

AUSTRALIAN PLANTS

Registered at G.P.O., Sydney, for
transmission by post as a periodical

PRICE: THREE SHILLINGS
MARCH, 1961, Vol. 1, No. 6



Photography by R. Hill

Acacia colletioides

SOME DWARF ACACIAS

By I. G. HOLLIDAY (South Australia)

Apart from eucalypts, no other genus of plants dominate the Australian landscape more than the acacia genus commonly known as wattle trees. Although over 600 species have been recorded as indigenous to this country, except for a very limited few, they have so far eluded the general nurseryman. This is particularly so for those of dwarf habit.

Many argue that acacias are short-lived plants, and to some extent, particularly under cultivation, this is true. Considering, however, their rapidity of growth, brilliant return of flowers each year, and especially the beauty of form and foliage of so many of the genus, this should surely be no reason for not propagating them. A number of our acacias can be grown for foliage alone. Others are the best shrubs one could wish

for, growing right up under the base of large trees where it is so difficult to grow most plants. *Acacia myrtifolia* is particularly good under these conditions, while *Acacia oxycedrus* can be seen at its best in the Grampians nestling against the trunks of large eucalypts.

Some of the larger tree acacias are grown quite extensively as garden subjects, and rightly so, as they make magnificent flowering trees. But it is those of dwarf habit, even prostrate, that I wish to describe in this article. Many of them are ideal subjects for the rock garden and for filling in gaps between larger shrubs where many other plants find it difficult to progress.

Acacia myrtifolia mentioned above, is common throughout temperate Australia. In many of the wetter parts of South Australia it grows in great masses bringing a wealth of colour to the bush in early spring. It is particularly prevalent throughout the Mount Lofty Ranges. The flowers are pale yellow in colour, particularly fluffy, whilst the bush is very neat and compact to a height of usually about three feet. It is particularly hardy and succeeds under a variety of soils provided they are not too alkaline or too dry. Better results are achieved in semi-shade although the plant will thrive in full sun.

Acacia rotundifolia syn. *A. obliqua*—another acacia common to South Australia and especially the regions near Adelaide—is a particularly lovely garden subject. There seems to be two forms of this plant, one quite straggly and not so floriferous, the other compact, with long arching branches so loaded with tiny ball flowers that the arms appear from the distance to be one long rod of gold. This latter form should be a common garden plant. Its branches seem to filter through neighbouring shrubs and during August come alive with colour. It sometimes reaches six feet but usually much smaller, even prostrate, and seems to thrive in most soils. It does very well on the heavy red-brown earths around the Adelaide plains.

Acacia colletioides—is common in the Flinders Ranges of South Australia and other dry regions. A form of this plant growing at Mr. F. C. Payne's Sanctuary at Athelstone is one of the loveliest rock plants imaginable. It is quite prostrate and just a mass of gold during August. The foliage is quite prickly and sparse, although this particular form is attractive when not in bloom. The prickly nature of the plant, followed by its glorious flowering period, earned it the nickname of "Wait-a-While". There is little evidence of it under garden conditions, although it is doing well in quite heavy clay in my own garden on the Adelaide plains. In nature it favours the stony, rocky soils in the dryer regions.

Acacia continua—another from the Flinders Ranges and the dry regions of South Australia. This is a lovely little dwarf suitable as a surprise element in the garden. The foliage is quite sparse and when planted among other shrubs often goes unnoticed until early spring, when it comes alive with flowers. The balls of this species are extremely large and of a rich yellow colour. Those who have grown it around Adelaide have found it quite hardy under conditions much wetter than its natural habitat. It only grows from two to three feet high and is quite small in girth.

Acacia acinacea—the gold dust wattle, found in parts of South Australia and in north-west Victoria where it is quite common, is another lovely garden dwarf. This wattle is one of the daintiest of the wattles and when in flower presents an appearance of pale golden lace. The delicate lacy appearance is enhanced by the paler than usual yellow of the flower balls. It grows to six feet high but often much smaller and seems to be happy in light or heavy soils, but resents limestone.

Although many of these grow in other States, I have mentioned the natural habitat in South Australia only.

Acacia pulchella—this feathery-leaved Western Australian is as common in Western Australia as *Acacia myrtifolia* is in South Australia. Although it possesses prickly spines on the branches, it is nevertheless most attractive in foliage as well as in flower. Rarely taller than three to four feet and with a good ground cover, it seems quite hardy in a variety of soils. It flowers in spring and has a longer flowering period than the average acacia. The flower balls are rich yellow in colour and quite large. Altogether a particularly beautiful garden wattle.

*A. myrtifolia**A. obliqua**A. continua**A. acinacea**A. pulchella*

Acacia drummondii—another from Western Australia and one that is fairly widely known as a garden subject. The foliage is feathery and attractive at all times and the flowers are golden fingers which are produced in great masses in spring. It is considered harder to grow than many of the acacias, although I have experienced no difficulty in my own garden with about nine inches of loam overlying heavy clay subsoil. The plants I have seen are small and compact although I believe they do grow taller and more straggly under some conditions.

*A. drummondii**A. buxifolia*

in the lighter soils also. The plant reaches six or more feet eventually but can be safely trimmed if required.

I have described only a few of the better dwarf acacias here, and particularly those which could have especial interest to South Australian readers. There are many more the equal of those described. Perhaps another reader would like to add to these.

Acacia buxifolia — a New South Wales plant which is another dainty dwarf. It flowers in August in Adelaide. The flowers are medium-sized golden balls and the leaves have a bluish tinge. When picked just as they are coming out, the flowers retain their fluffiness for days in water, making quite a decorative cut flower. This wattle possesses practically no smell which also helps in this regard. It thrives in heavy soils and probably in

The Acacias — Wattle Trees

By A. E. BROOKS

There are so many wonderful massed displays of *Acacia* blossom to be seen in almost any part of Australia during the spring that I have often wondered if any other country can rival such floral magnificence. Canberra must be outstanding among capital cities of the world for its beautiful displays in spring when the wattles are in bloom.

When travelling from Brisbane to Melbourne I have often been impressed by the gradual change in the popularity of certain garden-grown species. In Brisbane it is the Queensland Silver or Mount Morgan Wattle, *A. podalyrifolia*, which easily wins the popularity parade. Its rounded silvery leaves and beautiful golden blossom, which is produced earlier in the winter than that of other wattles, are to be seen in numerous gardens in the Queensland capital.

As we go south, this species loses some of its popularity and the Cootamundra Wattle, *A. baileyana*, is seen more frequently in gardens. In Sydney the two species appear to break about even but by the time Melbourne is reached there would be at least ten Cootamundras for each Queensland Silver. Incidentally, the best examples of *A. baileyana* which I have seen growing anywhere in streets and gardens were in Young in New South Wales.

Golden Wattle, *A. pycnantha*, which is common on the gravelly soil of many goldfield areas, is often used as the Australian floral emblem. It is noted not only for its large golden spherical flowers but also for the leaves which are particularly broad and large in the juvenile stage. Unfortunately, it is not a beautiful plant except when in bloom and is not very successful as a garden plant.

The Orange Wattle of Western Australia, *A. cyanophylla*, is in many ways more remarkable than "Golden Wattle" as it has even larger flowers of deeper colour and twisted or "wreathed" leaves. It flowers in late spring after most other wattles, can be cultivated readily in south-eastern Australia and regenerates so freely in many areas that it soon grows into large clumps.

Which *Acacia* is more beautiful than the Golden Rain Wattle, *A. prominens*? Not only does it have a delightful name but, although it may grow quite large, it has attractive foliage and beautiful flowers. The leaves are grey-green, about three inches long and have a prominent gland along one edge. The blossom is creamy-yellow but is in such billowing masses that this tree produces one of the most glorious of all *Acacia* displays.

A. drummondii must surely take the prize for being the most showy shrub wattle. I recently saw a most beautiful plant of this species growing on heavy soil in a sunny position at Fern Tree Gully, the gateway to the Dandenong Ranges.

