

Shrubby Toroaro

Muehlenbeckia astonii Petrie

shrubby pohuehue, wiggly wig, zig zag plant

Landscaper's idol



Botanists examine a shrubby toroaro plant.
Mike Thorsen

Quickfacts

Popular plant for landscaping.

There is almost no natural regeneration in the wild, and the plant is now very rare in the wild.

It is thought that the absence of regeneration is because most of the surrounding forest and shrubs have disappeared.

Where are the young plants?

Shrubby toroaro has proved very popular with horticulturalists – its dense interlacing orange branches provide a strong texture in a garden, and are also useful as a cushion barrier along roads and as a host for enhancing the control of insect pests in vineyards. While popular and common in cultivation it is very rare in the wild and shrubby toroaro is only known from 37 sites in the south eastern North Island as far north as Honeycomb Rock and north eastern South Island as far south as Kaitorete Spit (with one old record from the Waimate Valley). At most of these sites there are only a few (1-3), old plants and Kaitorete Spit is where most shrubby toroaro plants survive. Here 2,500 of the total population of 2,600 plants occur. But even at Kaitorete seedlings are rare, and they are almost absent from all the other sites.

It is likely that shrubby toroaro is now marooned in a hostile environment. Before humans arrived it would have grown with a number of other dry-adapted plants in a simple low forest intermixed with shrubby areas on rocky sites and where there had been a recent landslip, rockfall, or fire (though fires are likely to have been rare, and





caused by an occasional lightning strike). These forests were inhabited by a range of bird species including several moa species whose heavy build would have helped them push through the tangled vegetation. Moa also browsed on the plants and are thought to be a reason why New Zealand has so many trees and shrubs with a tangled (divaricating) growth form created by the interlaced widely spread branches bearing small leaves. The divaricating growth form also allows these plants to resist the strong winds and cold frosts that are common in New Zealand. In this prehistoric environment shrubby toroaro, together with other divaricating shrubs, would have inhabited the rocky shrublands, forest edges and recently-created open areas where shrubby toroaro is able to withstand severe drought due to its deep root system and ability to shed leaves during harsh growing conditions and where the white fleshy 'foot' of its fruit (produced only on female plants) was a popular food source for native lizards and birds. The rocky crevices and dappled shade of these sites would provide ideal sites for the shrubby toroaro seed, spread by the birds and lizards, to germinate, and for growth of young plants. Now that these forests are gone, there is no longer the shaded environment which young shrubby toroaro need and the area around the remaining shrubby toroaro is swamped by exotic shrubs and grasses which create dense vegetation – too dense for many New Zealand plants to cope with. The areas also swarm with rodents, possums and exotic insects, all of which feed on shrubby toroaro, and against which shrubby toroaro have no natural defence. Shrubby toroaro also has to cope with its seed being consumed by rodents, competition with exotic shrubs such as boxthorn *Lycium ferocissum*, smothering of seedlings by exotic grasses, and snails and slugs eating young seedlings. It also suffers from infestation by fungal smut and scale insects.

In 2000, the Department of Conservation published a plan for saving shrubby toroaro and plants from many known sites are being grown in gardens as insurance against the loss of the wild plants. Shrubby toroaro has been planted onto Mana Island, where it is thriving.

What next?

It is important to introduce locally-sourced shrubby toroaro into the revegetation projects that are within its geographic range. To this end the Endangered Species Foundation is incorporating shrubby toroaro into its Te Kopahou project on Wellington's southern coast.



More information

Website: New Zealand Plant Conservation Network: *Muehlenbeckia astonii*. [Link](#)

Website: Department of Conservation: shrubby toroaro. [Link](#)

Report: Shrubby toroaro (*Muehlenbeckia astonii* Petrie) recovery plan. By Peter de Lange and Cathy Jones. Threatened Species Recovery Plan 31. Department of Conservation, Wellington. 2000. [PDF](#)

Report: Re-establishment of the shrubby toroaro (*Muehlenbeckia astonii* Petrie), a nationally threatened plant. By David A. Norton. Science and Research Internal Report No. 188. Department of Conservation, Wellington. 2001. [PDF](#)

Report: The role of disturbance in dryland New Zealand: past and present. By Geoff Rogers, Susan Walker and Bill Lee. Science for Conservation No. 258. Department of Conservation, Wellington. 2005. [PDF](#)

Photos



Current shrubby toroaro habitat at Kaitorete Spit.
Mike Thorsen



Shrubby toroaro, Wainuiomata River. Mike Thorsen

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