Diseases Caused by Fungi and Fungus-Like Organisms

First Report of *Colletotrichum scovillei* Causing Anthracnose Fruit Rot on Pepper in South Carolina, United States

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Plant Dis. 105:1222, 2021; published online as <https://doi.org/10.1094/PDIS-08-20-1656-PDN>. Accepted for publication 14 November 2020.

Anthracnose fruit rot caused by various *Colletotrichum* spp. is a serious disease for pepper (*Capsicum annuum*) growers, resulting in extensive fruit loss (Harp et al. 2008). Samples of five pepper fruits were obtained from two commercial farms in Lexington (<20% incidence) and Pickens (>50% incidence) counties, South Carolina, in August and September 2019, respectively. All fruits had one or more soft, sunken lesions covered with salmon-colored spore masses. Pieces of diseased tissue cut from the margins of lesions were surface disinfested in 0.6% sodium hypochlorite, rinsed in sterile deionized water, blotted dry, and placed on one-quarter-strength potato dextrose agar (PDA/4) amended with 100 mg of chloramphenicol, 100 mg of streptomycin sulfate, and 60.5 mg of mefenoxam (0.25 ml of Ridomil Gold EC) per liter. Two isolates of *Colletotrichum* sp. per fruit were preserved on dried filter paper and stored at 10°C. One additional isolate of *Colletotrichum* sp. had been collected from a jalapeño pepper fruit on a farm in Charleston County, South Carolina, in September 1997. The glyceraldehyde-3-phosphate dehydrogenase (GAPDH) and beta-tubulin (TUB2) genes from three isolates, one per county, were amplified and sequenced with the primer pairs GDF1/GDR1 and T1/Bt2b, respectively (Cannon et al. 2012). Sequences for all isolates were 100% similar to each other and strain CBS 126529 (GAPDH, accession no. JQ948597; TUB2, accession no. JQ949918) of *Colletotrichum scovillei* (Damm et al. 2012). GAPDH and TUB2 sequences for each isolate were deposited in GenBank under the accessions MT826948 to MT826950 and MT826951 to MT826953, respectively. Colony morphology of all isolates on Spezieller Nährstoffarmer agar (SNA) was pale gray with a faint orange tint (Leslie and Summerell 2006). All isolates readily

produced conidia on SNA. Measured conidia (20 per isolate) had an average length of 16.4 µm (std. dev. = 1.8 µm) and a width of 2.2 µm (std. dev. = 0.2 µm). Conidia were hyaline, smooth, straight, aseptate, cylindrical to fusiform with one or both ends slightly acute or round, matching the description of the genetically identified species *C. scovillei* (Damm et al. 2012). Pathogenicity was tested on grocery store jalapeño pepper fruits by placing a 10-µl droplet of a 5×10^5 conidia/ml suspension of each isolate onto a wound made with a sterile toothpick. Control peppers were mock inoculated with 10 µl of sterile distilled water. A humid chamber was prepared by placing moist paper towels on the bottom of a sealed crisper box. Inoculated peppers were placed on upside-down 60-ml plastic cups. Three replicate boxes each contained one pepper per treatment. The experiment was repeated once. After 7 days in the humid chamber at 26°C, disease did not develop on control fruits, whereas soft, sunken lesions covered with salmon-colored spores developed on inoculated fruits. Nonwounded inoculated fruits were not infected. *C. scovillei* was recovered from all inoculated fruits, but not from noninoculated fruits, by reisolating onto amended PDA/4 as previously described. Lesion length averaged 15.6 mm (std. dev. = 4.1 mm) by 11.5 mm (std. dev. = 2.0 mm). *C. scovillei* has been reported in Brazil, China, Indonesia, Japan, Malaysia, South Korea, Taiwan, and Thailand (Farr and Rossman 2020). This is the first report in South Carolina and the United States. *C. scovillei* is one of several species in the *C. acutatum* complex originally reported from *Capsicum* spp. (Damm et al. 2012) and may be an important species causing anthracnose fruit rot on pepper.

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The author(s) declare no conflict of interest.

Keywords: *Colletotrichum scovillei*, pepper, anthracnose, *Capsicum annuum*

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