



# String Cottony Scale Insect

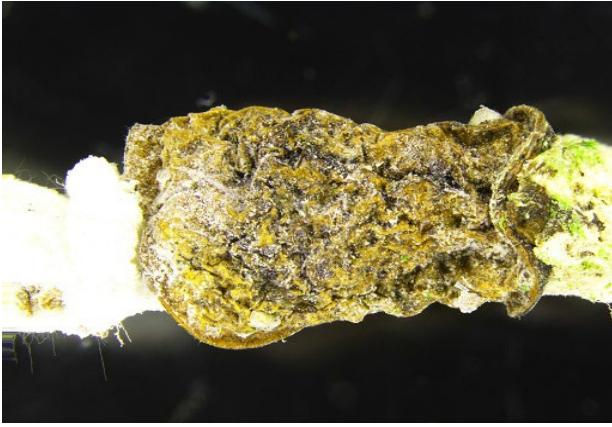
## *Takahashia japonica*



**Fig: 1.** *Takahashia japonica* reproductive adult females with their characteristic long, string-like, looped ovisacs, hanging from the bark, hence their common name 'string cottony scale insect' © Matteo Maspero, Italy

## Background

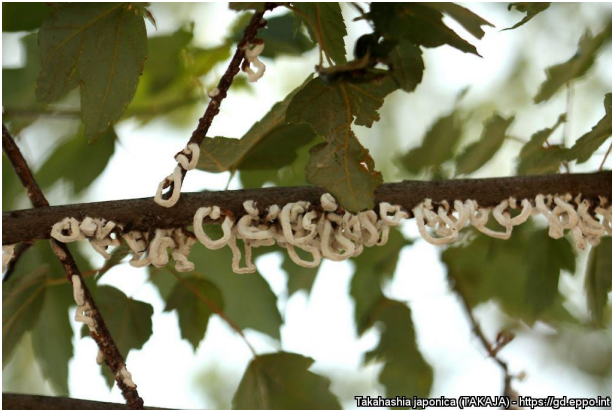
*Takahashia japonica* is a scale insect (Hemiptera: Coccidae) native to South and East Asia, that was first detected in Europe in northern Italy in 2017. It feeds on a wide range of deciduous trees, including many that are commonly found in the UK, and is immediately identifiable by its loop-shaped egg sacs. It was first recorded in the UK in December 2018 infesting a *Magnolia* planted three years previously in a private garden. The insect was reported to the Royal Horticultural Society (RHS) who informed the Animal and Plant Health Agency (APHA) and a sample submitted to Fera Science Ltd for confirmation.



**Fig: 2.** *Takahashia japonica* dead post-reproductive adult female, about 7 mm long © Fera Science Ltd.



**Fig: 3.** *Takahashia japonica* looped ovisacs hanging from a *Magnolia* twig in the UK © Fera Science Ltd.



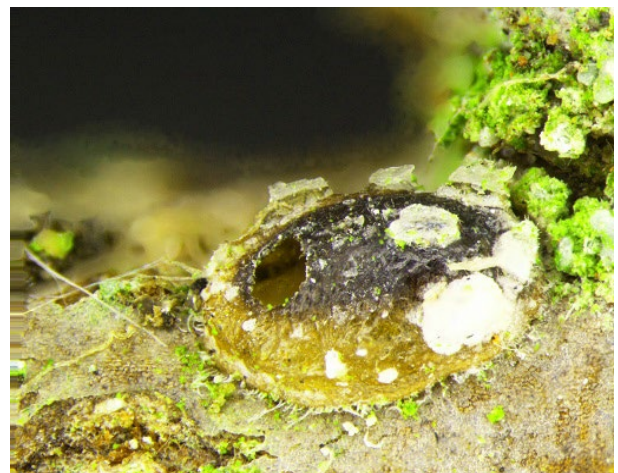
**Fig: 4.** *Takahashia japonica* reproductive females with ovisacs © Matteo Maspero, Italy



**Fig: 5.** Large infestation of *Takahashia japonica* on *Albizia* © Matteo Maspero, Italy



**Fig: 6.** *Takahashia japonica* overwintering second instar nymphs on *Magnolia* in the UK © Fera Science Ltd.



**Fig: 7.** *Takahashia japonica* parasitized second instar nymph on *Magnolia* in the UK © Fera Science Ltd.

## Geographical Distribution

*Takahashia japonica* is native to Asia and has been recorded in China, India, Japan, and South Korea. The first European record of the species was in northern Italy, where it was found to be widely distributed in the Milano province in May 2017. The distribution and high levels of infestation indicate it had probably been present for several years before detection and is now established and spreading in this region. It has also been reported in Croatia (2019), and in Ukraine (2022). It was first recorded in the UK in December 2018.

