Rushes of the Castlemaine District

Rushes have small flowers with three petals and three sepals. These are generally straw coloured, and collectively called the tepals. The tepals surround a straw-coloured seed case, containing numerous seeds. In some rushes, the tepals and seed cases are shades of light or dark brown, to reddish brown.

Rushes may have flat leaves, hollow onion-like leaves, cylindrical leaves resembling the stems, or the leaves may be reduced to straw-coloured stem-clasping leaves, called cataphylls. Cataphylls may be pale brown to almost black at the base.

The rushes with cataphylls form a large group. They have cylindrical stems (called culms). The culms are striated, and contain pith. The pith may be continuous, continuous and foam-like, or have large or small air spaces. A razor blade can be used to expose the pith.

A typical rush grows to 50-100 cm high, and has culms that are 2-3mm wide. Where a species typically grows to a much smaller or much larger size, this is noted in the text.

In many rushes, a bract (a modified leaf) grows from the base of the flower cluster. The bract resembles the culm, so that the flower clusters appear to be lateral (sideways) to the culms.

**Propagation.**
Rushes propagate readily from seed. They can also be propagated by division of clumps. They should be kept moist, but not waterlogged. Some rushes die if allowed to dry out. Other can become dormant until remoistened.


---

20. *Juncus gregiflorus*
- the culms are bright green.
- the pith is interrupted with usually large air spaces.
- the tepals surround the seed case.
- the seed cases are usually shorter than the tepals.

21. *Juncus sarophorus*
- the flowers are clustered into a dense, broom-like spray.
- the cataphylls are dark red.
- the seed cases are usually shorter than the tepals.

22. *Juncus australis*
- the tepals are 2.3 to 3mm long.
- the seed cases are as long or a little shorter than the tepals.
- the culms have up to 50 strongly raised striations.

23. *Finger Rush Juncus subsecundus*
- the culms are dull green, erect, generally narrow, and wavy.
- the cataphylls are dark red at the base.
- the seed cases are shorter than the tepals.
- the tepals are short acute, and 2.4mm long.
- the culms have 20-35 strongly raised striations which are easily counted.
- the seed cases are about equal to the tepals.
- the seed cases contain only a few flowers.

Finger Rush is a widespread, often in drier sites, sometimes growing in paddocks.

**[subsecundus, having flowers somewhat clustered on the one side.] #**

---

20. *Juncus gregiflorus*
- the culms are dull green to bluish green.
- the culms have up to 50 strongly raised striations.
- the cataphylls are dark reddish brown at the base.
- the seed cases are usually shorter than the tepals.
- the pith is interrupted, usually with large air spaces.
- the cataphylls are dark brown at the base.
- the seed cases are usually shorter than the tepals.

[australis, southern]
Key to the rushes.

1a Rushes with flat leaves
  1b Leaves tufted at the base.  1. Broad-leaf Rush *J. planifolius
  1c Leaves from the base and along the stems.
  3a Rushes with numerous flowering stems, forming tufts. Widespread. 3. Toad Rush *J. bufonius
  3b Rushes with one or only a few flowering stems. Outer tepals much longer than inner tepals, giving the flowers a spiky appearance. 4. Wiry Rush J. homalocaulis
  4a Culms erect, flower clusters 7-14mm wide, outer tepals 3-4.5mm long. Flowers with shades of brown. 5. Joint-leaf Rush J. holoschoenus
  4b Culms erect, flower clusters 5-8mm wide, tepals 3-4mm long. Seed cases dark brown to black. 6. Small-flower Rush *J. microcephalus

4c Sprawling rush. Flower clusters 5-9mm wide, tepals 2-3mm long. 7. Jointed Rush *J. articulatus

