Diseases Caused by Fungi and Fungus-Like Organisms

First Report of Powdery Mildew of *Eclipta prostrata* Caused by *Podosphaera xanthii* in China

D.-D. Xu,^{1,2} F. Qiao,¹ J.-H. Xu,¹ L.-Y. Shi,² and L.-Q. Jiang^{3,†}

¹ Department of Applied Chemistry and Biological Technology/ Postdoctoral Innovation Practice Base, Shenzhen Polytechnic, Shenzhen 518055, China

² Department of Plant Pathology/Guangdong Province Key Laboratory of Microbial Signals and Disease Control, South China Agricultural University, Guangzhou 510642, China

³ Guangdong Province Key Laboratory of New Technology in Rice Breeding, Rice Research Institute, Guangdong Academy of Agricultural Sciences, Guangzhou 510640, China

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Eclipta prostrata is an important medicinal herb that can be found on grassland, roadsides, and field pathways in tropical, subtropical, and temperate regions of the world (Li et al. 2017). In April 2018 and March 2019, severe powdery mildew infection was observed on *E. prostrata* in a public garden of South China Agricultural University (23.9°N, 113.21°E) in Guangzhou, China. Nearly 90% of the *Eclipta* plants were infected, and the foliage of infected plants was covered with white, rounded, irregular patches, which subsequently showed abundant hyphal growth, followed by rapid defoliation. Hyphae were septate, branched, with indistinct to slightly nipple-shaped appressoria. Conidia formed in long chains on the top of conidiophores, oval to ellipsoidal, 25 to 31 × 16 to 19 μm (mean 28 ± 2 × 17 ± 1, *n* = 50), with a length/width ratio varying from 1.4 to 1.8, and with distinct fibrosin bodies. Conidiophores were erect, unbranched, consisted of

three to four cells, 103 to 135 μm long (mean 119 ± 10 μm, *n* = 30), and with a straight to curved-sinuous foot cell, 42 to 78 μm long (mean 57 ± 4 μm, *n* = 30). Chasmothecia were not observed. The rDNA internal transcribed spacer (ITS) region was amplified by seminested PCR using the primer sets P3 (Kusaba et al. 1995)/ITS5 and ITS5 (White et al. 1990)/ITS4 for the first and second reactions, respectively. The obtained sequence (GenBank accession no. MT260063) analyzed by BLASTN search revealed 100, 99, and 99% identity with *Podosphaera xanthii* (GenBank accession nos. LC270780, KJ472787, and LC270779), respectively. On the basis of the morphological and molecular characteristics, the fungus was identified as *P. xanthii* (Braun and Takamatsu 2000). Pathogenicity was tested by gently pressing diseased leaves onto the leaves of four healthy *E. prostrata* plants, resulting in the formation of similar white powdery mildew colonies after 8 days at 25°C and 75% relative humidity in a greenhouse. Fungal colonies on the diseased leaves were morphologically identical to the collected fungal specimen, whereas leaves of control plants, which were only pressed with a hand, developed no symptoms. Until now, *P. xanthii* has not been reported on *E. prostrata* worldwide, and this is the first report of this fungus infecting this plant. In addition, *P. xanthii* was documented on Cucurbitaceae plants and Compositae plants (Pérez-García et al. 2009). Therefore, powdery mildew infection on *E. prostrata* not only poses a potential threat to this plant but may also serve as a reservoir of this pathogen that could allow dissemination to other economically important plants.

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[†]Indicates the corresponding author.
E-mail: jiangliqun@gdaas.cn (L.-Q.J.)