



Topic 19: Boronias and other Rutaceae

THE FAMILY RUTACEAE

Did you know that,

- Rutaceae is named after the European herb *Ruta graveolens*, a small rounded shrub to about 1 m.
- Rue comes from the Greek word "rueo", to set free, referring to the value of this herb as a medicine.
- The large family Rutaceae is worldwide and contains about 150 genera and over 1800 species including citrus trees and many ornament shrubs.

Within this family is the Tribe Boronieae, with about 320 species in 41 genera which are almost exclusively Australian. They are represented in all states and from diverse bio-regions. In all species, trees and shrubs, the leaves are dotted with glands containing strongly aromatic volatile oils. The flowers are regular ([actinomorphic](#)).

Flower structure of local genera:

4 petals and **4** stamens - Zieria

4 petals and **8** stamens - Boronia and Correa

5 petals and **10** stamens - Crowea, Eriostemon, Leonema, Phebalium and Philotheca.

The ovary is always superior. The fruits consist of 4 or 5 joined carpels. Most are dry and open explosively but some rainforest genera have succulent fruits.

Boronia ledifolia (leaves like *Ledum*)

Sydney Boronia.

An erect shrub to 1.5m. Stems finely warty and covered with rusty star hairs.

Leaves: opposite, 1-foliolate or pinnate with 3-7 leaflets. Margins recurved, dark green and shiny above, paler and hairy below.

Flowers: bright pink, star shaped with 4 petals, solitary or in small axillary cymes.

Flowering (June) July to October.

Habitat: Heath and forest, coast and tablelands NSW, Vic. Indigenous to KWG.



Boronia pinnata (pinnate leaved)

An erect, hairless shrub to 1.5m tall. Strongly aromatic when crushed.

Leaves: opposite, pinnate with 5-11 concolorous leaflets. The leaflet margins are entire.

Flowers: bright pink, star shaped with 4 petals, 3-8 flowers in axillary clusters. Stigma is only as wide as the terete style.

Flowering in spring.

Habitat: Moist sheltered places in dry woodland, heath and forest, coastal NSW, Qld. Indigenous to KWG.



Boronia floribunda (abundant flowers)

An erect, hairless shrub to 1m. Decurrent leaf bases.

Leaves: opposite, pinnate with 5-9 leaflets, margins entire.

Flowers: white to pale pink, 2-3 flowers in axillary clusters.

Stigma is swollen and conceals the style.



Distinctive perfume. Flowering in Spring.

Habitat: Moist sheltered places in dry woodland, heath and forest in Sydney region. Indigenous to KWG.



Boronia mollis (soft)

Hairy shrub to 2m.

Leaves: opposite, pinnate with 3-9 leaflets. Branches and leaf stalks are densely covered in soft stellate hairs.

Flowers: pale to bright pink in axillary clusters. Spring.

Habitat: Moist sandstone gullies, coast & ranges from Sydney to Kendall on the north coast. Planted in KWG.

Boronia serrulata (saw-toothed) Native Rose ROTAP:2RC- Slender, erect plant to 1.5m.

Leaves: erect, diamond shaped, finely toothed and flattened against the stems.

Flowers: Bright pink in dense terminal cymes. Pleasant aroma. Flowering August to October.

Habitat: Moist heath in sandy situations in the Sydney area. Planted in KWG.



Boronia thujona (odour like pine oil)

Hairless shrub/tree to 4m. Branchlets with 2 grooves separated by decurrent leaf bases.

Leaves: pinnate leaves with 3-15 leaflets, margins finely bumpy due to oil glands, darker on the upper surface (discolorous).

Flowers: light pink, in dense axillary cymes. Spring.

Habitat: Forest in damp, sandy situations, Sydney southwards. Indigenous to KWG but infrequently recognised.

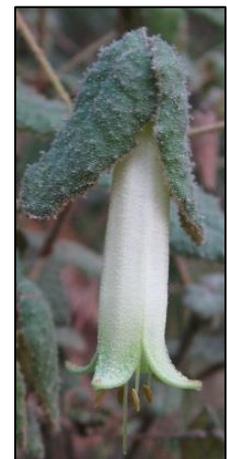
Correa reflexa (bent backwards)

Shrub to 1.5m, stems rusty-hairy.

Leaves: opposite, broad, with a rounded apex.

Flowers: 1-3 drooping from the ends of branchlets Cylindrical tubes 2-3cm long, red with green tips or all pale green, petals bend outwards. Flowers April to September. Bird attracting.

Habitat: Forest and heath on sandstone or coastal dunes. Widespread NSW, Qld, Vic, Tas, S.A. Planted in KWG.



