



# First report of sunflower leaf spot caused by *Curvularia lunata* in China

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In January 2019, sunflower (*Helianthus annuus* L.) fields in Hainan province sunflower off-season propagation base in Jiusuo and Haitang county, China had diseased leaves exhibiting small yellow lesions with brown borders. The average disease incidence was 10%. Diseased samples were surface sterilized in 70% alcohol for 1 min, rinsed with distilled water then cultured on Potato Dextrose Agar (PDA) medium. The actively growing colonies surrounding the diseased tissues were subcultured twice on PDA media to generate a pure culture, LD4-1. The colony morphology was gray and fluffy. Conidiophores were 120 µm long and sparingly branched. Conidia were 32 µm × 9.8 µm, erect and oblong shaped with three septate cells. The DNA of LD4-1 was extracted and the internal transcribed spacer region of the DNA was amplified using ITS1/ITS4 and GDF/GDR primers (GAPDH genetic region). The sequenced amplicons were queried in NCBI-BLAST with a 100% similarity to *Curvularia lunata* (Wakker) Boedjin (Macri and Lenna 1974) isolate E16 with accession number MH183194.1. The DNA sequence of LD4-1 was deposited in GenBank corresponding with the accession numbers MN587964 (ITS) and MZ425924 (GAPDH). The sequence was aligned with verified *C. lunata* data recovered from the CBS database to construct phylogenetic tree which showed a 99% relationship. The pathogenicity of LD4-1 was carried out on 18 detached LD5009 sunflower leaves (12:6) inoculated with 1 cm plugs of LD4-1 and non-inoculated PDA plugs, respectively. The leaves were placed on moist filter papers

in covered plastic containers inside the growth chamber. Water soaked lesions appeared around LD4-1 plugs which gradually turned dark brown but not the control leaves. The same fungus was re-isolated from the lesions and the colony morphology were same as LD4-1. *C. lunata* is a facultative pathogen known to affect mostly monocotyledonous hosts. In China, *C. lunata* has been reported to cause leaf spot not only on maize (Dai et al. 1995), but also sorghum (Xu et al. 2018). To our knowledge, this is the first report of *C. lunata* causing sunflower leaf spot in China.

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## Declarations

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