1d Leaves similar to the culms or reduced to cataphylls.
  5a Culms sharp pointed, will pierce skin. Widespread weed. 8. Sharp Rush *J. acutus
  5b Culms often to point; but not skin-piercing.
  6a Pith continuous, without air spaces
  7a Culm slender (c 1mm), flowers in globular clusters, tepals with red bands. 9. Thread Rush J. filicaulis
  7b Culm medium width (c2-3mm), under surface of seed cases with small red flecks. Flowers in globular clusters. 10. Clustered Rush J. vaginatus
  7c Culm narrow to medium. Flowers not in globular clusters. Upperculm and flower branches rough (like fine sandpaper). 11. Hoary Rush J. radula
  7d Flowers spreading, culm stout (often about 0.5cm or more wide), dull green to blue green. 12. Pale Rush J. pallidus
  6b Pith with small or large air spaces.
  8a Stout culms (c 5mm wide or more).
  9a Pith mostly solid but air spaces in upper culm. 13. J. semisolidus
  9b Culms green, broad. Pith sparse, with large air spaces. Culm easily squashed. 14. J. procerus
  8b Culms very narrow (c 1mm), flexible. 10a Flowers widely spaced. Southern areas.
  10b Flowers in globular clusters. 10. Clustered Rush
  10c Flowers not in globular clusters, terminal. 11.  Yellow Rush J. semisolidus
  11b Culm striations crowded and hard to detect above the cataphylls. 17. Yellow Rush J. flavidus
  11c Culm striations c20, strongly raised. 19. J. subsecundus
  11d Culms dull. Tepals short (c2mm). 18. Common Rush J. amabilis
  11e Culms green, wiry, rather narrow (c2mm), Culm striations c40, strongly raised. 20. J. gregiflorus
  11f Culm striations c20, strongly raised. Flower clusters widely spaced or not, culms not easily compressed. Common. 23. Finger Rush J. subsecundus

2. Capitate Rush *Juncus capitatus
- it is usually a diminutive rush, often 5cm high or less.
- it differs from other rushes in that the flower clusters are at the end of the culms.
- the leaves are narrow and may be basal or terminal.

Occasional plants may grow to 10cm or more. It is widespread in grasslands and mud flats. Introduced. It is native to Europe and Asia.

[capitatus, forming a head.]

3. Toad Rush *Juncus bufonius
It is a tufted plant, usually to 10-20cm. The leaves are flat or channelled. The flowers grow singly along the branches.

Toad Rush

- the tufted branches
- the semi-sprawling habit, and
- the flower arrangement are distinctive.

It is a widespread plant often growing on damp mud-flats, or in streams,

Some Toad Rushes may be introduced.

[bufonius, living in damp places, like a toad.]

* indicates an introduced species.
Scale bar: 1 cm.
4. Wiry Rush *Juncus homalocaulis*
-the leaves are solid and rise from near the base.
-the culms are erect.
-the outer tepals taper to a point and are longer than the inner tepals, giving this rush a distinctive appearance.
It usually has only one or two flower clusters.
Scattered occurrence. Grows to 30cm or less.

5. Joint-leaf Rush *Juncus holoschoenus*
Joint-leaf rush has hollow, onion-like leaves. The leaves have internal transverse partitions, giving the leaves a knobby appearance.

6. Small-flower Rush *Juncus microcephalus*
*Juncus microcephalus* also has hollow onion-like leaves, and also has a knobby leaf.
-the flower clusters are dark coloured and less than 1 cm wide.
-the seed cases are shorter than the tepals so the flower clusters have a slightly jagged appearance.
-there may be many or just a few flowers in a cluster.

7. Jointed Rush *Juncus articulatus*
As in other joint-leaf rushes the leaves have transverse divisions.
-it is a sprawling rush.
-the tepals mature to a reddish brown.
-the leaves arise from the culms and the creeping stem.
Introduced. Jointed Rush is native to the northern hemisphere.
[articulatus, jointed]

8. Spiny Rush *Juncus acutus.*
Sharp Rush differs from the other rushes in that the dark green rigid culms are sharp pointed and will readily pierce skin.
-the flower clusters are dense and a dark reddish brown.
-the seed case is about twice the length of the tepals.
-it forms dense tussocks.
The flower clusters can remain on the rush for most of the year. A noxious weed. It readily colonises mine workings and saline areas.
Introduced. [acutus, sharp]

