. genera and species, and his name has been commemorated by other botanists by a genus (*Brownia*) and a number of species.

BECK, DR.—A Swedish physician. (*Beckea*.)

BANKS, SIR JOSEPH (1743-1820).—A celebrated English naturalist who accompanied Captain Cook on his voyage to Australia. (*Bankesia*.)

BAXTER, WILLIAM.—An English botanist and collector who visited Australia twice (1823-4 and 1828-9) to investigate the then almost unknown flora, and to collect specimens and seeds for the British Government and English patrons. Little is known of his first trip, but the second was entered into by arrangement with the Directors of the Sydney Botanic Garden, who were to receive a share of the seeds and specimens collected. In his *Records of Australian Botanists* Mr. J. H. Maiden has published some interesting correspondence regarding Mr. Baxter's doings at the King George's Sound settlement (Albany), where he was granted the use of a hut, the services as attendant of a Crown prisoner, and a military ration. Regarding the latter, he complained of not receiving sufficient food to enable him to make his long journey inland, and carry the heavy loads of specimens, etc. On his return to Sydney with the collected specimens—sacks of *Bankesia* cones, tubs of rare plants, etc.—a dispute arose as to the division of these, and not content with using abusive language and threatening to knock the man from the Botanic Garden down, he attempted to throw much of the collection overboard. In fact "the violence of his conduct" was such that two constables were sent for. Mr. Baxter then left the vessel, and the collection was landed. Some days after he called at the Garden, and the seeds and dried specimens were divided. He afterwards boasted of having taken means to destroy the collection taken for the Sydney Garden, but if he did attempt to do so, his efforts were not successful. In a little book published in England in 1827, *Flora Australasica*, by Robert Sweet, describing Australian plants then growing under cultivation in England, mention is frequently made of specimens having been introduced into England by William Baxter. A genus (*Baxteria*) and twenty-five species commemorate his name.

BEAUFORT, MARY, DUCHESS OF.—A patroness of botany. (*Beaufortia*.)

BENTHAM, GEORGE (1800-1884).—An English botanist and writer, author of *Flora Australasica*, a wonderful work precious to Australian botanists, upon which he was engaged for about seventeen years; and many other botanical books. He founded several genera, classified and named over 500 W.A. species. About a dozen Australian species bear his name.

BLANCO, M.—A botanist. Author of a work on the flora of the Philippine Islands. (*Blancaea*.)

BORONE, FRANCIS.—A native of Milan, killed at an early age by an accidental fall while on a botanical tour in Greece, endeavouring to reach a rare specimen. (*Boronia*.)

BORY DE ST. VINCENT, JEAN BAPTISTE (1778-1846).—A French botanist and traveller. (*Borgia*.)

BOSCHER-LAMARQUE, A. French naturalist. (*Bosniaea*.)

BURCHARD, DR. HENRY.—A British botanist. (*Burchardia*.)

BURTON, D.—A botanical collector for the Kew Garden. (*Burtonia*.)

