

Acacia retinodes var. *uncifolia* J.M. Black

Common Name

None known.

Habit

Shrubs or trees 5–10 m high, single-stemmed or with few (usually 2–4) main stems from near ground level, main stems crooked or more or less straight and to 15 cm or more dbh, often much-branched from low down, in sheltered sites it forms dense groves; crowns bushy.

Bark smooth but becoming longitudinally fissured on main trunks of older plants.

Botanical descriptions and line drawings are provided in Costermans (1981), Whibley & Symon (1992: the photographs in this account are of the 'typical' variant), Maslin *et al.* (1998) and Maslin (2001 & 2001a).

Taxonomy

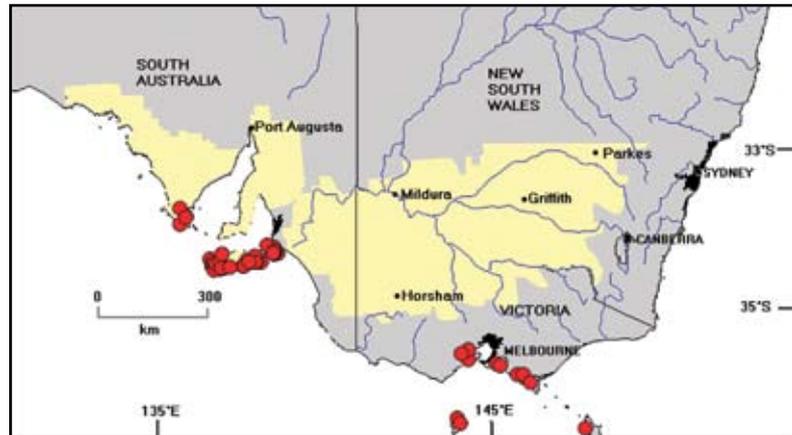
The taxonomy of *A. retinodes* and its allies is currently under review (see 'typical' variant above) and it is likely that this research will show that var. *uncifolia* should be recognized as a distinct species.

Acacia retinodes var. *uncifolia* 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 variety 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).

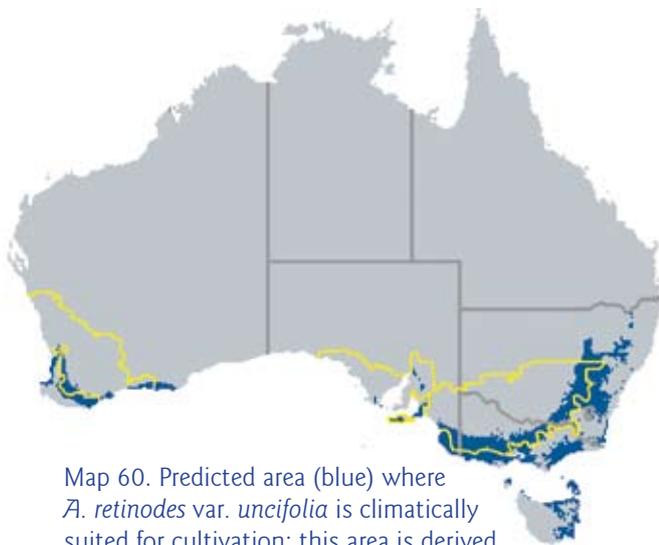
The phyllodes of var. *uncifolia* may resemble some individuals of *A. euthycarpa* (see species profile above) or *A. flocktoniae* from New South Wales (not included in this report).

Distribution and habitat

Variety *uncifolia* has a discontinuous distribution in coastal areas of south-eastern Australia where it occurs on the southern Eyre Peninsula, Kangaroo Island and the Fleurieu Peninsula in South Australia, Geelong to Wilsons Promontory in Victoria and on both King and Flinders Islands, Tasmania. This distribution occurs along the southern

