

Eucalyptus radiata subsp. *robertsonii*

Narrow-leaved peppermint

Classification

Eucalyptus | Eucalyptus | Aromatica | Radiatae

Nomenclature

Eucalyptus radiata subsp. **robertsonii** (Blakely) L.A.S.Johnson & Blaxell, *Contr. New South Wales Natl. Herb.* 4: 380 (1973).

Eucalyptus robertsonii Blakely, *J. Roy. Soc. New South Wales* 61: 167 (1927).

T: Talbingo Mtn, NSW, Sept. 1924, C.C.Robertson & W.A.W. de Beuzeville s.n. [cited by Blakely as 'A.W.Howitt, C.C.Robertson & W.A.W. de Beuzeville']; holo: NSW; iso: K.

Description

Tree to 50 m tall. Forming a lignotuber.

Bark rough on trunk and branches to ca 8 cm diameter; rough bark finely fibrous, peppermint type, grey or brown; smooth bark shedding in ribbons; branchlets glaucous or non-glaucous.

Juvenile growth (coppice or field seedlings to 50 cm): stem rounded in cross-section, usually warty; juvenile leaves opposite and sessile for many pairs, lanceolate to falcate, thin, 4–9 cm long, 0.7–3 cm wide, bases amplexicaul to rounded, discolourous, dull, grey-green or blue-grey, at times sub-glaucous.

Adult leaves alternate, petiole 0.4–1.5 cm long; blade lanceolate to falcate, 4.5–14 cm long, 0.6–2.5(2.8) cm wide, base tapering to petiole, concolorous, dull, grey-green or sub-glaucous, side-veins acute to sub-parallel, sparsely to moderately reticulate, intramarginal vein parallel to and remote from margin, oil glands island.

Inflorescence axillary unbranched, peduncles 0.4–1 cm long, buds 9 to 20 or more per umbel, pedicels 0.1–0.4 cm long. **Mature buds** ovoid to fusiform, 0.3–0.6 cm long, 0.2–0.3 cm wide, green to yellow or glaucous, smooth, scar absent, operculum conical, stamens inflexed or irregularly flexed, anthers reniform to cordate, versatile, dorsifixed, dehiscing by confluent slits (usually), style long, stigma blunt or tapered, locules 3 or 4, the placenta each with 2 vertical ovule rows. Flowers white.

Fruit on pedicels 0.1–0.4 cm long, cup-shaped, hemispherical or truncate-globose, 0.3–0.6 cm long, 0.4–0.6 cm wide, glaucous or non-glaucous, disc level or descending, valves 3 or 4, near rim level or enclosed.

Seeds brown, reddish brown or black, 2–3 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; leaves sessile, opposite for many nodes, lanceolate, 5–9 cm long, 1.2–3 cm wide, amplexicaul, margin entire, apex pointed, dull, grey-green or glaucous.

Flowering Time

Flowering has been recorded in January and February.

Notes

Eucalyptus radiata is a species of small woodland tree or tall forest tree, widespread from central Victoria, through the mountain country of New South Wales extending on the tablelands to far south-eastern Queensland; there is also an outlier in northern Tasmania. The trees have extensive finely fibrous rough bark, narrow green peppermint scented adult leaves, juvenile leaves narrow and opposite on the stems for many pairs, and small buds and fruit.

E. radiata has three subspecies between which morphological boundaries are not always distinct:

E. radiata subsp. **radiata**

It has a dense crown of narrow, usually glossy green leaves and green juvenile leaves that can be particularly narrow. The operculum is frequently rounded but conical opercula do occur on some plants; the operculum may be conspicuously apiculate also. It occurs from the Blue Mountains through the Southern Tablelands and Monaro Region of New South Wales to the highlands and foothills of north-eastern and central Victoria and the Otway Range. In Tasmania it is restricted to the upper valleys of the Wilmot, Mersey and Forth Rivers (see Williams & Potts (1996)).



E. radiata* subsp. *robertsonii

Subsp. *robertsonii* has a dull, grey-green to blue-green crown, leaves broader at all stages than those of subsp. *radiata* and buds that may be quite glaucous. The operculum is usually conical and often longer relative to total bud length than in subsp. *radiata*. It occurs at higher elevations near Canberra and along the western side of the Southern Tablelands of New South Wales often on granite soils. Its occurrence in Victoria has been debated with opinions of different botanists divided. The most recent study, Rankin (1998), concluded that it does occur in Victoria but is confined to mountain country in the north-east of the state. Rankin used a combination of data from morphology, and essential oil and flavenoid chemistry, to arrive at his conclusion. Rankin also concluded that the taxon is distinct from *E. radiata* at species level, not subspecies level, i.e. *Eucalyptus robertsonii*. In EUCLID we are, for the present, retaining this taxon at subspecies level as the morphological differences are slight. See below for comment on *E. robertsonii* subsp. *hemisphaerica*.

E. radiata* subsp. *sejuncta

It has broadly lanceolate to narrowly ovate, green juvenile leaves and glossy green leaves in the mature crown. The operculum is conical. Subsp. *sejuncta* is restricted to the eastern part of the Northern Tablelands of New South Wales and the Paling Yard Creek – South Bald Rock area of Girraween National Park on the Queensland – New South Wales border.

Specimens of *Eucalyptus radiata* will not always be easy to assign to a particular subspecies as the operculum character is a somewhat variable, and the development of glaucescence is highly variable.

Eucalyptus radiata 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 sub-parallel (rarely parallel) and juvenile leaves are sessile and opposite for many pairs. Within this section five closely related species form series *Radiatae*, viz. *E. elata*, *E. radiata* (with three subspecies), *E. croajingolensis*, *E. willisii* (with two subspecies), and *E. dives*. They differ from each other in bark and leaf characteristics, and, as a group, series *Radiatae* differs from the endemic Tasmanian peppermints, series *Insulanae*, by having numerous oil glands in the juvenile leaves whereas species in series *Insulanae* have few oil glands in the juvenile leaves (series *Insulanae* includes *E. pulchella*, *E. amygdalina*, *E. tenuis*, *E. tenuiramis*, *E. risdonii*, *E. nitida* and *E. coccifera*).

Eucalyptus robertsonii subsp. *hemisphaerica* was described from plants in the Mullion Creek area north of Orange, New South Wales, and several other scattered localities in the area south of Mudgee to south-west of Oberon (Johnson & Hill, 1990). Rankin (1998, p. ix) concluded from his detailed studies that "The type specimens of *E. robertsonii* subsp. *hemisphaerica* appear to be hybrids between *E. robertsonii* and *E. dives* and hence this name is also not valid", though his meaning is unclear — the name was validly published, and it applies to certain trees which, in his opinion, are hybrids..

Eucalyptus robertsonii subsp. *hemisphaerica* is listed as "Vulnerable" under the Australian Government *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. Further information may be found at this web address:

<http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>

Origin of Name

Eucalyptus radiata: Latin *radiatus*, radiating, refers to the flower bud clusters.

subsp. *robertsonii*: after Colin Charles Robertson (? late 1870s–1946). Colin Robertson was a senior officer with the South African Department of Forestry from 1911 to 1931. He spent several months in Australia studying the commercial timber species, especially the eucalypts. In 1925 he published *Forest Trees in Australia; a Reconnaissance*. He was highly regarded and contributed significantly to the development of forestry.

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