- CALVEY, GEORGE.—An English botanist who arrived in N.S.W. in 1800, under engagement to Sir Joseph Banks for the purpose of botanical exploration and collection in N.S.W. and Tasmania. Returned to England in 1810, and subsequently became Superintendent of St. Vincent Botanic Garden. He made his home at Parramatta during his ten years' stay in N.S.W., and made an attempt (said to be the first) to scale the Blue Mountains. In memory of his unsuccessful effort he wrote a poem, entitled "Regulus." (*Colsona, Calveya*).
- CASSINI, H.—A French writer on composite plants.
- CIENFUEGOS, BERNARD.—A Spanish botanist. (*Fagonia*.)
- CROWE, JAMES.—A British botanist. (*Crocea*.)
- CUNNINGHAM, ALLAN.—A British collector for the Kew Garden, and botanist at Sydney Botanic Garden.
- DAMPPIER, WILLIAM (1652-1715).—Buccaner, navigator, and explorer. He visited the north-west coast of Australia with his piratical companions in 1688, and again in 1699, in command of His Majesty's Ship *Robt. Rooke*, twelve guns, and remained on the coast for about a month. Botanical specimens collected by him at Shark's Bay are still preserved in the Museum at Oxford. Some of these have been identified by modern botanists with certainty as regards genus, and in several cases, species—a difficult task with specimens nearly 200 years old, and the rather vague descriptions and crude woodcuts in Dampier's Records. Among the classified West Australian plants in the precious collection are:
- Ceanothus Dampieri* ("Start's Desert Pea"). *Diplocaena Dampieri* ("Wild Rose"). A species of *Melaleuca*. *Casuarina*. *Solanum orbiculatum*. *Dampiera* (supposed). *Borya*. *Fucus* (a seaweed common to the coasts of Australia, and recognised by its spherical vessels filled with air).
- Dampier's memory is commemorated by a genus (*Dampiera*) and seven species.
- DARWIN, DR. E.—Naturalist and botanical author. Grandfather of Charles Darwin. (*Darwinia*.)
- DAVIES, REV. H.—A Welsh botanist. (*Daviesia*.)
- DE CANDOLLE, A. P.—Professor of botany at Geneva early in the nineteenth century. (*Candollea*.)
- DILLWYN, LEWIS WESTON.—A British botanical author. (*Dillwynia*.)
- DRUMMOND, JAMES (1784-1863).—Botanist and collector. He arrived in W.A. with Captain Stirling, R.N., in the *Parmelia*, in 1829, with the first settlers, and established the Government Botanic Garden. He made numerous journeys all over the State collecting specimens, and issued six sets. Considerably over 100 W.A. species bear his name.
- DODENS, REMBERT (1517-1585).—Known as *Dodonæus*, a famous Dutch botanist and physician. (*Dodonæa*.)
- DRYANDER, JOHNS (1748-1810).—A Swedish naturalist and a "skilful and accurate botanist." (*Dryandra*.)
- FRASER, CHARLES.—Colonial botanist and founder of the Sydney Botanic Garden. Commissioned by Governor Darling, of N.S.W., in 1827 he sailed with Captain Gilbert bound to W.A. from Sydney in H.M. frigate *Succow*. They explored the Swan River district, ascended the Darling Ranges, which they named after Governor Darling, and visited King George's Sound. Several species were called after Mr. Fraser, *Macraemia Fraseri* ("Zamia Palm") being one of the best known.
- GOODENOUGH, DR., Bishop of Carlisle.—Naturalist and botanist. (*Goodenia*.)
- GREVILLE, RIGHT HON. CHARLES FRANCIS, Vice-President of the Royal Society.—Collector of rare and interesting botanical specimens. (*Grevillea*.)
- HAKE, BARON CHRISTIAN LEWIS.—A botanist and collector. (*Hakea*.)
- HARDENBERG, FRANCIS, COUNTESS OF.—Sister of Baron von Huegel. (*Hardenbergia*.)
- HIEBER, GEO., F.R.S., L.S.—A British botanist. (*Hiebertia*.)
- HOOKE, SIR WILLIAM JACKSON (1780-1805).—One of the most distinguished of modern botanists.
- HOVE, A. P.—A Polish naturalist. (*Hovea*.)
- HUEGEL, BARON CHARLES VON.—A celebrated Austrian traveller and collector. He visited the Swan River colony in 1833. Thirty-one W.A. species were named after him.
- JACKSON, GEORGE.—A Scotch botanist. (*Jacksonia*.)
- KENDRICK, M.—An English gardener responsible for the introduction of many Australian plants into England. (*Kewia*.)
- KERAUDREN.—A French nobleman interested in botany. (*Keraudrenia*.)

