New Disease Reports

First report of Golovinomyces sordidus causing powdery mildew on plantain in Vietnam

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Plantago major (plantain) is one of the most abundant and widely distributed medicinal crops in the world. Since 2013, typical symptoms of powdery mildew were observed in plantain growing wild in fields as well as cultivated for medicine production, the latter with a large area in Hanoi, Vietnam. Disease incidence was observed at around 80% and the disease severity almost 100% with almost all aerial parts of the plant (i.e. flowers, leaves and stem), covered by white fungal colonies (Fig. 1). As a result, yield at harvest was dramatically decreased. A representative diseased specimen was deposited in the PPRI Herbarium (Accession No. PPRI-PM050).

Conidiophores were composed of one to three cells, and measured (82.4-)112.2-147.1(-172.1) μm long. Footcells of conidiophores were cylindrical, straight, or curved at the base and 50-62.5 x 10-12.5 μm long (Fig. 2). Conidia, produced in chains, were variable in shape, oval to cylindrical, straight, or curved at the base and 50-62.5 x 10-12.5 μm long, 11.6 to 2.0 μm in diameter (Fig. 2). No chasmothecia were found. The morphological characteristics were consistent with descriptions of the genus Golovinomyces (Braun & Cook, 2012). To confirm the identity of the causal fungus to the species level, the complete ITS region of rDNA from diseased plant accession PPRI-PM050 was amplified with our universal primer pairs HF1 (5′-GGATCCTCGTAACAAGGTTTCCGTAG-3′)/ HR4 (5′-CTGCAGCTCCGCTTATTGATATGCTT-3′) (Tam et al., 2015) and directly sequenced. The resulting sequence (636 bp) was deposited in GenBank (Accession No. KM260734). A BLAST search using the present sequences. Molecular Phylogenetics and Evolution 27, 314-327.


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