

## AUSTRALIAN NATIVE PLANTS AS CUT FLOWERS

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### Abstract

The Australian flora, estimated to exceed 20 000 species is rich and diverse in ornamental plants. Approximately 10% of these are commonly cultivated in Australia for use in garden landscaping. Historically, many species have been harvested from the wild as cut flowers but in recent years there has been increased interest in commercial cultivation. Whilst members of the Proteacea such as the New South Wales waratah, banksias and hakeas have striking inflorescences, much of the flora is most useful as complementary floral fillers. The majority of suitable species are woody perennial shrubs or small trees. Considerable scope exists for selection with respect to ease of propagation, disease resistance, flower colour and size, flowering season and postharvest life. Moreover little is known of their cultural requirements, regulation of growth and flowering and postharvest handling. Photographs of a range of species are displayed together with notes on their origin and what is known of their cultural requirements.

### 1. Introduction

The Australian flora, estimated to exceed 20 000 species, is rich and diverse in ornamental plants (George 1981). In Australia only approximately 10% of these are commonly cultivated in garden landscapes. A great number of Australian plants possess desirable attributes for use as cut flowers and historically they have been harvested from the wild. In the flora-rich areas of Australia the majority of native flowers are still harvested from natural stands although they are generally inferior in quality and less reliable in supply than from cultivated plantations (Watkins 1983).

The first known commercial cultivation of native plants for cut flowers commenced at "Floralands" near Gosford, N.S.W. in 1913 when the NSW Christmas Bush (*Ceratopetalum gummiferum*) was planted (Parry pers. comm.). In 1914 in outer suburban Melbourne, Victoria, Brown Boronia (*Boronia megastigma*) was first cultivated (Elliot pers. comm.). In the 1930's Grampians Thryptomene (*Thryptomene calycina*) was planted in Victoria and the NSW Waratah (*Telopea speciosissima*) at "Floralands". In the 1940's numerous other native plants were cultivated at "Floralands" including Geraldton Wax (*Chamaelaucium uncinatum*), Native Rose (*Boronia serrulata*) and various paper daisies (*Helipterum* spp. and *Helichrysum* spp.).

In recent years there has been considerable interest in the cultivation of native cut flowers in Australia, Israel and U.S.A. There exists, however, a paucity of information on cultural aspects including propagation, nutrition, yield, pests and diseases and postharvest handling. Moreover, little or no selection and/or breeding has been undertaken.

## 2. Species suitable for use as floral fillers

### 2.1 Pink Wax Flower (*Eriostemon australasius*)

Family: Rutaceae

#### Geographical Distribution:

East coastal sands from south-east Queensland to Sydney; grows in a year-round to summer dominant rainfall.

#### Description:

Erect woody shrub to 3 m, aromatic, lanceolate leaves, waxy five-petalled flowers borne in upper axils during spring. Flowers 20-40 mm diam., pink to mauve-pink, rarely white.

#### Cultural Notes:

Deep, well-drained acid soils, tolerates heavy frost, benefits from wind protection and some shade. Difficulties with propagation is the major reason for its limited cultivation. Seed collection is difficult because of an explosive capsule and seeds have an extended dormancy. There has been some success with micropropagation. (Plummer and de Fossard 1981)

#### Diseases and Pests:

Collar and root-rotting diseases (*Phytophthora cinnamomi*, *Rhizoctonia solani*); two-spotted mite, soft brown scale.

#### Selection for ease of propagation:

Among 28 clones selected from the wild for their flower quality only 13 produced roots. Mean rooting success was in the range 5-14%. Cuttings are being grown as stock plants for further evaluation.

### 2.2 Crowea (*Crowea exalata*, *C. saligna*)

Family: Rutaceae

#### Geographical Distribution:

Widespread in NSW and Victoria in well-drained soils in heath or woodland; year-round to winter dominant rainfall.

#### Description:

Small shrub to 1.5 m; leaves narrow oblong and obovate 1.5-8 cm long; flowers 5-petalled star-shaped 2-4 cm dia. pink or rarely white. Attractive cut flower with a vase-life of 10-14 days.

