

HONSHU WHITE ADMIRAL

Limenitis glorifica

The history of the Honshu white admiral in New Zealand

The Honshu white admiral is endemic to one island of Japan, Honshu. It was first imported by Landcare Research into containment for testing in 2010. However, because the butterflies would not mate in captivity host-specificity testing was later undertaken in Japan. Permission to release this butterfly was granted by the EPA in 2013. The first field releases began in spring 2014, and the butterfly has successfully established at a site in the Waikato. Efforts will now focus on harvesting material from this site and distributing it to other parts of the country where Japanese honeysuckle is problematic. The Honshu white admiral has not been used as a biocontrol agent anywhere in the world before, and is the first of what is expected to be a suite of agents released to attack Japanese honeysuckle in New Zealand.

See *Japanese honeysuckle stem beetle*.

How would I find the Honshu white admiral?

Adult butterflies emerge in the spring. Look for them during the warmer months flying about Japanese honeysuckle infestations or resting on the leaves. Adults are black with white markings on the top of wings and grey, reddish-brown, white and black markings underneath. Their wingspan is approximately 60 mm. The male and females look similar.



Large caterpillar



Adult

Females lay pale yellow eggs singly on the upper and lower surfaces of the leaves. Eggs hatch after about a week. Initially the caterpillars are brown and lack spines and they may be found at the tips of leaves, where they construct pontoon-like extensions to the mid-rib on which they rest. As they grow they turn green, with several spiky brown horn-like protrusions. The caterpillars feed on the foliage, developing and growing through 5 instars. Once fully grown the caterpillars shed their skin to form a light green and brown pupal case suspended from the plant. After about a week new adults emerge.

Development from an egg to an adult can occur in as little as 8 weeks at warm temperatures. The adults can live for up to a month and the females lay 150-200 eggs over a 2-4week period. In Japan there are 1-4 generations produced each year, depending how warm the site is. It is unclear how many generations will be produced in New Zealand but likely 2-3.

Larvae produced later in the season are triggered into hibernation once daylight falls below about 13-14 hours. These larvae spend winter inside shelters fashioned from honeysuckle leaves hanging from the stem.

There are no other butterflies in New Zealand that you are likely to confuse with the Honshu white admiral.

How does the Honshu white admiral damage Japanese honeysuckle?

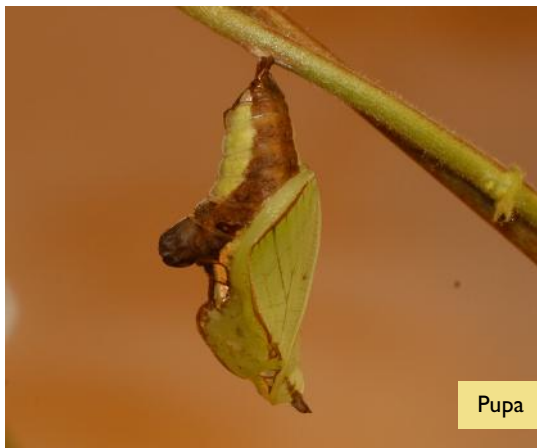
The caterpillars damage the foliage and when present in large numbers can defoliate plants.

Will the Honshu white admiral attack other plants?

The Honshu white admiral is a Japanese honeysuckle (*Lonicera japonica*) specialist but testing showed they can also successfully rear through on Himalayan honeysuckle (*Leycesteria formosa*), another invasive weed in New Zealand. Testing showed that the caterpillars are able to attack some other ornamental climbing forms of honeysuckle with soft leaves, but given attack on other *Lonicera* species in Japan is extremely rare this is expected to the case in New Zealand too. The Honshu white admiral is not able to attack the most commonly grown ornamental *Lonicera* (*Lonicera nitida*).

How effective is the Honshu white admiral?

It is too soon to know what impact the butterfly will have here but field observations in Japan have shown that the caterpillars can be extremely damaging to Japanese honeysuckle. Few parasitoids, that are likely to attack the butterfly, are believed to present in New Zealand. A monitoring programme to measure



the effectiveness of the white admiral will be established.

How can I get the most out of the Honshu white admiral?

If the butterfly establishes at initial release sites it would be worth helping to establish them in all areas where they are needed. The adults can fly and will disperse over time, but helping to shift them about will speed up the process.

How do I choose a release site?

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

How do I collect the Honshu white admiral for release?

During the warmer months collect eggs or young caterpillars (older caterpillars are well camouflaged and difficult to see) and transport them on foliage in a chillybin to their new home. You should aim to shift at least 100 eggs or caterpillars, preferably more. At the new site wedge the caterpillars into the honeysuckle plants so they can easily move across.

How do I manage the release sites?

Avoid any activities that will interfere with the butterfly, such as herbicide application. If you need to undertake control measures then avoid the release site.

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