



Topic 20: GREVILLEAS AND HAKEAS (PROTEACEAE)

Did you know that,

- Gondwana was the home of the PROTEACEAE Family
- Grevilleas are often called Spider Flowers
- Grevilleas have thin-walled fruits while hakeas have woody fruits.
- Hakeas thrive on coastal heath, mountain tops and desert dunes but not in rain forests.
- Both are plentiful nectar sources for people, mammals, birds and insects.

Grevilleas and Hakeas belong to the [PROTEACEAE](#) family along with many of the typical plants of the Sydney region such as [Banksias](#), [Drumsticks](#), [Geebungs](#), [Mountain Devils](#) and [Waratahs](#).

Grevillea was named as a tribute to the Hon. Charles Greville, an 18th century collector and propagator and Vice-President of the Royal Society.

Hakea was named as a tribute to Baron von Hake, an 18th century Hanoverian patron of botany. The first plant described was eventually named *Hakea teretifolia*.

Grevilleas – their characteristics

Grevilleas are plants with woody stems and range from prostrate shrubs to small trees. Their leaves are alternately arranged on the branch and may be paler on the underside. Many individual flowers make up the flower-head ([conflorescence](#)). The flowers are stalked and often are grouped in pairs.

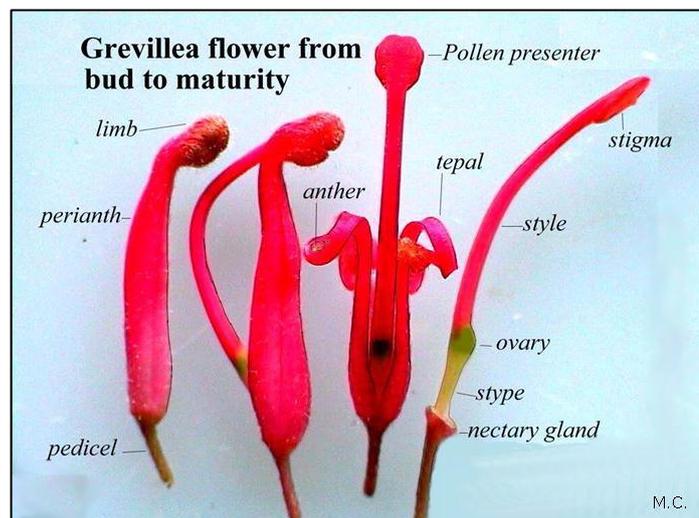
Each flower has neither petals nor sepals, but has 4 [perianth](#) segments called tepals. Four anthers are attached to the tepals and the style emerges through the side of the perianth tube then elongates at maturity to first present pollen and afterwards to receive it. The tepals roll back as the flower opens. The flowers are arranged in [racemes](#) which may be short and umbel-like

(spiders), elongated and secund (toothbrushes) or cylindrical in shape.

Birds are the main pollinators. The fruit is a thin-walled follicle with a persistent style. At maturity it splits into 2 halves and releases 2 seeds with little or no wing. Local species grow well in home gardens.

Distribution

Australia has 357 of the world's 362 grevilleas species, and they occur in all states.



Grevilleas of the Ku-ring-gai Wildflower Garden

Three local grevilleas are growing naturally. Specimen plants of some of the rarer grevilleas as well as some popular hybrids and cultivars have been planted near the buildings and on The Knoll. These are indicated by * before the name.

[Grevillea buxifolia](#)

Grey Spider Flower

Erect shrub to 2m. Leaves are similar to Buxus (box family).

Leaves: small, elliptical to 4cm long, hairy beneath.

Flowers: grey, hairy spider flowers in dense terminal heads. The style has a distinctive horn-like appendage beyond the stigma.

Occurs: woodland or heath on Sydney sandstone, NSW.

Flowering: July to November.



[Grevillea linearifolia](#)

Linear-leaf Grevillea

Graceful, pendant shrub to 2m.

Leaves: long and slender to 9cm in length, silky hairs below.

Flowers: white, or rarely pink spider flowers in terminal heads.

Occurs: forest or heath, central and south coast, NSW.

Flowering: August to December.



[Grevillea speciosa](#)

Red Spider Flower

Shrub to 3m.

Leaves: small, elliptical to 4cm long, slightly hairy beneath.

Flowers: bright crimson, in conspicuous terminal spiders, hanging on stalks from the ends of side branches.

Occurs: moist areas of forest or heath, on Sydney sandstone.

Flowering: most of year, best in June to September.



* [Grevillea caleyi](#)

Caley's Grevillea

Endangered, less than 1000 plants, restricted area.

