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*Photography by L. Carman*

## **HAKEA FRANCISIANA**

The cone flowered Hakeas—see description on page 343.

## THE GENUS HAKEA

by Alec M. Blombery

The genus *Hakea* Schrad, which belongs to the family Proteaceae was named by Heinrich Adolph Schrader of Germany in 1797, in honour of Baron Christian Ludwig Von Hake, a German patron of Botany. J. E. Smith (later Sir James Edward Smith) later named the genus *Conchium*, but by the law of priority, *Hakea* is the accepted name.

There are some 130-140 species in the genus all of which are endemic to Australia. The species consist of shrubs and small trees; the leaves are alternate and vary in shape from flat to terete and may be smooth, tough, rigid, toothed or divided. The flowers which are usually small are on a short pedicel in axillary clusters or racemes; the tubular perianth is almost straight and usually separates into 4 segments; the anthers are sessile on the upper end of the perianth lobes: the style is usually longer than the perianth and protrudes from a slit in the perianth before the stigmatic part is released, when the style then becomes straight or curved; the style is dilated at the summit into a disc or cone, bearing the stigma in the centre; the ovary is smooth on a short stalk; the gland at the base of the short ovary stalk is semi-circular to horse-shoe shaped; the fruit is a hard woody follicle and opens into 2 valves with two seeds which are usually broadly winged on the upper end. The fruit is often large and attractive.

In the flowering stage some species are difficult to separate from the genus *Grevillea* but the woody fruit and seeds with a broad wing on the upper end enable separation.

Bentham in his "Flora Australiensis" divides the genus into 4 sections, and further subdivides Section 2 into three series and Section 3 into seven series. Bentham's system of classification is still followed and is as listed below.

**Section (1). *Grevilleoides***—Flowers in oblong or cylindrical or rarely short racemes, without any involucre. Perianth much revolute. Stigmatic disc oblique or lateral, flat or broadly conical. Tropical or sub-tropical species.

**Section (2). *Euhakea***—Racemes usually short or reduced to sessile clusters, enclosed before their development in an involucre or bud of imbricate scales. Perianth revolute at least under the limb. Stigmatic disc oblique or lateral, flat or slightly convex, without any cone (except in *H. rugosa* and *H. rostrata*).

**Series i. *Oblique***—Perianth pubescent. Torus oblique, the ovary at the shortest margin, the remainder occupied by a large very concave adnate gland.

Leaves entire. Species all Western.

**Series ii. *Pubiflorae***—Perianth pubescent. Torus straight or rarely oblique, the gland thick or semi-annular. Leaves entire, toothed or divided.

**Series iii. *Glabriflorae***—Perianth glabrous. Torus straight or slightly oblique, the gland semi-annular or none.

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The principal theme is the plants *Hakea* with emphasis on the "Needle Hakeas" as indexed on page 341. Other Proteaceae described are *Petrophile* on page 349, *Lambertia* on page 384 and *Banksia* on page 356.

Native Orchids and their propagation are given on page 369.

Eucalypts In Urban Development—page 364.

## H A K E A S

*Some results of trials in a limestone mallee area of South Australia by K. Warnes*

"What have I done to deserve such neglect?" This could well be the anguished cry of the genus *Hakea*, for apart from listing three N.T. species in "Australian Plants" No. 18, there has been nothing written about one of our hardiest and most attractive groups of plants. Whether you want shelter or ornament, flowers, foliage, or even unique fruits you will find a suitable *Hakea*. My experience is limited, but if I make a start perhaps someone else will continue the story.

Because of our conditions few species have reached large proportions but the general health and appearance of my early plants has tempted me to try other species. I now have 24 in all and seed of many more to try. With certain species some care in site selection is necessary and occasionally I have planted up to three specimens before finding the right spot.

The initial plantings were in a clearing in mallee scrub where the soil is a clay-loam pH 7-7.5 with limestone rubble pH 8.5-9 at a depth of two feet. Rainfall has varied between 5½" and 18" since planting began, but despite this added water is given only in the first summer. Drainage has proved necessary if the first winter is a wet one.

I first tried *H. laurina* which grew rapidly to four feet but twisted off in a gale. *H. baxteri*, of upright slender habit is my best specimen, reaching 8' in six years. Flowers are insignificant but the fan-shaped leaves are always attractive. *H. elliptica* has reached 4' 6" in five years and its beautiful bronze new tips compensate for any lack of growth. *H. petiolaris* is of open habit attaining a height of 5' in three years and last year carried a fine display of "sea urchins". *H. francisiana* proved difficult and I lost my first two plants. A third has reached a bushy 5' in eight years while two others have grown to 4' and 3' and flowered in their second year. *H. trifurcata* is a rapid grower and the massed display of white buds and flowers lasts many months. A unique feature of this species is the flattened leaves which develop at flowering and are carried for many months among the normal trifurcate needles. The summer-flowering *H. undulatum* is one of the few to set seed here. *H. suaveolens* seems quite at home but *H. victoriae* and a replacement *H. laurina* are slow.

The only local member of the genus is *H. leucoptera*, a species which seems to occur in two forms. Around Owen it grows to only 5' and propagates mainly by suckers, whereas the dry-land form grows to small tree size and seeds freely. Very similar is *H. cycloptera* with sharp needles of an attractive smokey-blue. As this species flowers profusely in April it is a most desirable plant.

*H. bucculenta*, *multilineata*, *verrucosa*, *crassifolia* and *kippistiana* are young plants growing well, but *H. nitida*, *suberea* (syn. *lorea*) and *bakerana* are very slow. *H. erinacea*, *orthorrhyncha*, *purpurea* and two other species are showing quite severe chlorosis in an area of pH 8.

Despite the fact that few of these plants can be expected to reach full size under our conditions I intend to plant many more, for their hardiness, adaptability, showy flowers, and in many cases highly ornamental foliage and interesting fruits make them among the best of Australian plants.



































































































