

Elaeocarpus grandis F.Muell.

Family:

Elaeocarpaceae

Blume, C.L. von (1827) *Bijdragen tot de Flora van Nederlandsch Indie* No. 7: 120. Type: in montosis Provincia Brittanica

Common name:

Quandong, White; Quandong, Silver; Silver Quandong; Coolan; Quandong; White Quandong; Indian Oil Fruit; Genitri; Fig, Blue; Cooloon; Brush Quandong; Brisbane Quandong; Blueberry Ash; Blue Quandong; Blue Fig; Ash, Blueberry; Quandong, Blue; Caloon

Stem

Buttresses normally conspicuous, even on small trees. Branches generally in whorls, particularly on small trees. Crown thin, the leaves occurring only on extremities.

Leaves

Leaf blades about 8-15 x 2.5-4.5 cm, gradually narrowed into the petiole which lacks a pulvinus. Foveoles not only in the forks of the lateral veins and the midrib but also in the forks where the lateral veins branch. Old leaves turn bright red on the tree prior to falling. About 25-55 teeth on each side of the leaf blade.

Flowers

Sepals less than 14 mm long. Petals divided at the apex into 4 or 5 lobes up to 5 mm long. Stamens about 50-55. Ovary hairy.

Fruit

Fruits globular, about 15-23 mm diam. Endocarp deeply pitted, about 5-7 sutures. Seeds usually about 2-5. The remains of the hard pitted seed coats can normally be found beneath mature trees.

Seedlings

Cotyledons sessile, narrowly elliptic, about 20-25 x 6-8 mm, apex obtuse, base attenuate. At the tenth leaf stage: leaf blade elongate-elliptic, apex acuminate, base attenuate, glabrous on the upper surface, margin crenate, teeth numerous, each ending in a hair-like tip; domatia are small crater-like foveoles along the midrib. Seed germination time 229 to 1258 days.

Distribution and Ecology

Occurs in CYP, NEQ, CEQ and southwards as far as north-eastern New South Wales. Altitudinal range from near sea level to 1100 m. Grows in a variety of well developed types of rain forest. Favoured by disturbance, fast growing, flowers and fruits profusely. Also occurs in New Guinea.

Natural History & Notes

This is one of the fastest growing species in the rainforest particularly following logging or any other major disturbances. Individual trees can grow to large dimensions in quite short periods of time. This sort of growth has led to some quite exaggerated claims about the growth potential of rainforest species in plantations. A basic knowledge of tree architecture, crown dimensions, stocking rates and stem increment will soon expose the folly of the growth claims.

Fruit eaten by several species of birds including Cassowaries. Flesh and seeds of fallen fruit eaten by Musky Rat-Kangaroos. Cooper & Cooper (1994).

A useful, soft, lightweight carving timber, also suitable for barrels (cooperage). Swain (1928).

Fruits of the tropical rudraksha tree, *Elaeocarpus angustifolius*, are a brilliant, iridescent blue—a color produced not by anthocyanin pigments as in other blue fruits, but by physical interference. Such structural coloration, common in insects and animals but virtually unknown in plants, is discussed by David W. Lee in 'Iridescent Blue Plants'. In the epidermal cells of rudraksha fruits, cellulose layers form a special structure outside the cell membrane but inside the cell wall. The layers create constructive thin-film interference with blue light (thus reflecting the blue color). Lee, D. W. (1997) *American Scientist* 85 (1)

Wood specific gravity 0.49. Cause et al. (1989).

Synonyms

***Elaeocarpus grandis* F.Muell.**, *Fragmenta Phytographiae Australiae* 2: 81(1861), Type: Ad ripas nemorosae fluvii Pine River. Hill et Mueller. [M.J.E.Coode, *Kew Bull.* 39 (1984) 526 adds (holotype



Leaves and Flowers. © B. Gray



Fruit, two views and endocarp. © W. T. Cooper



Leaves and fruit. © CSIRO



Scale bar 10mm. © CSIRO

MEL?). *Elaeocarpus drymophilus* Domin, *Bibliotheca Botanica* 89(4): 927(1928), Type: Nordost-Queensland: Regenwalder bei Harveys Creek (DOMIN I. 1910).

RFK Code

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10th leaf stage. © CSIRO



Cotyledon stage, epigeal germination. © CSIRO



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