

THE HUMBLE **Hakea**

While fellow Proteaceae family members Grevillea and Banksia are well known and popular, the humble Hakea with its 180 species (and subspecies) holds its own as an impressive genus in this large family.

by Leah Seabourne



For a lesser-known member of the Proteaceae family, there are certainly a large number of species of Hakea. More than 180 species (and subspecies), in fact, across Australia, in every state and territory. The Proteaceae family also includes Grevillea, Banksia, Petrophile, Isopogon, Adenanthos and Conospermum.

Aboriginal peoples know the beauty and uses of Hakea plants and flowers. The strong wood of *Hakea arborescens* can be used to make spears and boomerangs, and water can be extracted from the roots of *Hakea leucoptera* when water is scarce.

Several species of Hakea are popular bush tucker plants because the flowers are laden with nectar. Noongar peoples in the south-west of Australia roasted the

woody fruits of *Hakea prostrata* in hot ashes and ate the seeds.

The genus Hakea is named after Baron Christian Ludwig von Hake (1745–1818), a German patron of botany. The first collections of Hakea by the scientific community were made by Joseph Banks and Daniel Solander in 1770, with the genus Hakea formally described in 1797 by Schrader and Wendland.

DIVERSE HAKEA

Hakeas are endemic to Australia and 128 species occur in Western Australia, from *Hakea chordophylla* in the Kimberley region in the north, to *Hakea ruscifolia* in the south-west.

It is an extremely diverse genus, from low spreading shrubs to small trees.

Hakeas have flowers that look very similar to Grevilleas but can be differentiated by their persistent woody fruits.

Fruits vary from large, round cricket-ball-sized, as seen in *Hakea platysperma*, to the small, pointed fruit of *Hakea smilacifolia*. Many fruits have a beak and/or horns, which can be helpful in identification.

While many Hakeas have thick pungent (sharp) foliage, the leaves vary considerably in form and size, from terete leaves seen in *Hakea adnata* to large broad amplexicaul (stem-clasping) leaves with undulating prickly toothed margins seen in *Hakea amplexicaulis*. Perhaps the most spectacular foliage is seen in *Hakea victoria*, which has very large, multi-coloured leaves with distinct venation and prickly undulating margins.

Another species, *Hakea trifurcata*, has two completely different leaf forms on the

Hakea petiolaris

Common name Sea urchin Hakea

Height and habit Erect shrub to 2m or tree to 9m (depending on subsp.)

Flower colour Pink and cream, globular cluster

Foliage Grey-green spatulate to narrowly elliptic, with entire margins

Soil type Loam, clay or gravel on granite

Flowers March to July

Unique feature Stunning globular flowers resembling a Sea-urchin

Natural distribution From the Perth Hills east to Dragon Rocks Nature Reserve near Hyden



Hakea in focus

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Stunning globular inflorescences of *Hakea laurina*.

Photo – Sallyanne Cousans

Above left Potter wasp (*Eumeninae*) on *Hakea ruscifolia*.

Photo – Marie Lochman

Above Cricket-ball-sized fruit of *Hakea platysperma*.

Left *Hakea petiolaris*.

Photos – Rachel Walmsley

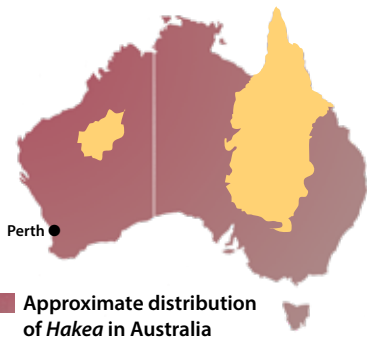


Hakea bucculenta

Common name Red pokers
Height and habit Up to 4.5m, rounded bushy shrub
Flower colour Red, elongated raceme (spike)
Foliage Narrow linear leaves
Soil type Loam or clayey sand
Flowers August to September
Unique feature Stunning large red inflorescences
Natural distribution From just south of Denham in the north to Geraldton in the south



Hakea in focus



“*Hakea* flowers produce large quantities of nectar, providing a valuable source of food to nectar feeding birds, such as honeyeater.”

same plant. The first type is terete with a sharp tip, while the second type is wide, short and oblong shaped. The second type mimic the shape of the fruit, acting as a decoy to seed predators.

The bark of most *Hakeas* is smooth, however some of the northern species, such as in *Hakea lorea*, has thick corky bark, which provides insulation from heat, enabling this species to withstand fire, re-shooting from epicormic buds in the trunk.

