

Eucalyptus willisii subsp. *falciformis*

Grampians peppermint

Classification

Eucalyptus | Eucalyptus | Aromatica | Radiatae

Nomenclature

Eucalyptus willisii* subsp. *falciformis Newnham, Ladiges & Whiffin, *Austral. J. Bot.* 34: 348 (1986).



Eucalyptus falciformis (Newnham, Ladiges & Whiffin) K. Rule *Muelleria* 26: 94 (2008). T: intersection Taylor Road & Burring Shortcut, W of Mt Victory, The Grampians, Vic., 12 July 1985, *M.R.Newnham 64*; holo: MEL; iso: CANB, NSW.

Eucalyptus molyneuxii Rule *Muelleria* 12: 163 (1999). T: Victoria, Wimmera, the 15 km post along the McDonald Highway, Little Desert NP, 36° 35' S, 141° 29' E, 15 June 1997, *K.Rule 9795 & P.Hawker*; holo: MEL 2052701; iso: AD, CANB.



Description

Tree to 20 m tall, or **mallee**. Forming a lignotuber.

Bark rough over whole or part of trunk (often only near base on smaller stems), pale grey; smooth bark white to cream and pale grey, sometimes with scribbles.

Juvenile growth (coppice or field seedlings to 50 cm): stem rounded in cross-section, usually warty; juvenile leaves sessile, opposite for many pairs then alternate, lanceolate to falcate, 8–12.5 cm long, 1.5–3.5 cm wide, bases amplexicaul to rounded or tapering, green to grey-green.

Adult leaves alternate, petiole 0.9–2 cm long; blade lanceolate to falcate, 7.5–18 cm long, 1–3(3.5) cm wide, base tapering to petiole, concolorous, usually glossy, green, side-veins acute or parallel to midrib, sparsely to moderately reticulate, intramarginal vein parallel to and well removed from margin (often double), oil glands island.

Inflorescence axillary unbranched, peduncles 0.2–0.8 cm long, buds 11 to many per umbel, pedicels 0.2–0.7 cm long. **Mature buds** obovoid to clavate, 0.3–0.5 cm long, 0.3–0.4 cm wide, green to yellow, scar absent, operculum usually rounded, stamens irregularly flexed or regularly inflexed, anthers reniform to cordate, versatile, dorsifixed, dehiscing by confluent slits, style short, stigma tapered, locules 3(4), the placentae each with 2 vertical ovule rows. Flowers white.

Fruit on pedicels 0.1–0.4 cm long, cupular or hemispherical, 0.5–0.8 cm long, 0.5–0.8 cm wide, disc slightly raised-annular to convex, or level, valves 3(4), near rim level or enclosed.

Seeds brown, grey or black, 1–2.5 mm long, pyramidal or obliquely pyramidal, dorsal surface smooth, hilum terminal.

Cultivated seedlings (measured at ca node 10): cotyledons reniform; stems rounded in cross-section, warty or smooth, non-glaucous; leaves sessile, opposite for many nodes, ovate to lanceolate, 4–14 cm long, 1.8–4.5 cm wide, amplexicaul to rounded, margin entire, apex pointed, discolourous, dull, green to grey-green.

Flowering Time

Flowering has been recorded in September, October, November and December.

Notes

Eucalyptus willisii is a species of small to medium-sized tree, or sometimes a mallee, found mainly in Victoria and of coastal distribution in South Gippsland particularly Wilsons Promontory extending west of Melbourne as far as the south-east of South Australia near Mount Gambier, with an inland extension into the Grampians of western Victoria (plants from the Gippsland Lakes hinterland once recognized as *E. willisii* are now regarded as being *E. arenicola*). It occurs on poor sandy sites on foothills and gently undulating country. Its rough bark is finely fibrous and variable in extent, adult leaves dull to slightly glossy green, whilst juvenile leaves on coppice growth are sessile, lanceolate and opposite for many pairs. Buds are numerous per umbel, have rounded opercula and are never white waxy.

E. willisii is one of the peppermints which, as a group, are poorly speciated and difficult to identify. *E. willisii* has been variously attributed to *E. radiata*, *E. nitida* and *E. sp. aff. dives*. *E. nitida* is a Tasmanian endemic (but see extra note below). *E. willisii* differs from



other Victorian peppermints by the generally hemispherical opercula and lack of visible white waxiness. The juvenile leaves of *E. willisii* are intermediate in dimensions between *E. dives* (ovate juveniles) and *E. radiata* (short linear to lanceolate juveniles).

