Diseases Caused by Fungi and Fungus-Like Organisms

First Report of Powdery Mildew of Crape Jasmine (*Tabernaemontana divaricata*) Caused by *Erysiphe elevata* in China

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Crape jasmine (*Tabernaemontana divaricata*) is a popular flowering shrub widely grown in southern China. Its leaves and roots are used in Chinese traditional medicine. In December 2019, powdery mildew symptoms were observed on five crape jasmine shrubs on the campus of Shenzhen Polytechnic (22°35'N; 113°56'E), in Guangdong province. Approximately 45% of leaves were infected. Symptoms initially appeared as circular to irregular white patches on the leaf petiole, and they subsequently coalesced to develop into abundant hyphal growth on both sides of the leaves, which soon wilted. Hyphae were septate, branched, with simple kidney-shaped to moderately lobed appressoria. Conidia formed singly, ellipsoid-ovoid to subcylindrical, 27 to 37 × 14 to 20 µm (mean 32 ± 2.5 × 17 ± 1.6 µm), with a length/width ratio varying from 1.3 to 2.4. Conidiophores were erect, unbranched, consisted of two cells, 60 to 84 µm long (mean 73 ± 4 µm), and with straight to severely kinked cylindrical foot cells at the base, 29 to 35 × 3 to 7 µm (mean 32 ± 3 × 6 ± 2 µm). Chasmothecia were not observed on sampled plants. These morphological characteristics were typical to the conidial stage of the genus *Erysiphe* (Braun and Cook 2012). For molecular identification, genomic DNA was

extracted from conidia washed from infected leaves and using a Fungal DNA Kit (Omega Bio-tek, Guangzhou, China). Seminested PCR amplification of the internal transcribed spacer region of rDNA was conducted by using primer sets P3 (Kusaba et al. 1995)/ITS5 and ITS5/ITS4 (White et al. 1990) for the first and second reactions, respectively. BLASTn analysis of the obtained 719-bp sequence (GenBank accession no. MT802112) showed 99.7% identity with those of *Erysiphe elevata* (KY660910, MH985631, MK253282). On the basis of morphological and molecular analyses, the fungus was identified as *E. elevata*. To confirm pathogenicity, infected leaves were gently pressed onto healthy leaves of three healthy plants in separate pots, and three noninoculated plants were used as controls. All plants were maintained in a greenhouse at 25°C with relative humidity of 50 to 65%. After 11 days, similar disease symptoms were observed on the inoculated plants, whereas no symptoms developed on control plants. The fungus observed on the inoculated shrubs was identical morphologically to that of the original infected leaves. *E. elevata* is a common powdery mildew species infecting *Catalpa* spp. (Cook et al. 2006), *Plumeria rubra* (Wu et al. 2019; Yeh et al. 2019), and *Eucalyptus camaldulensis* (Meeboon and Takamatsu 2017). However, no powdery mildew was found on *P. rubra* nearby. To our knowledge, this is the first report of this fungus infecting *T. divaricata*.

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