- KUNZE, GUSTAV.—A German botanist and botanical author. (*Kunzea*.)
- LABILLARDIERE, JULES J. H. DE (1755-1824).—A French naturalist and traveller. He accompanied the expedition in search of La Perouse, sent out by the French Government. (*Billardiera*.)
- LAMBERT, AYLMEER BOURKE.—An English botanical writer and collector of botanical specimens. (*Lambertia*.)
- LAWRENCE, ROBERT WILLIAM (1807-1833).—A Tasmanian settler, botanical explorer, and collector.
- LEHMANN, JOHANN GEORG CHRISTIAN.—Author of botanical works published between 1817-1806. Twenty-four W.A. species bear his name.
- LESCHERHAUSEN, LOUIS THEODORE (1773-1820).—A French botanist who accompanied Captain Baudin's expedition to New Holland. (*Leschenaultia*.)
- LOTZEY, DR. JOHANN.—A German botanical collector. (*Lotzeiya*.)
- LOBEL, MATTHEW (1538-1616).—A Flemish naturalist and botanical author. He became physician and botanist to James I., and died in London. (*Lobelia*.)
- LOUDON, J. C.—A horticultural writer. (*Loudonia*.)
- MANGLES, CAPTAIN JAMES, R.N.—A botanical collector. A good many W.A. species were called after him, *Amegastanthos Manglesii* (red and green "Kangaroo Paw") being the best known.
- MENZIES, ARCHIBALD (1754-1842).—Naval surgeon and botanical collector. He accompanied Vancouver's expedition as surgeon and botanist on the *Discovery*. King George's Sound (named by Vancouver) was visited in 1791. Several species and a genus (*Menziesia*) commemorate Menzies' name.
- MIRBEL, MONS. C. F. BRISSIEU.—One of the most distinguished vegetable physiologists of his age, and Director of the Jardin du Roi, Paris. (*Mirbelia*.)
- MORRISON, WILLIAM.—A Scotch gardener. At Kew in 1824. He went to Barbados to superintend a sugar plantation. He visited Trinidad, and returned to England in 1828 with a large collection of seeds, plants, and dried specimens. He came to W.A. with the *Parmelia* pioneers, and assisted J. Drummond in making his collections. Many of the W.A. *Proteaceae* were introduced to Kew Garden through him. Species of the genus *Vericordia* are commonly called "Morrison-flower"—after him, no doubt.
- MUELLER, BARON SIR FERDINAND VON (1825-1896).—A botanist and author whose work in connection with Australian botanical exploration and investigation cannot be rated too highly. In 1856 he explored north-western and northern Australia under the leadership of A. C. Gregory, and discovered many new plants. From 1857 until his death he was Government Botanist of Victoria. A number of W.A. species bear his name.
- NYTTS, PIETER.—Born 1600. A distinguished Dutchman, Hon. Extra Councillor for India, and subsequently Ambassador to Japan and Governor of Formosa. He was the chief passenger in the ship *Galde Zeepard* (Golden Sea-horse), commanded by Francois Thijssen, when the south coast of Terra Australis was accidentally discovered near Cape Leeuwin in 1827, and for a long time it was known as Nytt's Land. The Christmas Tree of W.A. evidently impressed Robert Brown as being a striking example of the flora of Nytt's Land, and he called it *Nyctia*.
- PATERSON, COL. W. P.—A botanist and naturalist. For many years a resident of N.S.W. (*Paterosmia*.)
- PERSSON, CHRISTIAN HENDRIK.—A distinguished French botanist. (*Persoonia*.)
- PREISS, LUDWIG.—A celebrated German botanist. In 1838 he came to the Swan River Settlement, and stayed four years, travelling often with Mr. Drummond, and collecting largely. Author of *Flora Preissiana*. Nearly 100 W.A. species were called after him.
- PULTENEY, DR.—A botanical writer. (*Pultenaea*.)
- RICHE, CLAUDE ANTOINE GASTAR (1762-1797).—A French botanical collector and entomologist. Came to Australia as naturalist on *L'Esperance* (D'Entrecasteaux Expedition, 1791-4), and our earliest knowledge of the vegetation of District Eyre was caused by his losing his way while botanising. Labillardiere formed one of a search party. Riche was traced to the edge of a salt lake near Esperance. For fifty-four hours he had been almost without food, and had supplemented his slender supply with the fruit of the shrub now known as *Leucopogon Richei*. His specimens were all lost, but Labillardiere had collected while searching, and his specimens included *Leucopogon Richei*, *Banksia repens*, *Banksia nivea*, *Choricama stipulalis*, *Eucalyptus cornuta*, and *Avicennia* *sp.*
- ROE, LT. J. S., R.N.—One of the *Parmelia* pioneers, and first Surveyor-General of W.A. Explorer and promoter of botanical research. Fifteen species were named in his honour.

SMES, J., M.D.—Editor of *Botanical Magazine*. (*Simsia*.)

SOLLY, RICHARD HOBBSMAN.—A vegetable physiologist and anatomist. (*Sollya*.)

SOWERBY, JAMES (1757-1822).—An eminent botanical artist and naturalist. (*Sowerbea*.)

STACKHOUSE, COMMANDER T. R.N.—With William Macleay he founded the Linnean Society of N.S.W. (*Stackhousea*.)

STIRLING, CAPTAIN, afterwards Sir JAMES (1791-1865).—Sailed in 1827 from Sydney in command of H.M.S. *Success* for the purpose of reporting upon the suitability or otherwise of the Swan River district for settlement. He was the first Governor of W.A. and remained in office from 1828 to 1839. (*Stirlingia*.)

SWAINSON, WILLIAM (1789-1855).—A botanical collector and author. (*Swainsona*.)

TEMPLETON, J.—An Irish botanist. (*Templetonia*.)

THOMAS, LUDOVIC.—A collector of Swiss plants. (*Thomasia*.)

VILLARS, D.—A famous French botanist. (*Villarsia*.)

WAHLENBERG, GEO., M.D. (1780-1851).—A botanical author and Professor of Botany at Upsala. (*Wahlenbergia*.)

WAITZ, A. K.—A Dutch botanist who worked in Java in the eighteenth century. (*Waitzia*.)

WALCOTT, PEMBERTON.—An early W.A. settler who joined Gregory's expedition to the north-west coast of Australia in 1862 as a volunteer for the collection of specimens of natural history and botany. Six species were named after him by Baron von Mueller.