In a quick round-up of a few *Acacias* which are successful in cultivation the following must be mentioned: Wirilda Wattle, *A. rhetinodes*, for its irregular flowering throughout the year; Sticky *Acacia*, *A. howittii*, for its general toughness and ability to shoot again after being cut hard back; Sydney Golden Wattle, *A. longifolia*, for quick growth; Cedar Wattle, *A. elata*, as a good large tree with divided leaves; Black Wattle, *A. decurrens*, a tall tree with dark-green pinnate foliage and Glory or Mudgee Wattle, *A. spectabilis*, for a really delightful combination of blue-grey feathery foliage and deep golden flower-balls.

(Continued on page 5)

TREATMENT OF SEED WITH BOILING WATER

GROW WATTLES FROM SEED—By H. BOYD

The outer covering of most species of *Acacia* seeds is of great hardness. Under ordinary circumstances it will remain in the ground for many years before germination. The late J. H. Maiden describes ground being ploughed at Bega, that had not carried wattle for thirty-seven years. After the ploughing they sprang up in hundreds.†

If *Acacia* seed is planted and treated as ordinary seed the germination is very spasmodic and the results unsatisfactory. Recently an overseas plant biologist, A. V. Blagoveshensky of Russia, has shown that the germination of *Acacia* seed is impeded by the amino acid tryptophan which is synthesized in the leaves from indol and an amino acid or serin. He demonstrated that it could be leached out with cold running water.‡

Whilst the above information is very important and new, the technique of soaking wattle seed has been carried out in Australia for many years, and the better results have been had from the use of boiling water. The ratio of seed to mass of water is important. A few seeds, about a desertspoonful, are placed in a breakfast cup and are then covered with boiling water till the cup is almost full. The cup is covered with a piece of paper and the seed allowed to remain till it is obviously inflated. In some species this might take ten days although four and five days is perhaps the average period. The seed may then be treated in the usual way by planting in containers of a propagating medium, such as sand, covered with a piece of glass and placed in a sunny position protected from winds. Germination is rapid and even. The writer sowed seed of *Acacia saligna* and some dwarf species after rain, by disturbing patches of ground with a rake, distributing treated seed and then covering it lightly. Germination was good.

Many seeds of other genera respond to the boiling water treatment such as *Gompholobium*, *Chorizema*, *Pultenaea*, *Bossiaea*, *Hovea*, *Clanthus*, *Swainsona*, *Kennedya*, *Cassia*, *Bauhinia*, *Albizia*, etc. These are all plants of the family Leguminosae which has characteristically, hard testa seed. However, very good results have been had with seed of plants from many other genera such as species of *Pomaderris* and *Anigozanthos* and the writer is of the opinion that most seed should be soaked until it is well inflated. The time varies greatly but if a few seeds are left untreated beside the cup and compared with the soaking seed, it then becomes obvious as to when the treated seed is ready for planting. ONE OF THE ELASTIC TESTS IN DOUBTFUL CASES IS THAT IF SEED DOES NOT INFLATE IN COLD WATER IT MIGHT IN HOT OR BOILING WATER.

† "Wattles and Wattle-barks", by J. H. Maiden.

‡ "Journal of the Royal Horticultural Society", London—6/6/60.

(Continued from page 4)

The parade of the wattles could be continued indefinitely—those with long narrow leaves; broad, blunt ones; those with silvery foliage and so on but the few that have been mentioned are sufficient to show how varied the *Acacias* are and what excellent species are available for our gardens.

YOUR JOURNAL NEEDS PROTECTION . . .

Why not preserve your journal against damage with a special binder now available. This binder will accommodate three years' supply of journals. It is attractively bound in emerald green plastic fabrex with gold titling at the reasonable cost of 12/- each, including postage and packing. Send your remittance to The Editor, 250 Picnic Point Road, Picnic Point, N.S.W.



"GARDEN KING"

— IT SPRAYS WHILE YOU HOSE

Sprays fertilisers, insect killers, fungicides, plant hormones.

Is fitted to the hose in seconds.

Uses tap pressure to mix and spray.

Sprays all plants from seedlings to trees.

No pumping.

Jar clearly marked for easy mixing.

Fingertip control for "mist" or "jet".

Tap on sprayer turns water on or off.

All metal construction — will last lifetime.

AT ALL GARDEN SUPPLY STORES

"Garden King"—the monarch of garden sprayers.
Made under licence to Sprayers & Nozzles Inc.,
U.S.A., by . . .

39¹¹

GEORGE C. WARNER LABORATORIES PTY. LTD.

POUND ROAD, HORNSBY, N.S.W.

Phone: JU 1124

POLLINATION

By HELEN PURNELL

From previous articles on flower structure it is known that the anthers produce pollen and that the stigma is a tissue near or at the apex of the gynoecium. Pollination involves the transfer of pollen from an anther to a stigma. This transfer is brought about most commonly, by wind or by insects. Wind-pollination is common in the grasses in which the pollen grains are light and dry and readily carried by wind and the long feathery stigmas are efficient traps for grains blown against them. Pine trees are also wind-pollinated and when the pollen is shed, it can be seen rising like a cloud above the forest. Many flowering plants are pollinated by insects such as bees, moths, flies, etc. The pollen grains of such plants are usually sticky and adhere to the body of an insect visiting the flower. When the insect flies to another flower, the pollen may be rubbed off on the stigma.

There are two types of pollination and these are determined by the genetic constitution of the plants. Genes are entities, present in all living cells, which determine the characters of the organism and all the cells of any one plant have identical genes. By taking a series of cuttings from a plant it is possible to produce a group or clone of plants and these will all have the same genetic constitution. The first type of pollination is known as self-pollination and this involves the transfer of pollen to stigmas with the same genetic constitution. There are three ways in which this may occur.

1. The pollen may be transferred to the stigma of the same flower. This is known to occur in garden peas.
2. The pollen may be transferred to the stigma of another flower on the same plant.
3. The pollen may be transferred to the stigma of a flower on another plant belonging to the same clone.

The second type of pollination is known as cross-pollination and this involves two plants of different genetic constitution. In most cases the plants are of the same species but cross-pollination between different species is known to occur. E.g., different species of *Grevillea* can cross-pollinate and produce hybrids which are plants having a genetic constitution somewhere between those of the parents.

Plants which do not produce fruit or seed when pollinated from the same plant are said to be self-sterile. Self-sterility is found in many types of fruit trees such as some apple varieties and cherries, and in these cases it is necessary to grow two compatible varieties close to one another to ensure a good crop of fruit.

It is thought, that whilst some plants are either self-pollinated or cross-pollinated, many may be pollinated by either method. Quite often selfing may only occur late in the life of the flower when the chances of cross-pollination are much reduced. It is also thought that the seed produced from cross-pollination may have a better chance of survival under some circumstances than that produced from self-pollination.

There are various devices which seem to make self-pollination difficult. One of the commonest, is the condition known as protandry, in which the stamens of a flower discharge their pollen before the stigma of the same flower is mature or receptive. The reverse state, which is less common, is known as protogyny and in this case the stigmas are receptive before the anthers are mature and the pollen released.

It is not proposed to describe the stages in development of pollen grains but merely to give a few details of their structure. The pollen grains of different

"WILDFLOWERS OF VICTORIA" — JEAN GALBRAITH

The fine work of Miss Galbraith in the field of native plants is very widely known. Her presentation is very relaxed, simple and direct, and in her book "Wildflowers of Victoria", is even more pleasant reading than that in the series of articles published in the journal. For those people who love to ramble through the bush in Victoria and would like to know more of the plants seen in bloom, I can recommend this 175 page book. About 1000 species are clearly described. Available from The Field Naturalists' Club of Victoria, Royal Society's Hall, 9 Victoria Street, Melbourne. Price 15/- plus 1/- postage.

"AUSTRALIAN NATIVE PLANTS" — A. E. BROOKS

This well presented book is styled for the home gardener and prior knowledge, or experience, of native plants is not essential to use it to assist you to grow native plants in your garden. You will note from the article by Mr. Brooks, in this issue, that his style is simple and direct. Mr. A. J. Swaby in the foreword to his book has wisely stated, "He has spent many years in his own wild garden, where numerous plants have been proved, and now passes on the results of his experience and observations . . . he provides reliable guidance for anyone in the more closely settled areas of temperate Australia". The 150 page book has many illustrations of the large number of species mentioned. A recommendation on how to grow it in your garden, giving details of soil type, aspect, etc., follows each species mentioned. Price 45/-, postage 1/-. Lothian Publishing Co. Pty. Ltd.



