

OLD MAN'S BEARD SAW FLY

Monophadnus spinolae

The history of old man's beard saw flies in New Zealand

Old man's beard sawflies were imported by Landcare Research from central Europe where they are native. Difficulties with mass-rearing the flies has meant that they have been released widely but at a limited number of sites. So far no signs of successful establishment have been seen at any of these sites. If the sawfly fails to establish then another attempt may be made to establish it in future.

How would I find old man's beard sawflies?

Adult females sit on the undersides of the leaves and are often hard to see. You are more likely to see the males when they are swarming around the plant searching for females to mate with. It is easy to tell the sexes apart. The males are smaller (about 5.4 mm long) than the females



Old man's beard saw fly adult



Old man's beard saw fly larva

(about 6.4 mm). Both look like small black wasps but the colouration of their abdomens is different. The males' abdomens are black above and yellow below, whereas the female's abdomens are all yellow except for a black tip (ovipositor) that looks like a stinger.

Adult females produce 50–60 whitish eggs and use their ovipositors to lay them singly on the leaves. Although quite large (3–5 mm across), these eggs are not easy to spot in the field. Larvae hatch after about 2 weeks and resemble white caterpillars. The larvae feed and develop through four stages for males and five stages for females and get quite big (2.5–3 cm long). Sawflies are easiest to spot at this stage and, being white, the larvae stand out quite readily against a green backdrop. Search in areas where you can see damaged leaves and black frass. The only thing on old man's beard that you could confuse the larvae with is the occasional pale green leafroller caterpillar (see also *Old man's beard leaf miner*).

In southern central Europe the old man's beard sawfly has two generations per year. The first generation of larvae produced in the spring



drop to the ground and pupate for a few weeks, emerging as adults by midsummer. The second generation remain in their cocoons from late summer right through until the following spring. In the milder oceanic climate of New Zealand, there may be sufficient time for the sawflies to complete a third generation.

How do old man's beard sawflies damage old man's beard?

The larvae are the damaging stage. Before a larva begins to feed on a leaf it cuts the vein at the base. This unusual behaviour may limit the defensive reaction of the plant by stopping the translocation of unpalatable substances into the leaf, or nutrients out of it. The larva usually starts feeding at the tip of a leaf and makes semicircular excisions along the leaf margins. A single larva may eat several leaves, sometimes leaving only the central vein intact. Sometimes other insects damage the leaves in a similar way, so to be sure that the old man's beard sawfly is responsible you would also need to see the white larvae and/or their black frass.



Old man's beard larvae and damage

Will old man's beard sawflies attack other plants?

No, old man's beard sawflies are extremely unlikely to attack any plants other than old man's beard (*Clematis vitalba*). Host specificity testing suggests that the sawfly can damage leaves of several species of *Clematis*, but only if larvae have access to old man's beard as well, for example when the vines are intertwined. This situation would be rare in New Zealand and, therefore, the threat posed to other *Clematis* is minimal. Evidence that sawflies can be highly damaging is demonstrated by another exotic invader. The willow sawfly (*Nematus oligospilus*) has recently arrived in New Zealand and is already causing severe damage to willow trees in some places.

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