Diseases Caused by Fungi and Fungus-Like Organisms

First Confirmed Report of Leaf Blight on Browntop Millet Caused by *Bipolaris setariae* in Southern Peninsular India

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Browntop millet (*Brachiaria ramosa* [L.] Stapf), which is native to India, was recently introduced as one of the small millet crops. In September 2018, leaf blight symptoms were observed on cultivar Dundu Korale on the adaxial side of the leaves in a field at Bangalore, India (13.0784°N, 77.5793°E). Initial lesions were brown with a small yellow halo that ranged from 1 to 5 mm and eventually enlarged, exhibiting light brown centers. Afterward, spots coalesced and leaves were blighted. About 75% of the plants were infected in the field of 0.5 ha. Samples of symptomatic and asymptomatic leaves were collected, and nine isolates were recovered on PDA. Single conidial isolation was performed. Colonies were gray to olive green with regular margins in 7-day-old cultures at 27 ± 1°C and 16-h light and 8-h dark cycles. Conidiophores were single or in clusters from 4.92 to 6.04 µm wide. Conidia were fusoid, cylindrical to slightly curved ranging from 38.50 to 130 µm in length and from 8.30 to 17 µm in width, with four to 10 distosepta ($n = 100$). Hilum was flat to inconspicuous or slightly protruded. Based on the

morphology, the pathogen was identified as a *Bipolaris* species according to the genus standard descriptions of *Helminthosporium* (Alcorn 1988). Misra and Prakash (1972) reported that *Helminthosporium setariae* caused leaf spot on browntop millet in India, but they did not provide any morphological or molecular evidence of identification. For molecular identification, the genomic DNA of isolate BTMH3 was extracted, and the internal transcribed spacer region (ITS) and glyceraldehyde-3-phosphate dehydrogenase gene (GPD) were amplified using the pairs of primers ITS1/ITS4 (White et al. 1990) and GPD1/GPD2 (Berbee et al. 1999), respectively. BLAST analysis of ITS (MT750301; 562 matching base pairs) and GPD (MT896702; 562 matching base pairs) sequences showed 99.82% identity with sequences of *Bipolaris setariae* (Sawada) Shoemaker type strain CBS 141.31 (ITS, EF452444; GPD, EF513206). Pathogenicity was proved by spraying 10 healthy 20-day-old browntop millet plants with conidial suspension (10⁶ conidia/ml). Control plants were sprayed with distilled water. Plants were covered with transparent polythene bags in a greenhouse at 28 ± 2°C and high relative humidity of 90%. Symptoms were observed at 5 days postinoculation. The pathogen was reisolated from infected areas using the same protocol as before, whereas the control plants were symptomless. The reisolated pathogen was confirmed as *B. setariae* based on morphological characters and PCR assay. To the best of our knowledge, this is the first report of leaf blight on browntop millet caused by *B. setariae* in the southern peninsular region of India. A disease specimen was deposited in the Herbarium Cryptogamae Indiae Orientalis, New Delhi, India, with accession number 52209. Grain yield losses attributed to leaf blight on browntop millet at a Bangalore field remain to be determined; however, our findings indicate that cultivar Dundu Korale is susceptible to *B. setariae*.

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