

Acacia argyrophylla Hook.

Common Name

Silver Mulga.

Habit

Erect, hardy shrubs 2–3 m high and often the same across, crowns dense, multistemmed or with a very short bole (to c. 0.3 m long), the stems sub-straight, ascending to erect stems and c. 6 cm dbh, however, on oldest plants the main stems may reach c. 11 cm dbh and

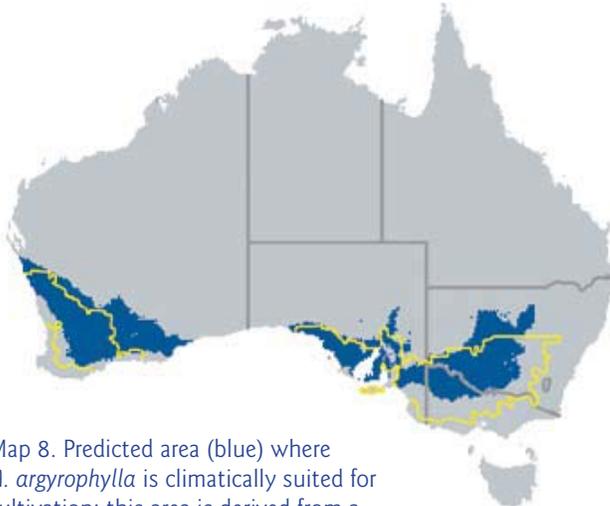
become somewhat crooked. New shoots sericeous with bright greenish yellow hairs. Mature phyllodes silvery grey due to a layer of dense, appressed hairs. Flower heads golden yellow.

Botanical descriptions and illustrations/photographs are provided by Simmons (1988), Whibley & Symon (1992) and Maslin (2001 & 2001a).

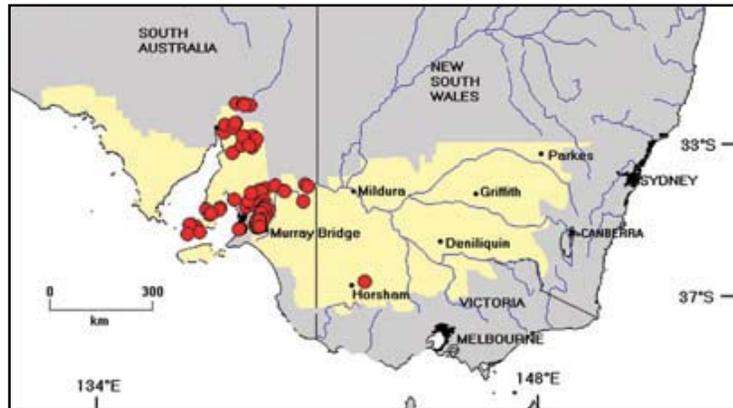
Taxonomy

Acacia argyrophylla is referable to *Acacia* section *Phyllodineae*, a large, 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). 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 numbers greatly decline in the arid zone and in northern tropical/subtropical areas (Hnatiuk & Maslin 1988 and Maslin & Pedley 1988).

As discussed by Maslin (2001) the taxonomic status of *A. argyrophylla* deserves further attention, in particular, its relationship to certain forms of the highly variable close relative *A. brachybotrya* (not detailed in this report). In some cases hybridity between the two species is suspected.



Map 8. Predicted area (blue) where *A. argyrophylla* is climatically suited for cultivation; this area is derived from a bioclimatic analysis of the natural distribution (red circles, Map 7), see also Table 5. Target area shown in yellow.



Map 7 Distribution of *A. argyrophylla*.