GARDEN FRIENDLY

Planting some stunning native *Hakea* species in your garden provides habitat and foraging resources for a variety of species. *Hakea* flowers produce large



Top left Carnaby's cockatoos (*Zanda latirostris*) on *Hakea trifurcata*.
 Photo – Rachel Walmsley

Above The first collection of *Hakea* by the scientific community was made by Banks and Solander in 1770.
 Photo – WA Herbarium

Inset above right Magnificent red inflorescences of *Hakea bucculenta*.
 Photo – Dave Blumer

Right The vulnerable *Hakea megalosperma*.
 Photo – Steve Hopper

Hakeas under threat

There are two *Hakeas* listed as threatened under the *Biodiversity Conservation Act 2016* (BC Act)—*Hakea aculeata* (EN - endangered) and *Hakea megalosperma* (VU - vulnerable).

In addition to this, there are 12 species listed as Priority 1–3 species by the Department of Biodiversity, Conservation and Attractions, which are species that may be threatened, but they do not meet the criteria for listing under the BC Act because of insufficient survey and a lack of data. These are:

- *Hakea acuminata*
- *Hakea brachyptera*
- *Hakea chromatropa*
- *Hakea cygnus* subsp. *needlei*
- *Hakea lasiocarpa*
- *Hakea longiflora*
- *Hakea oldfieldii*
- *Hakea oligoneura*
- *Hakea pendens*
- *Hakea rigida*
- *Hakea scoparia* subsp. *trycherica* and
- *Hakea* sp. Great Victoria Desert (L. Cockram LAC 139).



Kings Park Favourites

The Kings Park Favourites are a selection of native plant species that have been selected by horticulturist experts at Kings Park as being particularly hardy and ornamental.

Four Hakeas are included in this group—*Hakea francisiana*, *Hakea invaginata*, *Hakea laurina* and *Hakea multilineata*. Consider adding these gorgeous species to your garden so you can enjoy their spectacular displays and their resilience over many years.

Kings Park Favourites will also provide positive environmental benefits such as habitat and food for a variety of urban fauna including beneficial insects and native birds, making them an excellent choice for wildlife friendly gardens. Once established these plants will not require extensive fertilisation or watering.

Hakea victoria

Common name Royal hakea

Height and habit Up to 3m, with a columnar habit

Flower colour Cream, partially hidden by foliage in the leaf axils

Foliage Large, broad and concave with leathery texture. Prickly-toothed undulating margins

Soil type Sand over granite or limestone

Flowers July to October

Unique feature Extremely large leaves change colour from green to yellow to orange to red

Natural distribution South coast of WA, particularly common in Fitzgerald River National Park



quantities of nectar, providing a valuable source of food to nectar-feeding birds, such as honeyeaters, and insects.

Insects provide important pollinator services to smaller-flowered species, whereas some small mammals, such as the pygmy possum, are thought to pollinate some of the larger flowered species. Black cockatoos are also known to forage on woody Hakea fruits, targeting the seeds and the larvae of wood-boring insects, as seen in *Hakea prostrata*. Hakeas are an important food source for the endangered Carnaby's cockatoo (*Zanda latirostris*) in particular.

Hakea's spectacular flowers are predominately white, cream, yellow, pink or red. However, there are exceptions, with *Hakea lehmanniana* being a very unusual purply-blue colour.

While Hakea inflorescences (group of flowers) all arise from the buds in the axils of leaves, they appear in three main

configurations—a spike (an elongated raceme) like in *Hakea francisiana*, a globular cluster like in *Hakea petiolaris* or in small clusters in the leaf axils like in *Hakea erecta*.

The individual flowers of Hakeas have a perianth—the non-reproductive part of the flower—where the calyx (sepals) and corolla (petals) have merged to form a curved tube which sometimes splits open as the flower develops, the style terminates in a pollen presenter, which is an important diagnostic feature.

Kings Park and the Western Australian Botanic Garden have a range of beautiful Hakeas within their living collections, with approximately 100 different species growing throughout the gardens and bushland.

Hakeas flower mostly in winter and spring, but since Hakea fruit is as intriguing as the flowers, any time of the year is a good time to visit the gardens.

Top left Honey possum (*Tarsipes rostratus*) on *Hakea victoria*.

Photo – Janine Guenther

Inset above left Colourful foliage of the extraordinary *Hakea victoria*.

Photo – Sallyanne Cousans

Above *Hakea francisiana*.

Photo – Eddy Wajon/Sallyanne Cousans
Photography

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