Australian Native Plants for Home Gardens

By A. E. BROOKS, B.Sc.

Set in alphabetical form, quick and easy reference can be made to any plant or subject. 70 illustrations, 150 pages, 450 Index Entries.

PRICE 45/- (Post 1/-)

Available from YOUR BOOKSELLER NOW

LOTHIAN PUBLISHING CO. PTY. LTD.

1 FLEMING PLACE, MELBOURNE, C.1

species vary considerably in size, shape, colour and the markings on the wall, but these characters are constant for any one species. They are so distinctive that, in many groups, an expert can decide the genus to which a plant belongs by examining the pollen only. The outer wall of the grain is very tough and variously marked. It is not of uniform thickness due to the occurrence of small circular thin areas known as "germ-pores". The internal structure of pollen grains is very uniform. Each grain is composed of one large cell which contains a dense body called the tube nucleus and also in the large cell lies a small cell, the generative cell and this too contains a nucleus which is known as the generative nucleus.

Many sorts of pollen grains will probably adhere to the stigma but complex chemical reactions ensure that incompatible pollen will not germinate or if it does it will cease to grow after a short time. Germination of pollen grains on the stigma is usually induced by secretion of a sugary substance from the stigma itself. On germination, a filamentous structure known as a pollen-tube emerges through one of the germ-pores. The pollen-tube penetrates the wall of the stigma and grows down through the tissues of the style towards the ovules. Many pollen-tubes may be growing down through the style at the same time. As the tube grows the generative cell moves down into it and divides into two. The products of this division are known as the male nuclei, gametes, or sperms.

THE GENUS *ERIOSTEMON* Sm.

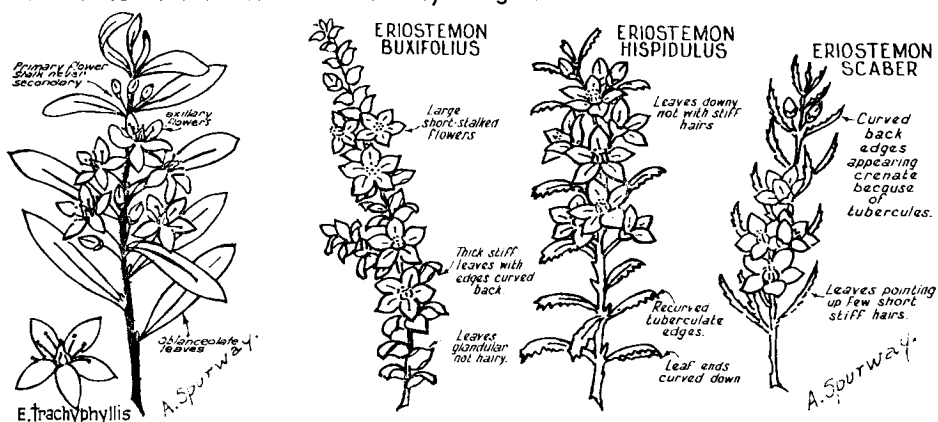
South-Eastern Species — Part Three — By Jean Galbraith

E. trachyphyllus, F. Muell (trach-y-phyll-us—rough leaved), Rock Waxflower

A tall shrub or small tree, bushy and low-branched, growing in cool rocky places. Branches and leaves more or less tuberculate, leaves dark, often bluish, green, one to two inches long, blunt, oblanceolate to spatulate, with the midrib (the only noticeable vein) not prolonged (as usually in *E. myoporoides*) into a soft point, except on occasional leaves.

The flowers are white, sometimes pink-backed, about ½" across, growing singly or several together in the leaf axils. Each flower is on a separate ½" stalk which never springs from a primary stalklet but always directly from the stem. Bracts absent or minute, always basal, thin and broad, not velvety. The filaments are very slightly, if at all, flattened, tending to spread outward with age, and with the mature anthers usually poised on top of them instead of remaining more or less parallel to them as in *E. myoporoides*. Otherwise, apart from usually being smaller, the flower is like that of *E. myoporoides*. The cocci are rounded; neither beaked as in *E. myoporoides*, nor flat-topped as in *E. lanceolatus*.

Some forms of Rock Waxflower are so like forms of long-leaf waxflower that it is necessary to examine the flower-stalks or fruitlets to tell them apart, but usually the bushes are larger and usually with less abundant flowers, and are less decorative than the well-known species. Probably for this reason "Rock Waxflower" is rarely cultivated though it is adaptable to varied conditions and therefore easy to grow.



E. hispidulus, Sieb ex Spreng. (his-pid-u-lus—rough-hairy), Spreading Waxflower.

A low spreading shrub with slender branchlets, which are downy, not tuberculate, leaves oblanceolate or linear-spatulate, downy, without stiff hairs. Veins, inconspicuous or invisible. Leaves ½" to 1½" long with a small soft point, recurved (curved back) edges, appearing crenate because of the irregularity of marginal tubercles. The whole leaf is either curved downward or else the end is bent back.

Flowers with broad-ovate petals, one or two together on a common stalk in the leaf axil, very like those of *E. verrucosus* but glistening white and on stalks nearly or quite as long as the leaves. Fruitlets narrowly beaked.

E. scaber, Paxt. (sca-ber—rough), Shining Waxflower.

Similar in habit to *E. hispidulus* and growing on rocky hillsides. Branchlets with a few stiff hairs, not, or hardly, downy. Leaves linear, about one inch long, usually pointing upward and a little incurved toward the stem, dark green and shining, paler beneath, usually with a few short stiff hairs, almost always with the recurved margins tuberculate and therefore appearing crenate. Flowers like those of *E. hispidulus*. Fruitlets flattened and conspicuously beaked.

This beautiful little shrub is not, so far as I know, in cultivation, but I have seen one bush self-sown in a garden in its natural habitat amongst rocks by the George's River. It was conspicuously beautiful, with long slender branchlets almost hidden by glistening white flowers; so white that flowers of a Wedding Bush near it looked almost yellow. N.S.W. species.

E. buxifolius, Sm. (bux-i-fo-li-us—box-like leaves), Box-leaf Waxflower.

A low but erect bushy shrub or undershrub with thick stiff dull-green leaves, tuberculate or minutely glandular, up to an inch long (usually less) heart-shaped or more or less oval or ovate, with midrib conspicuous underneath, and edges more or less curved back, although the main blade of the

YOUR GUIDE TO NATIVE PLANT SEEDSMEN

Andersons Seeds Ltd., 90 Parramatta Road, Summer Hill, N.S.W.

Nindethana, Box 5, Dripstone, N.S.W. For all Native Seed. Packets ounce or pound lots. Free list on application.

Parry, P. J.—"Floraland", Kariong via Gosford, N.S.W. Native Plant Seed. Waratah seed 3/- packet posted.

Western Wildlife Supply, Gilgandra, N.S.W.—Bulk supplies of natives and exotic tree and shrub seed to the trade—Special collections to order.

Yates, Arthur & Co. Pty. Ltd., 90-100 Sussex Street, Sydney.

START YOUR NATIVE PLANTS

in

Revolutionary, New

JIFFY POTS

Native plants started in revolutionary peat-fibre JIFFY POTS need no pricking out—you

simply plant pot and all. As the pot dissolves in the ground, it fertilises and promotes strong, healthy growth. Plants grow stronger—faster—in Andersons Jiffy Pots.



EASY TO USE — NO TRANSPLANTING SET-BACK

HUNDREDS OF MILLIONS SOLD ANNUALLY THROUGHOUT THE WORLD

Distributed throughout Australia by—

ANDERSONS SEEDS LIMITED

90 Parramatta Road, Summer Hill, N.S.W.

HORTICULTURAL INDUSTRIES PTY. LTD.

Plummer Street, Port Melbourne, Vic.

leaf is usually bent up on each side of the midrib. Some forms have a small soft recurved point.

Flowers are broad-petalled, white, or occasionally soft pink, one or two together on short stalks from the leaf-axils, with a few small bracts near the base. Fruitlets narrowly beaked. Stalklets shorter than the leaves.

