



FACTSHEET

July 2010

For more information on weeds, including use of biocontrol agents contact:

Your local NRM Board
www.nrm.sa.gov.au

Visit the Biosecurity SA web page:
www.pir.sa.gov.au/biosecurity/nrm_biosecurity/weeds

Ph 08 8303 9620

Or Weeds Australia:
www.weeds.org.au

BIOLOGICAL CONTROL OF

Bridal creeper

(*Asparagus asparagoides*)

Biocontrol agent: bridal creeper rust fungus (*Puccinia myrsiphylli*)

BACKGROUND

Bridal creeper was introduced from South Africa for ornamental purposes and originally spread by escaping from gardens. It was a common garden plant in the 1800s and had naturalised by the 1930s. It is now found throughout much of southern Australia. It is one of the most serious weed threats to biodiversity in South Australia. Bridal creeper also affects the citrus industry, reducing fruit production and overall tree health.

The plant grows in a wide range of habitats and can tolerate variable growing conditions such as frost and fire. It commonly grows close to coasts where it invades woodlands and other open coastal vegetation.

Bridal creeper is a perennial plant that dies back in early summer. It is active from early autumn when annual shoots emerge. Plants can produce more than 1,000 berries per square metre. Birds, rabbits and foxes feed on the berries and disperse seeds.

Bridal creeper is a Weed of National Significance and a declared plant in South Australia. Landowners have a legal responsibility to control it under the South Australian *Natural Resources Management Act 2004*. Regional NRM Boards coordinate and enforce local and regional control programs for declared plants.

HOW THIS BIOCONTROL WORKS

Bridal creeper rust fungus was released in Australia in 2000. It infects the leaves and stems absorbing nutrients from the plant, slowing plant development and reproduction and reducing the production of stems, fruit, rhizomes and tubers.

Severely diseased plants shed infected leaves prematurely.

The rust fungus first appears on bridal creeper 1-2 months after the first autumn rains, spreading prolifically over winter and peaking in spring when the plant flowers and fruits.

The fungus can produce many generations a year, resulting in large amounts of wind-dispersed spores. The spores remain in the leaf litter over summer, allowing the re-infection of bridal creeper plants after their re-emergence in autumn.

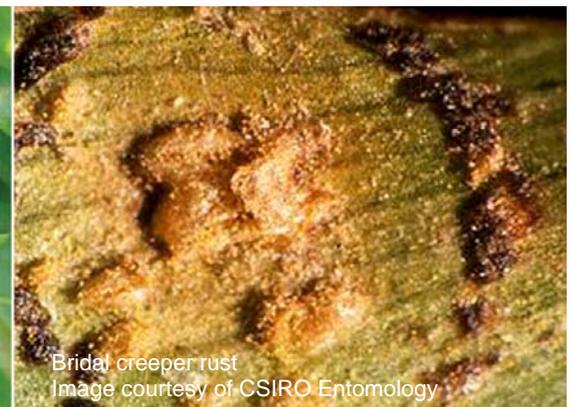
RELEASE OF AGENT IN SOUTH AUSTRALIA

The bridal creeper rust fungus is widely established with nursery sites in the Adelaide and Mt Lofty Ranges and Eyre Peninsula NRM Regions.

It is widespread on Kangaroo Island where the NRM Board is distributing the rust along the western front of the main weed infestation (roughly north-south from Stokes Bay to Vivonne Bay), and at outlier infestations in the west of the island to protect Flinders Chase National Park.



Bridal creeper rust-affected leaves
Image courtesy of DWLBC



Bridal creeper rust
Image courtesy of CSIRO Entomology

Bridal creeper infestations across SA NRM Boards

- > Eyre Peninsula: widespread, with heavy infestations in the south
- > SA Murray Darling Basin: widespread with heavier infestations in the south
- > South East: widespread on roadsides, reserves and native vegetation
- > Northern & Yorke: common in native vegetation and roadsides in high rainfall areas
- > Adelaide & Mt Lofty Ranges: common on roadsides and ungrazed areas
- > Kangaroo Island: common on roadsides and ungrazed areas
- > Arid Lands; Alinytjara Wilurara: present in the southern Flinders Ranges

During spring 2009, the Northern and Yorke NRM Board spread rust fungus along 700 km of roadside from Port Broughton to the southern tip of the Peninsula, and on 50 hectares of the weed within Innes National Park.

The SA Murray Darling Basin Region has rust fungus establishing in most areas. It was released in the South East in 2000 near Robe and Beachport, and then in other areas where it is well established and has reduced infestations considerably. The broadscale spray application of 'spore water' (a solution made from mixing rusted leaves with rainwater) has been a successful method of redistributing rust to areas infested with bridal creeper in many parts of the State.

OTHER AGENTS USED ON BRIDAL CREEPER

The bridal creeper **leafhopper** (*Zygina* sp.) was first released in South Australia in 1999. It readily establishes but its performance is variable. This small white insect damages the plant by sucking the leaf's photosynthetic cells causing it to turn white and, in severe cases, fall off. The plant then grows with less vigour, and damage over several years reduces tuber production making it less competitive.

On Kangaroo Island the leafhopper only established near Western Cove and Penneshaw. In the Northern and Yorke Region it had little or no impact. Leafhopper colonies are established in the SA Murray Darling Basin Region, but they show limited success in controlling the weed. It was released in 2000 in the lower South East and is locally established providing agents for the Adelaide and Mt Lofty Ranges and SA Murray Darling Basin Regions, however its impact is limited. The leafhopper is established locally in the Adelaide and Mt Lofty Ranges and Eyre Peninsula Regions with nursery sites also on the Eyre Peninsula.

The bridal creeper **leaf beetle** (*Crioceris* sp.) was released in South Australia in

2005 at Waikerie. It damages the weed by stripping young stems of shoots and leaves and is active in autumn and early winter.

The leaf beetle has only established locally in the Eyre Peninsula Region. It was released near Kingston in the South East around 2004 but did not establish.

INTEGRATED CONTROL

Integrated weed management aims to maintain or reduce weed densities to manageable levels by utilising a variety of control practices, including biocontrol where appropriate.

Bridal creeper is well-controlled by grazing and cultivation in farming systems, however control in native vegetation is a difficult and laborious activity.

Fire may be used to manage larger infestations in late summer/early autumn to remove understorey vegetation. This improves access to emerging bridal creeper which can then be sprayed with herbicides.

In inaccessible locations, or where there is a risk of damage to sensitive native vegetation, conventional control methods may be difficult or impossible to implement.

Biocontrol may then be the only management option; however biocontrol alone will not eradicate the weed but slow its rate of spread and allow more time for control by other means.

REFERENCES / LINKS

- [Declared Plants of South Australia](#)
- [Integrated Weed Management](#)
- [Bridal Creeper Weed Identification Notes](#)
- [Bridal Creeper Weed Management Guide](#)
- [Bridal Creeper Strategic Plan 2001](#)
- [Bridal Creeper Rust Fungus](#)
- [Bridal Creeper Leaf Hopper](#)
- [Bridal Creeper Leaf Beetle](#)

Disclaimer:

This publication is provided for the purpose of disseminating information relating to scientific and technical matters. The Government of South Australia does not accept liability for any loss and/or damage, including financial loss, resulting from the reliance upon any information, advice or recommendations contained in this publication. The contents of this publication should not necessarily be taken to represent the views of the participating organisations.