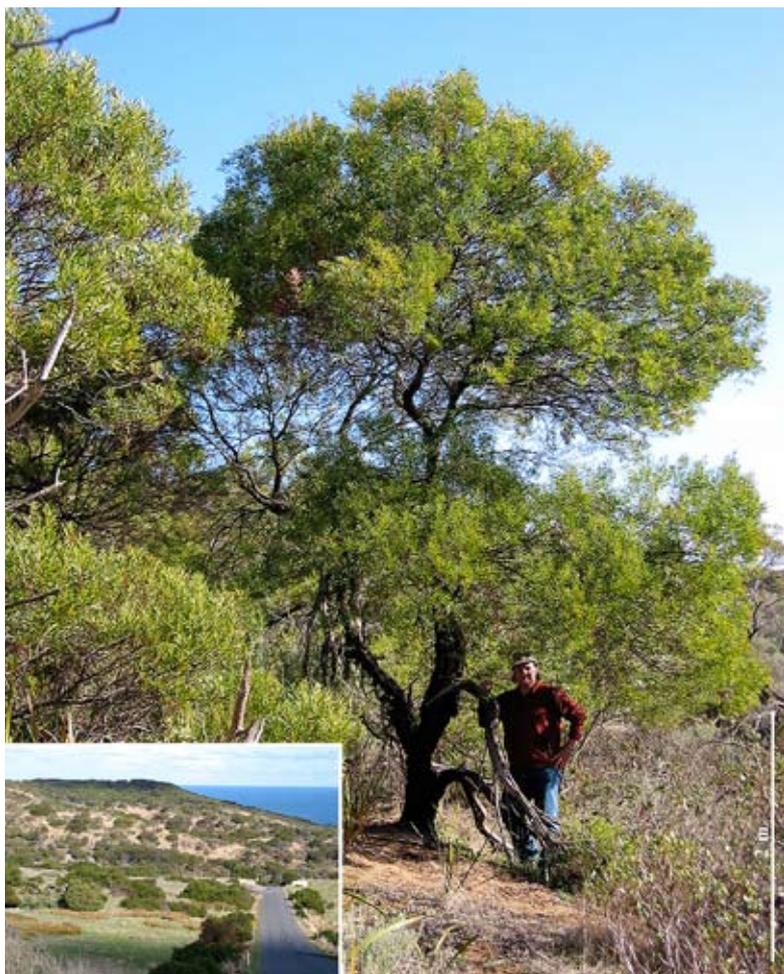


Map 59. Distribution of *A. retinodes* var. *uncifolia*.



Map 60. Predicted area (blue) where *A. retinodes* var. *uncifolia* is climatically suited for cultivation; this area is derived from a bioclimatic analysis of the natural distribution (red circles, Map 59), see also Table 5. Target area shown in yellow.

Figure 29. *Acacia retinodes* var. *uncifolia*



A – Mature plant with crooked stems (insert showing habitat of this plant at Waitpinga Beach, S.A.) (Photos: B.R. Maslin)



B – Stem base. (Photo: B.R. Maslin)



C – Branches showing pale heads (in racemes) & short phyllodes. (Photo: B.R. Maslin)



D – Large plant at Cape Schanck, Victoria. (Photo: B.R. Maslin)



E – Young plant on dune showing lateral root. (Photo: J. Kenrick)



F – Section of stem showing relatively dense wood. (Photo: B.R. Maslin)

periphery of the target area in South Australia but is outside the region in the other States. *Acacia retinodes* var. *uncifolia* occurs on dunes and sandy soils over limestone in near-coastal habitats. Details of its ecology and distribution in Tasmania are given in Lynch (1993).

Flowering and fruiting

Flowering time appears to be quite variable. Peak flowering occurs from October to December in South Australia (Whibley & Symon 1992), from December to February in Victoria (Bernhardt *et al.* 1984) and about December to April in Tasmania (Lynch 1993). However, occasional flowering plants may be found in most other months of the year. Mature pods have been collected between November and January (little data available).

Biological features

Growth rate is fast, it is resistant to salt spray and is probably frost-sensitive (Martin O'Leary, pers. comm.) In Tasmania var. *uncifolia* suckers and resprouts following 'cool' fires; also regenerates from seed following fire (Lynch 1993). Pawley (1994) reports it to sucker from cut roots. However, in South Australia the plants have not been seen to either sucker or coppice (Martin O'Leary, pers. comm.). This variety is highly self-incompatible (Kenrick & Knox 1985), thus cross-pollination is essential for seedset. See Bernhardt *et al.* (1984) and Kenrick & Knox (1985) for discussions of pollination biology and breeding systems. Gum exuded from stems of a number of plants that we observed at Waitpunga Beach, South Australia.

Genetics

Details of the breeding system of *A. retinodes* var. *uncifolia* (based on plants growing at Cape Schanck, Victoria) are discussed in Kenrick & Knox (1985).

Cultivation

Not known in cultivation.

Weed potential

The weed potential of this species is seemingly very low.

Wood

Based on our limited field observations this species appears to have a relatively heavy wood with a well-developed heartwood. When cut a gum exudes at the interface of the sapwood and heartwood. Shrinkage upon drying caused minor end fractures in the wood that we sampled.

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, it would likely apply to all of them).

Potential for crop development

Acacia retinodes var. *uncifolia* is regarded as only moderately prospective for development as a crop plant for high volume wood production; the other taxa comprising *A. retinodes* would appear to offer better potential than this variety. This variety is ranked as category 3 and its growth characteristics suggest that it would be best suited for development as a phase crop (Table 6). Variety *uncifolia* is reported to have a fast growth rate but there is no trial result information available, therefore it is not

known if it would attain acceptable growth rates and biomass production in the areas where it would be intended to cultivate it. Although var. *uncifolia* produces reasonable quantities of woody biomass its stem form is often not very good (rather crooked). Limited field observations suggest that plants from Cape Schanck, Victoria, have better form (taller stature and straighter stems) than those from South Australia, but it is not known to what extent site conditions contribute to these differences. Selection of appropriate provenances for inclusion in field trials will be important; in nature plants vary not only in growth form but apparently also in their suckering ability (suckering plants could pose management problems in cultivation of phase crops).

The area predicted to be climatically suitable for the cultivation of *A. retinodes* var. *uncifolia*, based on its natural climatic parameters, is shown in Map 60. Although this variety has a natural distribution at the margin of the target area the analysis indicates that it is suited to climatic conditions well beyond this range. Relatively large areas of the eastern and western target areas have climatic conditions suitable for the cultivation of this variety. However, natural populations have a strong preference for calcareous sands and this may preclude its widespread cultivation on diverse soil types.