Distribution and habitat

Occurs in South Australia from the Flinders Ranges near Hawker south to Monarto and the western Murray Mallee region, with isolated populations occurring on the Yorke Peninsula and Onkaparinga Gorge. This geographic range is contained mostly within the confines of the target area. It is reasonably common in the areas where it occurs but much of its native habitat has been cleared for agriculture so it is often found only along degraded road verges. An isolated occurrence from near Murtoa

Figure 3. *Acacia argyrophylla*



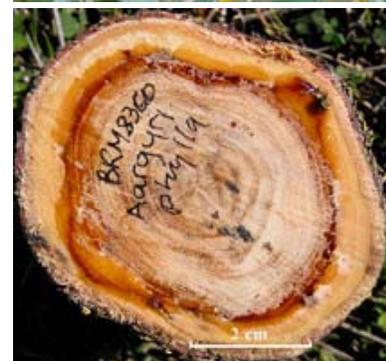
A – Adult plant showing dense crown & stem branching near base. (Photo: B.R. Maslin)



B (above) – Plants in 5 year old alley farming trial at Palmer, S.A.



C (above right) – Flowering branch showing characteristic silver-grey mature phyllodes & yellow new growth.



D (right) – Section of stem of mature plant; when first cut a clear gum exuded from interface of sapwood & heartwood. (Photos: B.R. Maslin)

in Victoria is now presumed extinct (see Court 1973). Favours calcareous clay loams on low undulating hills.

Flowering and fruiting

Flowers from July to November (Whibley & Symon 1992) and pods with seed occur from December to February (some old seed is often retained in the pods throughout the year according to Martin O'Leary, pers. comm.). Seeds may mature in November in hot dry seasons (Bonney 1994).

Biological features

Growth rate moderately fast in cultivation (see below). Might reach c. 30 years old (M. O'Leary, pers. comm.). Has the ability to coppice if cut near ground level; unlikely to sucker; produces large quantities of seed.

Genetics

Possibly hybridizes with *A. retinodes* ('typical' variant): see under that taxon below for notes.

Cultivation

In a 5 year old alley farming trial at Palmer in S.A. (350 mm rainfall zone) the best plants reached 2–2.5 m tall and developed about 10 stems (2–3.5 cm dbh) following coppicing (unknown when coppicing occurred).

Weed potential

No records of weediness for this species. Does not display any weed tendencies in its natural habitat (which is predominantly located in a highly disturbed agricultural landscape) despite producing prolific quantities of seed.

Wood

Based on field observations from one plant, the wood was observed to be reasonably light weight relative to its volume. The sapwood was white and there was an extensive development of light brown heartwood. When first cut a clear gum was exuded at interface of sapwood and heartwood.

Utilisation

Land use and environmental

Useful as a low windbreak and because it usually has more breadth than height it could possibly be used as a weed suppressant (D. Kraehenbuehl, pers. comm.).

Other uses

Useful for ornamental and amenity plantings on account of its very attractive foliage (D. Kraehenbuehl, pers. comm.).

Potential for crop development

Acacia argyrophylla is not regarded as particularly prospective as a crop plant for high volume wood production. It is ranked as a category 3–4 species and current evidence suggests that it would be best suited to development as a phase crop (Table 6). It is a hardy species that produces a reasonable amount of woody biomass but the wood is contained in numerous, relatively small stems. The wood appears to be reasonably light weight. Although *A. argyrophylla* has a moderately fast growth rate in cultivation under quite dry conditions in its native environment, its potential to become a major wood crop is not high. Other South Australian prospects such as *A. retinodes* ('typical' variant) and *A. rivalis*, which occur in the same geographic area as *A. argyrophylla*, are likely to perform much better (i.e. grow faster and/or produce higher volumes of woody biomass).

The area predicted to be climatically suitable for the cultivation of *A. argyrophylla*, based on its natural climatic parameters, is shown in Map 8. This analysis indicates that *A. argyrophylla* is well suited to climatic conditions over large parts of both the eastern and western target areas. The parts projected as suitable in New South Wales, South Australia (Eyre Peninsula) and Western Australia, are well beyond the range of its natural distribution. This is a notable result given its relatively narrow natural distribution. The areas projected comprise the 250–500 mm rainfall zone of both target areas. Within this region *A. argyrophylla* would be best suited to sites with calcareous clay loams.