DISEASE NOTE

FIRST RECORD OF *PEAR BLISTER CANKER VIROID* ON PEAR IN ALBANIA

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In 2010, the presence and distribution in Albania of *Pear blister canker viroid* (PBCVd), *Apple scar skin viroid* (ASSVd) and *Apple dimple fruit viroid* (ADFVd) was investigated using a tissue-printing hybridization (TPH) technique. The survey was carried out in two main fruit-growing areas in the centre (Tirana) and south-eastern (Pogradec and Korçë) part of the country. Vegetating cuttings (149) were collected from 75 apple, 55 pear and 9 quince trees, comprising 90 different cultivars representative of the pome fruit biodiversity in the country. Fresh cut ends of leaf petioles from each sampled tree were spotted on three different membranes that were separately hybridized with digoxigenin-labelled RNA probes specific for each viroid, as previously described (Lolic *et al.*, 2007). Whereas ADFVd and ASSVd were not detected, seven samples from four native pear cultivars tested positive for PBCVd. RT-PCR amplification of the TPH-positive samples using PBCVd-specific primers (Ambrós *et al.*, 1995) and direct sequencing of the amplicons conclusively confirmed PBCVd infections. To our knowledge, this is the first report of PBCVd in Albania, in line with recent reports from other European and Mediterranean countries (Di Serio *et al.*, 2010). This preliminary investigation confirms TPH as an efficient large-scale technique for detecting PBCVd and shows that this viroid, in contrast to ASSVd and ADFVd, has a fair distribution in the surveyed areas.

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DISEASE NOTE

NEW HOSTS OF *MACROPHOMINA PHASEOLINA* IN IRAN

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The host range and geographical distribution of *Macrophomina phaseolina*, the causal agent of charcoal rot or ashy stem blight, was studied in different provinces of Iran during 2006-2008. Plants with signs and symptoms of charcoal rot showed leaf yellowing, blackening of the stem and root rot. Numerous black microsclerotia were observed on the rotted tissue. To isolate the pathogen, infected tissues were surface-disinfected and placed on potato dextrose agar plates Pure cultures were obtained from hyphal tips and maintained on sterile toothpicks at room temperature (Edmunds, 1964). The mycelium that was initially hyaline, turned grey with time and after 4 to 5 days incubation, produced minute, black, round to oblong or irregularly shaped microsclerotia with mycelial attachment. In 10-day-old cultures, microsclerotia ranged in size from 62 to 189×52 to 149 (116×93) µm. All the isolates were identified at the species level based on the amplification of the ITS region with species-specific primers (Babu *et al.*, 2007). Fungal attacks were observed on marigold (*Tagetes erecta*), cantaloupe (*Cucumis melo* var. *cantaloupensis*), cumin (*Cuminum cyminum*), hemp (*Cannabis sativa*), mung bean (*Vigna radiata*), okra (*Abelmoschus esculentus*), tomato (*Lycopersicon esculentum*), turnip (*Brassica rapa*), and watermelon (*Citrullus lanatus*), which are reported as new hosts for *M. phaseolina* in Iran. Pathogenicity tests, repeated twice, were conducted in a greenhouse on each of the above host as described by Abawi and Pastor-Corales (1990). The outcome of inoculation assays was assessed after 2-6 months according to the host. Inoculated plants produced typical symptoms on the leaves, stem and roots, and the fungus was consistently re-isolated from them.

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