

## Botanical name

*Acacia neurophylla* subsp. *erugata* Cowan & Maslin, Nuytsia 10: 51 (1995)

The species name is derived from the Greek *neuron* (sinew, nerve) and *phyllon* (leaf), and refers to the prominent phyllode nerves that characterise this species.

The subspecies name is derived from the Latin prefix *e-* (without or lacking) and the word *rugosus* (wrinkled), and refers to the smooth pulvinus which characterises this subspecies and helps distinguish it from subsp. *neurophylla*.

## Common name

Broad-leaf Wodjil.

## Characteristic features

*Branchlets* and *bark* marked with obvious lenticels. *Phyllodes* large, rigid, erect, acute, with numerous, widely spaced, prominent nerves; *pulvinus* well-developed, smooth, flared at its base. *Spikes* long and densely flowered, on short peduncles. *Flowers* 4-merous.

## Description

**Habit.** Erect, spreading *shrubs* or *small trees* (1-)2-4(-5) m tall and 2-5 m wide, normally dividing at (or just above) ground level into 2 to many slender stems, less commonly single-stemmed for 0.5 m before branching.

**Bark.** Grey, smooth.

**Branchlets.** Glabrous, lenticellular.

**Phyllodes.** Narrowly oblong-elliptic, flat, mostly 8-18 cm long, (3.5-)5-10(-13) mm wide, coriaceous, rigid, erect, straight to shallowly incurved, glabrous, green; with 5-7 prominent, widely spaced, *longitudinal nerves* (which are yellow when viewed with transmitted light) on each face, intervening minor anastomosing nerves absent; *apices* acute, not pungent to coarsely pungent; *pulvinus* 3-5 mm long, +/- smooth, flared at the base.

**Spikes.** 2-4 within axil of phyllodes, 2-5 cm long and 9-10 mm in diameter when fresh, golden, flowers densely arranged within the spikes; *peduncles* (1-)3-5 mm long, glabrous.

**Flowers.** 4-merous; *sepals* free to 1/3-united.

**Pods.** Narrowly oblong to linear, strongly raised on alternating sides over adjacent seeds, 4-8 cm long, 2.5-5(-6) mm wide, pendulous to sub-pendulous, straight, firmly chartaceous to thinly coriaceous, glabrous, slightly shiny, brown.

**Seeds.** Longitudinal in the pods, 2.5-3.5 mm long, 2-2.5 mm wide, shiny, dark brown to blackish; *aril* white and obliquely positioned at end of seed.

## Taxonomy

**Subspecies.** *Acacia neurophylla* comprises two subspecies but the typical one (subsp. *neurophylla*) does not occur in the Kalannie region. It is distinguished most readily from subsp. *erugata* by its short, cylindrical pulvinus (not flared at its base) and its generally sessile spikes.

**Superficially similar species.** In the past *A. neurophylla* was commonly confused with *A. cochlocarpa* (which does not occur in the Kalannie region) but the two species are not particularly closely related.

## **Distribution**

Occurs in southwest Western Australia from Cooloomia Homestead southeast to Kondinin and Bulla Bulling.

Subspecies *erugata* is common in the west-central and north western parts of the Kalannie region where it is abundant on gravelly rises. It also forms dense roadside populations in some areas.

## **Habitat**

Over its geographic range this subspecies grows mainly in yellow sand and laterite in scrub and shrubland.

In the Kalannie region it grows in shallow sand over gravel or laterite, or simply gravel.

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

## **Conservation status**

Not considered rare or endangered.

## **Flowering**

Over its geographic range subsp. *erugata* flowers mainly from August to September, however, flowers have been collected from May to November. It would appear that local conditions (perhaps the timing and/or incidence of rainfall events) influence the onset of flowering.

Plants in the Kalannie region were just coming into flower in early July 1997.

## **Fruiting**

Over its geographic range this subspecies produces pods with mature seeds from November to January.

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

On average there are 170 seeds per gram. *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.** Drought and frost tolerant according to Elliot and Jones (1982).

**Diseases.** Kalannie populations showed slight susceptibility to Gall Rust infection on oldest plants.

## **Propagation**

*Acacia neurophylla* can be propagated from seed or cuttings according to Elliot and Jones (1982).

Informal germination tests, using various hot water treatments, were conducted by Angela Waters (Kalannie Tree Supplies). Good results were achieved by either boiling the seed for 3 minutes prior to soaking over night ahead of sowing, or by

soaking the seed over night in just-boiled. Untreated seed showed a lower rate of germination.

### **Revegetation**

*Acacia neurophylla* subsp. *erugata* is a hardy, primary coloniser and is well-suited to revegetation work within the Kalannie region, particularly on sites with surface gravel. It is commonly found naturally regenerating in gravel pits and it forms dense roadside populations in some areas. Because of its low-spreading habit and dense crown this subspecies is ideal for revegetating disused gravel pits and the plants would provide a good wildlife refuge.

Recent observations in the central wheatbelt showed natural regeneration of *A. neurophylla* subsp. *neurophylla* within a gravel pit located in a paddock that had been under crop and pasture for about 50 years; this suggests that seed of this subspecies can remain viable in the soil for long periods (A. Napier, pers. comm.), and it is likely the same would apply to subsp. *erugata*.

Wilcox *et al.* (1996) and Lefroy *et al.* (1991) recommend *A. neurophylla* for revegetation in the Midlands region and the northern and central wheatbelt regions of Western Australia for areas of sand over gravel and deep yellow acidic sand (i.e. "Wodjil" country).

### **Utilisation**

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

**Wildlife refuge.** See under Revegetation above.

**Horticulture.** Very showy when in flower and would make an attractive ornamental in semi-arid areas. According to Elliot and Jones (1982) it could grow in cooler climates if given a very sunny position.

### **References**

- 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.)
- 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.)