

ENGLISH BROOM

biocontrol

Target weed:

English Broom (Scotch broom) *Cytisus scoparius*

Biocontrol agents:

English broom gall mite *Aceria genistae*

Broom psyllid *Arytainilla spartiophila*

Broom twig mining moth *Leucoptera spartifoliella*



ENGLISH BROOM GALL MITE

ACERIA GENISTAE

First released in Australia in 2008.

Lifecycle: Multiple generations per year. Adult females lay eggs within the existing gall, or can be wind dispersed to colonise new buds on nearby plants. Young mites develop and feed inside the gall.

Impact: Mites feeding on developing bud tissues create abnormal growth and the formation of galls that provide shelter for the colony. This can impact on the available photosynthetic tissues, and impede flower and seed pod production.

How and when to release: CUTTINGS.

Collect plant material with galls from nursery sites during spring and autumn. Immediately release into a new area by tying small clumps of gall-covered stems to broom bushes, surrounding the galls with fresh bud-covered growth to increase the likelihood of colonisation.

How and when to monitor: Look for small, fuzzy, rosette-like growths appearing from buds up to 18 months after release.



Above: English broom mite gall causing flower distortion
Below: English broom mite gall at each bud point

BROOM PSYLLID
ARYTAINILLA SPARTIOPHILA

First released in Australia in 1999.

Lifecycle: Single generation per year. Eggs are laid into the stem of the plant over summer and undergo diapause for five to six months over autumn/winter. Hatching coincides with bud burst in spring. Nymphs will develop rapidly, becoming adults four to eight weeks later. Adults are active and very mobile, and live for three to four weeks.

Impact: Adults and nymphs suck sap from new growth on the plant, damaging cells and stunting growth.

How and when to release: SWEEP NET or TAPPING. Adult psyllids can be released in large numbers during fine, still weather in spring, when broom is actively growing. As of 2013 there are no sites in South Australia where this agent can be collected.

How and when to monitor: Sweep net for adults in summer, or observe stems for nymphs sheltering beneath bud scales in spring.

BROOM TWIG MINING MOTH
LEUCOPTERA SPARTIFOLIELLA

First released in South Australia in 1999 and 2009.

Lifecycle: Single generation per year. Eggs are laid into the stem furrows of the plant in late summer and hatch two to three weeks later. The larvae bore straight into the stems and actively feed in tunnels during the remaining warm months, then become inactive over winter. Feeding resumes in spring when most damage is done by the older larvae. During mid-spring the larvae vacate the stem to spin a white silk cocoon and pupate on plant stems. One month later adults emerge, mate and lay eggs.

Impact: Tunnelling larvae cause damage to the plant stems, reducing plant growth and seed production. Heavily infested branches can die.

How and when to release: SWEEP NET or CUTTINGS. Adult moths are released in large numbers during summer, or cut stems containing cocoons can be attached to new plants during late spring. As of 2013 there are no sites in South Australia where this agent can be collected.

How and when to monitor: Observe plants in spring looking for signs of brown stem 'mines' running up and down the new growth. White, silky cocoons of the pupating larvae can be seen stuck to the outside of stems around October, and adults can be sampled by sweep netting over summer.



Above: English broom psyllid adult resting on flower (photo: © D. Ouvrard/ Psyllist/NHM-London)



Top: Exposed broom twig miner larva with tunnel evident as brown scarring on twig surface. Bottom: Twig miner adult (photo: Tasmanian Institute of Agriculture)