

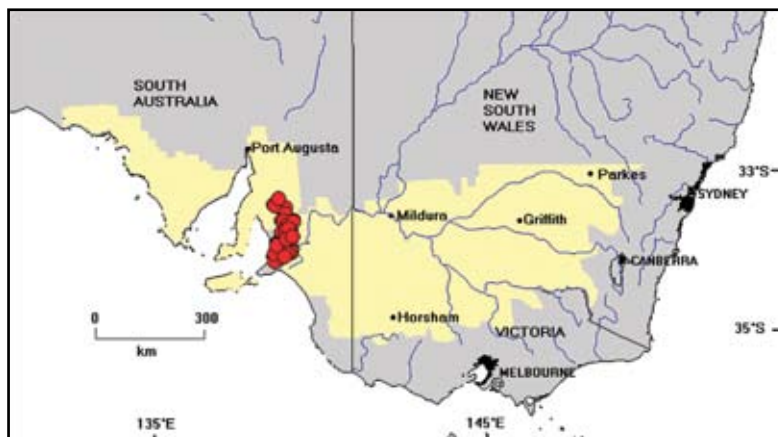
Acacia retinodes Schldtl. ('typical' variant)

Common Name

Wirilda.

Special note

The taxonomy of *A. retinodes* is currently under review (see **Taxonomy** below). It is likely that most of the previously published literature concerning *A. retinodes* refers to the 'swamp' variant of the species. Therefore, unless otherwise noted, the information presented here for the 'typical' variant is derived from our field observations of plants and from unpublished information generously provided by Martin O'Leary (Adelaide Herbarium).



Map 53. Distribution of *A. retinodes* 'typical variant'.

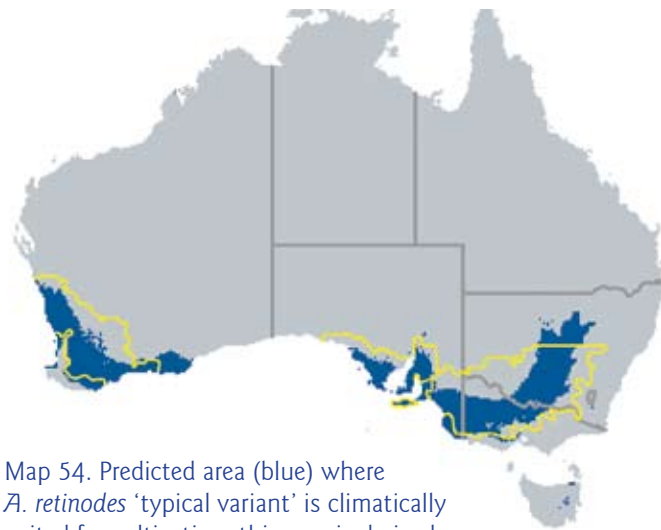
Habit

Typically single-trunk (infrequently with 2–3 trunks from ground level), shapely trees 5–6 m tall but can attain 8–10 m in places, the bole is usually straight, 1–2 m long and attains about 30 cm dbh, main branches erect, straight to sub-straight and to about 15–20 cm diam, suckers but not vigorously so; crowns dense. Bark furrowed, rough (surface variably friable), persistent and black-brown.

A botanical description and illustration is provided by Maslin (2001a); it is photographed in Whibley & Symon (1992: 143, 145: the line drawings in this account are not of the 'typical' variant) and Maslin *et al.* (1998: the habit photograph on p. 43).

Taxonomy

The Flora of Australia treatment of *A. retinodes* by Maslin (2001) was modified in Maslin (2001a) to accommodate the two variants ('typical' and 'swamp') that are now recognized within var. *retinodes*. This report uses the most recent taxonomy of the species, which is based on as-yet unpublished research by M. O'Leary (Adelaide Herbarium), except that a fourth form, the 'Normanville' variant, is also recognised here.



Map 54. Predicted area (blue) where *A. retinodes* 'typical variant' is climatically suited for cultivation; this area is derived from a bioclimatic analysis of the natural distribution (red circles, Map 53), see also Table 5. Target area shown in yellow.