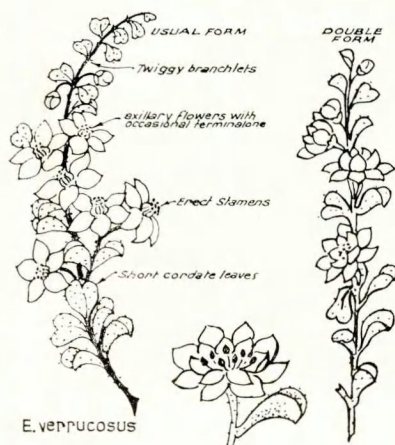
The flowers are relatively large (up to one inch) and the petals stiff. In fact a kind of stiff handsomeness is characteristic of this small shrub wherever I have seen it (always near the sea). If it grows inland the foliage might be thinner—but I have not heard of it away from the coast. It is interesting to know that it once grew at Watson's Bay. Perhaps it could be established in gardens there.

Bentham refers to its tuberculate foliage but neither in the field nor amongst specimens in the Melbourne Herbarium have I seen any that could be called more than slightly glandular.

N.S.W. species. A double form has been recorded by Mr. Parry of N.S.W.

E. verrucosus, A. Rich. (ver-ru-co-sus—warty or lumpy), Fairy Waxflower.

Normally a low bush of two or three feet with a few strong, often twisted, woody branches, and many thin twiggy branchlets often loosely tangled together in clusters toward the ends of the smaller branches. Occasionally a shrub of six feet or more, but with the same habit of growth, or sometimes rather slenderer. The branchlets are always minutely lumpy (tuberculate) sometimes (especially on dwarfed specimens amongst rocks) extremely so. Leaves from soft and minutely glandular (hardly tuberculate) under easy conditions to extremely rough and lumpy in exposed or dry places.



Leaves usually bluish or grey-green, rarely yellowish, normally under $\frac{1}{2}$ " long, obovate, or more often obcordate, with very short stalks or none, without visible veins, and never with revolute margins; usually concave.

Flowers grow singly from the leaf-axils along the short branchlets, and as there may be flowers at all stages from fully open to small bud on one twig its flowering season is long. Flowers are short-stalked, with a ring of several tiny dark triangular bracts encircling the lower part of the stalk. Buds may be green, pink or red. The flowers are very like those of *E. myoporoides*, but usually with

relatively broader ovate petals, and with anthers more like *E. trachyphyllus*. The pink of the back of the petals usually shows through as a pink flush or a pearly warmth in the white. Pink flowers are not uncommon amongst the many white, pale, or deeper pink forms.

Forms with more than five petals are fairly common, and two semi-double forms are in cultivation—"J. S. Semmens" and "Clearview Double". Both these double forms have relatively long weeping branches and foliage rather larger and smoother than is usual in single forms. Both have flowers about one inch across with three rows of petals—the second row across the space between petals of the outer row so that the flower is 10 pointed.

(Continued on page 13)

Eriostemon Verrucosus in My Garden

By M. McALLISTER

Many years spent in the Bendigo District where *Eriostemon verrucosus* is at home, made me keen to grow it in my garden 100 miles south in Melbourne. It comes from auriferous ground with quartz and sandstone ridges where soils are described as skeletal. Outcrops of ornamental slate are being quarried and here I obtained transplants. Local trees are mainly *Eucalyptus sideroxylon* and *E. melliodora* with *Acacia pycnantha*. Some smaller plants are *Grevillea alpina*, *Calythrix tetragona*, *Tetratheca ciliata*, *Cheiranthra linearis* and *Brunonia australis*.

Plants of *Eriostemon verrucosus* may be a straggly four feet in undergrowth but are more compact in clearings. Flowers may be $\frac{3}{8}$ " to $\frac{3}{4}$ " across, open or cup-shaped, massed or scattered, waxy white or shading to pink. Red or pink buds and backs of petals may be occasionally white or pale green. Odd plants are in full flower from July onwards with the main display in September. Summers in this sparsely shaded bush are hot and dry with "concrete hard" ground. The usually blue-green short thick leaves become leathery, grey and stem clasping as plants adapt themselves. Winters can be very wet but drainage is always perfect.

My garden is on silurian clay and heavy loam with a southerly slope. I improved drainage and appearance with raised beds and a three inch dressing of mountain soil and leafmould. This prevents the surface caking and leaves most of the plant set slightly above the clay. As long as drainage is reasonable and pruning early and rather hard, straight after flowering, plants are healthy and vigorous. Full sun and summer watering give me best results. In shade, the plants are less sturdy and more inclined to leaf than flower. In between these extremes there is tolerance of half measures and a good flowering form will remain so. Three waratahs have a wax flower each at foot with no objections. Flowering season is long and spent petals are dropped adding greatly to the charm of a garden plant.

I have to consider myself lucky to get a few plants for the garden from the cuttings that go in and out of my cold frame. My successes are exceptions rather than rules. Six to nine months have always been needed to form roots. However, when regrouping survivors of a September batch in a mixture of creek sand and peat moss in December, I found a small percentage rooted. Once in the garden cutting grown plants grow more quickly than self sown seedlings. I have had no success with untreated seed of my own planting. Pieces of root in soil send up promising shoots, but as yet there has been no new root formation.

NINDETHANA NURSERY

BOX 5, DRIPSTONE, N.S.W.



OVER 1000 SPECIES STOCKED



THE PIONEER NATIVE PLANT NURSERY

Catalogue — 4/- Posted



Colour Photography by Frank Hurley

Blocks by courtesy John Sands Pty. Ltd.

ERIOSTEMON VERRUCOSUS (Fairy Wax-Flower)

Flowers in characteristic clusters toward the tips of the branchlets. Leaves without visible mid-ribs.

(Continued from page 11)

E. obovalis, A. Cunn (ob-o-va-lis—obovate, referring to leaves—Silky Waxflower.

Apparently very like *E. verrucosus* but with hairy non-tuberculate branches, leaves flat instead of concave, and flowers on very short stalks.

I have not seen fresh specimens of this apparently rare N.S.W. species. It should be preserved in at least one of its habitats by preservation of the area in its natural state.

EDITOR'S NOTE—Miss Galbraith advises that one species *Eriostemon linearis* was missed in this series. This species has axillary flowers, downy inside.



THIS MAN WILL ROB YOU

And so will many other things in your business if you let them. Why not smarten up your business front and make people stop and take notice. How about your stationery, is it arresting or just run-of-the-mill? Why not have something that really makes people take a second look—it costs little extra. If you need advice, new designs, etc., with tags, letterheads, business cards, catalogues or other printing, we are anxious to help. Contact: Surrey Beatty and Sons, Rickard Road, Chipping Norton, telephone 72-7404—distance is no problem.

OVER 300 SPECIES

of indigenous and exotic trees and shrubs

AVAILABLE FROM NURSERIES

AT

PENNANT HILLS
NARRANDERA

FORBES
DUBBO

Complete descriptive price list free and post free from:

SECRETARY, FORESTRY COMMISSION OF N.S.W.
BOX 2667, G.P.O., SYDNEY

Verticordia for the Garden

By W. A. STRUTT—National Park, West Australia

PART ONE—FOR COASTAL AREAS FROM CAIRNS TO ADELAIDE:

The beautiful "Feather Flowers" of Western Australia could be a striking and colourful addition to the shrubbery or native flora plot. Previous articles have given excellent recommendations as to their cultivation but it is possible that readers in various states did not realise the wide extent of their application. I have selected the following species as worthy of extensive efforts to cultivate in gardens on the coastal areas of Australia, East and South of the Great Dividing Range.

In tropical Queensland, North of Rockhampton, the wet and dry seasons are reversed to Western Australia's temperate regions but I am confident that four species, viz., *V. nitens*, *V. densiflora*, *V. insignis* and *V. plumosa* could prove adaptable and tolerant of the wetter conditions during hot weather. Concentrating on adequate drainage by establishing on slopes, on the crests of undulating areas, or on built up beds in lower situations giving a depth of free soil; and ensuring air circulation by avoiding enclosed areas or thick concentration of overhead foliage from low limbs of trees; these species could follow the pattern of their home state where wetter conditions suit them.

