



Topic 13: OTHER FAMILIES 2014

DID YOU KNOW THAT:

- Plants can have male and female organs on the one flower (called a 'bisexual' flower) or have separate male and female flowers (called 'unisexual' flowers)
- When flowers are unisexual the separate male and female flowers can occur on the same plant (described as being 'monoecious') or they can be on different plants (described as being 'dioecious')
- Plants not closely related sometimes evolve similar traits as a result of having to adapt to similar environments – this is called 'convergent evolution' – local mangroves provide an example

Preamble

Descriptions of Australian native plants often concentrate on plants in the large spectacular families – the grevilleas, banksias etc in the Proteaceae Family, the eucalypts and bottlebrushes in the Myrtaceae Family, the wattles (Acacia Family), the peas (Fabaceae Family), the heath plants (Ericaceae Family) and the boronias and eriostemons (Rutaceae Family). This concentration on larger families can lead to many important species in smaller families being overlooked. In this topic – which we will call 'Other Families' – some of these species are considered. All species occur in Ku-ring-gai Wildflower Garden or nearby.

Family Euphorbiaceae

This is quite a large and miscellaneous family of herbs, shrubs and trees. All members of the family are unisexual (separate male and female flowers). Some members have their male and female flowers on the same plant (ie., are monoecious), some members have their male and female flowers on separate plants (ie., are dioecious). The fruit are typically ball-shaped with three chambers.

[Ricinocarpus pinifolius](#) (Wedding Bush)



A shrub growing to approx. 1m with spectacular white flowers – it likes sandy soils.

Leaves: Soft, narrow, opposite, 1-4 cm long, margins recurved.

Flower: Male and female flowers on same plant, the male flowers more common. Both have white petals, 10-15 mm long and sepals 3-4 mm long. Flowers Aug-Nov.

Fruit: A spiny capsule, c. 12mm in diameter.



Homalanthus populifolius (Bleeding Heart)
(formerly ***Omalanthus populifolius***)



A tall, leafy shrub with leaves that turn red as they get older and with stems and petioles that exude a milky sap.

Leaves: alternate, broadly ovate almost triangular, green above, greyish below.

Flowers: Unisexual and monoecious, both male and female flowers on a raceme, the female flowers at the base of the raceme. Flowers Aug-Dec.

Fruit: blue-purple capsule.

Family Phyllanthaceae

Breynia oblongifolia



(Formerly placed in the above Euphorbiaceae family.)

A common plant in moist areas such as sandstone gullies and rainforest margins. It can grow to 2-3 metre.

Leaves: soft, olive-green and oval-shaped on a reddish stem, arranged along the stem in two almost parallel rows giving a pinnate appearance.

Flowers: unisexual (separate male and female flowers on same plant), small and reddish coloured. Flowers Oct-Dec.

Fruit: tiny, apple-shaped fruit (abt 6mm wide) hang from leaf axils.



Glochidion ferdinandi (Cheese Tree)



(Also formerly placed in the Euphorbiaceae Family.)

A soft-wooded, medium-sized rainforest tree that can spread over a large area by root suckering.

Leaves: alternate, broadly lanceolate and 2-ranked (in two rows along the stem).

Flowers: small and inconspicuous, male and female flowers separate on same plant (monoecious). Flowers Aug-Dec.

Fruit: shaped like tiny 'Queensland Blue' pumpkins (or

perhaps cheese rounds!) - fruit stay on the plant for much of the year and when mature open to reveal bright red seeds.

Phyllanthus hirtellus (Thyme Spurge)



Another plant formerly placed in the Euphorbiaceae Family. A small shrub to 30 cm, relatively insignificant amongst undergrowth.

Leaves: Dark green, hairy, shiny, obovate with pointed tip.

Flower: 6 sepals and petals, 3 anthers. The red-flowering form is only found in the northern Sydney area – elsewhere yellow. The male flowers occur in groups of 2 or 3, the female flower is solitary.

Fruit: capsule to 3 mm wide.

Family Picrodendraceae

Micranthemum ericoides



(Yet another plant formerly placed in the Euphorbiaceae Family.)
A small and rather straggly shrub distinguished by the leaves being in groups of three, the groups alternate along the stem.

Leaves: In threes as above: linear and tiny (c. 8mm) with acute apex.

