



Quick scan number: QS. Ent. 2016.004

Quick scan date: 23 March 2017		
1	<p>What is the scientific name (if possible up to species level + author, also include (sub)family and order) and English/common name of the organism? <i>Add picture of organism/damage if available and publication allowed.</i></p>	 <p>Larva of <i>Contarinia</i> sp. (Cecidomyiidae) in opened flower bud (left) and an affected flower (right). (© NVWA)</p>
	<p>What prompted this quick scan? <i>Organism detected in produce for import, export, in cultivation, nature, mentioned in publications, e.g. EPPO alert list, etc.</i></p>	<p>On 26th July 2016, an inspection service informed the NPPO about a severe problem in a greenhouse with <i>Alstroemeria</i> cut flower crop. One day later, the NPPO received a sample and found gall midge larvae inside the flower buds of the crop.</p>
3	<p>What is the current area of distribution?</p>	<p>The native range of <i>Alstroemeria</i> spp. is South-America which is also likely the origin of the gall midge species.</p>

4	What are the host plants?	This species is only known from <i>Alstroemeria</i> hybrids.
5	Does the organism cause any kind of plant damage in the current area of distribution and/or does the consignment demonstrate damage suspected to have been caused by this organism? <i>Yes/no + plant species on which damage has been reported + short description of symptoms. Please indicate also when the organism is otherwise harmful (e.g. predator, human/veterinary pathogen vector, etc.).</i>	Eggs are inserted in young flower buds which then stop developing, become malformed and turn brown in the end. At the time the NPPO was notified the grower could not harvest any cut flowers anymore because of the severity of the infestation.
6	Assess the probability of establishment in the Netherlands (NL) (i.e. the suitability of the environment for establishment). a. In greenhouses (low, medium, high) b. Outdoors (low, medium, high) c. Otherwise (e.g. storage facilities, human environment)	a. In glasshouses, cut flowers of <i>Alstroemeria</i> are harvested from April to November with a peak half June. Thus, during the winter period there are no flower buds available for egg laying. However, it is possible that this midge species has a diapause or quiescent stage to overcome this unfavourable period. b. Outdoors: plants of <i>Alstroemeria</i> occur in Dutch gardens (although not very common) and can survive the winter period. It is unknown if the gall midge can survive outdoors in the Netherlands.
7	Assess the probability of establishment in the EU (i.e. the suitability of the environment for establishment).	It is believed that the gall midge originates in South America and, therefore, southern parts of Europe are more likely to have a suitable climate for establishment than northern parts.
8	What are the possible pathways that can contribute to spread of the organism after introduction? How rapid is the organism expected to spread (by natural dispersal and human activity)?	Larvae occur in the flower buds and can be transported with the cut flower trade. Moreover, larvae pupate in the soil and may be spread with plants for planting (e.g. in soil attached to the plants or in root balls). Natural spread will be rather slow since gall midges are small, delicate insects.
9	Provide an assessment of the type and amount of direct and indirect damage (e.g. lower quality, lower production, export restrictions, threat to biodiversity, etc.) likely to occur if the organism would become established in NL and the EU, respectively?	The gall midge lays its eggs in the flower buds which can result in an unmarketable product. In the outbreak described above, the grower stopped harvesting and removed all flower buds to get rid of the pest. Thus, the insect can cause major losses in glasshouses producing cut flowers of <i>Alstroemeria</i> .
10	Has the organism been detected on/in a product other than plants for planting (e.g. cut flowers, fruit, vegetables)? <i>If "no", go to question 12</i>	Not relevant (the pest was found in an <i>Alstroemeria</i> crop)

11	If the organism has been found on/in a product other than plants for planting (e.g. cut flowers, fruit, vegetables), what is the probability of introduction (entry + establishment)? <i>Only to be answered in case of an interception or a find.</i>	
12	Additional remarks	<ul style="list-style-type: none"> - Gall midges are known to be rather host-specific with usually a very narrow host range. Although a host-shift of an already known species cannot be excluded it is possible that this gall midge represents a species new to science. - The inspection service of Japan has at least some interceptions of <i>Contarinia</i> larvae in <i>Alstroemeria</i> flowers originating from Australia and New Zealand (Iwaizumi et al., 2007). These interceptions may possibly concern the same gall midge species.
13	References	- Iwaizumi, R., Tokuda, M. & Yukawa, J. (2007). Identification of gall midges (Diptera: Cecidomyiidae) intercepted under plant quarantine inspection at Japanese sea-and airports from 2000-2005. Appl. Entomol. Zool. 42(2):231-240.
14	Conclusions	This Quicksan was prompted after the finding of a gall midge in an <i>Alstroemeria</i> crop grown for the production of cut flowers in a glasshouse in the Netherlands in July 2016. The gall midge was diagnosed as <i>Contarinia</i> sp. and may be a new yet undescribed species. The origin of the outbreak is unknown. Flower buds were heavily damaged and no marketable cut flowers could be harvested from affected plants. The grower has taken measures to eradicate the gall midge from the glasshouse. It is currently unknown if the gall midge can survive outdoors in the Netherlands.
15	Follow-up measures	The glasshouse will be monitored in 2017 to determine if the gall midge has been eradicated.