Maytenus boaria – a new weed?

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Introduction

Maytenus boaria is a plant that we have previously grown for horticultural purposes. It was only thought to be present, in Canterbury at least, as male plants. Female plants are now present and plants are now establishing from seed. *M. boaria* is proving exceedingly difficult to control.

Given the ecology of the species, we raise the concern that this could be a significant new weed species becoming established in New Zealand. Early intervention is recommended.

A shoot of *Maytenus boaria*.

Description

M. boaria Molina. (Celastraceae), or Chilean mayten, is a native of Chile. Possible synonyms include *Maytenus chilensis* (DC.) and *Celastrus maytenus* Willd..

It is an evergreen tree, up to 10m in height (Salmon 1999) or even 25m (Webb *et al*. 1988), and possibly dioecious (to be confirmed). The plants sucker vigorously. Female plants produce small fruits with red oily flesh and one to two seeds inside, which birds love.

In form, the trees are reminiscent of weeping willows.

A more complete botanical description is available in Webb *et al*. (1988).

Status

Webb *et al*. (1988) note that *M. boaria* has been collected several times in Christchurch and on Banks Peninsula, although Wilson (1999) considers it to be doubtfully naturalised on Banks Peninsula.

The current status given on the New Zealand Plant Names Database is "Wild in New Zealand; Exotic (Fully naturalised)".

A female plant of *M. boaria* showing capsules and aril.

History

Prior to about the mid 1980's *M. boaria* appeared to be present, in Christchurch at least as male plants only, and probably all one clone. One of us (JC) checked dozens of plants in Christchurch and a few in other areas in the early 1980's to see if there were any female plants, but none were found.

Propagation for the horticultural trade at that time was mainly from root cuttings.

Around the mid 1980's seed-grown plants started to appear on the market. These plants had slightly different leaf shapes and sizes from the original trees, although this was only obvious when the two different sources of plant were grown together.

Several of these seed-grown plants were planted at Harewood Nursery in a shelterbelt and one turned out to be a female. Small fruits were produced and were popular with birds. Almost immediately seedlings started turning up in the area around this tree.

The source within the nursery is a female tree that was planted about 12 years ago in a shelterbelt. The original tree has been removed and significant time has been spent over the last couple of years, trying to get rid of it in shelterbelts at one of the Councils' nurseries.

Discussion

The seedlings are able to grow in very low light. They grow rapidly in dense shade under other evergreens.

The plant suckers from the roots and eventually forms extensive colonies of stems at some distance from the parent tree.

M. boaria is quite resistant to herbicides. Plants have been drilled and the holes filled with 60% Roundup solution. This kills about half the treated stems. In comparison, this method has a 100% kill of hawthorn, spindleberry, sycamore and Eucalypts elsewhere within the shelterbelt. Poisoning is necessary as merely cutting the plants stimulates a mass of root suckers.

Also of concern is that *M. boaria* looks similar to a lot of our native plants in that it has small evergreen leaves and it "blends in" very well with many of our native species. Plants are difficult to spot.

M. boaria reaches a significant height of around 10m.

The plants observed started to produce seed at about 2 m tall, when they were probably ~3-5 years old.

A stand of *M. boaria* plants that have been drilled and 60% Roundup applied. There has been some defoliation but new growth is vigourous.

A plant that has been drilled and had 60% Roundup applied. Note the robust root system, and the vigorous new sucker on the right.

Conclusion

M. boaria appears able to readily colonise areas that are relatively undisturbed and densely shaded. It is bird-dispersed, tall, long-lived and difficult to control.

As always, it is difficult to decide to do something when there are apparently small numbers of plants, in an initial stage of establishment. Nevertheless, now is the most cost-effective time to undertake control measures. These could include:

- Requesting additional records from groups such as botanical societies, Landcare, DoC
- Notifying agencies and groups involved in weed control, and/or managing natural areas, of the potential problem
- Advocating a change in status of M. *boaria* to unwanted organism under the Biosecurity Act, thereby eliminating new sources of plants
- Researching effective control methods (other herbicides?) and dissemination of those results

References

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