WILSON, THOMAS BRAIDWOOD.—Naval surgeon. In 1829 he explored near King George's Sound, and discovered the Denmark River. He was a Surgeon-Superintendent of convict ships, and made many voyages to Australia, finally settling in N.S.W. at Braidwood, which was named after him. He took seeds and roots of many West Australian plants to his friend Allan Cunningham, at the Sydney Botanic Garden. Among them were seeds of *Grevillea Wilsonii*, which was named in his honour by Cunningham.

GLOSSARY.

ACHENE, a small, dry, indehiscent fruit containing one seed.

ACUMINATE, tapering to a point.

ACUTE, sharp at the end.

ADHERENT, one organ united with another, as calyx with ovary, or stamens with petals.

ADNATE, growing together.

ALTERNATE, distributed, as leaves, singly at different heights of the stem.

ANNUAL, a plant that lasts but one year or season.

ANTHER, the part of a flower containing pollen.

APFEXDAKE, a subordinate or subsidiary part of an organ.

AURICLE, an angular or ear-shaped lobe.

AWL, a bristle-like appendage.

AXIL, the angle between the upper side of a branch, leaf, or petiole, and the stem or branch from which it springs.

AXILLARY, situated in or rising from an axil.

AXIS, the stem, the central part.

BAKBELLATE, having short, stiff hairs often barbed at the point.

BEIRY, a small fruit that is pulpy or succulent throughout, having seeds loosely embedded in the pulp.

BIENNIAL, continuing for two years and then perishing, as plants which form roots and leaves the first year and fruit the second.

BRACT, a leaf usually smaller than the true leaves of a plant, from the axil of which a flower-stalk arises, or any modified leaf or scale on a flower-stalk or at the base of a flower.

BRACCTOLE, a bract on the stalk of a single flower, which is itself on a main stalk that supports several flowers.

CALLE, glandular hairs.

CALYX, the outer covering of a flower, each leaf of it is called a sepal, and usually green.

CAMPANULATE, bell-shaped.

CAPSULE, a dry fruit or pod, which is made up of several parts or carpels, and opens to discharge the seed.

CAPSULAR, having the nature of a capsule, hollow and fibrous.

CARPEL, a simple pistil or single-celled ovary or seed-vessel, or one of the parts of a compound pistil ovary.

CELL, one of the minute elementary structures of which the greater part of the various tissues and organs of plants are composed.

CENTRIFUGAL, expanding first at the summit and later at the base, as a flower-cluster.

CHLIA, hair-like processes, commonly marginal, and forming a fringe.

CHLIMATE, provided with cilia.

CLAW, an attenuated petal base formed like a claw.

COLUMN, the part formed by the union of the stamens and pistil in cecidia.

COMPOUND FLOWER, a flower-head resembling a single flower, but really composed of numerous florets enclosed in a common calyx-like involucre, like the Sunflower.

COMPOUND LEAF, a leaf having two or more separate blades on a common leaf-stalk.

CONNECTIVE, that part of an anther which connects its cells.

CORDATE, heart-shaped.

COROLLA, the inner envelope of a flower, the part which surrounds the fruiting organs, consisting of one or more petals, distinct from calyx by fineness of texture and gayness of colour.

CORYMB, a flat-topped or convex cluster of flowers or fruit, the outermost blossoms opening first.

CORYMBOS, consisting of corymbs, or resembling them in form.

CRISPED, irregularly undulate.

CUSPATE, wedge-shaped, with the point at the base.

CYME, a flat-topped or convex flower-cluster, differing from a corymb chiefly in the order of the opening of the flowers.

