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DISEASE NOTES

First Report of *Cladosporium colocasiae* Causing Leaf Spot on Taro (*Colocasia esculenta*) in Mexico

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In September 2017, symptoms of leaf spot were observed on approximately 80% of taro (*Colocasia esculenta* var. *antiquorum*) plants at a commercial field located in San Juan Bautista Tuxtepec, Oaxaca, Mexico. Lesions on diseased leaves were dark brown and oval to irregular, sometimes coalescing to cover large areas of the leaf surface. To isolate the fungus, small fragments from adjacent tissue to lesions of symptomatic leaves were excised and surface disinfested by immersion in 1% NaOCl for 2 min, rinsed three times in sterile distilled water, dried in blotter paper, and placed in Petri plates containing potato dextrose agar (PDA) amended with ampicillin (20 mg/liter) and rifampicin (20 mg/liter). The plates were incubated at 25°C under constant white light for 8 days, and then mycelial plugs were aseptically transferred to fresh PDA medium. Pure cultures were obtained by a monoconidial isolation technique. Colonies on PDA exhibited sparse aerial mycelium, gray-olivaceous to dark-olivaceous, and with profuse sporulation. Conidiophores were solitary, erect, straight or slightly flexuous, cylindrical-oblong, olivaceous-brown, nodulose, usually unbranched, and measuring up to 650 µm long. Conidia were catenate in branched chains, ellipsoidal to cylindrical, smooth, aseptate or one to two septate, olivaceous-brown, and 9 to 18 × 5 to 8 µm. Based on morphological characteristics, the fungus was identified as *Cladosporium colocasiae* (Bensch et al. 2012; García and Moya 2015). A representative isolate was deposited in the Culture Collection of Phytopathogenic Fungi at the Chapingo Autonomous University as UACH 291. For molecular identification, the internal transcribed spacer (ITS) region and part of the translation elongation factor 1-α (EF1-α) gene were

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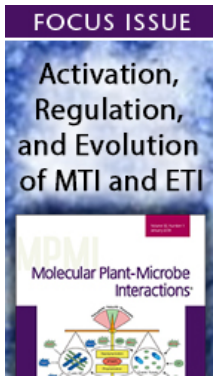

amplified by polymerase chain reaction and sequenced using the primer sets ITS5/ITS4 (White et al. 1990) and EF1-728F/EF1-986R (Carbone and Kohn 1999), respectively. The sequences were deposited in GenBank (accession nos.: ITS, MH191366; EF1-α, MH191367). A phylogenetic analysis using Bayesian inference and including a published ITS and EF1-α sequence dataset for *C. colocasiae* and other *Cladosporium* species was performed. The phylogenetic analysis resulted in a well-supported clade grouped with the type species of *C. colocasiae*. The pathogenicity of the fungus was verified on taro plants growing in a greenhouse. Two leaves from each of five 5-month-old taro plants were sprayed with a conidial suspension (10^4 spores/ml). Five leaves were mock inoculated with distilled water as a control. All plants were covered for 48 h with a plastic bag to keep moisture and then were maintained in a greenhouse at temperatures ranging from 25 to 32°C for 15 days. The pathogenicity test was performed twice. Symptoms of leaf spots were observed after 10 days on all leaves inoculated with conidial suspensions, whereas control leaves remained symptomless. Koch's postulates were fulfilled when the pathogen was reisolated 100% from the diseased leaves. *C. colocasiae* has been reported on *Colocasia* spp. in North America (U.S.A.), Caribbean islands, South America, and Europe and is widely distributed in Africa, Asia, and Australasia (Bensch et al. 2012; Farr and Rossman 2018). To our knowledge, this is the first report of *C. colocasiae* causing leaf spot on taro in Mexico. The occurrence of this pathogen presents a threat to the production of taro in this area of southeastern Mexico, and therefore effective management strategies should be implemented.

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