

Acacia implexa Lightwood

TAXONOMY

Division Angiosperm
Subclass Dicotyledonae
Family MIMOSACEAE

Previous Taxonomic Names

Racosperma implexum (Bentham 1842). Revised in 1978. (ANH et al 2005)

Taxonomic Identification Number 10128 (ANH et al 2005)

Taxonomic Status

Long lived woody perennial

Common Names

Lightwood, Hickory Wattle, Broad-leaf Wattle, Sally Wattle, Scrub Wattle, Black Wattle (ANBG n.d.)

MORPHOLOGY

Shrub or small tree, 3-15 m high, often suckering. Bark rough, greyish. Branchlets not prominently ribbed, commonly lightly covered in waxy bloom. Phyllodes sickle shaped, 7-20 cm long, 6-25 mm wide, green, with 3-7 nerves and numerous fainter ones parallel and branching. Bipinnate leaves may persist on some plants.

Flowers globular, 5-6 mm wide, 30-52 flowered, cream to pale yellow.

Pods linear twisted, coiled and twisted to 25 cm long, 4-7 mm wide, woody or thick. (Costermans, 1983; Maslin 2001).

SUBSPECIES

None

HYBRIDS

Possibly hybridises with *A. trinervata* at Grose Wold, NSW (Maslin 2001). No hybrids are known for the Corangamite region.

SIMILAR SPECIES

Acacia melanoxyton, Blackwood - the distinguishing feature is the funicle (ovary stalk) which is white on *A. implexa* seed, and red for *A. melanoxyton*. *A. implexa* has more sickle shaped leaves, than the short blunt foliage of *A. melanoxyton*, and *A. implexa* flowers earlier (Gowers 1990).

GEOGRAPHIC RANGE

Widespread in hilly country and on fertile plains, mostly in open forest and usually on shallow drier soils. It does not occur in the mallee, far south-west of the state or the Otways. It is native to Vic, Qld, ACT, NSW and King Island (Walsh & Entwisle 1996).

BIOREGIONS

Central Victorian Uplands Otway Plain Victorian Volcanic Plain

PLANT COMMUNITIES

In Corangamite, it is most common in open forests and riparian ecosystems in the north of the catchment, as well as grasslands and grassy woodlands towards Geelong and on the Bellarine Peninsula.

FRAGMENTATION

Recent fragmentation (since European settlement) is most likely due to clearing of native



grasslands and grassy woodlands especially on the volcanic plains.

RELEVANT HISTORY & RESEARCH

Stanley & Lill (2002) conducted a study at Lerderderg Gorge near Bacchus Marsh into fruit consumption and seed dispersion by birds. They found a number of faecal samples from Silvereyes contained *A. implexa* seed. 100% of *A. implexa* seed found in the samples was viable.

POPULATION DENSITY

Unknown

BREEDING SYSTEMS

FLOWERING

Flowers from December to March (Walsh & Entwistle 1996), but flowering is influenced by rainfall (Clemson 1985).

POLLEN

Pollen is 25% crude protein which makes it suitable for honey bee production (Kleinschmidt, 1988). Clemson (1985) also notes that it is of benefit to bees.

POLLINATION

Possibly not self-compatible, as is the case with many Acacias (Kenrick 2003).

POLLINATORS

Insects (Earl et al 2001)

SEED

SEED DESCRIPTION

Pods linear, coiled and twisted to 25 cm long, 4-7 mm wide.

Seeds longitudinal, oblong-oval, 4-5 mm long, sub-glossy, dark brown. Funicle/aryl fleshy, white (Maslin 2001), in one or two loops over apex of seed (Walsh & Entwistle 1996).

Approximately 83 seeds/gram (Gowers 1990).

SEED CROP

Flowering to seed takes 11 months so seed can be collected when the plant is flowering, Dec-Feb. Seed is released 3-14 days after reaching maturity (Ralph 1994).

30-46 seeds/gram (GAV n.d.).

SEED DISPERSAL

Birds (Stanley & Lill 2002), Ants (Earl et al 2001)

EXTRACTION & STORAGE

Seed needs to be separated from its pod. This can be achieved by placing pods on a tarp in direct sunlight to stimulate opening, or rubbing pods over a sieve (Ralph 2003).

76% viability after 5 years storage at 18-22°C (Gunn 2001).

TREATMENT OPTIONS

Propagate from scarified or heat-treated seed (GAV n.d.).

Smoke treatment has improved germination rates in some *Acacia* species (Ralph 2003).

PROPAGATION

Seed that floats is not viable (Ralph 2003).