There are two subspecies:

E. willisii* subsp. *willisii

Occurs east of Port Phillip Bay, with certainty at Wilsons Promontory and probably in the low undulating hinterland of Westernport Bay and on French Island. The plants are woodland trees with extensive rough bark and dull to scarcely glossy green to blue-green adult leaves 0.7–2.3 cm wide and fruit 0.4–0.6 cm wide. (Trees occurring to the north-east of Wilsons Promontory in the lowland Holey Plains area extending east to near Bairnsdale are *E. arenicola*, recently split from subsp. *willisii* and differ in having slightly larger more hemispherical fruit 0.5–0.9 cm wide and weakly glossy leaves). Lowland plants from Beechford and Lulworth in north coastal Tasmania may also match subsp. *willisii* but further study of these is needed (*vide* M.I.H. Brooker).

E. willisii* subsp. *falciformis

Has a coastal and subcoastal distribution from Aireys Inlet in Victoria to the west of Penola in South Australia, and also in the Grampians. Subsp. *falciformis* has coarser adult leaves almost always glossy green and 1–3(3.5) cm wide, fruit 0.5–0.8 cm wide, and often falcate juvenile leaves. The rough bark is very variable in extent, from a short sock on younger multi-stemmed trees to completely covering trunk and larger branches. It is most likely to be confused with *E. dives* but differs in the juvenile leaves, lack of white wax and the variable rough bark. Plants from the Little Desert referred to by others as *E. molyneuxii* Rule are here regarded as *Eucalyptus willisii* subsp. *falciformis*.

Eucalyptus willisii belongs to *Eucalyptus* subgenus *Eucalyptus* section *Aromatica* (the peppermints) because the buds have a single operculum, anthers are reniform, ovules are in two rows, seeds are more or less pyramidal, adult leaf venation is acute to parallel and juvenile leaves are sessile and opposite for many pairs. Within this section six closely related species form series *Radiatae*, viz. *E. elata*, *E. radiata* (with three subspecies), *E. croajingolensis*, *E. willisii* (with two subspecies), *E. arenicola* and *E. dives*. They differ from each other in bark, leaf, bud and fruit characteristics but the distinctions are not always strong. As a group series *Radiatae* differs from the endemic Tasmanian peppermints, series *Insulanae*, by having numerous oil glands in the juvenile leaves (very few in the Tasmanian species).

Extra Notes 1

In a study by Rankin (1998) the identity of the type population of *E. willisii* at Wilsons Promontory was called into question. Rankin stated that these peppermints were in fact an isolated occurrence of the Tasmanian peppermint *E. nitida*. Rankin never formally published this and other conclusions in what was his Ph.D. thesis. If this is accepted then the peppermints elsewhere previously referred to *E. willisii* will need new names. In his thesis he referred to the peppermints occurring in the Holey Plains area and the low country around the Gippsland Lakes as "*Eucalyptus* sp. aff *dives* (Eastern Victoria)" but it was unclear from his thesis if he also included in it those foothill peppermint populations from the Tynong, Pakenham and Gembrook areas nearer to Melbourne, and which are clearly not *E. radiata* (specimens from these areas held in CANB have been determined as being *E. dives*. Specimens formerly regarded as being *E. willisii* subsp. *willisii* from the Cranbourne area are now determined as *E. radiata* subsp. *radiata*). This confusion has now been partially resolved by the description of *E. arenicola* Rule for the Gippsland Lakes–Holey Plains trees (i.e. equivalent to Rankin's "*Eucalyptus* sp. aff *dives* (Eastern Victoria)").

Rankin (*ibid.*) refers to another taxon "*Eucalyptus* sp. aff *dives* (Western Victoria)" and it seems to cover the geographic range and morphology of the taxon *E. willisii* subsp. *falciformis* (described in 1986) exactly as given by us in EUCLID.

Origin of Name

Eucalyptus willisii: after James Hamlyn Willis (1910–1995.) Jim Willis graduated from the Victorian School of Forestry in 1930 and became an officer with the Forests Commission of that State from 1928–1937 before joining the staff of the National Herbarium of Victoria, Melbourne as a botanist. In 1961 he became Assistant Government Botanist and Deputy Director of the Royal Botanic Gardens and for a period before his retirement in 1972 was Acting Director and Acting Government Botanist. He was a tireless worker both in the herbarium and in the field and has published many books and scientific papers. His most notable publication is *A Handbook to Plants in Victoria*, vol. 1, 1962 and vol. 2, 1972. He willingly gave his time and knowledge and encouragement to anyone who sought his help and was a very popular public speaker.

subsp. *falciformis*: Latin *falciformis*, sickle-shaped, referring to the shape of the juvenile leaves.

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