## Host Plants

*Takahashia japonica* is broadly polyphagous (able to feed on a variety of food sources) on deciduous woody plants, being recorded on 35 species in 17 families. Host genera commonly found in the UK include: *Acer* (maple), *Albizia* (silk tree), *Alnus* (alder), *Citrus*, *Cornus* (dogwood), *Cydonia* (quince), *Juglans* (walnut), *Magnolia*, *Malus* (apple), *Morus* (mulberry), *Parthenocissus* (Boston ivy), *Prunus* (e.g. plum and cherry), *Pyrus* (pear), *Robinia* (false acacia) and *Salix* (willow).

## Description

Adult females are oblong, up to 7 mm long and 4 mm wide, and pale yellow with a central red stripe. Pre-reproductive adult females are covered by short white wax curls, which disappear shortly before secretion of the ovisac. Each female produces a long 'string-like' white waxy ovisac (egg-containing capsule), up to 7 cm in length, that forms a loop below the scale insect (Figs 1 and 3). They are gregarious, and the wax loops are highly conspicuous (Figs 1, 3-5). The wax is relatively tough, and the ovisacs remain attached to the host long after the eggs have hatched. Post-reproductive adult females are dark brown with a deeply wrinkled dorsum (upper side) (Fig. 2). Nymphs (immature individuals) are very small (0.7-0.8 mm long) and covered in wax plates (Fig. 6).

## Biology

The lifecycle of *T. japonica* has been studied in its introduced range in Italy and in laboratory conditions. *Takahashia japonica* is parthenogenetic (reproduces asexually), and produces one generation per year in Italy, with each female producing 4000-5000 eggs in laboratory conditions. In Italy, eggs are laid from April to May and hatch from May to June, after which the first instar nymphs (the first of two immature stages) crawl over the host plant or are locally dispersed by the wind. Nymphs feed on the lower leaf surface during the summer before moving to the branches in autumn, where they overwinter as second instar nymphs (Fig. 6). The second instar nymphs moult to the adult female stage the following March. Several parasitoid wasps have been recorded attacking *T. japonica* and one nymph in the UK was found to have been parasitized (Fig. 7).

## Dispersal and Detection

The first instar nymphs or 'crawlers' are the main natural dispersal stage. They may actively crawl over the host plant or are carried further by air currents or on other animals. Long distance dispersal is thought to occur through the movement of infested plants in trade. The early instars and young females are small and inconspicuous. It is the conspicuous ovisacs that are most likely to be detected first and there are no other species of scale insect in the UK that produce white string-like loops.

## Economic Impact

Infestation can cause dieback and necrosis of buds, which can be harmful to young plants, but infestation does not appear to impact the growth and survival of fully grown trees. Heavy infestations may be unsightly and cause a reduction in aesthetic value and marketability particularly for garden and urban trees, which can be mitigated by removal of the ovisacs or pruning of infested branches in the winter or spring.

## Advisory Information

**As no statutory action is being taken on future UK findings of *T. japonica*, there is no longer a requirement to report new findings of this pest to the relevant competent authority.**

*Takahashia japonica* was added to the UK Plant Health Risk Register shortly after it was first reported from Europe in 2017. At that time, a decision was made that statutory action be taken against interceptions on recently imported plants, but not against finds on established plants. Current evidence suggests there have been no impacts in Great Britain from this pest and that taking action against it is no longer deemed appropriate. To date, this pest has otherwise been recorded from geographical regions with hotter summers than in the UK. The climate here may prove to be marginal for the species, despite small populations apparently surviving in the UK.

**Suspected outbreaks of other non-native plant pest should be reported to the relevant authority:**

For **England and Wales**, contact your local **APHA Plant Health and Seeds Inspector** or the **PHSI Headquarters**, York.

Tel: 0300 1000 313

Email: [planthealth.info@apha.gov.uk](mailto:planthealth.info@apha.gov.uk)

For **Scotland**, contact the **Scottish Government's Horticulture and Marketing Unit**:

Email: [hort.marketing@gov.scot](mailto:hort.marketing@gov.scot)

For **Northern Ireland**, contact the **DAERA Plant Health Inspection Branch**:

Tel: 0300 200 7847 Email: [planthealth@daera-ni.gov.uk](mailto:planthealth@daera-ni.gov.uk)

Web: <https://www.daera-ni.gov.uk/topics/plant-and-tree-health>

For additional information on UK Plant Health please see:

<https://planthealthportal.defra.gov.uk/pests-and-diseases/uk-plant-health-risk-register/>

<https://planthealthportal.defra.gov.uk/>

<https://www.gov.uk/plant-health-controls>

<http://www.gov.scot/Topics/farmingrural/Agriculture/plant/PlantHealth/PlantDiseases>

<https://www.daera-ni.gov.uk>

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