Specimens referable to *A. retinodes* can be accommodated within the above three variants and *A. retinodes* var. *uncifolia*. Each of these four taxa is detailed separately in this report and a key to their recognition is given below. For the most part the taxa are allopatric, however, in a few places in South Australia their ranges abut, for example, at Normanville (where var. *retinodes* 'typical' and the 'Normanville' variant occur close together) and on Kangaroo Island (where var. *retinodes* 'swamp' and var. *uncifolia* occur, but do not hybridize).

Figure 26. *Acacia retinodes* 'typical' variant



A – Mature trees with large quantity of wood biomass. (Photo: B.R. Maslin)



B – Bark dark coloured & rough.
(Photo: B.R. Maslin)



C – Slender coppice regrowth.
(Photo: B.R. Maslin)



D – Habit variation at Spring Gully, S.A. (Photos: P. Macdonell).



E – Stem core showing pale-coloured wood.
(Photo: P. Macdonell)

- 1 Heads mostly 34–52-flowered, yellow to golden; branchlets often lightly pruinose; phyllodes blue-green to blue-grey, often lightly pruinose, 6–22 cm long var. *retinodes* ('swamp' variant)
- 1: Heads mostly 18–30-flowered, cream to pale yellow; branchlets not pruinose; phyllodes green or grey-green, not pruinose 2
- 2 Phyllodes 3–6 cm long; pods 5–7 (–8) mm wide; coastal habitats var. *uncifolia*
- 2: Phyllodes 6–16 cm long; pods 8–11 mm wide 3
- 3 Erect trees with a single, well-defined bole; hillside habitats var. *retinodes* ('typical' variant)
- 3: Spreading, multi-trunk, low branching trees; coastal habitats 'Normanville' variant

Acacia retinodes is referable to *Acacia* section *Phyllodineae*, a diverse, and probably artificial, group of about 408 species (Maslin 2001) which are characterized by having '1-nerved' phyllodes and flowers arranged in globular heads (see Maslin & Stirton 1998 and Maslin 2001 for discussion). More specifically this species is a South Australian member of the Australia-wide '*Acacia microbotrya* group' (Maslin 1995). A number of other species from this group are detailed in this report, namely, *A. bartleana*, *A. euthycarpa*, *A. microbotrya*, *A. rivalis* and *A. wattiana*. Species of section *Phyllodineae* are widespread in Australia with the main centres of richness located in temperate and adjacent semiarid areas of eastern, southeastern and southwestern Australia; species number greatly decline in the arid zone and in northern tropical/subtropical areas (Hnatiuk & Maslin 1988 and Maslin & Pedley 1988).

If hybridity can be taken as an indicator of relationship then *Wirilda* is not far removed taxonomically from *A. argyrophylla* or *A. brachybotrya* (see under **Genetics** below).

Distribution and habitat

Occurs in the Mt Lofty Ranges, South Australia, where it extends from Mount Bryan south through the Barossa Valley, Adelaide Hills to Delamere on the Fleurieu Peninsula. This rather restricted natural distribution lies both within and outside the target area. *Wirilda* has become naturalized near Mt Gambier in southeast South Australia (see **Weed potential** below). Grows in loams or clay loams and on rocky hillsides or plains.

Flowering and fruiting

Flowers in summer (December to February) and unlike var. *retinodes* 'swamp' it has a single, well-defined flowering period. Pods with mature seeds have been collected from late December to March. The seeds mature more or less simultaneously, unlike the 'swamp' variant where seed tends to ripen throughout the year (but with a major seed drop between December and March).

Biological features

A hardy, frost tolerant species that appears to be long-lived (probably lives for about 30–40 years). It has a moderately fast growth rate but not as rapid as var. *retinodes* 'swamp'; in a domestic garden in the Adelaide hills (where it may have received some watering) it attained 1.5 m in height in 1–2 years. Young sucker regrowth grows rather fast (1–2 m per year). *Wirilda* has moderate root suckering ability (it suckers best in disturbed roadside sites). Plants are known to coppice, but it is not known how vigorously. From limited field observations plants coppiced when cut near ground level (up to about 0.3 m), but not when cut at about 2 m above the ground.