- DECIDUOUS, falling off at a certain season, or stage, or interval of growth.
- DECUMBENT, reclining on the ground, as if too weak to stand, and tending to rise at the summit or apex.
- DECURRENT, extending downwards, said of a leaf whose base extends downward and forms a wing along the stem.
- DECUSSATE, growing in pairs, as leaves, each pair at right angles to the next pair above or below.
- DEPRESSSED, concave on the upper side, said of a leaf whose disk is lower than the border.
- DEUTEA, having several leaflets or petals arranged like the fingers of the hand.
- DIKOCOUS, plants in which the female flowers occur on one individual and the male flowers on another of the same species.
- DISK, the whole surface of a leaf, the central part of a radiate compound flower, a part of the receptacle enlarged or expanded under, or around, or even on top of, the pistil.
- DORSAL, upper, as the dorsal sepal of an orchid.
- DUPRE, a fruit consisting of a pulpy, leathery, or fibrous exterior, without valves, containing a nut or stone with a kernel.
- EMARGINATE, with the margin interrupted by a notch or depression between lobes.
- ENDEMIC, peculiar to a district or particular locality.
- ENTIRE, applied to a leaf of which the margin is not indented.
- EXsertED, standing out, projecting beyond some other part.
- FALCATE, hooked, or bent like a sickle.
- FAMILY, a natural group of genera having certain essential characters in common.
- FILAMENT, the thread-like part of the stamen supporting the anther.
- FLEXuose, having alternate curvatures in opposite directions.
- FLORET, a little flower, one of the numerous little flowers composing the inflorescence of a compound flower.
- FRUITIFICATION, the collective organs by which a plant reproduces its fruit or seeds or reproductive spores.
- FUSIFORM, spindle-shaped, tapering at each end.
- GLABROUS, having a smooth shining surface without hairs.
- GLAND, a special organ of plants, usually minute and globular, which often secretes some kind of resins, gummy, or aromatic product.
- GLUTINOUS, having a moist and adhesive or sticky surface.
- HABIT, the usual form of growth of a plant.
- HEAD, a dense cluster of flowers.
- HERBACEOUS, herb-like.
- HERB, a plant whose stem does not become woody and permanent, but dies, at least down to the ground, after flowering.
- HERMAPHRODITE, a plant having the parts of generation of both sexes, as when a flower contains both the stamens and pistil within the same calyx, or on the same receptacle.
- HISTUTE, hairy.
- INDEHISCENT, remaining closed at maturity.
- INDUSIUM, a collection of hairs united so as to form a sort of cup, and enclosing the stigma of a flower.
- INFERIOR, situated below some other organ.
- INFLORESCENCE, the general arrangement and disposition of the flowers with reference to the axis and to each other.
- INVOLUCRE, a whorl or set of bracts around a flower, umbel, or bud.
- KEEL, the two lowest petals of the corolla of a pea-shaped flower, united, and enclosing the stamens and pistil.
- LABELLUM, the lower petal of an orchid flower, often of a curious shape, commonly called the lip.
- LAMINA, the blade of a leaf, the broad, expanded portion of a petal or sepal.
- LANCEOLATE, rather narrow, and tapering to a point at the apex, and sometimes at the base also.
- LEAFLET, one of the divisions of a compound leaf.
- LIQUID FLOWER, a species of composite flower, the florets of which have their corollas flat, spreading out towards the end, with the base only tubular.
- LINEAR, narrow, same breadth throughout.
- LIP, the labellum of an orchid, or one of the two opposite divisions of a labiate corolla.

- LOBE, a rounded projection or division of a leaf or petal.
- MONOCOUS, when male and female flowers grow upon the same individual plant.
- MUCRONATE, ending abruptly, and tipped with a sharp point.
- NERVE, one of the ribs of a leaf.
- NET-VEINED, having veins or nerves crossing or netted.
- NODE, the joint of a stem, or the part where a leaf or several leaves are inserted.
- OBOVATE, inversely ovate, ovate with the narrow end downward.
- OPERCULUM, the lid of the seed-vessel of the Eucalypts.
- OPPOSITE, leaves or flowers set over against each other, but separated by the whole diameter of the stem.
- OVARY, the part of the pistil containing the ovules.
- OVATE-ACUMINATE, having an ovate form, but narrowed at the end to a slender point.
- OVULE, the rudiment of a seed.
- PALATE, a projection in the throat of such flowers as the Snapdragon.
- PANICLE, a pyramidal form of inflorescence.
- PAPPUS, the hairy or feathery appendage of the achene of most plants of the Order *Compositae*.
- PARASITIC, living on or deriving nourishment from some other plant.
- PEDICEL, a flower-stalk, the support of a single flower.
- PEDICELLATE, on a pedicel.
- PEDUNCLE, the stalk of a flower-cluster.
- PEDUNCULATE, on a peduncle.
- PETALATE, having the stem or support attached to the lower surface instead of at the base or margin.
- PENNIENE, pinnately veined.
- PERIANTH, the leaves of a flower generally, especially when the calyx and corolla are not readily distinguished.
- PERENNIAL, continuing more than two years.
- PERSISTENT, applied to parts of plants which remain after maturing.
- PETAL, one of the leaves of the corolla.
- PETIOLE, a leaf-stalk, the foot-stalk of a leaf connecting the blade with the stem.
- PETIOLATE, on a petiole.
- PHYLLODIUM, a leaf-stalk taking on the form and functions of a leaf.
- PINNATE, several leaflets arranged on each side of a common petiole.
- PISTIL, that part of a flower which produces the seed.
- PLACENTA, the organ which bears the ovules in an ovary.
- PLUMOSE, feathery.
- POB, a seed capsule which splits open at both sides.
- POLLEN, the mass of grain contained in the anther.
- POLLINATION, the placing of the pollen on the stigma.
- POLYANDROUS, bearing both hermaphrodite and unisexual flowers on the same plant.
- PUNCTED, prickly pointed.
- RACEME, a flower-cluster with an elongated axis.
- RACEMOSE, having racemes, raceme-like.
- RADIATE, composite flowers having in a head large ray florets unlike the disk florets.
- RADICAL, proceeding directly from the root.
- RAY, the marginal florets of a compound flower.
- RECEPTACLE, the apex of the flower-stalk, from which the organs of the flower grow, or into which they are inserted.
- REGULAR, having all the parts of the same kind alike in size and shape.
- RENIFORM, kidney-shaped.
- RETRACTILE, capable of being drawn back or up, as the claws of a cat.
- RETUSE, having the end rounded and slightly dented.
- REVOLUTE, rolled backward.
- RHACHIS, the principal axis in a raceme, spike, panicle, or corymb.
- ROOT-STOCK, a perennial underground stem producing leafy stems or flower-stems from year to year.
- ROTATE, having the parts spread out like a wheel.
- RUDIMENTARY, very imperfectly developed.

