

Botanical name

Acacia kalgoorliensis Cowan & Maslin, Nuytsia 10: 215 (1995)

The botanical name is derived from Kalgoorlie (a Western Australian goldfields city) and *-ensis* (native of). The species is common around Kalgoorlie, but is not confined to that region.

Common name

Kalgoorlie Wattle.

Characteristic features

Branchlets dark grey, densely and minutely hairy with the hairs extending to the phyllode pulvinus. *New growth* with greyish green, hairy phyllodes giving way abruptly to mid-green, glabrous mature foliage. *Phyllodes* terete, straight, rigid, obscurely multi-nerved (stomata evident, at x10 magnification, between the nerves), narrowed to long-tapered, straight, slender, dark brown, very sharp, needle-like, tips. *Heads* globular to slightly obloid or widely ellipsoid, situated on very short peduncles (heads often appearing +/- sessile).

Description

Habit. Dense, obconic or narrowly obconic *shrubs* 1-3 m tall and 0.7-3 m wide, crowns flat-topped or rounded and occupying 20-40% of the total plant height, in exposed areas (e.g. road verges) it is a rounded shrub to 3 m wide with the foliage extending to the ground, multi-stemmed but normally few- or single-stemmed with age (branching at about 1 m above ground level), the stems on oldest plants reaching 5 cm diameter at ground level, on young plants the main stems can be slightly crooked.

Bark. Light grey, smooth except finely fissured towards base of main stems on oldest plants.

New growth. Dull greyish green and hairy.

Branchlets. Minutely and densely hairy, dark grey.

Phyllodes. Terete, 2.5-7 cm long, about 1.5 mm in diameter, rigid, ascending to erect, straight, mid-green, glabrous (except pulvinus); *longitudinal nerves* numerous, very fine, close together, stomata evident (at x10 magnification) between the nerves; *pulvinus* with minute, curly, appressed hairs on its upper surface; *apices* tapered into a long, slender, hard, dark brown, straight, sharply pungent tip.

Heads. Paired within axil of phyllodes, globular to slightly obloid or widely ellipsoid, the Kalannie plants about 10 mm long and 9-10 mm in diameter when fresh, bright light- to mid-golden, prolific and showy, 15-22-flowered; *peduncles* usually 0.5-2(-3) mm (however, often obscured by anthers at anthesis, the heads then appearing sessile), glabrous.

Flowers. 5-merous; *sepals* free.

Pods. Linear, not (or slightly) undulate, raised over seeds and constricted between them, 3.5-7.5 cm long, 2-3 mm wide, chartaceous, straight to curved, can vary from hairy to glabrous on a single plant, light brownish yellow.

Seeds. Longitudinal in the pods, 2-2.5 mm long, about 1.5 mm wide, (larger outside the Kalannie region), dull to slightly shiny, rich dark brown (and obscurely mottled yellowish in the Kalannie region).

Taxonomy

Related species. *Acacia kalgoorliensis* together with *A. dissona*, *A. eremophila*, *A. hadrophylla*, *A. densiflora*, *A. mackeyana*, *A. papulosa* and *A. undosa* constitute the taxonomically very complex "A. densiflora group", see Cowan and Maslin (1995) for

discussion. Apart from *A. kalgoorliensis* itself, the other member of this group that occur in the Kalannie region are *A. dissona* var. *indoloria*, *A. eremophila* var. *eremophila*, *A. densiflora* and *A. mackeyana*.

Acacia kalgoorliensis is distinguished from other members of the “*A. densiflora* group” which occur in the Kalannie region by a combination of its straight, perfectly terete phyllodes which are long-tapered into slender, needle-sharp points.

Variants. Plants in the Kalannie region have small, obscurely mottled seeds (seeds larger and mottling may not be present on plants from elsewhere, however, this needs to be confirmed by examining a wider range of material than has hitherto been seen). Cowan and Maslin (1995) refer to some variants but further study is needed to ascertain their taxonomic status.

Distribution

This species has a scattered distribution in southern Western Australia. Common around Kalgoorlie, it also occurs near Marvel Loch and Kalannie and on Noongal and Yuinmery Stations.

Acacia kalgoorliensis is not common in the Kalannie region but locally abundant in the places where it does occur. Sometimes it regenerates on highly degraded road verges.

Habitat

Over its range this species grows in rocky loam, clay and clay loam on low hills in eucalypt woodland. The variant grows in sandy clay and loam over calcrete in eucalypt open woodland and *Acacia* tall shrubland.

Plants from the Kalannie region grow in light brown sand over clay on a slight rise near salt lakes or in reddish brown sandy loam over clay in low-lying non-saline areas.

Recorded from the following Kalannie region Land Management Units. Colluvial Flat-Earth; Alluvial Sand over Clay.

Conservation status

Treated as a Priority 3 taxon on the Department of Conservation and Land Management's *Declared Rare and Priority Flora List*.

Priority 3 - Poorly Known Taxa. ‘Taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as ‘rare flora’, but are in need of further survey.’

Flowering

Over its geographic range *A. kalgoorliensis* flowers mainly in August and September, occasionally extending to October.

In the Kalannie region plants of this species were in full flower in early September 1997.

Fruiting

Over the geographic range of this species produces pods with mature seeds from December to January.

Plants in the Kalannie region were with mature seeds in early December 1996.

Collecting pods by hand is often difficult on account of the prickly foliage (stout gloves are recommended). Manually shaking or gently beating the plants and collecting the pods and seeds on a ground sheet is probably a more efficient way of collection.

There are about 225 000 seeds per kilogram. *Note:* This figure is derived from a single sample counted by Angela Waters (Kalannie Tree Supplies) and would most probably have included both viable and non-viable seeds.

Biological features

No information available.

Propagation

Propagate from seed.

Informal germination tests, using various hot water treatments, were conducted by Angela Waters (Kalannie Tree Supplies). Best results were obtained from either soaking the seed overnight in just-boiled water or by boiling the seed for 1 minute before soaking. Untreated seed showed a reduced germination response.

Revegetation

Although *A. kalgoorliensis* is not common in the Kalannie region it does appear to have some potential for use in revegetation. The species is apparently at least slightly salt tolerant and under natural conditions it readily regenerates (from seed) to form dense populations, especially in open disturbed sites. It may therefore prove useful for soil stabilisation in slightly to moderately saline areas.

Utilisation

Soil stabilisation. See Revegetation above.

Wildlife refugia. On account of its dense prickly crown this species offers the potential of protection for nesting small birds. If grown close together these plants would be effective in providing good shelter for other small wildlife.

Ornamental. Not known in cultivation but an attractive shrub when in full flower and could be useful in semi-arid areas as an ornamental.

Reference

Cowan, R.S. and Maslin, B.R. (1995). *Acacia* Miscellany 15. Five groups of microneurous species of *Acacia*, mostly from Western Australia (Leguminosae: Mimosoideae: section Plurinerves). *Nuytsia* 10(2): 205-254.