Genetics

Acacia semiaurea is a species of horticultural origin and possibly represents a hybrid between *A. retinodes* (perhaps the 'typical' variant, Martin O'Leary pers. comm.) and either *A. argyrophylla* or *A. brachybotrya*; there very few specimens of *A. semiaurea* in existence (Maslin 2001a).

Cultivation

There are no known significant plantings of Wirilda (most plantings of *A. retinodes* are of the 'swamp' variant).

Weed potential

There is a small naturalized occurrence of Wirilda near Mt Gambier where original plantings have spread to form small clonal colonies (with the plants rather widely spaced, not close together as often happens in *A. hakeoides*). However, this taxon is not regarded as having any significant weed potential. It suckers most prolifically in disturbed sites such as along disturbed roadverges, however, it is not known to invade adjacent bush or farmlands.

Wood

No data available but would be expected to be similar to *A. bartleana* (see species profile above) on account of the two species being related.

Utilisation

Land use and environmental

According to Elliot & Jones (1982) *A. retinodes* is a useful windbreak species (although it is not known to what variant of the species these authors were referring, however, it would apply to all of them).

Secondary plant products

According to Maiden (1889) the bark of *A. retinodes* is considered a good source of tannin (NB. It is likely that Maiden was referring to the 'swamp' variant of the species in this publication). Plants of Wirilda yield good quantities of gum (see note under 'swamp' variant concerning gum properties).

Fodder

Foliage is grazed by sheep and probably cattle. Indeed, it is possible that over-grazing by stock has led to natural population decline in the Adelaide hills (M. O'Leary, pers. comm.).

Human food

The seeds of *A. retinodes* are considered by Maslin *et al.* (1998) as having potential as a source of human food.

Potential for crop development

Acacia retinodes 'typical' variant is regarded as having good prospects as a crop plant for high volume wood production. It is ranked as category 1–2 and would seem best suited for development as a phase crop, but it may also have some prospects as a long cycle crop for specialty wood products (Table 6). Although *A. retinodes* 'typical' does have some coppicing ability, the vigour and frequency of this attribute is unknown and it is therefore not possible to assess its potential as a coppice crop at present. Its moderate suckering propensity would not be expected to pose problems for management under cultivation. However, the species does produce large quantities of seed and it would be appropriate to harvest plants before they reach biological maturity to avoid creating a soil seed bank that may lead to weed problems in adjacent or subsequent annual crops (although the seedling regeneration may possibly be treated as a form of green manure). For this to be a viable strategy it would require that the plants had produced acceptable quantities of wood by then. It is not known at what age flowering and fruiting commences. *Acacia retinodes* 'typical' is similar to *A. bartleana* from Western Australia in displaying a good growth form and producing good quantities of woody biomass. Although its wood characteristics are as yet unknown they can be expected to be similar to those of *A. bartleana* (and if so the wood will be moderately dense which would lower its attraction for use in reconstituted wood products). Indications

are that the foliage of *A. retinodes* 'typical' may have some fodder potential (an attractive feature for coppice crops).

The area predicted to be climatically suitable for the cultivation of *A. retinodes* 'typical', based on its natural climatic parameters, is shown in Map 54. Although *A. retinodes* 'typical' has a rather restricted natural distribution in South Australia, the analysis indicates that it is well suited to climatic conditions well beyond this region and has potential for widespread cultivation in the 300–450 mm rainfall zone of the target area. Almost all of the target area in South Australia and Western Australia and a large proportion of the target areas in Victoria and New South Wales are predicted to have climatic conditions suited to the cultivation of *A. retinodes* 'typical'. This is a remarkable prediction given the relatively narrow natural distribution of this species. Within this predicted area, *A. retinodes* 'typical' would probably perform best on loamy fertile soils; heavy clays and waterlogged conditions should be avoided.