SCALE, a small appendage like a rudimentary leaf.

SCAPE, a peduncle rising from the ground or from an underground stem.

SCARIOUS, thin, dry, membranous, not green.

SEPAL, a leaf or division of the calyx.

SERRATE, beest with teeth pointing inwards or upwards.

SESSILE, resting directly upon the main stem or branch without a foot-stalk.

SHEATH, the base of a leaf when sheathing or enclosing the stem or branch, as in grasses.

SHrub, a woody plant of less size than a tree, and usually with several stems from the same root.

SIMPLE, without subdivisions, entire.

SINUATE, having the margin alternately curved inward and outward.

SPATULATE, shaped like a spatula or battle-axe, rounded with a long narrow-linear base.

SPORE, one of the minute grains in flowerless plants, which are analogous to seeds as serving to reproduce the species.

SPUR, any projecting appendage of a flower resembling a spur.

SPIKE, an inflorescence bearing sessile flowers along a common axis.

STAMEN, that part of a flower which produces the pollen, consisting of filament and anthers.

STAMINAL, pertaining to stamens.

STAMINOIDEA, false stamens bearing no anthers.

STANDARD, the upper petal of pea-shaped flowers.

STIPITATE, supported by a stipe or stalk.

STIPULE, an appendage at the base of petioles or leaves somewhat resembling a small leaf.

STIGMA, the part of the pistil which receives the pollen.

STOMATOCY, or pertaining to a stigma.

STYLE, the stalk of the pistil which connects the stigma and the ovary.

SCUBULATE, awl-shaped.

SUCCULENT, soft and juicy.

TERETE, cylindrical and slightly tapering.

TERMINAL, proceeding from the end or extremity of some part.

TORMENTOUS, having short, dense, soft, cottony hairs.

TORMENT, the closely matted hair or downy nap covering the leaves or stems of some plants.

TRIPINNATE, having three nerves.

TRUNCATE, abruptly terminated as though cut off at the end.

TUBEROUS, having a fleshy, rounded stem or root.

TUBERNATE, shaped like a top or inverted cone, narrow at the base and broad at the apex.

UMBEL, a flower-cluster in which several pedicels spring from one point, like the ribs of an umbrella.

An umbel is simple when each of its branches bears a single flower; compound when each ray bears a secondary umbel.

UMBELLATE, bearing umbels.

UNDERSHUB, a low plant with woody stems.

UNISEXUAL, having one sex only, as plants which have the male and female flowers on separate individuals.

URICULE, a small, thin-walled, one-seeded fruit.

VALVATE, meeting at the edges without overlapping.

VALVE, one of the pieces into which a capsule naturally bursts when it bursts.

VERSATILE, capable of turning.

VERTICILLATE, whorled.

VILLOUS, covered with fine hairs.

VIRGATE, straight and slender.

VISCID, sticky and adhering.

INDEX.