9. *Juncus filicaulis*
-the culms are slender and wiry with up to 20 striations.
-the flowers are in one to three globular clusters.
-the pith is continuous and cobwebby or with small air spaces.
-the tepals are strongly reddish tinged.
-the cataphylls pale at the base.
An uncommon species. [filicaulis, thread-like stem]

10. Clustered Rush *Juncus vaginatus*
Distinguishing features include
-the continuous, cobwebby pith.
-the minute reddish flecks on the inner surface of the seed cases.
-the pale cataphyll bases.
The tepals often have a faint red band on either side of the midrib. The tepals are between 2 and 3 mm long, and are about equal in length to the seed cases.
[vaginatus, sheathed]
11. **Hoary Rush** *Juncus radula*  
- the upper culm, the flowers stalks and the tepals are rough, like very fine sandpaper.  
- the culms are slender and erect.  
- the pith is continuous and cobwebby.  
- the culm has 12-30 strongly raised striations.  
Uncommon, mostly to the north of Castlemaine.  
Remote-flowered Rush can be similar in appearance; however it has smooth stems and interrupted pith.  
*radula*, rasp-like

12. **Pale Rush** *Juncus pallidus*  
- the stout culms have continuous pith.  
- the dull green culms have 50 to 100 striations.  
- flower clusters are spreading and many-flowered.  
- the seed cases are about as long as the tepals.  
- the cataphylls are pale at the base.  
Pale Rush is a widespread species.  
*paulli*, pale

13. **Juncus semisolidus**  
- it is a tall rush with broad (4mm or more) culms.  
- the pith is continuous for most of the culm, except for air spaces in the upper part of the culm.  
- the culms are dull green.  
- the culms have 60-120 striations.  
Recorded for Bells Swamp.

14. **Juncus procerus**  
- it is a tall rush.  
- the stout culms have interrupted pith with large air spaces, so that the culms are easily compressed.  
- the culms have numerous, (80-160) not strongly raised striations.  
It is a common species growing in larger bodies of water, particularly to the south.  
*procerus*, tall

15. **Few-flowered Rush** *Juncus pauciflorus*  
- the culms are narrow (usually 0.5-1.0mm) shiny-green and usually arching.  
- the flowers are widely separated.  
- the seed cases are about as long as the tepals.  
- the cataphylls are pale at the base.  
[Some southern specimens have wider (2-3mm) culms. All that I have seen locally have narrow culms. The shiny green, arching culms, and the widely separated flowers separate this species from other rushes.]  
*pauciflorus*, few flowered

16. **Remote-flowered Rush** *Juncus remotiflorus*  
- the flower clusters are very open, with the flowers widely spaced along the branches.  
- the culms have 40-75 usually crowded striations.  
- the culms are to 2.5mm wide, and erect.  
- the pith has large air spaces.  
A common and distinctive species, often in wet wheel-ruts.  
*remotiflorus*, remote flowers.

17. **Yellow Rush** *Juncus flavidus*  
- the culm striations are crowded and scarcely raised, so they are difficult count, particularly just above the longest cataphyll.  
- the culms are dull, yellowish green to blue green.  
- the air spaces are variable in size.  
- the flowers are clustered or spreading.  
- the tepals taper to a fine point.  
- the culms have 50-120 striations.  
- the cataphylls are dark at the base.  
- the flowers become yellow with age.  
*flavidus*, yellowish

18. **Common Rush** *Juncus amabilis*  
- the pith has large air spaces, so the culm is easily squashed.  
- the culms are to 2.5mm diameter with 30-80 fine striations.  
- the tepals are 1.5-2.5mm long, with a green or faint red midrib.  
- the cataphylls are dark brown at the base.  
[amabilis, lovely]

19. **Pin Rush** *Juncus usitatus*  
- the tepals are small (less than 2mm long).  
- the culms are 1-2mm in diameter, with crowded and moderately raised (25-40) striations.  
- the culms are not easily compressed.  
- the pith is interrupted, with about equal air spaces.  
- the seed cases are longer than the tepals.  
- the cataphylls are dark red-brown at the base.  
Uncommon.  
*usitatus*, ordinary