South of the tropic, down to about Coff's Harbour the four species previously mentioned could be supplemented by *V. serrata* and *V. chrysanthra*. A porous sub-soil appears to be more important than the richness of good loam in adapting these plants to a new environment.

Getting into the temperate region of N.S.W. coastal areas, I believe some species of Verticordias have been successfully cultivated and shrubs of many years standing, including species I have not mentioned, are adorning the gardens of growers of many years experience. For this area, as for all Victoria and the coast of South Australia, I would suggest efforts to cultivate all ten species mentioned particularly noting those which seem to prefer clay soil and arid summer conditions.

The coastal area of South Australia, and inside the hills surrounding Adelaide, has such large tracts of clay soil, wet in winter and hard-baked in summer, that South Australian members perhaps despair of any species suitable for trial and experiment but I suggest that *V. huegelii*, *V. acerosa*, *V. insignis*, *V. plumosa* and *V. densiflora* could repay any effort spent. These last two have proved adaptable to clay soil and *V. densiflora* in particular to the application of water until early summer.

NO VERTICORDIA WILL SURVIVE "WET FEET"

Even *Verticordia nitens* and *V. densiflora* the recognised swamp "morrisons" do not grow in water. Where *V. nitens* takes control of a huge depression, the shallow water courses and basins, which retain too much moisture until summer sets in are conspicuous by the absence of plants. In the very slightly elevated soil of a definitely acid sandy swamp, the water has gravitated to the lowest level which is the reason why *V. nitens* is the latest of the species to blossom (December flowering). *V. densiflora* favours the clay-swamp localities, but growing profusely alongside roadside drains or ditches, not in the drains themselves, unless the drain dries out during summer.

Verticordia nitens grows 2'6" to 3' tall, December flowering, the orange-yellow blossom rivals *Nuytsia floribunda* for its brilliance. Found in

the sandy low-lying areas of the coastal plain, it still requires drainage. A number of plants transplanted to the hills, where sub-soil is of clay, given an inch of sand as ground cover and watered, when in bloom, to prevent drying out in unnatural conditions, immediately made new growth and a second flowering. Continued watering during summer produced even another new growth and a third flowering during autumn. These plants have now died out within two years. In another plot in a less elevated position, well-watered just before flowering but discontinued during summer, the plants are still surviving after four years. Although growing densely in small treeless areas of a few acres, these patches are surrounded by a protective belt of trees. Scattered through the trees, the plants are more individual although still numerous.

Imagine the Kingsford, Mascot, Botany area of Sydney, timbered in its lowest levels with paperbark (*Melaleuca raphiophylla*) swamp banksia (*B. littoralis*); the slightly higher surrounding ground sparsely covered with *Banksia menziesii*, she oak (*Casuarina glauca*), blackbutt (*Euc. patens*) and clumps of *Nuytsia floribunda*, and you have a typical *V. nitens* area. *Burtonia scabra* and the pink star, *Calythrix fraseri*, are found in association. Rainfall over the November-March period inclusive, is negligible, with trees scattered yet uniform enough to provide shade with adequate air circulation as Mr. Quick suggests and periods of humidity are infrequent.

V. nitens. Erect shrub to 2ft. 6ins. high. Leaves linear, mostly $\frac{1}{2}$ to $\frac{3}{4}$ inches with lower ones about an inch long. Flowers orange-yellow on slender pedicels in broad terminal corymbs. Bracteoles very deciduous. Calyx tubes shortly turbinate, glabrous, primary lobes 5 spreading to about 4L† diameter, divided nearly to base into 7 to 11 fringed lobes. Petals ovate or obovate, glabrous, about as long as the calyx, fringed with short irregular teeth. Stamens scarcely united at base, Anthers globular.

Verticordia densiflora. This favours the more open low-lying and swamp areas, with a base of clay sub-soil. Growing 2'6" tall it is hardy and adaptable having a dense umbel of pink blossom. Apparently it does not require the protection of other shrubs and trees and when transplanted to more elevated positions and steep slopes with red volcanic soil and diorite or granite out-cropping will flourish and propagate from self sown seed. In such situations its colour shade has not the depth found where it absorbs more moisture and the blossom sets seed after a shorter flowering season. I consider it would be an excellent species grown in Victoria, withstanding the higher rainfall average and suitable for any situation. It grows in association with species of *Leptospermum*, *Melaleuca* and also *Eriostemon spicatus*, *Actus gracillina* and *Anigozanthos viridis*.

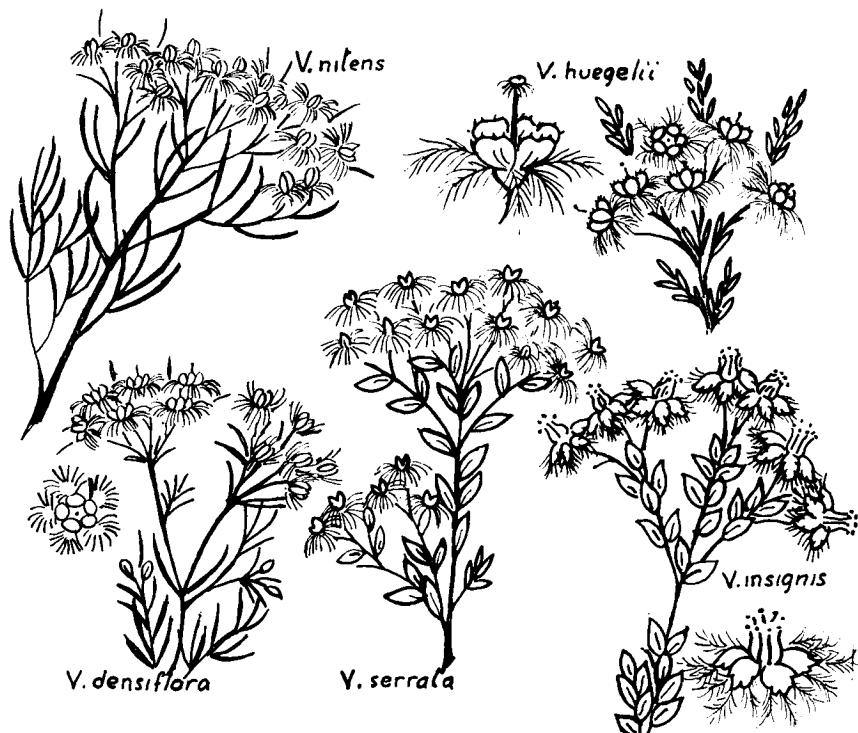
V. densiflora. Erect shrub to 2ft. 6ins. high. Leaves linear crowded in tuft-like fashion on side branches and usually few on main stems. Flowers pale pink on pedicels 2 lines long in dense terminal corymbs. Calyx tube hemispherical with long hairs at base only, primary lobes 5 spreading to 4 or 5L diameter, each one divided into several spreading lobes with tooth-like fringe. Petals short-fringed with numerous cilia. Stamens very shortly united. Anthers round.

Verticordia serrata. I consider the choice of the yellow flowering morrisons, attaining a height of about two feet on an upright stalk its clusters of umbels of bright yellow surmounting the dark green leaf structure of its inclined vertical branches attract the attention immediately. It is one *Verticordia* which requires a depth of free soil, growing naturally in areas of very slight gradient, having a sub-soil of fairly rich light red sand. Transplanted to hills, soil with a clay base, its life is about three years on the steeper slopes, but where the fall is about one in twenty, trees providing shade from mid-morning on, and a generous scattering of sand for top-soil, it has not only survived for five years, but seeds shed have reproduced in the plot. I have only seen it growing naturally in a westerly aspect protected from

† Measures of length—1L (1 line) equals $\frac{1}{12}$ inch equals 2.1 millimetres—3L equals $\frac{1}{4}$ inch.

north, east and south by higher timbered ridges. More rapid increase of scattered areas of isolated plants gives the impression of higher seed fertility than others. It grows in association with *Lambertia multiflora*, *Oxylobium* spp. and *Anigozanthos humilis*.