	PAGE		PAGE		PAGE
ACACIA	14, 32, 85	BANKSIA	19, 104	BURKONIA	87
.. acuminata	32, 39	.. attenuata	24	.. scabra	36
.. alata	14, 28	.. baxteri	26	Bush Honey-suckle	35
.. ansera	39	.. coccinea	15, 76	.. Myrtle	32
.. cordata	39	.. grandis	77	.. Rose	31
.. cyanocephala	32, 39	.. hirsuta	39	BYBLIS	89
.. diptera	14, 29	.. littoralis	26	.. gigantes	79
.. glaucopetala	14	.. Menziesii	37	CASALPINIACEÆ	86
.. microleptera	32	.. pedunculata	27	CALABARIA	30, 44, 107
.. pulchella	32, 39	.. sparsocarpa	27	.. discoides	61
.. stenopectera	14, 24	.. verticillata	25, 104	.. flava	44, 62
ACHANTHUS	107	BEAUTORTIA	92	.. monstrosa	38, 44
ACOTYLEDONS	111	.. squarrosa	72	.. longicauda	36
ACTINOTUS	94	.. sparsa	92	.. Menziesii	34
.. leucoccephala	68, 72	BELLES	94	.. Patersonii	30, 33
.. Helianthi	68	BILLARDIERIA	13, 82	.. Rosei	60
ADENANTHUS	103	.. Lehmanniana	38	CALIANA OF CALATA	15, 107
.. barbiger	52	Biographical Notes	113	.. nigrita	50
.. sericea	75	Bird Orchid	53	CALECTARIA	110
ADIANTHUM	112	Blackboys	68, 69, 73, 110	.. cynura	37, 33
AGONIS	91	Black Kangaroo Paw	46	CALLISTEMON	67, 91
.. æthiopicum	69, 77	Black Kennedy	31, 38	.. phylloides	59
AGROSTIDACEÆ	74	BLANCOA	108	.. speciosus	79
.. flexuosa	74	.. canaliculata	50	CALLITRIS	111
.. myopodoides	59	Blasphemia grandiflora	69, 70	.. robusta	65, 77
ALBIZIA	85	.. flammula	70	CALCOTRAPHIS	92
.. leucantha	65	.. marginata	69	.. quadrifida	35
AMARANTACEÆ	102	.. nobilis	69	.. sanguineus	35
AMARYLLIDACEÆ	108	Blind-grass	72	* CALYPTHEX (Calycotrichis)	50
.. aristata	98	Blister-plant	72	.. angulata	73, 80
ANDROMEDA	81	Blue Kennedy	30	.. flavescens	14, 20, 29, 80
.. aristata	81	Blue Orchid	36	.. Fraseri	23, 27
.. sprengeloides	25	.. alata	75	.. glutinosa	57
ANGIANTHUS	74	.. cynosa	43, 62	Camp-grass	74
.. tomentosus	74	.. elatior	43, 55	CAMPANULACEÆ	97
ANGIOSPERMÆ	81	.. megastigma	31, 37	Candles	44, 73
ANIGONANTHUS	41, 108	.. palmata	43, 48	CANDOLLACEÆ	96
.. bicolor	41, 45	.. tetrandra	54	CANDOLLEA (Hidolera)	83
.. Dorrieni	41	BOITA	70	.. Hungeli	39
.. Bavia	41, 44, 46	.. nitida	60	CASILI	86
.. fuliginosa	41, 46, 108	BOULEA	85	.. pleurogyna	86
.. Galeata	41	.. hirsuta	25	CASUARINACEÆ	105
.. humilis	41	.. ericarpa	88	CASUARINA	105
.. Manglioti	41, 45	Bottle-brush	51, 53, 59, 67, 78, 79	.. Fraseriana	49
.. poliochrysa	41, 78	BOVENIA	111	.. distyla	45
.. Preissii	41, 46	Box Poison	76	.. Chas. Pav.	49
.. rufa	41, 46	BRACHYOCOME	94	Ceratopetalum punniflorum	69
.. viridis	41, 46	.. thesidiifolia	42, 55	CEPHALOTHEUM	96
ANTROCHEUX	89	BRACHYSEMA	86	.. Drummondii	89
.. litorea	56	.. aphyllum	86	CEPHALOTUS	47
Arrangement of Flowers	16	.. pinnosum	64	.. foliolosus	15, 42, 59
ASTROLOGIA	98	Bracken	44, 69, 77, 112	CHAMÆLATUM	52
.. xerophyllum	31, 36	.. Broad	64	.. uncinatum	42, 47
ATREXIA	85	BREXONIA	67, 71	CHILANTHUS	112
.. australis	75	.. australis	67, 71	.. tenifolia	112
ATRIPLEX	101, 102	Brown Hoves	97	CHENOPODIACEÆ	101
.. humularis	58	Bull Banksia	77	Chia Orchid	30, 36, 44, 63, 107
Bachelor's Button	58	Bull-oak	105	CHILANTHUS	101
Bacon and Eggs	34	Bulrush	78, 110	.. coccinea	36
BECKEA	91	BUTCHARDIA	109	CHORTISIA	81
.. camphorosma	20, 34	.. umbellata	31, 34	.. Dicksonii	36
BALANSTON	61	Bursaria spinosa	35	.. biflorum	35
.. puberulum	60, 70				

