

# Agapanthus Gall Midge

– update 29 July 2015 (Hayley Jones, Andrew Salisbury)



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The agapanthus gall midge is a new undescribed pest affecting *Agapanthus* that belongs to the Cecidomyiidae family of flies. The tiny gall midge lays eggs which develop into maggots inside the individual flower buds or inside the closed scapes. The maggots can then cause the bud to be deformed and discoloured and often fail to open. The severity of this can range from a couple of buds failing to collapse of the entire flower head. Infestation can be confirmed by opening the buds or flower heads and looking for the presence of small maggots 1-3mm in length which are a creamy yellow colour. The midge larvae leave the flower head to overwinter and pupate in the soil.

The species of midge causing this problem is undescribed (new to science). Consequently, very little is known about the biology and lifecycle of this insect and so the entomology team at Wisley have launched a project to study it.



## Statutory action

Fera have informed us that following a Plant Health Risk Group meeting the agapanthus gall midge will be added to the UK Plant Health Risk Register. Fera intend to follow up with statutory action against findings on commercially traded plants. The Plant Health and Seed Inspectorate have indicated that they will commence a targeted survey of nurseries in the near future. They call for the targeted survey and awareness raising to help determine the distribution of the midge and scope for actions to mitigate impacts. AHDB are also aware of the midge.

## Control

Currently appropriate control is unknown. On the Wisley *Agapanthus* trial de-budding in 2014 and three applications of pesticides in 2015 were not sufficient to prevent infestation by the midge. As of 22/07/2015 16% of flower heads were showing signs of infestation. It is likely that control in the future may be possible with carefully timed application of pesticide, development of biological control or using cultivars less susceptible to attack. Research into the lifecycle and host range of the midge is required before any control strategy can be applied.

## RHS Research

In collaboration with Keith Harris, an international expert on cecidomyiid flies, the plant health team is investigating the midge so that control advice can be provided.



We are carrying out observations on plants in the trials field at Wisley Garden and on infested plants that are contained within the RHS Field Research Facility. This will enable us to commence studying the life cycle of the midge and take samples to describe the appearance of all life stages. These samples can also be used to extract DNA for sequencing so that we can deduce how this midge is related to other Cecidomyiidae such as the hemerocallis gall midge (*Contarinia quinquenotata*).

We will be rearing the midge and carrying out further experimentation and observation to determine its ecology and life cycle in 2015. This may include a replicated experiment on pesticide application to assess timing and products appropriate to achieve some level of

control. We will also be looking for the emergence of natural enemies such as parasitoid wasps.

## **Distribution**

The midge was first noticed in a private garden in 2014 and inspection at RHS Garden Wisley showed it was present in the RHS collections. Subsequent reports indicate it has been present in the UK for at least two years and it is widely established in southern England.

In order to determine how widespread the midge has become in the UK we will be seeking out samples and records of sightings of symptoms from other locations.

## **Contact**

The project is being led by Hayley Jones who can be contacted on [hayleyjones@rhs.org.uk](mailto:hayleyjones@rhs.org.uk).

We would be happy to receive samples of infested flower heads to aid with our study of the agapanthus gall midge. Please send any samples in sealed bags or containers to:  
Entomology, RHS Garden Wisley, Woking, Surrey, GU23 6QB

Alternatively images with location information will help us to map how widespread the midge is in the UK and can be sent to: [advisory\\_entomology@rhs.org.uk](mailto:advisory_entomology@rhs.org.uk)