Netherlands Food and Consumer Product Safety Authority
Ministry of Economic Affairs

National Plant Protection Organization

Quick scan number: QS. Ent.2013-11

	Quick scan date: 23-01-2014	
1	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? *Add picture of organism/damage if available and publication allowed*.	*Lasioptera* sp. (Diptera; Cecidomyiidae), an unknown species.  Infested stem + detail, fruit and adult; source: Perdikis et al. 2011 (with permission)
2	What prompted this quick scan? *Organism detected in produce for import, export, in cultivation, nature, mentioned in publications, e.g. EPPO alert list, etc.*	A publication of an unknown *Lasioptera* sp. infesting and damaging tomatoes and cucumbers in Greece (Ref. 1). Later the NVWA received samples from Romania and Turkey with specimens of *Lasioptera* sp. related to damage in tomato stems.
3	What is the (most likely) area of distribution?	Greece, Turkey and probably Romania (pest found in a sample received from Romania; its presence in Romania may need confirmation). *Lasioptera* sp. was first recorded in Greece in 2001 on cucumber plants in greenhouses in the area of Triphylia (Western Peloponnesos, Greece). Since then, infestations are known from tomato (mainly from September to December) and on cucumber (from March to June and from September to December). Since 2004, *Lasioptera* was also recorded from greenhouse tomato and cucumber in the area of Marathon (Attica) (Ref 1). Because the identity still has to be resolved, it is still unknown whether we are dealing with a native Euro-Asiatic species which has shifted to different hosts or with an exotic species. Thus, the native range is unknown. It is the first gall midge known to infest tomato.

4	Has the organism been detected, sighted and/or has it established itself in nearby countries (DE, BE, LU, FR, UK) *Yes/no. If 'yes', provide details. No interceptions*	No
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? *Yes/no + host plants + short explanation of symptoms. Please indicate also when the organism is otherwise harmful (e.g. predator, human/veterinary pathogen vector, etc.).*	In general, stems, branches and leaf petioles of tomato plants in greenhouses are damaged by a combination of gall midge larvae and a fungus (Ref. 2). *Lasioptera* gall midges (Diptera: Cecidomyiidae) are vectors for their fungal symbionts. Female *Lasioptera* midges insert both eggs and fungal spores in wounds of the host. The fungus will grow in and on the host tissue and the midge larvae feed on the mycelium and/or affected plant tissue. Wounds can occur naturally but many wounds are caused by pruning during the growing season. Infested tissues show a dark discolouration externally, gall midge larvae are not directly visible since they live inside the tissue. Possibly, this new pest has been overlooked for some time because the symptoms may have been interpreted as a fungal problem. In Greece, larvae damage both tomato and cucumber crops; larvae develop in stems, resulting in necrosis. Attacks induce wilting, breaking of stems and reduction in fruit production (Ref. 1,2). The insect infests the peduncles at the point of their attachment to the fruit, which turns black, thus damaging the outer part of the fruit under the peduncle. In tomato, upon infestation, plant growth is retarded and number and size of fruit is reduced. The presence of larvae on the fruit, at the point of their attachment to peduncles, renders them unmarketable (Ref 1). In cucumber, the effect of insect infestation becomes evident mainly on the apical part of the plant. No damage has been observed on cucumber fruits. (Ref. 1). In Turkey, larvae have been found in greenhouses damaging tomatoes. The pest has been included into a monitoring program. If damage will be observed in two consecutive years, eradication studies will be conducted (General Directorate of Food and Control, Turkey, Febr 2013). Specimens from Romania (received 2012) were also damaging tomato stems.
6	Indicate the (provisional) probability of establishment of the organism in the Netherlands regarding climate and ecology. a. In greenhouses (low, medium, high) b. Outdoors (low, medium, high) c. Otherwise (e.g. storage facilities, human environment) *Please illustrate with information/references*	a. High - The pest occurs in greenhouses in Greece (Ref. 1, 2), Turkey and probably Romania. b. Unknown - In Greece, there are also two regions with field infestations; occurrence predominantly in fall (Perdikis, pers. comm. 20130918). c. Unknown – Unlikely.
7	If the organism would become established in the Netherlands, what kind of damage would it likely cause ? *Indicate whether damage is expected to be comparable or different to that in area of present distribution : see question 5.*	Damage in Dutch greenhouses (tomato and cucumber) may be comparable to that in the countries where the pest is known to occur (see question 5). Furthermore, introduction of the gall midge pest is expected to hamper current IPM and pollination practices.
8	Which commercially grown host plants are present and which host plants are present in the natural environment in the Netherlands? *If establishment is restricted to greenhouse climate, list only host plants in greenhouses.*	Tomato and cucumber in greenhouses. These two hosts belong to unrelated plant families, and therefore, the host range may be wider.
9	Provide a provisional estimation of type and probable	Production losses in tomato can be severe (Ref. 2). Other potential effects: additional control costs, disruption of

