DISEASE NOTE

SEVERE OUTBREAKS OF POWDERY MILDEW CAUSED BY *PODOSPHAERA* sp. ON *PHLOX DRUMMONDII* IN ITALY

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Phlox drummondii (family Polemoniaceae) is used for borders in gardens, due to its long-lasting terminal clusters of flowers. During summer and autumn of 2010, about 100 plants grown in private gardens near Biella (northern Italy) showed symptoms of an unknown powdery mildew. Adaxial leaf surfaces were covered with white mycelium, while the abaxial surfaces showed a lesser fungal growth. Infected leaves turned yellow and wilted. Mycelium was also present on stems and fruits. Conidiophores were erect, with a cylindrical foot cell measuring 63-81×10-12 µm, followed by 1-3 shorter cells of 15-31×10-16 µm in size. Conidia were elliptical, measured 31-39×7-22 µm and produced fibrosin bodies. Chasmothecia were not observed. The internal transcribed spacer (ITS) region of rDNA was amplified using the primers ITS1-F/ITS4 (White *et al.*, 1990; Gardes and Bruns, 1993) and sequenced (GenBank accession No. JN013185). BLAST analysis the 601 bp amplicon showed 96-97% homology with several sequences of *Podosphaera* spp. Thus, based on anamorph morphology and ITS analysis, the fungus was identified as *Podosphaera* sp. Pathogenicity was confirmed by gently pressing diseased leaves onto leaves of three healthy *P. drummondii* plants. Three non-inoculated plants served as control. Plants were maintained in a greenhouse at temperatures ranging from 18 to 25°C. Fifteen days after inoculation, symptoms of powdery mildew developed only on inoculated plants. Several agents of powdery mildew have been reported on *P. drummondii*, in particular *Sphaerotheca* (syn.: *Podosphaera*) *fuliginea* in the former USSR (Amano, 1986), however, this is the first report of *Podosphaera* sp. on *P. drummondii* in Italy.

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DISEASE NOTE

FIRST REPORT OF *GROUNDNUT BUD NECROSIS VIRUS* ON *CALOTROPIS GIGANTEA*

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Calotropis gigantea (commonly known as giant milkweed), a common wasteland weed, is traditionally used in India to treat fevers, rheumatism, indigestion, cough, cold, eczema, asthma, elephantiasis, nausea and diarrhoea (Priya *et al.*, 2010). *Groundnut bud necrosis virus* (GBNV), a member of the genus *Tospovirus,* family *Bunyaviridae* consists of enveloped, quasi spherical particles, approximately 80 to 120 nm in diameter. In August 2010, severe mosaic, chlorotic rings and necrosis were observed on young leaves and stems of *Calotropis* growing adjacent to fields of peanut (*Arachis hypogaea*), cotton (*Gossypium herbaceum*), black gram (*Vigna mungo*) and green gram (*Vigna radiata*) in the Nellore district of Andhra Pradesh (India). Symptomatic leaves were tested and found to be positive for GBNV by direct antigen coating (DAC)-ELISA using polyclonal antibodies. RT-PCR using coat protein gene specific primers (Satyanarayana *et al.*, 1996) resulted in an amplicon of the expected size (*ca.* 800 bp). The amplicon was cloned into pTZ57R/T vector (Fermentas, USA), sequenced and the sequence was deposited in GenBank (accession No. HQ199844). Sequence analysis (BioEdit v 7.0.5) revealed 92-99% and 95-100% identity of the GBNV isolate from *Calotropis gigantea* with other GBNV isolates at the nucleotide and amino acid levels, respectively. A recent study indicated that *C. gigantea* can serve as a reservoir host for a phytoplasma (Priya *et al.*, 2010). The possible role of *Calotropis* as a reservoir host for GBNV is a cause of serious concern. To the best of our knowledge, this is the first report of the natural occurrence of GBNV on *Calotropis*.

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