Shrub to 3m.

Leaves: deeply divided with parallel sides

Flowers: deep red with hairy perianth.

Occurs: isolated locations on ridge tops in Terrey Hills area.

Flowering: August to April.



* [Grevillea sericea](#)

Pink Spider Flower

Shrub to 2m.

Leaves: in whorls of three, narrow, elliptical to 9cm long, tough, hard pointed tips, with grey silky hairs below, margins curved.

Flowers: pink with silky hairs, the style is 1- 1.5cm long.

Occurs: forest on Sydney sandstone, NSW.

Flowering: most of year, best in August to December.



Hakeas –characteristics

Hakea flowers are axillary while Grevillea flowers form a terminal conflorescence.

Hakeas are plants with woody stems range from shrubs to small trees. Their leaves are alternately arranged on the branch and they are either terete or flat with both surfaces similar in colour.

The conflorescences are composed of groups of individual flowers in axillary clusters (in the [axil](#) of the leaf). The perianths of the local species can be white, cream or pink. The hakea perianth segments roll back and separate as the flower opens. The ovary and style are always hairless (glabrous). Insects are the main pollinators.



The fruit ([follicle](#)) is woody and splits into 2 halves, releasing two broad winged seeds. Release happens when the fruit dries or the plant dies. Most hakeas can be destroyed by fire but the seeds are protected within the follicle and in most species, new plants grow from these released seeds. Some species regenerate from a [lignotuber](#) after fire has destroyed the above-ground part of the plant.



Distribution

The genus [Hakea](#) is found only in Australia and there are about 37 species in NSW and 150 species in Australia. Nine species of [Hakea](#) are found in the Central Coast Botanic Region.

Hakeas of the Ku-ring-gai Wildflower Garden

Seven of the nine Central Coast species are found in the KWG and specimen plants of *Hakea bakeriana* have been planted near The Knoll.

Terete or needle-leaved species:

Terete describes the long, cylindrical shape of the leaves. They end in a sharp point.

*** [Hakea bakeriana](#)**

Low growing shrub 1-3m.

Planted in the KWG.

Leaves: terete, 5-7mm long, glabrescent (hairy).
Flowers: pink to red inflorescences on old wood, darkening with age and fragrant.

Fruit: rough, warty, very large, to 7cm by 4cm.
seed is retained on the shrub

Habitat: heath and woodland.

Range: Sydney to Newcastle coast and ranges.

Flowering: May to August for 2-3 weeks.

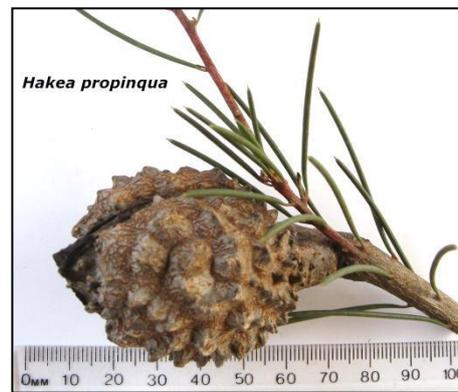
Grows from a lignotuber, many branches.



Hakea gibbosa Hairy Hakea
gibbosa refers to the shape of the fruit, similar to that of the gibbous (3/4) moon.
 Compact shrub to 3m. conifer like, viciously prickly
 Leaves: terete, hairy, 2-8cm long, grooved on the under surface.
 Stems: hairy.
 Flowers: small, white or cream, in axial clusters.
 Fruit: large, grey and woody, to 3cm across, distinctly beaked and horned. Seeds retained
 Habitat: heath and sandstone ridges.
 Range: NSW central and south coast.
 Flowering: June to September.



Hakea propinqua
 Conifer like shrub or tree to 3m without a lignotuber, with deep red branchlets.
 Leaves: terete, 2-5cm long usually curve outwards.
 Flowers: white near the coast, yellow forms near Blackheath.
 Fruit: globose, to 3cm across, rough deeply wrinkled and warty 2 small horns that often wear off. Seed is retained.
 Range: Sydney region to Blue Mountains of NSW in sand or light loam over sandstone.
 Flowering: June to October.



Hakea sericea Silky Hakea
 'sericea' refers to the silky hairs on the new leaves
 12 species.
 Shrub to 3m.
 Leaves: terete, 2-7cm long, under 1mm thick, finely hairy when new, grooved on the under surface.
 Flowers: small, white or cream, in axial clusters.
 Fruit: ovate, globular, about 2cm across with a short, smooth beak.
 Habitat: heath and forest.
 Range: coast and ranges NSW, Vic, Qld.
 Flowering: June to September.

