

CONTROLLING ACACIA SALIGNA AROUND THE LOWER LAKES

What is *Acacia saligna*?

The common name for *Acacia saligna* is Golden Wreath Wattle.

What it looks like

The Golden Wreath Wattle grows as a large shrub or small tree, between 3 and 8 metres high. It has long, dark green 'leaves' (technically known as phyllodes), between 8 and 25cm long and 0.5 to 5 centimetres wide. Golden Wreath Wattle produces several golden coloured, globular flower heads in a 'bunch', has a long seed pod (to 14cm) and large black seeds (around 5mm long).

It may be confused with...

Golden Wattle (*Acacia pycnantha*), Limestone Wattle (*A. leiophylla*) and Swamp Wattle (*A. provincialis*¹) are local native species that may be mistaken for Golden Wreath Wattle (see Photo 2). It is therefore important to be able to accurately distinguish between the species before beginning to remove Golden Wreath Wattle. The key feature separating Golden Wreath Wattle from Golden Wattle and Limestone Wattle is the location of the gland on the upper margin of the leaf blade (Diagram 1), while the length of the cord connecting the seed to the pod separates it from Swamp Wattle.



Photo 1: Golden Wreath Wattle on the side of the Finnis Clayton Road (photo C. Miles).



Photo 2: showing local native species Swamp Wattle (left), Golden Wattle (centre) and the weed Golden Wreath Wattle (right). Note that whilst the sample of Golden Wreath Wattle shown has relatively narrow leaves, the leaf width varies and some trees have leaves nearly as wide as Golden Wattle (photo B. Gunn).

Features separating Golden Wreath Wattle from similar local native species.

Feature	Weed: Golden Wreath Wattle (<i>A. saligna</i>)	Local: Golden Wattle (<i>A. pycnantha</i>) and (<i>A. leiophylla</i>)	Local: Swamp Wattle (<i>A. provincialis</i> ¹)
Leaf gland	At the very base of the leaf.	Further up the leaf, sometimes with 2 glands per leaf.	Small, near base of leaf.
Leaf shape	Symmetrical base, usually narrow leaf, occasionally wide.	Often with asymmetrical base, curved and wide leaf.	Asymmetrical base, narrow leaf.
Leaf length	Up to 25cm.	Up to 15cm.	Up to 20cm.
Suckering	Do sucker from roots.	Non-suckering.	Non-suckering.
Flowers	October; golden yellow.	July-September; golden yellow.	Time varies; pale yellow.
Funicle ²	Not surrounding the seed.	Not surrounding the seed.	Surrounding seed.

¹*Acacia provincialis* was formerly called *A. retinodes* "Swamp Form"

²Funicle = the red or orange "cord" connecting the seed to the pod.

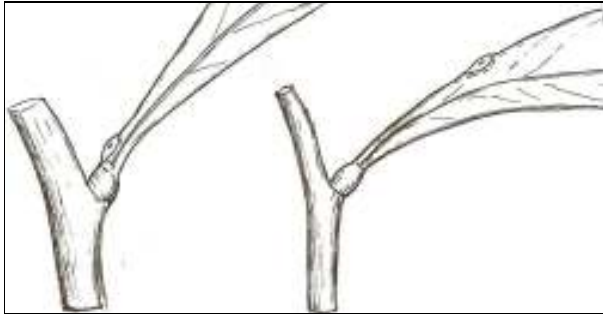


Diagram 1: Showing position of leaf gland at the base of the leaf of the weed Golden Wreath Wattle (left) and further up the leaf margin on local native species Golden Wattle and Limestone Wattle (right).

Where it grows

Native to south west Western Australia, Golden Wreath Wattle has been planted across south eastern Australia for fodder, windbreaks, dune stabilisation and gardens. It has also been exported to the Middle East, southern Africa and North America. It tolerates a wide range of conditions, including temporary flooding, moderate salinity, limestone and soils with a low water holding capacity (eg non-wetting sands).

How it spreads

Golden Wreath Wattle reproduces from seeds and root suckers (see Photo 3). As well as the seeds being spread by ants and birds, they have also been spread by people either intentionally wanting to grow the species, or accidentally assuming it is a local native species and collecting it for revegetation projects (Photo 4). The production of root suckers may be stimulated by mechanical disturbance such as ripping for revegetation and earthworks on road verges.



Photo 3: Golden Wreath Wattle seedlings spreading from an old windbreak (left) into a new area of revegetation (photo C. Miles).

How do Australian Native Plants Become Weeds in Australia?

In the past 200 years, thousands of plant species have been introduced to Australia from other countries (referred to as exotic species) intentionally for agriculture and gardens, as well as unintentional arrivals. Many of these have naturalised from plantings into remnant native vegetation, farmland and recreational areas and are now weeds. Similarly, Australian species have been translocated to other regions far outside their original distribution. Like their exotic counterparts, without their natural control mechanisms such as diseases or insect predators, some of these translocated Australian natives readily reproduce in their new locations. In particular, they can begin to invade remnant native vegetation, reducing the biodiversity of these areas, and active control is required to reduce their impact.

