

First report of *Thrips setosus* in Belgium

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The Japanese flower thrips, *Thrips setosus*, is a polyphagous insect which in Europe has mainly been observed on hydrangeas (*Hydrangea* spp.). The first report of *T. setosus* in the EPPO region was in the Netherlands (2014). Since then it has been observed in four other countries inside the EPPO region: Germany (2015), the United Kingdom (2016), France (2016) and Croatia (2016). Its dispersal is most likely to be related to trade. Because of its polyphagous nature, there is a risk of spread to other economically important crops. Therefore, *T. setosus* was included in the national survey project ‘STAREGO’, during which the status of several invasive plant pests and diseases in Belgium was determined.

Introduction

In 2018, a survey was carried out in *Hydrangea* production sites, greenhouse vegetable production sites (growing *Solanum lycopersicum*, *Solanum melongena*, *Capsicum annuum* and *Cucurbita pepo*) and garden centres across Belgium by placing two Bug-Scan Blue sticky plates (Biobest Group NV, Westerlo, Belgium) at each location, half a metre above the plants. To increase the number of thrips caught, ‘*Thrips lures*’ (Pherobank, Wijk bij Duurstede, the Netherlands) were added to the sticky plates. Every 3 weeks the plates were replaced and those collected were visually examined for dark thrips specimens. For each sticky plate, the suspicious thrips were removed and mounted according to the Diagnostic Protocol for *Thrips palmi* (IPPC, 2016). The mounted specimens were examined using phase contrast microscopy and identified with the diagnostic notes of Mound (2005). To confirm the morphological identification, molecular identification was performed on the same specimen. Prior to DNA extraction, the microscopic slide was soaked in water to release the thrips. DNA was extracted following the protocol of Holterman *et al.* (2006). This extract was used in a PCR targeting the COI region (Folmer *et al.*, 1994). The PCR product was purified using the SmartPure PCR kit (Eurogentec, Seraing, Belgium) and sent for sequencing (Macrogen, Amsterdam, the Netherlands). BLAST analysis was performed on the BOLD/NCBI database.

Twenty-three locations were monitored in 2018, and *T. setosus* was found at one location: on *Hydrangea* cuttings in a greenhouse near Ghent. These cuttings showed visible sucking damage and thrips were present in high numbers (Fig. 1). No thrips were found outside the greenhouse. The

morphological identification of *T. setosus* was confirmed by sequencing and BLAST analysis, which resulted in a similarity of 98.8% (GenBank Accession no. MK491654). For collection purposes, specimens were collected at the location where *T. setosus* was initially found. Several *T. setosus* individuals at different stages were collected using the beating technique. Thrips were subsequently mounted, identified and stored in the insect collection of the National Reference Laboratory for Plant Health (ILVO). To date, no other *T. setosus* occurrences were found during the survey, but further monitoring is needed to determine the distribution of this pest in Belgium. To the authors’ knowledge, this is the first report of *T. setosus* in Belgium.



Fig. 1 Males, females and nymphs of *Thrips setosus* present at the underside of a leaf from a cutting. Feeding damage (dark punctures) is clearly visible.

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Premier signalement de *Thrips setosus* en Belgique

Thrips setosus est un insecte polyphage qui a été observé, en Europe, principalement sur hortensias (*Hydrangea* spp.). Le premier signalement de *T. setosus* dans la région OEPP a eu lieu aux Pays-Bas (en 2014). *Thrips setosus* a depuis été observé dans quatre autres pays de la région OEPP : en Allemagne (en 2015), au Royaume-Uni, en France et en Croatie (en 2016). Sa dissémination est très probablement liée au commerce. En raison de sa nature polyphage, il existe un risque de dissémination sur d'autres cultures économiquement importantes. *T. setosus* a donc été inclus dans le projet de surveillance nationale "STATREGO", au cours duquel le statut de certains organismes nuisibles envahissants et de maladies des végétaux présents en Belgique est déterminé.

Первое сообщение о *Thrips setosus* из Бельгии

Японский цветочный трипс, *Thrips setosus*, является многоядным насекомым, которое в Европе в основном наблюдалось на гортензиях (*Hydrangea* spp.). Первое

сообщение о *T. setosus* в регионе ЕОКЗР было из Нидерландов (2014). С тех пор вредитель наблюдался в четырёх других странах региона ЕОКЗР: в Германии (2015), Великобритании (2016), Франции (2016) и Хорватии (2016). Его распространение, скорее всего, связано с торговлей. В связи с его многоядностью существует риск распространения на другие экономически значимые культуры. Поэтому *T. setosus* был включен в национальный проект обследований "STATREGO", в ходе которого был определен статус нескольких инвазивных вредных для растений организмов в Бельгии.

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