

BROOM PSYLLID

Arytainilla spartiophila

The history of broom psyllids in New Zealand

Broom psyllids are native to Europe, and they were first imported from England by the DSIR in 1992. The psyllids were mass-reared and released throughout New Zealand in the mid-1990s. Psyllids are now becoming widespread and common in the North and South Islands.

How would I find broom psyllids?

Broom psyllids can be difficult to find as the obvious stages are only visible for a few months of the year. Broom psyllids spend the colder months as eggs, and you will not be able to see these as they are embedded in the stems with a waxy cap over the top. In the spring the eggs hatch into tiny (<2 mm long) orangey-brown nymphs that crawl into new growth buds and begin to feed. You may see these nymphs in late spring if you look when there is new growth forming on the plants. The nymphs feed and grow through five stages and develop into pale brown aphid-like adults, about 2–3 mm long. The adults have wings and are more mobile than the wingless nymphs – you may see them in early summer sitting on the younger green stems and leaves.

If you cannot see adult psyllids sitting on the new growth by eye, then you may need to use a



Broom psyllid nymph



Broom psyllid adult

beating tray. You can improvise a beating tray by using a sheet of white material, paper, or cardboard. Place your tray on the ground under the broom bush. Beat the broom foliage with a stout stick for 5–10 seconds and then look to see what you have dislodged.

The adults feed on the new growth for a couple of weeks, lay their eggs in the stems and then die – only one generation is produced each year. Both the adults and nymphs produce sticky honeydew and sooty mould may grow on this.

The broom psyllid is easy to differentiate from other broom biocontrol agents.

See *Broom gall mite*, *Broom leaf beetle*, *Broom seed beetle*, *Broom shoot moth*, *Broom twig miner*.

How do broom psyllids damage broom?

Both the adult and nymph stages damage broom by sucking sap out of the tender new growth in the spring. When populations are high the damage to broom is severe.

Will broom psyllids attack other plants?

No, broom psyllids will only damage Scotch broom (*Cytisus scoparius*). They will not even attack other broom species such as Montpellier

broom (*Genista monspessulana*) or white broom (*Cytisus multiflorus*).

How effective are broom psyllids?

The effectiveness of broom psyllids in New Zealand is not yet known. In their native range the psyllids outbreak regularly causing obvious and severe damage to broom bushes. A few outbreaks have been seen here, especially in Southland, but these are still the exception rather than the rule. Small insects called mirids have been noticed feeding on the psyllids and may be preying on them. Broom psyllids are heavily attacked by specialist mirids in Europe which limits their impact there.

How can I get the most out of broom psyllids?

Although the adults can fly, they appear to disperse slowly. If they are not yet present in your area you can help to increase the distribution of this agent by shifting some from an established site. The best time of the year to redistribute the psyllids is when you can find good numbers of nymphs, and this is usually around October–November. It is possible to shift the adults too, but these are more fragile and may be too old to lay many more eggs.

How do I choose a release site?

Read *Guidelines for selecting release sites for biocontrol agents*.

How do I collect broom psyllids for release?

You need a pair of secateurs and some paper rubbish bags. Simply cut off infested branches



Harvesting psyllids

and carefully put them into the bags. Do not be tempted to use a garden-leaf vacuum to collect broom psyllids as they are too fragile. Experiments have shown that the psyllids can establish from extremely low numbers (<10) under favourable circumstances, but we recommend you release at least 100. Simply wedge the infested branches firmly into uninfested broom.

How do I manage the release sites?

Avoid activities that will interfere with broom psyllids, such as herbicide application. Herbicides appear to be particularly harmful to psyllids. If you need to undertake control measures avoid the release site.

See *Broom agents & herbicides*.

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