

Mini data sheet on *Phytomyza (Napomyza) gymnostoma*

Added in 2005 - Deleted in 2006

Reasons for deletion:

Phytomyza (Napomyza) gymnostoma is widespread in the EPPO region and in 2006 it was considered that sufficient alert has been given and the pest was deleted from the Alert List.

Phytomyza (Napomyza) gymnostoma (Diptera: Agromyzidae - *Allium* leaf miner)

Why	In the last 20 years, damage to <i>Allium</i> crops caused by <i>Phytomyza (Napomyza) gymnostoma</i> has been reported by an increasing number of European countries. <i>P. gymnostoma</i> was first described in 1858 in the region of Poznan (Poland). In 1976, it was transferred to the genus <i>Napomyza</i> by Spencer and back to <i>Phytomyza</i> in 1994 by Zlobin.
Where	In 1976, this species was reported in Denmark, Sweden, Poland, and in the Mediterranean Basin but no damage was observed. Since the 1980s, <i>P. gymnostoma</i> has become a pest of <i>Allium</i> plants in several countries for reasons which remain unknown, first in eastern Europe and more recently in western Europe. Today, the pest is widespread in Europe. EPPO region: Austria (damage reported in 1994), Croatia (1990s, now reported as the most important and most frequent pest of onions), Czechia, Denmark, France (2003 in Alsace), Germany (1994), Hungary (1986), Italy (Friuli-Venetia Giulia in 1999 and Veneto in 2001), Poland (1997), Serbia and Montenegro (1992), Slovakia (1990), Slovenia (1994), Spain, Sweden, Switzerland (near Basel 2003), Turkey, United Kingdom (2003 in a private garden in Wolverhampton, near Birmingham).
On which plants	<i>Allium</i> species, more particularly leek (<i>A. porrum</i>) but also chives (<i>A. schoenoprasum</i>) and to a lesser extent onion (<i>A. cepa</i>), garlic (<i>A. sativum</i>), shallot (<i>A. ascallonicum</i>).
Damage	Larvae of <i>N. gymnostoma</i> mine the stalk and bulbs of <i>Allium</i> plants which become soft and susceptible to fungal or bacterial infections. Frequently, severe plant deformations (split leaves and stalks, distortions) are observed. Females make large numbers of feeding punctures using their ovipositors, and then use their mouth parts to feed on leaf exudates. These punctures are the first sign that the flies are active. <i>P. gymnostoma</i> overwinter as pupae attached to plant tissues. At the beginning of spring, adults emerge. Adults are small greyish flies of 3 mm long, with a largely yellow head. Wing length varied from 2.9 in males to 4.0 mm in females. Legs are dark with yellowish knees. Eggs are laid within plant tissues, usually at the leaf base. Larvae mine the leaves (moving downward into the stalk, and eventually to the bulb), and pupate at the end of their galleries. During summer, the pest aestivates as pupae within the plants. Another generation of adults emerge at the end of summer - beginning of autumn. In spring, damage is observed after the first adult flight. On leeks for example, which are usually small plants at this time of the year, few larvae can kill a plant, so an uninfested field can rapidly show a large number of missing plants. In autumn, plants are larger and tolerate higher levels of populations. Although, no figures are given, damage caused by <i>P. gymnostoma</i> is considered as economic. It is reported in Serbia that the presence of about 20 puparia per plant can lead to complete plant destruction. In addition, the presence of larvae in young onion and leek plants may render them unmarketable.
Dissemination	Adults can fly, but more studies are needed on flight periods and distances. There is no data on the possible role of infested bulbs in spreading the insects.
Pathway	<i>Allium</i> plants for planting or bulbs infested by <i>P. gymnostoma</i> .
Possible risks	<i>Allium</i> crops are widely grown in European countries. In many European countries, <i>P. gymnostoma</i> is mentioned as an emerging and economically damaging pest. More studies are needed on control measures (rotations, destruction of plant debris, chemical control, possible use of parasitoids). It can

be concluded that more attention should be paid to this potentially damaging pest of leek and other *Allium* crops.

Source(s)

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