

The outbreak of the olive leaf gall midge populations and the importance of natural enemies in their control

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Abstract

The olive leaf gall midge, *Dasyneura oleae* (F. Loew) (Diptera: Cecidomyiidae) is a pest commonly present in olive groves of Greece but normally its numbers are very low. However, in the last years an exceptional increase of its numbers recorded in the area of Elounda, Lasithi, eastern Crete. In 2012 and 2013 samplings were conducted in two olive groves in the area. From each grove 20 stems were collected and the number of galls and the stage of the pest individual in each gall were recorded. Samplings conducted on 2, 10 and 22 May, 5, 14 and 25 June, 2, 16 and 27 July and 31 August 2012 and in 2013, on 21 January, 7 and 28 March, 17 April, 2 May, 5 and 19 June, 10 July and 5 August. The results showed that the pest population levels were much higher in the grove in Nisi Eloundas. In some sampling occasions a really high number of galls was recorded. The number of leaves developed on a single shoot was much reduced in the grove with the high pest population densities. Galls of the pest were also recorded on the inflorescence that resulted in the development of a reduced number of fruits, according to our preliminary observations. However, starting from the first sampling in 2013, parasitoids were recorded. On March 7, 2013, the percentage of parasitism was 89% whereas in the next samplings ranged from 55 to 77%. On August 5, the incidence of the pest was much reduced since only 1 larva was recorded per 10 leaves in the orchard where the pest had developed higher densities. These results indicate the importance of population monitoring for the management of *D. oleae* and the role that biological control may play in the regulation of *D. oleae* outbreaks.

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