

Botanical name

Acacia prainii Maiden, J. & Proc. Roy. Soc. New South Wales 51: 238 (1917)

The botanical name commemorates Sir David Prain who was Director of the Royal Botanic Gardens at Kew from 1905-1922 (see Hall 1984 for reference to biographical details).

Common name

Prain's Wattle.

Characteristic features

Highly floriferous glabrous *shrubs*. *Phyllodes* narrow, smooth, prominently 1-nerved, apices acute and +/- pungent. *Heads* globular, arranged in short racemes and enclosed when young by imbricate brown bracts. *Pods* firmly chartaceous. *Funicle* not expanded into an aril.

Description

Habit. Dense, spreading, glabrous *shrubs* (1-)1.5-3(-5) m tall and 1.5-4(-5) m wide, either obconic with sub-rounded crowns occupying about 60% of the total plant height, or rounded with the crowns extending to the ground, branching at or just above ground level into a number of erect to ascending stems.

Bark. Grey, fibrous and longitudinally fissured at base of main stems, smooth and dull orange-red or reddish brown on upper branches.

Branchlets. Angled at extremities but soon terete, light brownish to yellow-green, sometimes viscid (especially on the fine yellow ribs).

Phyllodes. Very variable, commonly linear, flat to quadrangular, 2-11 cm long, usually 0.5-3 mm wide, (flat, 3-5 cm long and about 1.5 mm wide in the Kalannie region), rigid, smooth, rather spreading to erect, dull, green to sub-glaucous or glaucous; with 1 *longitudinal nerve* (midrib) on each face, the midrib and marginal nerves prominent, yellowish green and sometimes viscid, lateral nerves absent; *apices* acute and pungent to sub-pungent; *gland* situated on upper margin of phyllode 2-20 mm above pulvinus, sometimes a second gland 3-20 mm below the apex.

Heads. Arranged in 3-7-branched racemes which are 3-15 mm long and enclosed when young by imbricate brown bracts, globular, 7 mm in diameter when fresh, light golden, lightly perfumed, showy and prolific, 10-24-flowered; *peduncles* 4-11 mm long, slender.

Flowers. 5-merous; *sepals* free.

Pods. Rounded over the seeds, 4-8.5 cm long, 5-7 mm wide, straight to curved, firmly chartaceous, brown.

Seeds. Longitudinal in the pods, 3.5-6 mm long, 2-4 mm wide, slightly shiny, black; *funicle* not expanded into an aril.

Taxonomy

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

Acacia prainii is perhaps most closely related to *A. hemiteles* which is usually recognized by its broader, often less pungent phyllodes. However, a few specimens (not from the Kalannie region) have narrowly oblong, atypically broad phyllodes (to 5

mm wide) and as such approach those of *A. hemiteles*; these two species possibly hybridise near Burracoppin.

Variants. *Acacia prainii* exhibits considerable polymorphism for phyllode shape and size and future studies may show that infraspecific taxa should be recognised. In the wheatbelt region of south-west Western Australia the phyllodes are flat and frequently 2-5 cm long (this is the "typical" form of *A. prainii* and is the one found in the Kalannie region), but further east in the Arid Zone they may reach 11 cm (this form includes the type of *A. prolifera*, a synonym of *A. prainii*). Some specimens from around Coolgardie and Widgiemooltha in the goldfields region of Western Australia have very thin, quadrangular phyllodes less than 1 mm wide; these plants were described as *A. prainii* var. *linearis*, however, this name is currently not formally used.

Distribution

Widely distributed in arid and semi-arid areas of southern Australia where it extends from Morawa and Holt Rock in south-west Western Australia, eastwards to Lake Amadeus in southern Northern Territory and Lake Everard in South Australia.

Acacia prainii has a scattered distribution in the Kalannie region where it sometimes forms dense roadside populations.

Habitat

Over its range *A. prainii* grows in sand, sandy clay and brown calcareous earths.

In the Kalannie region it tolerates slightly to moderately saline soils.

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

Conservation status

Not considered rare or endangered.

Flowering

Over its wide geographic range *A. prainii* flowers mainly from mid-July to October, but occasionally in November.

In the Kalannie region it was with bud and flowers at peak anthesis in early September 1997.

This species flowers profusely from a young age.

Fruiting

Over its wide geographic range this species produces pods with mature seeds from November and January.

In December 1996 the Kalannie region plants of *A. prainii* were sterile. This suggests that local conditions (perhaps timing and/or intensity of rainfall probably being the most important) influence pod-set.

When they occur the pods are normally produced in large numbers and held terminally, therefore, are very accessible for harvesting. The medium-sized to large seeds are easily separated from the pods.

There are about 40 000 viable seeds per kilogram (data supplied by the Australian Tree Seed Centre (CSIRO, Canberra). There appears to be some variation in this statistic because a single sample counted by Angela Waters (Kalannie Tree Supplies) recorded 78 000 seeds per kilogram (but this figure would probably have included both viable and non-viable seed).

Biological features

Growth characteristics. A hardy, drought hardy species (Elliot and Jones 1982) with a moderate to moderately fast growth rate. Its coppicing ability is unknown, and it has not been recorded to root sucker under natural conditions.

Propagation

Propagate from seed.

Informal germination tests, using various hot water treatments, were conducted by Angela Waters (Kalannie Tree Supplies). This study showed *A. prainii* as being easy to germinate, whether or not the seed was pre-treated before sowing.

Revegetation

Acacia prainii has good potential for revegetation within the Kalannie region on account of its large growth form, moderately fast growth rate and its occurrence on a wide range of soil types (including those that are slightly to moderately saline). 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 belt planting.

Utilisation

Shade and shelter. On account of its dense crown and low branching habit *A. prainii* is suited to low shelterbelt planting (for stock and wildlife) in arid and semi-arid areas.

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

Wildlife refuge. See above.

Ornamental and horticulture. On account of being highly floriferous (and flowering from a young age) and probably having a reasonably fast growth rate *A. prainii* would appear to have some horticultural potential as an ornamental and as a visual screen for use in arid and semi-arid areas.

Seed for human food. *Acacia prainii* 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

- Elliot, W.R. and Jones, D.L. (1982). *Encyclopaedia of Australian Plants suitable for cultivation*, vol. 2. (Lothian Publishing Company.)
- Hall, N. (1984). *Botanists of Australian Acacias*. (CSIRO: Melbourne.)
- Maslin, B.R. (1995). *Acacia* miscellany 14. Taxonomy of some Western Australian "Uninerves-Racemosae" species (Leguminosae: Mimosoideae: section Phyllodineae). *Nuytsia* 10(2): 181-203.

Maslin, B.R., Thomson, L.A.J., McDonald, M.W. and Hamilton-Brown, S. (1998). *Edible Wattle Seeds of Southern Australia. A review of species for semi-arid regions of southern Australia.* (CSIRO, Forestry and Forest Products, Australian Tree Seed Centre: Canberra.)