

## DISEASE NOTE

**FIRST REPORT OF EUROPEAN  
MOUNTAIN ASH RINGSPOT-ASSOCIATED  
VIRUS IN THE CZECH REPUBLIC**

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European mountain ash ringspot-associated virus (EMARaV) is widespread in Germany, Finland, northwestern Russia (Karelia), and has also been reported from Austria. Disease symptoms are light rings, spots or variegation of the host leaves. In 2010, mountain ash trees (*Sorbus aucuparia*) showing ringspot symptoms were found in Prague. Total RNAs were extracted from 100 mg leaf tissues of 25 trees using the silica-capture method (Rott and Jelkmann, 2001). RT-PCR tests were performed using primers that amplify fragments of all four viral RNAs (Mielke *et al.*, 2008). Products of predicted length were obtained from all symptomatic but not from symptomless plant samples. The partial EMARaV putative nucleoprotein gene fragments of two Czech isolates were amplified (Kallinen *et al.*, 2008) and sequenced in both orientations (accession No. FR751461 and FR751462). Comparisons of nucleotide and deduced amino acid sequences of the isolates with sequences from GenBank No. GU563319, GU563318, EU885293, EU885292 and NC\_013108, showed identities ranging from 97 to 99% at the nucleotide level and 100% at the amino acid level. In the course of a small scale survey conducted in central Bohemia, infected trees were found in 6 of the 12 localities checked, usually with a rather high incidence (up to 70% of tree populations), suggesting that EMARaV may be rather widespread in this country. To our knowledge, this is the first evidence of EMARaV occurrence in the Czech Republic.

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**OCCURRENCE OF BACTERIAL CANKER  
CAUSED BY PSEUDOMONAS SYRINGAE  
pv. ACTINIDIAE IN KIWIFRUIT PLANTS  
OF cv. TSCHELIDIS**

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An extensive field investigation was initiated in 2011 in Portugal, following the 2010 record of *Pseudomonas syringae* pv. *actinidiae* (Balestra *et al.*, 2010). In Lago-Braga (Douro province), suspicious symptoms were observed on three-year-old plants cv. Tschelidis. This is a new cultivar of *Actinidia deliciosa* developed in Greece, that shows several interesting morphological and quality properties, high resistance to frost and lower susceptibility to *Botrytis cinerea* (Sotiropoulos *et al.*, 2009). Symptoms, with an incidence of up to 40%, were shown by the leaves, buds, flowers, twigs, leaders and trunks, which exhibited cankers oozing a dark red exudate. Bacteria were successfully isolated from 97.5% of the samples, characterized and identified according to known procedures (Balestra *et al.*, 2010). A molecular characterisation was attempted on two randomly selected bacterial isolates (PSA848-PSA851). The identification of the isolates was confirmed by PCR amplification using two couples of pathovar-specific primers; additional PCR-based fingerprinting approaches were also used for their characterization (Mazzaglia *et al.*, 2011). The rDNA sequences of the two bacterial isolates had 100% identity with comparable sequences of *P. s. pv. actinidiae* from databases. Pathogenicity tests consisted in the inoculation of ten 2-year-old plants of *A. deliciosa* cv. Hayward with either isolate, both of which produced symptoms similar to those observed in the field. The original bacterial strains were reisolated from all symptomatic plants. This report represents the first world occurrence of *P. s. pv. actinidiae* on cv. Tschelidis.

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