	PAGE		PAGE		PAGE
RANUNCULACEÆ	81	STACKHOUSA	41, 84	TRICHOTYNE	109
RANUNCULUS	81	" Brenonis	73	" clavator	50
" appressus	55	" pubescens	46	Trigger-plants (see Stylidium)	
Raspberry Jam	32, 39	STACKHOUSIA	84	" 15, 42, 44, 51, 55, 56, 63, 94	
Red-flowering Gum	23	Stems of Bethlehem	31, 33	TYPHACEÆ	110
" Mallo	53	STERCULIACEÆ	83	TYPPA	110
Red Runner	30, 32	STIRLINGIA	102	" argusifolia	78
RHINOCARPUS	104	" latifolia	43, 54	UMBELLIFERÆ	93
" glaucus	35	Sturt's Desert Pea	42, 59	URUCALIA	100
RHADODA	101	STYLIDACEÆ	96	" Hookeri	62
RHAMNACEÆ	84	STYLEDIUM	15, 42, 44, 96	VERBENACEÆ	100
Rice Flower	61	" Brussonianum	56	VERUCORDIA	41, 90
River Banksia	35	" bulbosum	51	" aescroa	49
Rock Fern	77	" calcaratum	63	" Brownii	67
Rose of the West	23	" juncosum	53	" chrysanthia	59
Rottneß Cypress	68, 77	" reduplicatum	51	" densiflora	49
RUTACEÆ	84	" scandens	24	" grandis	20, 72
Salsmah	38, 101	STYFANDRA	109	" Hugolii	49
Sandwood	49	" glaucus	60	" hugolii	59
SANTALACEÆ	105	STYFIELLA	98	" nitens	67, 80
SANTALUM (see Punnams)	105	" tenuiflora	27	" ovalifolia	80
" cymosum	49	SWAINSONA	15	" pieta	59
SAPINDACEÆ	85	" cinerosus	75	VILLARSA	99
SAXIFRAGACEÆ	89	" Greyana	88	" alliflora	76
SCERVIA	87	Swan River Daisy	42, 55	VIMBARIA	87
" crassifolia	61	" Myrtle	31, 32	" hemdata	78
" glandulifera	61	SYAPIEA	103	VIOLACEÆ	82
" platyphylla	42, 61	" polymorpha	39	WALLERBERGIA	98
" striata	42, 60	TAXACEÆ	110	" gradialis	50
Scorlet Leschenaultia	76	TOL-ENO	39, 71, 91, 92	WATZIA	42, 85
SCRENTIA	96	" retusa	26	" aurea	32
" Castellana	52	TRIPLASTONIA	82	" niva	74
SCROPHULARIACEÆ	99	" hirsuta	52	Watties	22, 29, 85
" Sesoid Banksia	26	TRIPLASTONIA	71	Wattle Grass	39
SENECIO	90	" mnia	30, 106	Wax	31, 34
" laetus	55	TRIVETRA	104	WIK Buttercup	55
" longepetala	96	" antennifera	51	" Cauliflower	67
Shaving-brush Flower	34	" crinita	44	" Cauliflower	67, 71
Shell Orchid	56	" fusco-lutea	76	" Fogelove	73
Sho-oks	105	" villosa	63	" Geanium	42
Sidera (see Stirlingia)	102	THOMASIA	83	" Peach	32
Smoke-bush	42, 55	" foliosa	26	" Rose	48
" grass	55	THYMELACEÆ	104	" Sarcocolla	20, 35
Snake-bush	67, 73	THYMELACEÆ	104	" Violet	31, 34
SOLANACEÆ	99	THYMOTUS	67, 109	Woolly-bush	75
SOLANUM	99	" bichotomus	67, 72	XANTHORRIZA	110
" singale	56	" multiflorus	67, 72	" Preslii	69, 73
" tuberosum	99	" Patonii	99	XANTHUS	93
SOLYA	82	TRACHYMESE	67, 79	" rotundifolia	43, 58
" heterophylla	78	TREMANDRACEÆ	83	XEROPHYTES	109
Southern Cross	43, 58	" longipetala	108	" micrantha	33
SOWERBARA	109	TRICHOTYNE	76	XYLOMELITE	103
" laxiflora	31, 34	" alopeuroideum	85	" occidentale	52
SPERMATOPHYTES	54	" Drummondii	34	Yellow-flowering Mallo	53
" medium	54	" Boronia	70	" Leschenaultia	49
Spider Orchids	33, 36, 44, 107	" exaltatum	74	" Sylvea	36
SPYRIDUM	85	" Manglesii	74	" Sword Lily	46
" globulosum	54	" obovatum	58	Zamia Palm	68, 69, 76

