

Botanical name

Acacia coolgardiensis subsp. *effusa* Cowan & Maslin, Nuytsia 10: 21 (1995)

The species name commemorates the Western Australian goldfields township of Coolgardie from where the type specimen was collected by Leonard Clarke Webster in 1900.

The subspecies name is derived from the Latin *effusus* (spread out, expanded) and refers to the flat phyllodes, compared to those of the subsp. *coolgardiensis* which has terete phyllodes.

Common name

Flat-leaf Sugar Brother.

Characteristic features

Phyllodes long and narrow, flat, sub-rigid, ascending to erect, commonly grey-green to sub-glaucous, acute with hard, brown, non-pungent to coarsely pungent points. *Heads* in pairs within axils of phyllodes, sessile, obloid to ovoid. *Pods* terete, narrow and light reddish brown.

Description

Habit. *Shrubs* or *small trees* (1-)2-4(-5) m tall, single-stemmed or more commonly dividing at ground level into 2-6 main stems (each stem about 6 cm diameter at ground level), crowns dense and 2-4 m wide.

Trunks. Normally shallowly longitudinally fluted.

Bark. Grey, thin, smooth except very finely longitudinally fissured at base of main trunks on oldest plants.

Branchlets. Minutely appressed-hairy between the fine resin-ribs at extremities (the hairs often very difficult to see without magnification).

Phyllodes. Linear, flat, 4.5-13.5 cm long, 1-3 mm wide, sub-rigid, ascending to erect, straight to shallowly incurved, colour variable (ranging from green through grey-green to sub-glaucous or glaucous) but commonly grey-green to sub-glaucous, with minute, appressed silvery hairs between the nerves (but the hairs are normally difficult to see except at high magnification); *longitudinal nerves* numerous, very fine and close together, resinous (but not viscid); *apices* acute with hard, brown, non-pungent to coarsely pungent points.

Heads. Paired within axils of phyllodes, sessile, obloid to ovoid, 8-9 mm long and 7-8 mm wide when fresh, golden. *Note:* Outside the Kalannie region the peduncles are 0-8 mm long and the heads vary from globular to cylindrical.

Flowers. 5-merous; *sepals* free.

Pods. Terete, (3-)5-8 cm long, 1-2 mm wide, +/- pendulous, thinly coriaceous-crustaceous, straight to shallowly curved, minutely silvery appressed-hairy between the often obscure longitudinal nerves, resinous (but not viscid), light reddish brown.

Seeds. Longitudinal in the pods, 2.2-4 mm long, about 1 mm wide, shiny, dark olive green to brown; *aril* creamy white.

Taxonomy

Subspecies. *Acacia coolgardiensis* is a wide-ranging species comprising three subspecies, two of which occur in the Kalannie region, namely, subsp. *coolgardiensis* and subsp. *effusa*. *Acacia coolgardiensis* subsp. *coolgardiensis* is most reliably distinguished from the less common subsp. *effusa* by its terete, slender phyllodes.

Related species. *Acacia coolgardiensis* is probably most nearly related to species of the the *A. aneura* complex, *A. ramulosa* in particular. *Acacia ramulosa* is uncommon in the Kalannie region and plants from this area are readily distinguished from those of *A. coolgardiensis* by their pedunculate spikes and much larger pods and seeds.

Variants. As discussed by Cowan and Maslin (1995) there are two variants known within subsp. *effusa*, one with short, +/- sessile flower-heads and the other longer, pedunculate flower-heads. Within the Kalannie region plants of this subspecies show little variation and all belong to the sessile-head variant.

Distribution

Widespread south west Western Australia where it extends from near Mullewa and north of Cleary northeast to near Meekatharra, Wiluna and Menzies.

Within the Kalannie region subsp. *effusa* appears to be uncommon, being known for a small area in the north east of the area.

Habitat

Over its wide geographic range subsp. *effusa* occurs on variously coloured sands or loam (often with a high clay content) on sandplains or flats; it also grows on low hills and granite outcrops, in spinifex with *Eucalyptus gonglyocarpa*, and shrubland with various eucalypts and *Acacia* species, especially *A. aneura*.

Under natural conditions subsp. *effusa* tends to favour slightly heavier soils than subsp. *coolgardiensis*.

Recorded from the following Kalannie region Land Management Units. Sand over Gravel; Pediment; Shallow Soil over Laterite.

Conservation status

Although this subspecies is apparently uncommon within the Kalannie region in the broader context is not considered rare or endangered.

Flowering

Over its geographic range subsp. *effusa* flowers primarily from July to September, but occasionally in June.

In 1997 plants in the Kalannie region flowered from late July to mid-September.

Fruiting

Over the geographic range of this subspecies pods with mature seeds have been collected from September to December.

Plants in the Kalannie region were with mature seeds in early December 1996. It is likely fruiting within this subspecies is influenced by local conditions, especially the timing and/or intensity of rainfall events.

Biological features

Longevity. Probably long-lived (25+ years).

Growth characteristics. *Acacia coolgardiensis* tolerates medium frosts and extended dry periods (Elliot and Jones 1982); its coppicing ability is unknown; it is unlikely to root sucker.

Propagation

Propagate from seed.

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 1 minute prior to soaking. Untreated seed showed a low germination response.

Revegetation

Although relatively uncommon in the Kalannie region subsp. *effusa* has potential for use in revegetation on sand, sandy loam and sandy gravelly soils. On the western margin of Lake Moore the subspecies showed significant natural regeneration in a small area where grazing had been excluded and which had previously been cropped for 20 years; here the plants reached about 0.4 m in height after two years growth. *Acacia murrayana* also showed some regrowth within this same area.

Utilisation

Windbreak. Has potential as a low windbreak on account of its dense, porous spreading crown.

Shade and shelter. Suitable for providing shade and shelter for stock and wildlife. Plants develop their best form for this purpose when widely spaced, thus enabling the crowns to spread to their maximum extent.

Visual screen. The growth form of this subspecies offers some potential for use as a visual screen.

Fodder. Has no known forage value according to Mitchell and Wilcox (1994).

Amenity planting. Because this is a long-lived species with attractive foliage and flowers prolifically it has potential for amenity planting in arid and semi-arid areas.

References

- Cowan, R.S. and Maslin, B.R. (1995). *Acacia* Miscellany 10. New taxa and notes on previously described taxa of *Acacia*, mostly section *Juliflorae* (Leguminosae: Mimosoideae), in Western Australia. *Nuytsia* 10(1): 15-62.
- Elliot, W.R. and Jones, D.L. (1982). *Encyclopaedia of Australian Plants suitable for cultivation*. vol. 2. (Lothian Publishing Company.)
- Mitchell, A.A. and Wilcox, D.G. (1994). *Arid shrubland plants of Western Australia*. ed. 2 (University of Western Australia Press in association with the Department of Agriculture, Western Australia: Perth.)