Flowers: Small male and female flowers on same plant, the female flowers lengthening to 5mm in fruit. Flowers Aug-Nov.

Fruit: A distinctive smooth, reddish, oblong capsule, larger than the leaves.



Family Polygalaceae

Comesperma ericinum (Matchheads)



The attractive pink flowers of this small shrub have a curious structure. Two of the five sepals are pink and petal-like and much larger than the other three sepals. They surround the actual petals which are smaller and enclose yellow coloured stamens.

Leaves: alternate, narrow, about 10 mm long, margins recurved.

Flowers: on terminal racemes and as described above.
Flowers Sep-Dec.



Family Stylidiaceae

Only three species belonging to this family occur in the Sydney region, *Stylidium graminifolium*, *Stylidium productum* and *Stylidium lineare*. It is doubtful whether *S. graminifolium* is present in KWG. (Immature *Stylidium productum* species that have not yet produced secondary aerial shoots have the appearance of *Stylidium graminifolium*).



<i>Stylidium</i> species	<i>Stylidium</i> <i>graminifolium</i>	<i>Stylidium</i> <i>productum</i>	<i>Stylidium</i> <i>lineare</i>	A unique method of pollination
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All *Stylidium* species have an extraordinary method of pollination – the style and two anthers are fused together into a tube normally bent back behind the flower – when an insect touches the flower the tube springs onto the insect, releasing the pollen. This gives rise to the common name – Trigger Plants!

Stylidium graminifolium (Trigger Plant):

A perennial herb in which a long scape (stalk) topped with pink flowers arises from a basal rosette of leaves. (Unlike *Stylidium productum* all leaves arise from this base). The scape can be 40 cm high.

Flowers and fruit are as described for *Stylidium productum* below.

Stylidium productum (Trigger Plant):



Leaves: linear, glabrous, up to 25 cm long and about 2 mm wide – scattered along length of stem but crowded at intervals (adventitious roots and new plants can develop from these points).

Flowers: on raceme at end of scape - pink and 5-petalled (one indistinct petal plus 4 X-shaped petals, so not radially symmetrical) – short pedicel, sepals 1-2 mm long, petals 5-10 mm long. Flowers Nov-Jan.

Fruit: ovoid capsule.

Stylidium lineare

A miniature form of *Stylidium graminifolium*, its relative size as in the above sketch. Leaves are narrow, linear, 2-5 cm long, less than 1 mm wide. Scape usually less than 20 cm long.

Family Elaeocarpaceae

[Tetratheca ericifolia](#)
[Tetratheca glandulosa](#)
[Tetratheca thymifolia](#) } (Black-eyed Susans)

Of the 10 species of *Tetratheca* in the Sydney region, only the above 3 have been found in Ku-ring-gai Wildflower Garden. All *Tetratheca* species have similar purple flowers with 4 petals, 4 sepals and 8 stamens. They are small shrubs, common in sandy heath and forest.



T. ericifolia



T. glandulosa



T. thymifolia

Leaves: Those of *T. ericifolia* are linear and in whorls of 4-6, those of *T. glandulosa* are linear and opposite, those of *T. thymifolia* are narrow elliptic, in whorls of 3-5 (typically 4).
Flower: All with 4 pink-purple petals. The peduncle of *T. glandulosa* is distinctly hairy. All flower Jul-Nov.

Note. Properties of these three species can be rather variable. Leaf shape and hairiness of the peduncle are the defining differences.

Family Thymeliaceae

[Pimelea linifolia](#) (Slender Rice-flower)



A common and prominent shrub in Sydney bushland with showy white flowers. It recovers quickly after fires due to the presence of woody rootstock.

Leaves: Narrow-elliptic and opposite (but with each new pair rotated 90 degrees around the stem).

Flowers: Usually bisexual, clustered in large heads at end of stems, orange anthers, softly hairy, protected at base by leaf-like bracts. In flower most of the year – peak period Jul-Oct.



Family Malvaceae

Lasiopetalum ferrugineum (Rusty Petals)



A common woodland plant to about 1m tall. The young branches and fruit are covered in densely intertwined, rusty coloured hairs.

Leaves: Linear, narrow, dark green above, white or rusty below.

Flowers: calyx hairy outside, cream and felty inside. Flowers Sep-Nov.

Fruit: Rusty, lantern-shaped capsules hanging below the leaves.



