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DISEASE NOTES

First Report of *Lasiodiplodia brasiliense* Causing Disease in Apple Trees in Brazil

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In the last years, several apple varieties have been well-adapted to grow under the tropical conditions of northeastern Brazil. However, fungal diseases can be a limiting growing factor under these conditions. Cankers, dieback, and eventual plant death were observed in 2-year-old apple trees, cultivar Eva, in Paraipaba county, State of Ceará, Brazil, in 2015. In an attempt to identify the causal agent, symptomatic tissue from the trunk was collected and disinfected in 70% alcohol and 1.5% sodium hypochlorite. Tissue was plated onto potato carrot agar (PCA) and incubated at approximately 25°C for 7 days. Fungal colonies developed from infected tissue were dark or grayish. Hyphal tips were plated again in PCA medium with sterilized pine needles and incubated for 10 to 15 days to produce pycnidia and sporulation. Conidia were ellipsoid to ovoid and measured 22.83 µm long and 11.58 µm wide ($n = 140$). Conidia were hyaline when immature and brown with a central transverse septum and longitudinal striations when mature. These characteristics indicated that this species is morphologically similar to those in the genus *Lasiodiplodia* (Netto et al. 2014). A monosporic culture grown in PCA medium was used for DNA extraction. To confirm identification, three genes were amplified and sequenced, including internal transcribed spacer (ITS) region and part of the β -tubulin (TUB2) and elongation factor (EF1- α) genes. ITS, TUB2, and EF1- α sequences showed 99% homology with *Lasiodiplodia brasiliense* (KX278010.1, KP308524.1, and JX464049.1) from GenBank. Based on sequence analysis, isolate BOT458 was confirmed to be *L. brasiliense*, and sequences were deposited in GenBank with accession numbers KY696839 (ITS), KY711350 (TUB2), and KY711351 (EF1- α). The pathogenicity test was confirmed on 2-year-old healthy apple trees under field conditions. Colonized mycelium plugs of a 10-day-old colony of *L. brasiliense* were inserted into a 6.5-mm hole in 10 regions of the stems and branches (10 replicates). Sterile PCA was inserted as a negative control in seven replicates. Twenty days after inoculation, disease symptoms on the stem were recorded. No symptoms were observed in the controls. The pathogen was reisolated from the lesions of inoculated plants. Although other Botryosphaeriaceae species have been reported on apple trees in South America (Delgado-Cerrone et al. 2016; Sessa et al. 2016), this is the first report of *L. brasiliense* causing stem canker and dieback in apple trees in Brazil. Further studies to identify apple genetic resistance and management strategies (e.g., pruning and the effectiveness of fungicides) are desirable.

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- Delgado-Cerrone, L., et al. 2016. Eur. J. Plant Pathol. 146:637. [[Crossref](#)] [[ISI](#)] [[Google Scholar](#)]
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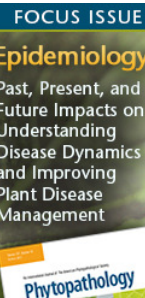
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