

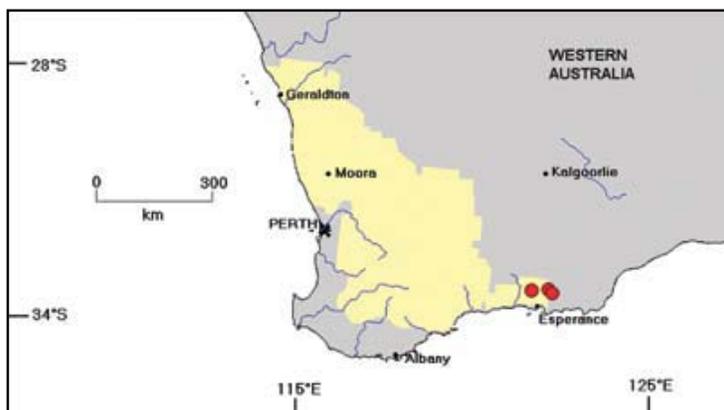
Acacia affin. *redolens*

Common Name

None known.

Habit

Small trees 4–7 m high, may reach 10 m in good sites; dividing at 0.5–1.8 m above ground level into 2–3 main stems (9–20 cm dbh); stems and main branches sub-straight; crown bushy.



Map 51. Distribution of *A.* affin. *redolens*.

Taxonomy

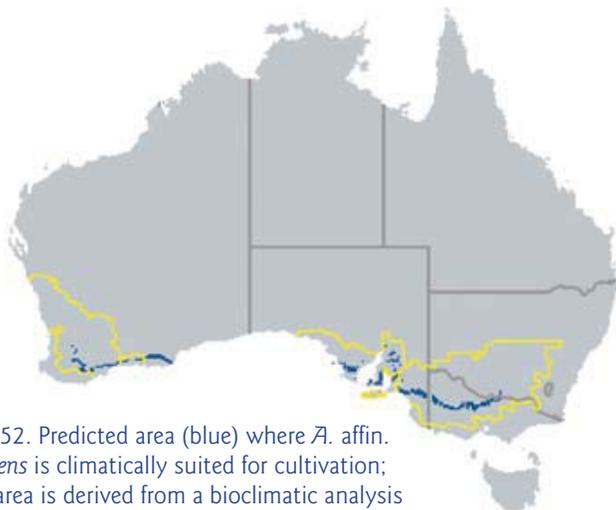
Acacia affin. *redolens* is referable to *Acacia* section *Plurinerves* a diverse, and probably artificial, group of about 212 species (Maslin 2001) which are characterized by having plurinerved phyllodes and flowers arranged in globular heads (see Maslin & Stirton 1998 and Maslin 2001 for discussion). Species of section *Plurinerves* are widespread in Australia with the main centres of richness located in the inland areas of the southwest and southeast of the continent (Hnatiuk & Maslin 1988, Maslin & Pedley 1988). Five species of section *Plurinerves* are detailed in this report, namely, *A. cyclops*, *A. implexa*, *A. melanoxyton*, *A. stenophylla* and *A. affin. redolens*.

Taxonomic work is needed to properly ascertain the status of this seemingly new taxon. Until now it has been confused with its normally prostrate, presumed close relative, *A. redolens* (which is not included in this report) but has a very different growth form and does not have vanilla-scented foliage. In habit it resembles some forms of *A. cyclops* (with which it is sometimes sympatric) but it is unlikely that the two species are especially closely related.

Distribution and habitat

An uncommon taxon confined to the south coast of Western Australia. Plants definitely referable to this taxon occur in a few scattered localities from near Scaddan eastwards for about 40 km (to near Mt Burdett); however, it could possibly extend west to the Fitzgerald River but further study is needed to check this. *Acacia* affin. *redolens* is confined to the target area and is not very common in the places

where it occurs. It grows in waterlogged clay-loam over clay or in grey sand over clay adjacent to waterlogged depressions and it may be able to tolerate at least low to moderate salinity.



Map 52. Predicted area (blue) where *A.* affin. *redolens* is climatically suited for cultivation; this area is derived from a bioclimatic analysis of the natural distribution (red circles, Map 51), see also Table 5. Target area shown in yellow.

Flowering and fruiting

Flowers in June to July. Mature pods occur in December.

Biological features

Probably lives for more than 20 years. Growth rate unknown. No evidence of suckering. Coppicing/pollarding

Figure 25. *Acacia* affin. *redolens*



A – Mature plant showing spreading crown. (Photo: B.R. Maslin)



C – 1 year old plant in trials at Katanning, W.A. (Photo: J. Carslake)



B – Branch showing mealy white flower buds. (Photo: B.R. Maslin)



D – Stem of relatively young plant showing small development of heartwood. (Photo: B.R. Maslin)

unknown (probably unlikely). Produces a reasonable quantity of fruit but the pods can be difficult to collect when plants are tall.

Cultivation

Trials

Assessment trials of this species were recently established in plots on farmland at various locations in south-western Australia by the “Search” project (see Acknowledgements). At age 10 months plants of the best performing provenance of *A. affin. redolens* showed an average survival of 79% and an average height of 94 cm. The ‘best’ plot was located on a downslope site with heavy soil in the Avon Wheatbelt IBRA region, with plants averaging 145 cm high. At this early age *A. affin. redolens* was demonstrating similar grow performance to *A. cyclops* which was also included in the ‘Search’ trials. *Acacia affin. redolens* was one of the few acacias in these trials that is apparently resistant to locust attack (J. Carslake, pers. comm.).

Weed potential

No records of weediness for this species and it is unlikely to cause problems in this regard.

Wood

Wood relatively hard; old plants develop a considerable amount of dark brown, attractively marked heartwood (heartwood less on younger plants). Basic density values range from 732 kg/m³ to 835 kg/m³ (mean 782 kg/m³) based on analyses of 6 wood samples by CALM’s NHT-supported ‘Search’ project (unpublished data). Note: This study preferentially sampled young and adolescent plants.

Utilisation

No recorded uses.

Potential for crop development

This poorly known species is not regarded as particularly prospective as a crop plant for high volume wood production. It is ranked as a category 4 species and would seem best suited as a phase crop (Table 6). *Acacia affin. redolens* is included here because it has a reasonably good growth form and produces reasonable amounts of woody biomass (although it is not known if it is capable of quickly producing acceptably high volumes of wood; furthermore, the wood is fairly dense which lowers its attraction for use in reconstituted wood products). Its tolerance of water-logged clays soils (which is an uncommon habitat for *Acacia*) could also be a useful attribute. This is one of the relatively few arborescent Acacias that occurs in the target area along the south coast of Western Australia. Because *A. affin. redolens* is taxonomically distinct from other species detailed in this report it may possess unique, desirable attributes; it is therefore worth undertaking further study to assess these possibilities. *Acacia affin. redolens* is likely to have similar performance characteristics to *A. cyclops* but unlike that species is seemingly neither susceptible to locust attack nor aggressively weedy.

The area predicted to be climatically suitable for the cultivation of *A. affin. redolens*, based on its natural climatic parameters, is shown in Map 52. Climatic conditions predicted to be suitable for *A. affin. redolens* are relatively narrow. They comprise a relatively narrow band of terrain extending throughout the eastern and western target areas. This is due to the narrow range of climatic parameters experienced in the restricted natural geographic range of this taxon. Its potential to be more widely cultivated will be dependent on its ability to grow in rainfall areas that experience less than 400 mm mean annual rainfall and its ability to grow in uniform and summer rainfall zones. Its preference for waterlogged clay soils suggests that it has good prospects for cultivation in discharge areas throughout the target area.