Family Cunoniaceae

While there is no single distinguishing feature of this family it is worth noting that all species in the family have leaves with serrated margins. The *Bauera* genus (below) is sometimes placed in a separate family, Baueraceae.

Bauera rubioides (River Rose)



A straggly, extensively branched shrub that can grow to 2m in moist conditions. Can flower throughout the year although best in spring and summer.

Leaves: 3-foliolate, stalkless and opposite (giving appearance of being whorled), barely toothed.

Flowers: 6-8 pink petals, 6-8 sepals, 50-60 yellow stamens on long stalks.

Fruit: small, rust-covered capsule formed from a compound ovary.

Callicoma serratifolia (Black Wattle)



A shrub that can grow to a medium-sized tree. It occurs commonly in moist gullies beside streams. It was given the common name of black wattle by early settlers for its use in building "wattle and daub" huts. It is not related, however, to wattles in the Acacia family.

Leaves: elliptic with toothed margins, to 14 cm long and 5 cm wide – upper surface dark green, lower surface white with raised veins.

Flowers: cream, fluffy, ball-like heads about 1 cm in diameter on peduncles up to 3 cm long.

Fruit: small capsules.

Ceratopetalum apetalum (Coachwood)



A common rain-forest tree in deep, shaded gullies. Its light grey bark has horizontal, raised bands circling the trunk. As the name implies petals are absent in the flower. Makes good cabinet timber.

Leaves: opposite, elliptic – lanceolate, margins finely toothed, dark green above, paler green below.

Flowers: 5 petal-like sepals are white initially but turn red and enlarge on fruiting. Flowers Nov-Dec.

Fruit: thin, egg-shaped capsules

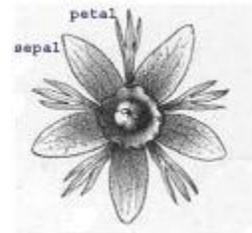
Ceratopetalum gummiferum (Christmas Bush)



A tall shrub or small tree, widely cultivated and reasonably tolerant of conditions in well-drained soil. When it flowers in November/December the creamy inflorescence gradually turns to deep red. This is because the initially white sepals swell and turn red as fruiting occurs. (Although petals are present in the flower they are relatively insignificant – in shape they resemble antlers, giving rise to the name cerato- (hornshaped) -petalum (petals).

Leaves: opposite, 3-foliolate at end of a 1-2 cm petiole - leaflets lanceolate, finely toothed and up to 8 cm long and 3 cm wide - petioles are distinctly channelled above.

Flowers: small, in axillary cymes up to 10 cm long, 5 sepals to 12 mm long at maturity and 5 small, white petals. Flowers Oct-Nov.



Family Sapindaceae

Dodonaea triquetra (Hopbush)



A shrub of widespread occurrence, especially on disturbed ground. The name "hopbush" comes from the resemblance of the fruit to that of *Humulus lupulus*, the Hop Plant used in the beer-making industry.

Leaves: Elliptic to lanceolate, to 10 cm long with pointed tips.

Flowers: Unisexual with male and female flowers occurring on separate plants. The flowers have no petals and 3 insignificant sepals. The male flower (left) has 8 green, yellow or brownish-coloured stamens while the female flower (middle) has a pink-coloured united carpel.

Fruit: Carpels develop into very recognisable green or brown 3-winged capsules (right).



Family Myrsinaceae

Aegiceras corniculatum (River Mangrove)



The smaller of the two mangroves found in the Sydney region, readily distinguished by the rounded, alternate leaves.

Leaves: alternate, obovate to 10 cm long and 5 cm wide.

Flowers: in umbellate clusters, 5 sepals and petals, sepals to 4 mm. long, petals to 6 mm long – flowering June-November.

Fruit: curved, cylindrical to 4 cm long.

Family Avicenniaceae

Avicennia marina (Grey Mangrove)



Although this mangrove is usually less than 10 m high it can grow to as much as 25 m. Numerous peg-like roots protrude into the surrounding mud.

Leaves: Opposite, ovate to broad lanceolate, tapering gradually to a point, up to 12 cm long and 4 cm wide.

Flowers: Clusters of tiny orange flowers on short stalks – flowering February -April .

Fruit: 2-valved ovoid capsule which germinates on tree before falling in spring.

Acknowledgements:

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