V. serrata. Leaves mostly alternate, linear, lanceolate, $\frac{1}{2}$ to $\frac{3}{4}$ inches long or, oblong $\frac{1}{4}$ inch long, concave or keeled, the margins ciliate with short stiff hairs. Flowers yellow on slender stalks in broad many flowered corymbs. Bracteoles deciduous. Calyx not hairy with 5 lobes $\frac{1}{4}$ to $\frac{1}{2}$ inch diameter, deeply divided into pointed segments. Petals ovate, concave, toothed at end. Stamens shortly united.



Verticordia insignis. This species, which I notice neither Mr. Quick nor Mr. Doney has referred to, could prove to be most adaptable. Having a more extensive root system than most of the genus, under dry summer conditions in clay soils it takes four or five years to attain a height of twenty inches in a spreading form. In soil of more porous texture, mostly black sand with a small percentage of loam and leaf mould, and well-sheltered and shaded, it assumes an upright habit before branching and carrying a profusion of clusters of delicate mauve blossom with a red or brown insignia in the centre. Several seedling plants, $1\frac{1}{2}$ inches, potted off into containers six inches in diameter and eight inches deep (porous potting soil as above), were kept in a shade house from November, 1956, to June, 1958, and hosed three times weekly in the late afternoon each summer. Planted out at fifteen inches tall into an exposed position—northerly aspect, slightly sloping—they flowered heavily. Several branches died during the last severe summer but with dead wood cut out in autumn, new growth has been made during this winter. Characteristics of this species could be an indication of tolerance to humidity or summer watering.

V. insignis. Low scrub branching from the base. Leaves from obovate to oblong 2-4L long. Flowers pink on pedicels often exceeding one L (line) in loose

terminal clusters. Calyx tube about 2L long, lobes divided into numerous cilia forming fringe at base of tube spreading to about 1/2 in. diameter. Petals 5, fringed, inserted on staminal tube near base. Stamens united in a short broad tube above calyx.

Verticordia huegelii. An exceptionally wide-spread species found in a variety of soils, grey clay and red clay with no porosity, porous "tight" fine sand with a percentage of clay in areas of negligible summer rain, and in yellow clay well overlaid with heavy grit from decomposing granite outcrops. Favouring more open situations in any aspect than most *verticordias*, it definitely will not stand summer watering in low lying or level areas. Drainage most essential and although plants appear to have succumbed to severe summer conditions without watering, revive quickly with first winter rains. Found in association with *V. plumosa*, *V. densiflora* and *V. acerosa* in three different soil types (Note Mr. Doney's emphasis—intolerant humidity).

V. huegelii. Erect in light textured soils (to 20 inches) low and spreading in heavy clay in exposed positions. Leaves linear, slender 2-4L long crowded on the short lateral shoots. Flowers creamy white ageing to apricot and red. Calyx lobes five spreading to a diameter of 4 or 5L and divided into very numerous fine cilia forming a dense circular fringe. Petals much shorter than the calyx lobes also fringed. Stamens very shortly united. Anthers globular. Style bearded—attached to the lower surface of the stigma which is longer than that of other species.

Verticordia plumosa. The finest plants of this species I have seen have been established in a high situation with a northerly aspect, red volcanic loam overlaying yellow clay and granite boulders and more than average exposure to the elements. New branches from ground level each year have in the course of ten years developed bushes two feet in height, three feet in diameter, and a perfect huge umbel of blossom uniformly topping the dense grey-green foliage. The parent "plantation" from which these were derived favours the west to south aspect of granite outcrops on hillsides, but the uniformity and compactness is not comparable with those offspring adapted to a new situation. Very shallow rooted, many plants existing in 1 1/2 inches of soil on a flat granite slab or shelf (recommended for trial anywhere).

V. plumosa. Erect shrubs 3-4ft high, leaves linear, cylindrical or three-sided, approx. 1/4 inch long, massed into a dense head. Calyx hemispherical, without ribs, covered with hairs. Lobes feather-like, divided almost to base. Stamens shortly united. Style more or less exceeding petals.

Verticordia acerosa. While this attractive yellow species grows in close association in places with *V. densiflora*, it is usually found on a little higher level of the slopes, the best established areas having an easterly aspect in the foothills of the Darling Ranges. The absence of shade trees or shrubs could denote frost resistance. It appears to carry on to a more southerly latitude from where *V. chrysantha* becomes less evident. On slopes and slight undulations denuded of any fine top-soil it favours a variety of clay soils and yellow clay shot with nodular laterite. I think it could prove adaptable and am introducing young seedling plants into a range of varying soils and aspects.

V. acerosa. Erect shrub to 20 inches high. Leaves, usually ending abruptly in a sharp point varying from linear-slender and nearly 3/4 inch long in fan-like cluster crowded and closely adhering to stems and branches. Flowers yellow in terminal clusters on pedicels of 3L or more. Primary lobes spreading to 4 or 5L diameter, each deeply divided into 5 or 7 hairy lobes. Petals divided almost to base into 5, 7 or 9, very narrow tapering lobes, rigid and entire. Stamens shortly united. Anthers round.

Verticordia chrysantha. This hardy attractive species is found in soils ranging from porous yellow clay over-laid with fine sand on gradual slopes at foot hills, to grey clay and red clay patches in flat country and depressions. Develops into a rounded shrub with age and appears long lived and adaptable. In exposed situations it withstands dry summer conditions as well as when enjoying the shade of scattered eucalypts and banksias. It has withstood early morning summer watering in a slightly sloping, exposed, built-up bed for about four summers and shows no ill effects over the last

three years when watering has been discontinued. In fact has propagated from self seeding since seeds have been retained in the bed instead of being washed away.

V. chrysantha. Leaves from linear to oblong 2-3L. Long, crowded on the short lateral shoots. Flowers yellow on short pedicels on a very loose terminal leafy corymb. Bracteoles persistent. Calyx tube primarily five-lobed often spreading to diameter of 3/4 inch. Each lobe deeply divided into seven or more pointed lobes. Stamens slightly united at base.



Verticordia picta. Endemic to a large area of West Australia's sandplain, wheat belt country, 50 to 150 miles inland from the coast. This particularly attractive pink species relishes soil of a loose texture than most of the genus. White or grey sand, to a depth of three or four inches on the surface, is the usual feature of the undulating country it loves. In places the sand and also in porous yellow or grey clay with no more than an inch lumps. It is prolific also where sub-soil is of compact yellow or reddish sand and also in porous yellow or grey clay with no more than an inch or two of fine surface soil. It has been introduced to, and flourishes in slightly sloping situations with yellow clay soil to the surface and has withstood early morning summer watering when shade is provided during the heat of day by scattered eucalypts.

V. picta. Shrub with slender spreading branches. Leaves linear. Flowers pink on pedicels 3-4L in loose terminal or short leafy cluster. Calyx tube hemispherical; primary lobes 5, spreading to about 5L diameter, deeply divided into about 7 or 11 fringed lobes. Petals, inserted on the staminal tube shortly above calyx, broadly ovate, entire, longer than calyx lobes. Stamens united in broad tube.

Verticordia grandiflora. Laterite, ironstone, gravel: this could sum up a "must" in the requirements of a really good display from this species. On the Western slopes of the hills overlooking the coastal sandy areas fifty miles north of Perth it grows from pockets of outcropping boulders and ledges of laterite. Scattered through the hills and to the undulating country beyond, gravel lumps and shot gravel always appear freely in the sub-soil to produce a shrub of compact foliage and an abundance of large flowers.

SPECIAL RELEASE OF WATTLES BY J. TWYFORD

Acacia brownii. A beautiful winter flowering small shrub (3ft.). It is a compact shrub with deep golden-yellow solitary flower heads from the leaf axils. In full light it will flower from a height of a foot or smaller.

Acacia rubida. (Red-leaved wattle). A tall shrub (8ft.) with recurved phyllodes about 3 inches long. The outstanding feature of this plant is the large amount of pinnate seedling leaves retained on adult plants. Both phyllodes and leaves are tinted red, hence its name. The bright yellow flower heads are in short racemes. It flowers heavily if cut back hard after each flowering. A hardy species.

Acacia trinevata. A tall slender shrub up to 12 feet. Flowering in winter and spring. This hardy rare shrub from the lower Blue Mountains of N.S.W. will be a good garden specimen.