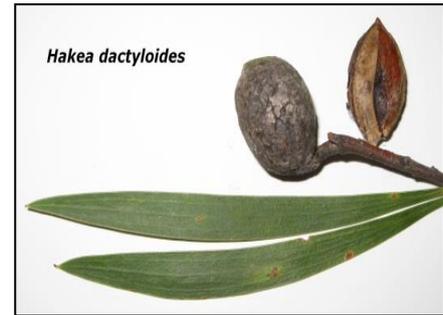


Hakea teretifolia Dagger Hakea
 Dense, rigid shrub to 3m with numerous near-horizontal or slightly upward tending long branchlets covered in silky hairs.
 Leaves: terete, 2-5cm long, 2mm thick, viciously pointed.
 Flowers: small, white, with soft, hairy perianth, in axial clusters.
 Fruit: lance shaped tapering to a long sharp beak.
 Seed is retained.
 Habitat: damp sites in heath and scrub. Range: coast and ranges NSW, Vic, Tas.
 Flowering: January to April.



Flat leaved species:

Hakea dactyloides Finger Hakea
Shrub to 3m with no lignotuber, killed by fire.
Leaves: Narrow, to 15cm long, with 3 prominent longitudinal veins.
Flowers: cream-white.
Fruit: 20-30mm long, 15-18mm wide, warty with short beak. They retain their seed.
Habitat: rocky hillsides, heath, woodland and forest.
Range: NSW, Vic.
Flowering: September to October.



Hakea laevipes
Multi-stemmed, lignotuberous shrub to 3m, branchlets with persistent dark brown hairs.
Resprouts after fire.
Leaves: to 12cm long, with 3-5 longitudinal veins and conspicuous secondary veins.
Flowers: cream-white.
Fruit: 20-30mm long, 13-21mm wide, warty, no beak or horns.
Habitat: heath, woodland and forest.
Range: coast and ranges, NSW, Qld.
Flowering: October to January.



Hakea salicifolia Willow-leaved Hakea
Tall shrub to small tree 3-5m tall.
Leaves: lanceolate, flat, drooping 5-12cm long, main vein only distinct.
Flowers: white, hairless in cluster of 16 to 28.
Fruit: ovate, about 2cm across, prominent warts, distinct beak. The seed is retained.
Habitat: gullies and sheltered places.
Range: NSW coast to Qld.
Flowering: September to November.



REFERENCES:

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Fairley, Alan & Moore, Philip. *Native Plants of the Sydney District*. Allen & Unwin, 2010.
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Acknowledgements

These notes may contain hyperlinks to materials, including images, illustrations, plant descriptions and a glossary from PlantNET, with the courtesy of The Royal Botanic Gardens & Domain Trust, 2015.

For general access to PlantNET see also <http://plantnet.rbgsyd.nsw.gov.au/>

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KEY TO HAKEA SPECIES in KWG

1a	Leaves terete.	2
2a	Fruit narrow and sharply pointed. Leaves 2-7cm long and sharply pointed. Flowers white.	<i>H. teretifolia</i>
2b	Fruit broad, mature to more than 1.5cm diameter	3
3a	Flowers pink and borne on old stems below the leaves. Leaves 5-7cm.	*<i>H. bakeriana</i>
3b	Flowers not pink and borne on young stems amongst the leaves.	4
4a	Young stem, leaves densely covered with long, weak hairs. Leaves 2-8cm. Flower white or cream. Fruit distinctly beaked.	<i>H. gibbosa</i>
4b	Young leaves not densely hairy.	5
5a	Leaves 2-5cm. Flowers white to yellowish. Fruit to 3cm diameter, very rough. Very small or no beak.	<i>H. propinqua</i>
5b	Leaves 2-7cm. Flowers white. Very young stems with short, soft hairs. Fruit 2.5cm diameter with a short beak.	<i>H. sericea</i>
1b	Leaves flat.	6
6a	Leaves with one main vein. Fruit rough and flat-topped warty.	<i>H. salicifolia</i>
6b	Leaves with 3 to 5 prominent longitudinal veins.	7
7a	Plants with lignotuber. Resprouting after fire. Branchlets with persistent dark brown hairs. Leaves with conspicuous secondary veins. Fruit warted, may have obscure beak. No horns.	<i>H. laevipes</i>
7b	Plants without lignotuber. Killed by fire. Leaves without conspicuous secondary veins. Fruit warted, may have a short beak. No horns.	<i>H. dactyloides</i>

