

## KEYWORDS

Andromeda lace bug, pests, Pieris lace bug, *Pieris japonica*, Spain, *Stephanitis takeyai*

## REFERENCES

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## BACKGROUND

*Stephanitis takeyai* is a tingid native to Japan. To date, this insect has been reported in India, the United States and some European countries: the Netherlands (1994 and 1999), UK (1998), Poland (1999), Italy (2000), Germany (2002 and 2003), and Hungary (2012). *S. takei* has been commonly found on *Pieris* spp. but in Italy it was also detected on azalea. From April 1998 to March 2004 this organism was included in the EPPO Alert List.



Figure 1. *S. takeyai* on *Pieris japonica*

## HOST PLANTS

It is an oligophagous species whose preferred host is *Pieris japonica*, but in other areas it has been also detected on other botanic species, as shown in the table below:

Family	Species
Ericaceae	<i>Pieris japonica</i> (Thunb.) D. Don ex G. Don
	<i>Lyonia elliptica</i> (C. Wright ex Small) Alain
	<i>Rhododendron</i> spp. L.
Illiciaceae	<i>Illicium religiosum</i> Sieb. et Zucc.
Lauraceae	<i>Lindera benzoin</i> L.
	<i>Cinnamomum camphora</i> (L.) J. Presl.
	<i>Sassafras albidum</i> (Nutt.) Nees
Ebenaceae	<i>Diospyros kaki</i> L.
Pinaceae	<i>Pinus densiflora</i> Siebold & Zucc.
	<i>Pinus thunbergii</i> Parl.

## FIRST REPORT

In September 2012, a sample of *Pieris japonica* was submitted to our laboratory. It showed yellow dots on the leaf upper side and grey spots with darker points, exuviae, honeydew and sooty molds on the underside. Under the magnifying glass, tingid adults and nymphs were observed and identified as *Stephanitis takeyai*. This sample had been collected from plants growing in a nursery in the south of Pontevedra province (NW Spain). According to the available information, these plants had been introduced from the Netherlands, but they were long since planted in the nursery.



Figure 2. Plant damaged by *S. takeyai*

Before this detection, other species from the Tingidae family such as *Stephanitis pyri* (pear lace bug) and *Corythucha ciliata* (sycamore lace bug) were present in Galicia (NW Spain). Besides these two species, the willow and poplar lace bug (*Monosteira unicostata*) also occurs in Spain.

To our knowledge, this is the first report of *Stephanitis takeyai* in the Iberian Peninsula.

## DESCRIPTION

Tingids are mainly characterized by the reticulate or areolate appearance of their pronotum, hemelytra and other body structures. The adult of *S. takeyai* is black, except for its golden antennae and legs. It presents a rounded and centrally elevated pronotum, with lateral carinae slightly developed. It has reticulate and transparent wings, longer than the body and held flat over it. Wings show two dark spots that form a “C”, and when overlapped an “X” can be seen. Adult is 3-4 mm long.

Nymphs present 5 stages slightly different, but in general, their appearance is blackish brown, wingless and spiny. They are from 0.8 to 2.5 mm long.

Eggs are whitish, oval, and have a reticulate appearance. They are around 0.85 mm long.

## BIOLOGY

Females introduce the eggs in the leaf mesophyll and cover them with dark frass. *S. takeyai* overwinters in the egg stage. Nymphs normally hatch in spring and go through 5 instars until they reach adult stage. The temperature thresholds of the egg and nymph are 6.95 °C and 9.6 °C, respectively. Female longevity is 50 days and can lay over 300 eggs. In the countries where this insect has been reported, it can complete from 2 to 4 generations a year.



Figures 3, 4 and 5. *S. takeyai* adult, nymph and egg

## SYMPTOMS AND DAMAGES

Both nymphs and adults feed by sucking plant sap, thus affecting the ornamental value of the plant, reducing its photosynthetic activity and may cause leaves to dry up and fall off. Symptoms are caused by the trophic activity of nymphs and adults that live on the leaf underside and present gregarious habits. The upper side of the leaf presents yellow dots. On the underside, grey spots with frass, exuviae and honeydew can be observed and when populations are large, sooty molds may also appear.



Figures 6 and 7. Symptoms on upper and underside of *Pieris japonica* leaves

## CONTROL

Due to the lack of references dealing with the chemical control of this pest, general insecticides registered for use on the affected plant species may be selected. Applications must be performed by wetting completely the underside of leaves and should be initiated after hatching of overwintering eggs, when nymphs appear. Mirids, anthocorids and green lacewings may be among their natural enemies, but they have proved insufficient to keep insect populations low. At present, the efficiency of its egg parasitoid *Anagrus takeyanus* (Hymenoptera, Mymaridae) is being currently studied.



Figure 8. Defoliation due to severe attack