A weed can be defined as "...any plant that requires some form of action to reduce its effect on the economy, environment, human health and amenity" (Australian Government 2009). Naturalised, non-local Australian native species are, therefore, considered weeds, and the Golden Wreath Wattle is one such species. It is recognised as a weed in parts of south-eastern Australia (including the Lower Lakes region), and is no longer recommended for planting outside of its natural range.

Impacts of Golden Wreath Wattle

Golden Wreath Wattle has spread from plantings into areas of remnant native bushland where it out competes the local native species, preventing their regeneration. It also spreads into areas of local native revegetation, or occasionally, where it was intentionally planted, it outcompetes other species in revegetation areas. It can become the dominant species, reducing the diversity of native plant species and hence the diversity of food and habitat resources for native fauna.

Controlling Golden Wreath Wattle

Work from the best bush first

The most efficient way to control Golden Wreath Wattle is to begin working in the areas of best quality bush with the least weeds. This ensures that the best bush areas are conserved and that new weed infestations do not establish whilst working in already degraded areas.

It is therefore necessary to carry out a thorough site assessment before beginning any work. It may be of assistance to prepare a map of the site, with the level of infestation identified, for example: "Good bush, no Golden Wreath Wattle" through to "Poor bush, Golden Wreath Wattle dominant."

It is also important to identify other high threat weeds and control these as well – there is no point spending lots of effort removing one weed only to have it replaced by others.

Removing old plantings of Golden Wreath Wattle

The same approach as outlined above can also be applied for removing Golden Wreath Wattle where it has been planted into mixed species revegetation, i.e. work in the areas of the best revegetation first. However, in many cases, single species plantings of Golden Wreath Wattle have been established for windbreaks or stock fodder. These do not necessarily need to be removed if the plantings are far from remnant vegetation or other biodiversity revegetation, but if they are spreading or are likely to spread into remnant vegetation or biodiversity revegetation they should be removed.

In some cases Golden Wreath Wattle plantings may be providing the only habitat (albeit poor habitat) in an otherwise treeless landscape. If biodiversity revegetation is to be carried out adjacent to the Golden Wreath Wattles, it may be best to allow the new revegetation several years to establish before removing the Golden Wreath Wattles. Leave a 10 to 20 metre wide unplanted "control zone" between the two which can be monitored for new Golden Wreath Wattles. This can later be planted up after the Golden Wreath Wattle has been removed.

It may be important to take into consideration the original purpose for which the Golden Wreath Wattle was planted. In some situations, the purpose may have been for protection of erodible soils against wind erosion. In this case,

care should be taken to minimise soil disturbance and retain soil cover during the removal stage, and re-establish new vegetation as soon as practical.

Don't accidentally cause harm

Ensure the correct identification of Golden Wreath Wattle. Select methods of removal that are appropriate to the site and don't cause harm to the soil, water or native vegetation.

Removing seedlings

Small Golden Wreath Wattles can be hand pulled provided they are seed germinated. The soil should be moist for hand pulling, so this is best done in Winter or early Spring. Hand pulling suckers may be less successful, they should instead be spot sprayed or cut and swabbed, although Trees for Life have reported regrowth following cut and swab (Roche 2008). Ensure the parent plant is also treated when controlling suckers.

Removing large plants

The drill and fill method is recommended for mature plants as they can re-grow from cut stumps. This requires holes to be drilled on a downward angle into the base of the trunk through the outer sapwood. Holes should be 6-10mm diameter and 3-5cm apart. The holes are then immediately filled with an appropriate herbicide (Robertson 2005). This should be done when the trees are actively growing (Winter through to mid-Summer).



Photo 4: Golden Wreath Wattle (flowering) in revegetation (photo C. Miles).

Follow-up control

Follow-up control is essential for the successful removal of Golden Wreath Wattle and will need to be implemented for many years after the initial removal.

Soil Seed Bank

Wattle seeds can remain viable in the soil for many years so monitor for and remove new seedlings, especially after any disturbance such as soil ripping, weed control or fire. Trials of burning areas infested with Golden Wreath Wattle to encourage germination and therefore deplete the soil seed bank have had mixed results and further research is required. The negative impacts of intentionally burning plantings needs to be considered as these will often be on light soils that may easily erode by wind if bare. If a wildfire occurs however, and there is a flush of new seedlings, then the opportunity should be taken to remove these and reduce the soil seed-bank.

Re-growth

Treated plants should be inspected for new growth three to six months after treatment and treated again if required.

What to Put Back

Where Golden Wreath Wattle has been removed from remnant bushland, the natural bush should regenerate, although control of other weeds may also be required. In other areas, revegetate with a diverse range of local native species. Information about what species should be planted is available from the Goolwa to Wellington LAP and Coorong LAP (see Contacts).

References

Australian Government "Weeds in Australia" website
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