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Disease Notes

First Report of *Botryosphaeria dothidea* Causing White Rot of Apple Fruit in Serbia

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Abstract

Botryosphaeria dothidea (Moug.: Fr.) Ces. & De Not has a worldwide distribution infecting species from over 80 genera of plants (1). Apart from being an important pathogen of apple trees in many countries, *B. dothidea* can cause pre- and postharvest decay on apple fruit (2). It has been known to cause canker and dieback of forest trees in Serbia (3), but has not been recorded either on apple trees or apple fruit. In December 2010, apple fruit cv. Idared (*Malus* × *domestica* Borkh.) with symptoms of white rot were collected from one storage in the area of Svilajnac in Serbia. The incidence of the disease was low but the symptoms were severe. Affected fruit were brown, soft, and almost completely decayed, while the internal decayed tissue appeared watery and brown. A fungus was isolated from symptomatic tissue of one fruit after surface sterilization with 70% ethanol (without rinsing) and aseptic removal of the skin. Small fragments of decayed tissue were placed on potato dextrose agar (PDA) and incubated in a chamber at 22°C under alternating light and

dark conditions (12/12 h). Fungal colonies were initially whitish, but started turning dark gray to black after 5 to 6 days. Pycnidia were produced after 20 to 25 days of incubation at 22°C and contained one-celled, elliptical, hyaline conidia. Conidia were 17.19 to 23.74 µm (mean 18.93) × 3.72 to 4.93 µm (mean 4.45) (*n* = 50). These morphological characteristics are in accordance with those described for the fun *B. dothidea* (4). Genomic DNA was isolated from the fungus and internal transcri spacer (ITS) region of rDNA was amplified with the primers ITS1/ITS4 and sequer The nucleotide sequence has been assigned to GenBank Accession No. KC994640. BLAST analysis of the 528-bp segment showed a 100% similarity with several sequences of *B. dothidea* deposited in NCBI GenBank, which confirmed morphological identification. Pathogenicity was tested by wound inoculation of five surface-sterilized, mature apple fruit cv. Idared with mycelium plugs (5 mm in diameter) of the isolate grown on PDA. Five control fruit were inoculated with sterile PDA plugs. After 5 days of incubation in plastic containers, under high humidity (RH 90 to 95%) at 22°C, typical symptoms of white rot developed on inoculated fruit, while wounded, uninoculated, control fruit remained symptomless. The isolate recovered from symptomatic fruit showed the same morphological features as original isolate. To the best of our knowledge, this is the first report of *B. dothidea* on apple fruit in Serbia. Apple is widely grown in Serbia and it is important to further investigate the presence of this pathogen in apple storage, as well as in orchards since *B. dothidea* may cause rapid disease outbreaks that result in severe losses.

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