#### Cultural Notes:

Similar requirements to Pink Wax Flower but generally hardier and easy to propagate from stem cuttings.

#### Diseases and Pests:

Similar to Pink Wax Flower.

### 2.3 New South Wales Christmas Bush (*Ceratopetalum gummiferum*)

Family: Cunoniaceae

Geographical Distribution:

Dry rainforest and open forest in coastal New South Wales; sandy well-drained soils; year-round rainfall.

Description:

Tall shrub to small tree (3-10 m) trifoliolate leaves; terminal inflorescence of small white flowers in spring; calyces enlarge and colour bright red in early summer. Popular cut flower for the Christmas market. Flowers last 5-7 days but may be extended with postharvest treatments. Colouring is later in cooler climates.

Cultural Notes:

Deep, well-drained acid soils, regular irrigation and feeding required; tolerates heavy frosts. Propagation is from seed or selected forms from cuttings but seedlings are more vigorous.

Diseases and Pests:

*Colletotrichum* spp. causing flower drop; thrip.

### 2.4 Astartea, Baeckea, Micromyrtus, Scholtzia, Thryptomene.

Family: Myrtaceae

Geographical Distribution:

Predominantly south-western Western Australia but some species in eastern Australia.

Description:

Woody shrubs of variable height up to 3 m; small, neat foliage, complementing masses of small pink or white five-petalled flowers in winter, spring or summer. Most are hardy to frosts.

Suitable species include *Astartea heteranthera*, *A. fascicularis*, *Baeckea astarteoides*, *B. camphorosmae*, *B. linifolia*, *B. tenuifolia*, *B. virgata*, *Micromyrtus ciliata*, *M. rosea*, *Thryptomene calycina*, *T. saxicola* and *Scholtzia laxiflora*.

Cultural Notes:

Little is known about the cultural requirements of these species and few are commercially cultivated.

### 2.5 Geraldton Wax: (*Chamelaucium uncinatum*)

Family: Myrtaceae

Geographical Distribution:

Coastal district in south-western Western Australia; grows in deep sandy heath; winter rainfall.

### Description:

Vigorous woody shrub to 4 m, pine-like foliage, axillary corymbs of 5-petalled waxy flowers borne during late winter and spring. Considerable variation in flower colour (white, all shades of pink to purple) flower size, flowering time, ease of propagation.

### Cultural Notes:

Well drained soils, tolerant of light frosts only; thrives under hot conditions; drought tolerant but benefits from regular irrigation; needs wind protection.

### Diseases and Pests:

Collar and root-rotting diseases (*Phytophthora cinnamomi*; *Rhizoctonia solani*) *Botrytis cinerea*; Aphids, mealy bug, two-spotted mite, soft brown scale, gall wasp.

### Selection and Breeding:

Various clones of the Geraldton Wax are being selected and evaluated for:

- . flower size and colour
- . ease of propagation
- . postharvest life of cut flowers
- . vigour and productivity
- . disease resistance
- . time of flowering

There are approximately 20 other species of *Chamelaucium* (many un-named), few of which have been assessed for their horticultural potential. Among these there is considerable variation with respect to:

- . growth habit (prostrate to 4 m)
- . flower size (2 mm to 25 mm diam)
- . flower colour (yellow, white, pink, burgundy, red and purple)
- . flowering season (early winter to early summer)

At Gosford N.S.W. a program of inter- and intra- specific hybridization has commenced with the aim of producing new and superior cultivars. The first hybrids from this program are currently undergoing field evaluation. The Geraldton Wax is also being evaluated as a flowering pot plant (Lamont 1986).

## 2.6 Concluding Remarks

The species described above have undergone little or no domestication. Whilst all possess some desirable characteristics their potential will never be realized without selection and breeding. Research is also necessary to determine optimum cultural practices and to obtain the maximum postharvest life.

## 2.7 Bibliography

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