

## Botanical name

*Acacia anthochaera* Maslin, Nuytsia 10: 183 (1995)

The botanical name is derived from the Greek *anthos*, meaning flower, and *chairo* meaning to rejoice. It alludes to bright golden heads which occur in great profusion in numerous short racemes. The name also commemorates the birth of the author's daughter, Kimberly Sarah Maslin, which occurred in March 1991, around the time that the original draft of the description was prepared.

## Common name

Kimberly's Wattle (see above).

## Characteristic features

Tall, glabrous, multistemmed *shrubs* growing to small *trees*. *Phyllodes* long, linear and with one longitudinal nerve on each face. *Heads* globular, bright light golden and occurring in great profusion in short racemes, enclosed by bracts when young. *Pods* flat and papery. *Seeds* large and with the funicle not expanded into an aril.

## Description

**Habit.** Tall, narrowly obconic or rounded *shrubs* 2-4 m tall, maturing to bushy *trees* to 8 m tall (but the arborescent forms are not commonly encountered). The shrubs have six or more +/- straight, sparingly to moderately branched main stems arising from ground level (each stem 6-10 cm in diameter at its base and 4-8 cm diameter at breast height), the crowns are rather dense, 2-4 m wide and occupying from 40% of the total plant height (when plants are obconic) or up to 100% (when plants are rounded). The trees have often slightly crooked trunks and main branches, the trunks may remain undivided to about 1 m above ground level and reach 30 cm in diameter at their base (10-20 cm diameter at breast height).

**Bark.** Grey, thin, longitudinally fissured on main trunks, smooth on upper branches.

**Branchlets.** Angled or flattened at extremities, glabrous.

**Phyllodes.** Linear, (7-)9-15(-18) cm long, 2-5 mm wide, thin and flexible, mostly ascending to erect, straight to shallowly incurved but often shallowly recurved at apices, glabrous, greyish green to sub-glaucous, light green on new growth; with 1 *longitudinal nerve* (midrib) on each face, lateral nerves obscure or absent; *margins* not resinous-viscid as in *A. hemiteles*; *apices* acute and not pungent.

**Heads.** Arranged in 4-9-branched racemes 7-15 mm long and enclosed when young by imbricate bracts, globular, bright light golden, fragrant, showy and occurring in great profusion, 25-35-flowered; *raceme axes* glabrous; *peduncles* 6-12(-15) mm long, slender, glabrous.

**Flowers.** 5-merous; *sepals* free.

**Pods.** Narrowly oblong, 5-8.5 cm long, 5-8 mm wide, pendulous, papery, glabrous, yellow-brown.

**Seeds.** Longitudinal in the pods, 4-5 mm long, 2.5-3.5 mm wide, dull or slightly shiny, dark brown to black but commonly pale coloured at the centre, not readily separating from the pods upon dehiscence; *funicle* not expanded into an aril, yellow to light brown.

## Taxonomy

**Related species.** *Acacia anthochaera* together with four close relatives, *A. camptoclada*, *A. dorsenna*, *A. hemiteles* and *A. prainii*, comprise the informal "*Acacia prainii* group" (see Maslin 1995 for discussion). Three of these species, *A. anthochaera*, *A. hemiteles* and *A. prainii*, occur in the Kalannie region.

Until recently *A. anthochaera* was regarded as a long phyllode variant of its closest relative, *A. hemiteles*, a species distinguished by its smaller stature, generally shorter, broader phyllodes that have sticky resinous margins when young and shallowly curved to openly coiled pods. Suspected hybrids occur between these two species in a few places where their geographic ranges overlap (i.e. in the region between Beacon and Morawa).

### **Distribution**

Occurs in the central and northern wheatbelt regions of south-west Western Australia, extending from near the Murchison River southeast to near Cowcowing. In some places it extends slightly east of the wheatbelt into more arid areas.

*Acacia anthochaera* is common in the Kalannie region and forms dense roadside populations in places.

### **Habitat**

Over its geographical range *A. anthochaera* grows in flat, low-lying areas on red-brown sand or loam.

In the Kalannie region it grows on a range of soil types that vary from slightly to highly saline; it sometimes occurs on the margins of salt lakes.

**Recorded from the following Kalannie region Land Management Units.** Colluvial Flat-Earth; Red Brown Earth; Alluvial Sand over Clay; Colluvial Flat-Solodic; Sandy Loam over Clay.