Dwarf wattles available include *Acacia colletioides*, *A. buxifolia*, *A. myrtifolia*, *A. drummondii*. See advertisement for Willunga Nursery.

Introduced to soil of compact yellow clay on a very slight slope plants are unspectacular and flowers insignificant although surviving over a number of years and propagated from self-seeding.

V. grandiflora. Erect shrubs to 2ft. high. Leaves linear, cylindrical or three-sided $\frac{1}{2}$ to 1 inch long; or oblong, concave or keeled, usually thick, crowded on short lateral shoots. Flowers yellow in a loose terminal leafy corymb. Bracteoles persistent. Calyx not hairy 5 lobes often $\frac{3}{4}$ inch diameter each deeply sub-divided into 5-9 pointed lobes. Petals also deeply divided into 7-11 or more pointed lobes. Stamens shortly united.

My contention that no *verticordia* species will stand "wet feet" may be disputed by those who have seen plants standing in water in depressions with a non-porous clay soil but I think that after observations over a period of a few months it will be agreed that these conditions exist mainly throughout the milder months of July and August, and into September during a prolonged winter, and that during this period new growth, to carry the spring or early summer blossom is rapidly being made by the plants. Prolonged wet conditions will delay and extend the flowering season but invariably the areas are drying out as seed-setting commences and the clay dries out hard during summer. It would appear that the spread of foliage to protect the root system during summer, and frequently later maturing swamp grasses carpet the surface to mulch the shallow root. Where such an area is surrounded by such shrubs as *Grevilleas*, *Melaleucas* and others profusely shedding spent leaves this will accumulate in the depression as a mulch. At no time will these species be subjected to "wet feet" during periods of high temperatures.

SOME INTERESTING CORRESPONDENCE RECEIVED ON VERTICORDIA

From Mrs. R. Roe, "Benelong", 17 miles N.W. of Gingin, 60 miles north of Perth and 15-17 miles from the sea. Average of 30 inches of rain in winter.

"The coastal plain here is said by geologists to have been an estuary. It is a low, flat, very wet in winter, almost treeless plain, with low scrub and patches of bare ground. The soil is grey clay to two feet then limestone with higher patches of red clay to four feet before limestone which sometimes contains tiny ironstone pebbles. No pasture plant would grow till Yarloop Subterranean Clover had been growing about four years and had built up the soil. Salt content in the grey clay is slightly above average. *Verticordia nitens* grows in poor white and grey sandy depressions near this plain. *Verticordia chrysantha* var. *preissii* grows in the red clay and *V. huegelii* in the grey clay which sometimes has a tinge of red clay and *V. grandiflora* grows in grey sand and gravel hills about 10 miles north-east of here. Other plants in the area include a pretty red flower of the same family as 'Copper Cups'—*Pileanthus filifolius* with long tap roots in grey sand, also a few 'Weeping Pittosporum', *Pittosporum phylliraoides* and two or three *Hibiscus*, *Cientugosia hakeifolia* and *Hibiscus huegelii*. In hilly gravel country about 25 miles north of here are *Macropidia fuliginosa*, 'red Bugles'—*Blanca canescens*. In a variety of soils is *Anigozanthos manglesii* and *A. humilis* while *A. viridis* is in wet sandy or sand clay places and *A. pulcherrima* in yellow or grey sand near damp depressions."

Mr. Quick was surprised at the presence of limestone and when referred to Mr. Strutt, he reported as follows:

The presence of an underlying strata or shelf of limestone, two or four feet below the surface of the Moore River Basin area would have little significance in connection with *Verticordia chrysantha* since the species flourishes where this condition is entirely absent. The porosity of this stone at such a depth would hold moisture necessary to maintain deep rooted plants during the prolonged dry season of the summer but few *Verticordias* are so deep rooted and *V. chrysantha*, is not one of them.

Mr. W. N. B. Quick has this to add to Mr. Doney's article in Vol. 1, No. 4.

Verticordia spicata and *V. muellerina* (in Melbourne) seem less tolerant than most of even temporary soil saturation. *V. nitens* has proved reliable in well-drained sandy soil, aspect west, roots kept cool by stone.

PRESERVATION BY CULTIVATION — By E. M. M. BODDY

Our climatic conditions are such that the smallest of our native plants at a possible height of one or two inches may have a root system from twelve to eighteen inches long, and inexperienced collectors often digging hurriedly and without proper equipment may lose most of the root system and the plant dies. Consequently they say: "Well, it is useless to try and grow Australian native plants in the garden because they just will not live". However, where plants are raised from cuttings or seed and grown in suitable containers, we find that the majority of our native plants can be tamed, planted out, and grown in the native garden. Preserve your native plants by cultivation in your garden.

YOUR GUIDE TO NATIVE PLANT NURSERYMEN

Abel, J. L.—P.O. Box 26, Nowra. Native plants from 2/6. Freight and pack. extra.

Althofer, G. W.—Nindethana Nursery, Box 5, Dripstone, N.S.W. Very wide range.

Boddy's Eastern Park Nursery—32 Denman St., Geelong, Victoria. 3,000 varieties.

Cane, W.—Box 19 Maffra, Victoria—Advanced improved natives.

Denovan's Nursery—188 Marco Ave., Panania, Sydney, N.S.W.

Echberg's Drive-in Nursery—Centre Road, East Brighton, Victoria.

Narrabeen Nursery, 1444 Pittwater Rd., Narrabeen Nth., N.S.W. Plants for coast.

Parry, P. J.—"Floralands", Kariong via Gosford, N.S.W. Waratah, N.S.W. Christmas Bush and many other plants 4/-. Postage 2/- extra.

Willunga Nursery—21 Nelson Street, Thornleigh, N.S.W. From 2/6.

Wyatt, P.—33 Plummer Road, Mentone, S.11, Victoria—Hardy plants.

ECHBERG'S

DRIVE-IN NURSERY

Cnr. Nepean H'way &
Centre Rd., East Brighton, Vic.

XB 3267

*Native and South African
Plants*

Indoor Plants, Liliums,
Perennials, Geraniums,
Fuchsias, etc.

AUSTRALIAN NATIVE PLANTS

3,000 varieties

Grown in the Open — Plants dispatched
to all States

Catalogue and Planting Guide 4/-

Boddy's Eastern Park Nursery

32 Denman St., Geelong, Victoria
Tel.: 2598

NATIVE PLANTS

101 HARDY VARIETIES

P. WYATT, "KANANOOK"

33 Plummer Rd., Mentone, S.11
Victoria

"WILLUNGA" NURSERY

NATIVE TREES & SHRUBS

From 2/6

21 Nelson St., Thornleigh, N.S.W.

Closed Saturday only — WJ 3709

DENOVAN'S NURSERY

Good Range of Native Plants
available at Nursery

188 Marco Avenue, Panania

AUSTRALIAN NATIVE PLANTS

LESCHENAULTIAS — XMAS BELLS
KANGAROO PAWS, Etc.



P. J. PARRY, "Floralands", Kariong via Gosford, N.S.W.

NARRABEEN NURSERY

74 AUSTRALIAN NATIVES

1444 Pittwater Rd., Narrabeen
Nth., N.S.W. — XX 2604

OPEN EVERY DAY

PLASTIC SEEDING POTS

LIGHT AND STRONG

Send for free list

ALBA ENGINEERING CO.

20 Rowley St., Camperdown, N.S.W.
LA 4089

This journal is published by The Publishing Section on behalf of:—

SOCIETY FOR GROWING AUSTRALIAN PLANTS—N.S.W. REGION:

President: Mr. C. Taylor.

Secretary: Mrs. H. J. Croucher, 6 Carinya Ave., Brighton-le-Sands, N.S.W.

SOCIETY FOR GROWING AUSTRALIAN PLANTS—QLD. REGION:

President: Mr. H. W. Caulfield.

Secretary: Mr. R. J. Peach, Bushland Garden Nursery, Sunnybank, S.8, Q'land.

SOUTH AUSTRALIAN SOCIETY FOR GROWING AUSTRALIAN PLANTS:

President: Mr. V. W. Jahn.