	amount of direct and indirect economic damage (e.g. lower quality, lower production, export restrictions, threat to biodiversity, etc.) likely to occur if the organism would become established?	current IPM and pollination-strategies. Once established export restrictions might come in place.
10	What are the possibilities of spreading, either by natural dispersal or human activity?	Fruits with and without green parts can be infested and thereby be a means for further spread. The pest may also be spread by movement of infested packaging material, people clothes or any other material. The pest may also be able to move naturally between greenhouses.
11	In what manner could the organism enter the Netherlands? *Mention pathways*.	Via infested plants (travellers and parcel shipments). Via trade with (tomato) fruits, in particular when still attached to green plant parts.
12	Has the organism been detected on/in a product (cut flowers, fruit...) destined for the consumer market? *If "no", please go to question 14*	Not relevant (no interception)
13	If the organism has been found on/in a product other than plants for planting (e.g. cut flowers, fruit, vegetables),, are there any risks of introduction and establishment in crop areas and/or natural environment in the Netherlands?	
14	Additional remarks	
15	References:	1. Perdikis D, Paraskevopoulos A & Lykouressis D (2006) First record and preliminary observations on life, ecology and damage caused by an insect harmful to greenhouse tomato and cucumber plants. Georgia–Ktinotrofia, 3: 65-68. As cited by Anagnou–Veroniki M et al. (2008) New records of plant pests and weeds in Greece, 1990-2007. Hellenic Plant Protection Journal 1, 55-78. 2. Perdikis D, Lykouressis D, Paraskevopoulos A & Harris KM (2011) A new insect pest, *Lasioptera* sp. (Diptera: Cecidomyiidae), on tomato and cucumber crops in glasshouses in Greece. EPPO Bulletin 41 (3) , 442-444.
16	**Conclusions**	This quick scan concerns an unknown gall midge species on tomato and cucumber. The species is thus far only known from (samples from) Greece, Romania and Turkey. It is unknown if it concerns an exotic species or a native species which has widened its host range recently. The information available indicates that the species can cause considerable damage in tomato. The potential impact for Dutch glasshouse crops is uncertain. It is for example unknown if the pest would be able to survive outdoors in the Netherlands and re-infest glasshouses from outside. In case the pest would only be able to survive indoors, impact may be limited by strict hygiene measures during crop removal in the autumn; incidental infestations can be eradicated from the greenhouse by local insecticide sprays and removal of infested plants. In a worst-case situation, the pest would become widespread in tomato and cucumber glasshouses requiring repeated insecticide sprays which would disrupt current integrated control strategies and pollination with bumble bees. Potential pathways are import of tomato fruits from areas where the pest is present (cucumber fruits have not been reported to be infested). As far as known plants for planting of tomato and cucumber are not imported from Greece, Romania and Turkey (young plants are obtained from plant nurseries in the Netherlands).
17	**Follow-up measures**	Communication to stakeholders. The pest is already present in the EU and fruits are not regulated for EU internal trade (no plant passport system). New information about the pest may lead to a more precise risk assessment about the potential impact of the pest and possible control measures.