Diseases Caused by Fungi and Fungus-Like Organisms

First Report of *Pestalotiopsis microspora* Causing Leaf Spot on Moyeam in China

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Ampelopsis grossedentata, commonly known as moyeam, has been widely used as a health care herbal tea since it contains natural plant protein cream, 17 amino acids, 14 micronutrients, and lots of functional flavonoids and provides a wide range of pharmaceutical functions including as an antioxidant, anti-inflammatory, and antitumor (Carneiro et al. 2021; Zhang et al. 2020). Moyeam is primarily produced in Zhangjiajie, in the area from 109°40' to 110°20'E and from 28°52' to 29°48'N, at 1,300 to 1,890 m above sea level, in a subtropical humid monsoon climate. Its economic value surpasses \$1.25 billion in China (Liang et al. 2020). In July 2020, leaf spots were observed on some moyeam plants in Zhangjiajie. Initial spots were pinhead-sized with a yellow halo margin. The spots developed into light brown necrotic spots 6 to 8 mm in diameter, often with a dark brown margin. After 4 days of development, the spots enlarged and coalesced into an irregular shape, frequently falling out and giving the leaves a tattered appearance. The infected plants eventually died with disease incidence ranging from 18 to 23%. This disease resulted in production losses of up to \$1.7 million in 2020. One fungal isolate was isolated from the symptomatic leaves based on our previously published methods (Yi et al. 2019). Colonies on potato dextrose

agar (PDA) were thick and villous with white at the front of the plate and yellowish at the back. After 1 week, the fungus produced conidia, which were spindle-shaped, straight or slightly curved, with five cells, 4-euseptate and two to three apical accessory filaments. Morphologically, the fungus was similar to *Pestalotiopsis* spp. Aerial hyphae with vigorous growth were collected for molecular identification. The ITS nucleotide sequence of the rDNA and β -tubulin gene were amplified and sequenced with universal primers ITS1/ITS4 and self-designed primers based on the β -tubulin gene conserved motif. BLAST searches against GenBank indicated that the ITS nucleotide sequence shared 99% similarity with that of *P. microspora* (MG808374.1) and the β -tubulin gene sequence shared 99% similarity with that of *P. microspora* (AF115396.1). Based on morphological and molecular characteristics, the fungus was identified as *P. microspora*. The ITS and β -tubulin nucleotide sequences were deposited in GenBank (accession nos. MW350011 and MW816914, respectively). Pathogenicity tests were carried out with the following procedure. Three healthy moyeam seedlings were sprayed with a conidial suspension of 1×10^6 conidia/ml while the other three seedlings were sprayed with distilled water as the controls. Plants were maintained in a greenhouse at $28 \pm 1^\circ\text{C}$. After one day of inoculation, symptoms identical to those in the field developed in the plants inoculated with the fungus. In contrast, no symptoms developed on the control plants. *P. microspora* has been reported to cause diseases in many crops in China. However, this is the first report of *P. microspora* causing leaf spot in moyeam in China. Identifying the pathogen causing the disease is important to the development of effective disease management strategies for control of this disease.

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