Secretary: Mr. I. G. Holliday, 29 Tennyson Ave., Tramere, S.A.

SOCIETY FOR GROWING AUSTRALIAN PLANTS—VICTORIA & TAS:

President: Mr. G. Echberg.

Secretary: (Sister) E. R. Bowman, 4 Homebush Cres., Hawthorn, E.3, Vic.

WEST AUSTRALIAN WILDFLOWER GROWERS' SOC. INCORPORATED:

President: Mr. L. D. O'Grady.

Secretary: Mrs. J. T. Wallace, 54 Norman St., Bentley, West Australia.

Membership is open to any person who wishes to grow Australian native plants.
Contact the Secretary of the Society for your State.

PUBLISHING SECTION FOR SOCIETIES

Managing Editor: Mr. W. H. Payne.

Publishing Committee for this Issue: I. G. Holliday of S.A., H. Boyd, P. D. Leak, Sec.; K. Coxhead, Despatch; V. Hopkins, Illustrations; A. Spurway, Photography; R. N. Dallimore, Advertising and Sales Representatives in each State: N.S.W., P. D. Leak; Qld., W. W. Kilgour; S.A., J. S. Birch; Tas., G. van Munster; W.A., F. Lullfitz.

MAIL—Address mail to the Editor, 250 Picnic Point Road, Picnic Point, N.S.W. If a reply is required please enclose a stamped addressed envelope.

SUBSCRIPTION—Members: Your 1961 subscription is now due.

NON-MEMBERS: Be sure of receiving your copies in future without inconvenience. Forward 12/- and the next four issues will be forwarded post free.

FROM THE EDITOR: Our journal is achieving wide success and support from all States, making it a truly national journal with material from five States. The service that the journal offers to the community is also emerging. The primary purpose is to further our objective of preservation of the Australian flora by cultivation, in home gardens, etc. Thus it is presented for the home gardener with little experience but with the desire to grow native plants. Each plant mentioned is included in an article by an experienced grower giving what information is known of its cultivation and portions of letters received, dealing with this aspect will be reprinted under the section "Letters to the Editor". There is still a very isolated criticism of the journal on this aspect, strangely enough all from one southern city, but unless readers' experiences are sent in, they naturally cannot be published. Before you criticise: What has been your contribution?

It is also becoming clear that the journal serves as an important link between the professional botanist and the interested layman. The professional people from all States, are giving us excellent support to increase our knowledge and understanding of native plants. We can assist them and also ourselves. For example, it has no doubt been noticed that there is considerable confusion in the correct naming of the many species and forms of *Correa*. Mr. Paul Wilson of Adelaide has undertaken a revision of the genus and the results will appear in our journal for your use. It may even be possible to correctly name garden cultivars. Would every reader who knows where there is a plant, please send a branch about six inches long, when it is in flower, to Mr. Wilson and another to myself for classification. Although this applies particularly to country members and bush walkers, we want such specimens from garden cultivated plants also. Give as many details as possible, such as habitat, its original origin if known, soil, aspect, etc. Observe all preservation laws. Specimens should be kept submerged under water over night, then wrapped loosely in plastic or newspaper, enclosed in strong container such as a jam tin, wrapped and dispatched by normal parcel post. Mr. Paul Wilson, Botanic Gardens, Adelaide, South Australia.

Let us also try plants of *Correa* in the garden and observe and report results. Plants may be obtained from the nurserymen listed in this journal by mail if necessary. *Correas* are excellent garden subjects with their attractive, usually red, bells. For conditions of planting, treat generally as has been recommended for *Eriostemon*.

For Effective Pest and Disease Control Use

Yates Garden-master

MULTI-PURPOSE SPRAY

SARCOCHILUS FALCATUS

By R. F. LEANEY, F.R.H.S.

Sarcochilus (from *sarkos*, flesh, and *cheilos*, a lip; alluding to the fleshy lip). The genus *sarcochilus* is one of the *Sarcanthinae*, a large group of orchids about which botanists and scientists have frequently expressed different opinions. The difficulties appear to be mostly centred around the problem of separating *Sarcochilus* from *Thrixspermum* and in the early days nobody seemed to want to tackle seriously, the problem of separation. However, in more modern times, a number of important botanists including Ridley, Schlechter and J. J. Smith "took the bull by the horns" and some sort of order emerged.

The main difference between *Sarcochilus* and *Thrixspermum* is to be found in the flowers, the labellum of *Sarcochilus* is hinged to the column post and there is no sac at the base, although in some species in the front, there is a hollow which is a little misleading. Also, in *Sarcochilus* the pollinia are four, in pairs and large, whereas in *Thrixspermum* the labellum is solidly attached to the column foot and has at the base a sac-like spur containing a definite callus (frequently hirsute). In *Thrixspermum*, the pollinia are two in number and sulcate.

Robert Brown founded the genus *Sarcochilus* in 1810, Loureire founded *Thrixspermum* in 1790. *Sarcochilus* occurs quite commonly from India along the southern coast of Asia and adjacent islands northwards to Japan, it occurs all the way through the archipelagoes down to and in New Guinea, all the way down the eastern coast of Australia out into Tasmania. It occurs in New Caledonia, Fiji and New Zealand. Brown recorded only one species from Australia, *S. falcatus* so it is logical to assume that on this plant he founded his genus. Today we have approximately twenty in Australia and about two hundred reported all over.

As Brown started with *S. falcatus* let us do the same. It is not a plant that takes readily to cultivation even by the most experienced orchidists, though I have occasionally seen plants doing remarkably well in cultivation. Most of these have been in damp, cool situations in fairly shady bush-houses well established on fern-butts. I, myself, grow *S. falcatus* on a slab of fern-fibre backed by a slab of coach-wood timber with the bark still on, I would not say the plants look merry but they grow and flower every year.

S. falcatus seems to be quite variable, hardly any two being identical, but in spite of this fact I disagree with Rupp and agree with Fitzgerald insofar as the variety *montanus* should be recognised. *S. falcatus* var. *montanus* frequently has quite large flowers exceeding two inches in diameter, very open sepals and petals and quite often no other colour on the white flower than violet, mostly in the form of stripes, often a vertical one on the dorsal sepal reaching almost to the apex. Another important clue which confirms my belief, is that although *montanus* has much reduced perfume, it is quite a different scent. It has been found by me only in the Kurrajong and other Blue Mountains area, west of Sydney.

S. falcatus occurs quite plentifully from well into Queensland down the N.S.W. coast to at least as far as Victoria. It is a compact little plant with falcate, tightly packed fairly fleshy leaves which persist very well and little sprays of six to ten flowers appear from the stem just below the last leaf. *S. falcatus* in common with all other species of *Sarcochilus*, seem

AN AUSTRALIAN NATIVE ORCHID



Photo by R. F. Leaney

SARCOCHILUS FALCATUS R. Br.

to resent handling. They do not like being moved from their native state and although in the jungle they appear to be hanging by a thread and growing in the most outrageously poverty-stricken manner, they just do not take kindly to being "rescued". In transport they sweat very easily and on the slightest excuse almost every leaf will turn black and drop off! If, in spite of the foregoing you are tempted to collect some, transport them in fresh air, a dry box with a little paper packing, and get them potted in fibre and sphagnum moss or better still, firmly fastened onto tree-fern fibre as soon as possible. I find nylon fishing line the most suitable binding agent. *Sarcochilus* species do not object to fertiliser and a lump of chicken manure (placed behind them or on top where the water will carry the nutrients down) twice a year apparently suits them very nicely.

S. falcatus R. Br. 1810. Stems up to 2 ins., leaves oblong-lanceolate, 2 ins. to 5 ins. long, green rather thick, falcate (hence *falcatus*) flower stems from below the leaves 3 ins. to 6 ins. long, generally slightly drooped. Flowers up to 10 or 12, pure white or faintly cream from 3/4 in. to 2 ins. in dia. Perianth-segments the same length, narrow at the base, then from broad-ovate to lanceolate, the whole cup-shaped. Labellum with broad erect lateral lobes, marked on the inside with orange-yellow, occasionally some red stripes. Mid-lobe very short up-turned, yellow with a large spur beneath which in some forms have purple blotches. A short column with a long foot, highly vanilla scented.