

Botanical name

Acacia assimilis subsp. *assimilis*, S.Moore, J. Linn. Soc., Bot. 45: 172 (1920)

The botanical name is a Latin word meaning *like*, and was applied to this species by Moore because of its supposed similarity to *A. uncinella*. *Acacia uncinella* has much shorter, fewer-nerved phyllodes compared with those of *A. assimilis* and the two species are unlikely to be confused as suggested by Moore. It is possible, therefore, that Moore's *A. uncinella* was a different species from what is known under this name today.

Common name

Fine-leaf Wodjil.

Characteristic features

Phyllodes long, terete, thin, light green, with numerous, fine, longitudinal nerves, apices narrowed to delicate, curved, white-hairy, soft tips. Heads globular. Pods undulate.

Description

Habit. Normally obconic *shrubs* 2-2.5 m tall and spreading to about 3 m wide, dividing at about 10 cm above ground level into around six main stems (each about 5 cm in diameter), the crowns not dense and occupying the upper 10-20% of the plants, however, regenerating plants in open disturbed sites (such as roadverges) are commonly dense, domed shrubs 3 m tall and 4 m wide with the crowns extending to near ground level. Over its entire geographic range this subspecies is recorded as being 1.5-4 m tall and 1.5-4(-6) m wide.

Bark. Dark grey to brownish grey, thin, smooth.

Branchlets. Glabrous, yellow at extremities.

Phyllodes. Terete, filiform, 5-9.5 cm long, 0.5-1 mm in diameter, all erect or just the young terminal ones erect and the older ones spreading widely, straight to shallowly incurved, glabrous (except tips), light green; *longitudinal nerves* numerous, fine and close together; *apices* caudate-acuminate with delicately curved, white-hairy, non-pungent tips; *pulvinus* yellowish.

Heads. Paired within axil of phyllodes, globular to widely ellipsoid or obloid, about 7 mm in diameter when, mid-golden, mostly 30-40-flowered; *peduncles* mostly 6-11 mm long, appressed-hairy or glabrous.

Flowers. Mostly 5-merous; *sepals* free or shortly united basally.

Pods Linear, undulate, raised over the seeds, 3-8.5 cm long, 3-4 mm wide, sub-erect to pendulous, firmly chartaceous, straight, +/- glabrous, slightly shiny, brown.

Seeds. Longitudinal in the pods, 2.5-4 mm long, 1.5-2 mm wide, dull to slightly shiny, dark brown to black; *aril* sub-lateral, white or cream.

Taxonomy

Subspecies. *Acacia assimilis* comprises two subspecies but only the typical one, subsp. *assimilis*, is found in the Kalannie region. The other subspecies, subsp. *atroviridis*, occurs in the southern wheatbelt region of Western Australia and is recognized by its darker green, longer phyllodes (see Cowan and Maslin 1995 for further discussion).

Related species. *Acacia assimilis* together with *A. aulacophylla*, *A. consanguinea*, *A. fragilis*, *A. ophiolithica* and *A. uncinella* constitutes the "*A. fragilis* group", see Cowan and Maslin (1995) for discussion. Three taxa from this group occur in the

Kalannie region, namely, *A. assimilis* subsp. *assimilis*, *A. consanguinea* and *A. fragilis*.

Within the Kalannie region *A. assimilis* subsp. *assimilis* is most likely to be confused with *A. fragilis* on account of both taxa having terete phyllodes with hairy tips and similar inflorescences and pods. They sometimes grow in close proximity to one another, for example, at Petrudor Rocks. *Acacia fragilis* is most reliably distinguished from subsp. *assimilis* by its 8-nerved phyllodes (the nerves widely spaced: observe at x10 magnification); furthermore, the phyllodes are darker green and generally shorter.

Distribution

Acacia assimilis subsp. *assimilis* is confined to W.A. where it is common in the wheatbelt from Mullewa to near Lake Bidy, extending east into the goldfields to near Coolgardie and Norseman.

The subspecies has a scattered distribution within the Kalannie region and is nowhere common.

Habitat

Across its wide geographic range subsp. *assimilis* exhibits a wide ecological tolerance; it has been recorded as growing in wet, low-lying areas, on hills in (often gravelly) sand, loam or clay, and on laterite or granite outcrops.

Within the Kalannie region it grows on a range of soil types with a preference for light, coarse-textured soils such as those found around granite rocks and on shallow laterite.

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

Conservation status

Not considered rare or endangered.

Flowering

Over its geographic range subsp. *assimilis* flowers from July to October.

In the Kalannie region in 1997 plants of this subspecies commenced flowering in early July and had finished by early September.

Fruiting

Over the geographic range of this subspecies pods with mature seeds have been collected from December to January; however, judging from herbarium records it seems probable that mature seeds could occur in some populations as early as November.

Many plants in the Kalannie region were sterile in December 1996 and this may have been related to the timing and/or intensity of rainfall events (reduced seed set also occurred in many other acacias in the region that year). Some plants, however, had moderately heavy pod crops (these occurred in roadverge populations).

There are about 420 000 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

Growth characteristics. Withstands extended dry periods and most frosts (Elliot and Jones 1992).

Propagation

Propagate from seeds and possibly cuttings. According to Simmons (1987) *A. assimilis* should be pruned lightly after flowering.

Informal germination tests, using various hot water treatments, were conducted by Angela Waters (Kalannie Tree Supplies). Good results were obtained from seed that was soaked overnight in just-boiled water before sowing, or from boiling the seed for 1 minute prior to soaking. Untreated seed showed very low rates of germination.

Revegetation

Acacia assimilis subsp. *assimilis* would be suited for revegetation of light, coarse-textured soils such as those found around granite rocks and on shallow laterite. The subspecies regenerates well along some highly degraded roadverges.

Wilcox *et al.* (1996) recommend *A. assimilis* for revegetation in the Midlands and northern wheatbelt regions of Western Australia for areas of sand over clay or gravel, deep yellow neutral sand and red loam over hardpan. Lefroy *et al.* (1991) regarded *A. assimilis* as being useful for revegetation of "Wodjil" country (deep yellow, usually acidic sand over deep yellow sandy clay-loam) in the central wheatbelt.

Utilisation

Windbreak and shelter belt. It has potential as a windbreak (especially on account of its porous crowns) and for low shelter plantings. However, the relatively sparse foliage of the mature plants limits its value for these purposes.

Ornamental. A decorative subspecies with soft, delicate foliage and having potential for planting in semi-arid areas.

References

- Cowan, R.S. and Maslin, B.R. (1995b). *Acacia* Miscellany 15. Five groups of microneurous species of *Acacia*, mostly from Western Australia (Leguminosae: Mimosoideae: section Plurinerives). *Nuytsia* 10(2): 205-254.
- Elliot, W.R. and Jones, D.L. (1982). *Encyclopaedia of Australian Plants suitable for cultivation*. vol. 2. (Lothian Publishing Company.)
- Lefroy, E.C., Hobbs, R.J. and Atkins, L.J. (1991). *Revegetation guide to the central Wheatbelt*. (Agriculture W.A.: Western Australia.)
- Simmons, M.H. (1987). *Growing Acacias* (Kangaroo Press.)
- 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.)