DISEASE NOTE
FIRST REPORT OF IRESINE VIROID 1 IN PORTULACA SP. IN SLOVENIA
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In October 2011, during a survey for pospiviroids in ornamental plants, leaf samples were collected from two symptomless Portulaca sp. plants of two different varieties grown in a flower bed. Total RNA of each sample was extracted twice from 15 mg of leaf tissue using the MagMax™96 total RNA isolation kit (Ambion, USA). The samples were tested by RT-PCR using semi-universal pospiviroid primers [Pospi1-RE/FW and Vd1-RE/FW (Verhoeven et al., 2004)]. A product was amplified with primer pair Pospi1-RE/FW but not with primer pair Vid-RE/FW. The amplicon from each total RNA extract was custom sequenced (Macrogen, The Netherlands). Blast sequence analysis showed high identity with Iresine viroid-1 (IrVd-1). Primer pair IrVd-FW1/IrVd-RE1 (Verhoeven et al., 2010) was used to amplify the full-length viroidal genomes. Amplicons were successfully cloned into pGEM-T easy vector (Promega, USA) and transformed into E. coli JM109 competent cells (Promega, USA). At least eight clones per sample were sequenced. Master sequences of each sample were deposited in GenBank under accession Nos. JQ889689 and JQ889690. They showed 99.7% identity between each other and 96.7-98.6% identity with other IrVd-1 sequences (JQ889689 and JQ889690). This is the first report of IrVd-1 in Slovenia and the second report of IrVd-1 (GU911350, DQ094294, NC_003613 and DQ94293). In the case of E. perdorfiana, conidia measured 25-33×14-18 µm; foot cells were 48-106 µm long; shorter cells measured 17-33×10-13 µm. In the case of E. aggregata, conidia measured 26-33×17-20 µm; foot cells were 62-97 µm long; shorter cells measured 14-31×10-14 µm. For both pathogens, the ITS region of rDNA was amplified using the primers ITS1/ITS4 and sequenced (Altschul et al., 1997) (GenBank accession Nos. JX179220 and JX179218 for E. perdorfiana and E. aggregata respectively). BLAST analysis of the 513 bp amplicon (E. perdorfiana) and of the 523 bp amplicon (E. aggregata) showed high homology with several sequences of Podosphaera spp. For both hosts, pathogenicity was confirmed by painting mycelia and conidia from infected tissues on five healthy plants. Several Sphaerotheca and Podosphaera species have been reported on the genus Euphorbia, e.g. P. euphorbiae-beloscoi on E. pekinensis (Liu, 2011). This is the first report of Podosphaera sp. affecting E. perdorfiana and E. aggregata in Italy.


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DISEASE NOTE
POWDERY MILDEW CAUSED BY PODOSPHAERA sp. ON EUPHORBIA PERDORFIANA AND E. AGGREGATA IN ITALY
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In March 2011, the presence of an unknown powdery mildew was observed on Euphorbia perdorfiana and E. aggregata, family Euphorbiaceae, growing in a farm near Ventimiglia (northern Italy). On E. perdorfiana, a conspicuous mycelium colonized stems and caused brown discolorations on ca. 50% of 7,500 plants. On E. aggregata, a white mycelium colonized leaves, spines and stem grooves, affecting ca. 60% of 4,000 plants. On both hosts, foot cells of the conidiophores were straight or slightly flexuous, followed by 3 shorter cells; conidia, with fibroin bodies, were elliptical; chasmothecia were not observed. In the case of E. perdorfiana, conidia measured 25-33×14-18 µm; foot cells were 48-106 µm long; shorter cells measured 17-33×10-13 µm. In the case of E. aggregata, conidia measured 26-33×17-20 µm; foot cells were 62-97 µm long; shorter cells measured 14-31×10-14 µm. For both pathogens, the ITS region of rDNA was amplified using the primers ITS1/ITS4 and sequenced (Altschul et al., 1997) (GenBank accession Nos. JX179220 and JX179218 for E. perdorfiana and E. aggregata respectively). BLAST analysis of the 513 bp amplicon (E. perdorfiana) and of the 523 bp amplicon (E. aggregata) showed high homology with several sequences of Podosphaera spp. For both hosts, pathogenicity was confirmed by painting mycelia and conidia from infected tissues on five healthy plants. Several Sphaerotheca and Podosphaera species have been reported on the genus Euphorbia, e.g. P. euphorbiae-beloscoi on E. pekinensis (Liu, 2011). This is the first report of Podosphaera sp. affecting E. perdorfiana and E. aggregata in Italy.


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