### **Conservation status**

Not considered rare or endangered.

### **Flowering**

Over its geographical range *A. anthochaera* flowers from August to October with the main flowering flush occurring in September.

In the Kalannie region in early September 1997 the species was at peak flowering.

Plants of *A. anthochaera* flower profusely from a young age.

### **Fruiting**

Over the geographic range of this species pods with mature seeds have been collected from late November to January. The reliability of fruit set is largely unknown although current evidence suggests that it is fairly regular in producing an annual pod crop. Sometimes, however, plants fail to set fruit and this may be related to the timing and/or intensity of rainfall events. For example, in December 1996 many plants in the Kalannie were sterile while others produced moderately large pod crops.

In good years pods are produced in large quantity; they are held terminally on the branches making them easily accessible for collection. The seeds are medium-sized to large and although retained in the pods following dehiscence, are easily separated by shaking techniques or hand stripping.

There are about 20 000 viable seeds per kilogram (data supplied by the Australian Tree Seed Centre (CSIRO, Canberra). There appears to be considerable variation in

this statistic because a single sample counted by Angela Waters (Kalannie Tree Supplies) recorded 60 000 seeds per kilogram (but this figure would probably have included both viable and non-viable seed).

### **Biological features**

**Growth characteristics.** This species appears to have a moderate to moderately fast growth rate. Its coppicing ability is unknown (although it may well coppice if cut at ground level) and it has not been recorded to root sucker under natural conditions.

**Weed potential.** There are no records of this species having become weedy even though it normally produces considerable quantities of seed and is a common regrowth plant on appropriate soils along roadverge in the Kalannie region.

### **Propagation**

Propagate from seed.

This species is easy to germinate. Informal germination tests, using various hot water treatments, were conducted by Angela Waters (Kalannie Tree Supplies). Good germination was achieved by soaking the seed overnight in just-boiled water prior to sowing, or by boiling the seed for 5 minutes prior to soaking. Untreated seed showed a reduced germination response.

### **Revegetation**

*Acacia anthochaera* has good potential for revegetation within the Kalannie region on account of its large growth form, its occurrence on a wide range of soil types (located in the lower parts of the catchment) and its saline tolerance. It normally produces large quantities of seed which are easily collected. This species would be useful for salinity and erosion control, visual screens, windbreaks and shelter belts in the Kalannie region.

Wilcox *et al.* (1996) recommend *A. anthochaera* for revegetation of crabholes (Gilgai soils) and areas where the soil comprises sand over gravel, red sandy loam over clay, brown alkaline clay or deep yellow sand, in the Midlands and northern wheatbelt regions of Western Australia. The species is currently being used in direct seeding programs in the northern wheatbelt region of Western Australia (P. Ryan, pers. comm.).

### **Utilisation**

**Salinity control.** See under Revegetation above.

**Erosion control.** See under Revegetation above.

**Windbreak and visual screen.** The species has potential as a windbreak on account of its rather dense foliage and reasonable height.

**Shade and shelter.** Older plants would provide shade and shelter for stock and wildlife.

**Fodder.** Its fodder potential is unknown but is probably worth trialling for this purpose. *Acacia anthochaera* is reported to be a favoured forage plant by Kangaroos around Mullewa (G. O'Brien, pers. comm.).

**Wood products.** The stems of this multi-stemmed species could be a source of straight posts, small poles and other wood products. If *A. anthochaera* is shown to coppice then its potential as a wood source could be greatly enhanced.

**Horticulture and amenity plantings.** On account of being very floriferous (and flowering from a young age) and probably having quite a fast growth rate *A. anthochaera* could have potential for horticulture and amenity plantings.

**Seed for human food.** *Acacia anthochaera* is one of the lesser-known species suggested by Maslin *et al.* (1998) for trialling as a source of seed for human food.

However, it is emphasised that much more research is needed before this species can be recommended for food production; in particular, there is a need for comprehensive biochemical analyses to ascertain if any anti-nutritional or toxic components are present in the seeds. There are no records of the seeds of this species having been eaten by Aborigines.

### **References**

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- Wilcox, D.G., Lefroy, E.C., Stoneman, T.C., Schoknecht, N.R. and Griffin, E.A. (1996). *Trees and shrubs for the Midlands and Northern Wheatbelt.* (Agriculture W.A.: Western Australia.).