Diseases Caused by Fungi and Fungus-Like Organisms

First Report of *Nigrospora sphaerica* Causing Leaf Blight on Oil Tea (*Camellia oleifera*) in China

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Tea-oil tree (*Camellia oleifera* Abel) is an important woody oil tree in southern China, cultivated on more than 7,400 ha in Shexian County, Anhui Province. In a survey conducted from 2016 to 2017 in Shexian County, leaf blight symptoms of unknown origin were observed on leaves of *C. oleifera* plants. In 2017, 20 oil tea orchards and nearly 180 (10%) of oil tea plants were affected in this region. Initial leaf symptoms were characterized by yellow to brown, irregular-shaped lesions, which later expanded to the entire leaf. Infected leaves turned dark brown and withered. Sections of 40 symptomatic leaf tissues were surface sterilized with 1.5% sodium hypochlorite for 2 min, rinsed three times in sterile distilled water, placed on potato dextrose agar (PDA), and incubated at 25°C under a 16-h/8-h light/dark cycle for 7 days. Thirty morphologically similar fungal isolates recovered produced colonies that were initially white and then became light to dark gray. Conidia were single-celled, black, smooth, spherical, 12.3 to 14.6 × 15.2 to 16.8 µm in diameter, borne on a hyaline

vesicle at the tip of each conidiophore. Based on these morphological features, the isolates appeared to be similar to *Nigrospora sphaerica* (Sacc.) Mason (Ellis 1971; Mason 1927). One isolate, SXYC-12, was randomly selected for molecular identification. The internal transcribed spacer (ITS) region of the ribosomal DNA was amplified by polymerase chain reaction using universal ITS4 (5'-TCCTCCGCTTATTGATATGC-3') and ITS5 (5'-GGAAGTAAAAGTCGTAACAAGG-3') primers followed by cloning and sequencing of the amplified products. The ITS region (GenBank accession no. MT126446) was 100% identical to *N. sphaerica* (GenBank accession no. KX256179.1). Pathogenicity tests were conducted using the isolate SXYC-12 by depositing 10-µl droplets of a suspension (1×10^5 conidia/ml) on the surfaces of 10 artificially wounded leaves (a small hole made with a pushpin) of five healthy 3-year-old oil tea plants. An equal number of control leaves were inoculated with sterile water to serve as a negative control. The leaves were maintained in a greenhouse at 25°C and 80 to 85% humidity with a 12-h photoperiod of fluorescent light. After 7 days, all inoculated leaves developed blight symptoms similar to those observed on naturally infected oil tea plants, whereas control leaves remained symptomless. The fungus was reisolated from all symptomatic tissues, thus satisfying Koch's postulates. The results indicated that *N. sphaerica* was responsible for the leaf blight observed on the oil tea plants. *N. sphaerica* has been reported to cause blight of *C. sinensis* in China (Liu et al. 2016) and India (Dutta et al. 2015), but to our knowledge, this is the first report of *N. sphaerica* as a leaf pathogen on *C. oleifera* in China. Furthermore, our field observations suggest that the leaf blight would be a potential threat to *C. oleifera* in Shexian County.

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