GERMINATION TIME

Acacia species usually germinates in 3-10 weeks and seedlings are generally fast growing (Ralph 2003).

FIELD ESTABLISHMENT

Tube stock

Suitable for direct seeding (Ralph 1994).

Regenerates from soil-stored seed after disturbance such as fire, ripping and ploughing, and often suckers from roots (Earl et al 2001).

SEED COLLECTION RANGE - *Acacia implexa*

Narrow - within which, seed should be collected from remnant stands that are close to the revegetation project.

Acacia implexa has a limited distribution across the region but this may not be reflective of its pre-European range due to broad clearing of woodlands and grasslands. There is variation within the species but this may be due to environmental factors such as soil type. Provenance testing in nursery situations would be valuable.

Insect pollination suggests that population reproduction is likely to occur over a small scale from plants that are close to each other.

Consideration should be given to:

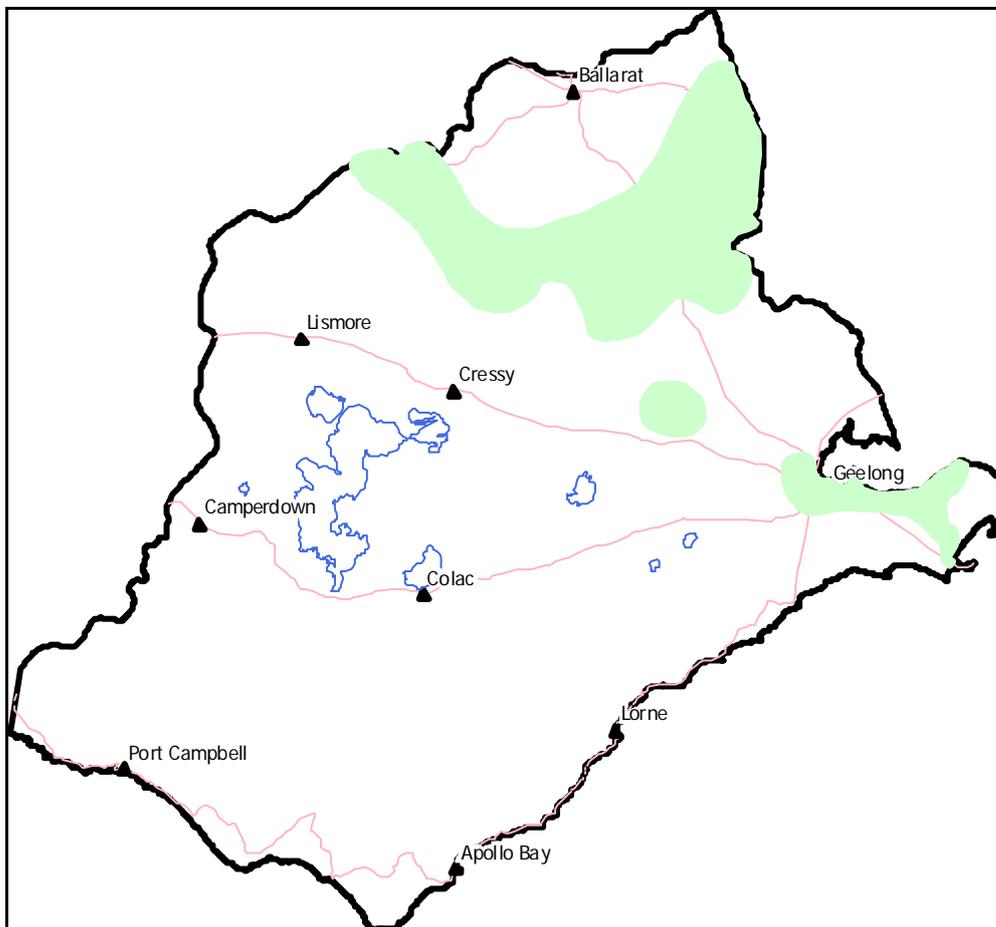
Collecting plants from large, healthy populations

Collecting at least 30 –60 plants across a population where possible

Mixing seed from different years within a given population

Confining collections to within particular bioregions and soil types to match to revegetation projects

Separate inland collection from coastal collection



MAP: *Acacia implexa* distribution

DATA SOURCE: DSE Flora Information System May 2005, accessed May 2006.



Acacia implexa broad distribution

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ACKNOWLEDGEMENTS

Information compiled for this note series was a result of extensive literature reviews and plant record searches completed by Lucy Nuttal, with assistance from Michelle Butler, Christine Gartlan and Anne Ovington.

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