Zieria laevigata (smooth)

Shrub to 1.5m, branches hairless, ridged.

Leaves: opposite, 3 leaflets, smooth, dark green above, paler and hairy below. Margins curved under.

Flowers: White to pink 4-petalled flowers in axillary inflorescences. Four stamens. Flowers July-October.

Habitat: Widespread heath or dry forest, north from Jervis Bay into Qld. Indigenous to KWG.



Crowea saligna (willow-like leaves)

Erect shrub to 1.5m. Branches prominently angled.

Leaves: alternate, with distinct mid-vein.

Flowers: deep pink petals, one conspicuous main vein. Anthers have long bearded appendages.

Flowering in Autumn to early Winter when *Boronias* and *Eriostemons* are not usually in flower.

Habitat: Common in sclerophyll forest on sandstone Restricted to Central Coast division.

Indigenous to KWG.

Eriostemon australasius (southern)

Wax flower

An erect, grey-green shrub to 1.5m. Stems angled.

Leaves: lanceolate to linear, veins inconspicuous.

Flowers: Showy pale pink petals have 5 veins and a waxy texture. Flowers solitary in the leaf axils. After flowering the petals close to protect the developing cocci. Spring flowering. Long lasting is floristry.

Habitat: Common in dry sclerophyll forest and heath on sandstone. Coast and ranges north from Lake Conjola NSW, to Qld.

Indigenous to KWG.



Leionema dentatum (toothed)

Shrub or small tree to 6m.

Leaves: alternate, linear, conspicuous oil dots, dark green above, greenish white below. Margins curved under, hiding dentate edge. Apex toothed.

Flowers: pale yellow, in short stalked umbels in the leaf axils. Flowers characterised by their masses of projecting stamens. Spring.

Habitat: Uncommon, moist gullies on sandstone. Central & south coast, central & northern ranges. Indigenous to KWG.

Phebalium squamulosum (scaly)

Shrub or small tree to 7m, stems with rusty scales. Variable species with many subspecies. The local one is *Phebalium squamulosum subsp squamulosum*.

Leaves: alternate, narrow oblong, green, hairless above, silvery grey hairs and brownish scales below.

Flowers: petals are yellow inside and rusty outside. Stamens conspicuous. Flowering time August

Habitat: common in heath & dry sclerophyll forest on sandstone. Coast and ranges, NSW, Qld & Vic
Indigenous to KWG.



Philotheca myoporoides (like *Myoporum*)

Attractive shrub to 2m with hairless, terete, green stems densely covered with raised oil glands.

Leaves: narrow, greyish to dark green, dotted with oil glands. Prominent midrib.

Flowers: The white flowers and pink buds are in clusters of 3 to 8 flowers on a common stalk from the leaf axils. 10 free stamens. Flowers in spring and autumn

Habitat: Heath and dry sclerophyll forest on shallow soils. Coast and ranges NSW, Vic. Hardy garden plant.
Planted in KWG.

Philotheca salsolifolia (*Salsola* like leaves)

Small erect shrub to 2m, stems terete.

Leaves: alternate, narrow, linear to terete, crowded. Dotted with oil glands.

Flowers: mauve, stamens united at the base, free above. They are mostly solitary at the ends of the branches. Flowers in Spring.

Habitat: Heath & sclerophyll forest on rocky or sandy soils. Coast, tablelands and slopes NSW.
Grows in KCNP.



REFERENCES:

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These notes contain hyperlinks to materials, including images, illustrations, plant descriptions and a glossary from PlantNET, with the courtesy of **The Royal Botanic Gardens & Domain Trust, 2014.**

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

Diagrams of *Boronia stigma*: H. Foggo.

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Key to local Rutaceae Genera

1a Petals 4	
2a Stamens 4	<i>Zieria</i>
2b Stamens 8	
3a Petals free	<i>Boronia</i>
3b Petals united	<i>Correa</i>
1b Petals 5	
4a Calyx minute, petals valvate	<i>Asterolasia</i>
4b Calyx large, petals imbricate	
5a Petals 3-5 veined	<i>Eriostemon</i>
5b Petals 1 veined	
6a Plants stellate-scaly	<i>Phebalium</i>
6b Plants glabrous or not scaly	
7a Stamens divergent	<i>Leionema</i>
7b Stamens in pyramid	
8a Anthers glabrous	<i>Philotheca</i>
8b Anthers pilose	<i>Crowea</i>

Glossary of terms from PLANTNET

valvate: with the edges touching but not overlapping

imbricate: having their edges overlapping in the bud,

stellate: star-shaped; e.g. of hairs with radiating branches

glabrous: without hairs or scales

pilose: hairy with long soft weak hairs which are clearly separated but not sparse