



First report of bean leafroll virus (BLRV) naturally infecting common and bitter vetch and alfalfa in Greece

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Common (*Vicia sativa* L. subsp. *sativa*) and bitter (*Vicia ervilia* (L.) Willd.) vetch and alfalfa (*Medicago sativa* L. subsp. *sativa*) are Fabaceae species grown in Greece as winter crops for hay or seed used as feed. During spring 2011, virus-like symptoms were observed in common and bitter vetch plants in the Aristotle University of Thessaloniki Farm (40°32'N 22°59'E). Common vetch plants exhibited leaf yellowing and later on tip necrosis, thus giving the affected plants a burnt-like appearance. Reduction in pod numbers exceeded 60%. In bitter vetch, mild leaflet reddening symptoms appeared later in the growing season, while reduction in pod number was negligible. In alfalfa, virus-like symptoms were observed during the summer of 2011 in field crops grown in Elefthero-Grevena (40°09'N 21°25'E). The initial symptom was interveinal chlorosis of the upper leaves, which subsequently turned into total chlorosis and finally, the leaves also developed top and peripheral reddening. Disease symptoms were consistent with a luteovirid infection and more specifically with symptoms caused by bean leafroll virus (BLRV). Two samples from diseased plants as well as two asymptomatic controls were collected for each plant species. Total RNA was extracted from the samples (Maliogka et al. 2015) and a BLRV specific RT-PCR was carried out, as described by Ortiz et al. (2005). The expected 391 bp amplicon was obtained from all the symptomatic plants but not from the asymptomatic controls. The amplicon sequence from one sample of each plant species was obtained and deposited to ENA, with accession numbers

HE601635, HE601636, HE601637 for BLRV isolates from common vetch, bitter vetch and alfalfa, respectively. BLASTn analysis revealed 93–100% identity with BLRV isolates. BLRV is a common pathogen of grain and forage legumes with a worldwide distribution and has been detected in lentils in Greece (Chatzivassiliou et al. 2016). However, to our knowledge, this is the first report of natural infection of common vetch, bitter vetch and alfalfa with BLRV in Greece.

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Declarations

Conflict of interest The authors have no conflicts of interest to declare that are relevant to the content of this article.

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