First report of peanut black rot caused by *Cylindrocladium parasiticum* in Guizhou province, China

Xia Zhang¹ · Manlin Xu¹ · Jing Yu¹ · Zhiqing Guo¹ · Juxiang Wu¹ · Yucheng Chi¹

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In 2017, a peanut disease resembling *Cylindrocladium* black rot (CBR) was found in Guiyang city, Guizhou province, China. The basal stems, pods and taproots became black and rotten, and reddish orange spherical fruiting bodies appeared in those lesions at the later stage. Disease incidence was approximately 5% in the area we investigated. The pathogen was isolated from basal stem lesions on potato dextrose agar (PDA), and incubated at 25 °C under dark conditions. Fungal colonies were initially white, becoming pale buff, and a reddish brown pigment was produced with age. The apical branches of the conidiophores were bottle shaped, and the terminal vesicles were spherical or nearly spherical. Conidia were hyaline, cylindrical, narrow at one end, with 1 to 3 septa, and measured 44.5 to 72.6 × 4.1 to 7.2 μm.

Molecular identification was performed by sequencing three genes of a representative isolate ZHX6. Beta tubulin (Glass and Donaldson 1995), elongation factor 1-α and histone 3 (Crous et al. 2004) (GenBank accession Nos. MW654483, MW654484, MW654485) of ZHX6 shared 100, 100, and 99.55% sequence identity with *Cylindrocladium parasiticum* (telomorph. *Calonectria ilicicola* Boedijn and Reitsma 1950) (MK189210, MK000557, MH937733). The isolate was identified as *C. parasiticum* based on phylogenetic analysis which was done using Neighbor-Joining (NJ) analysis based on those gene sequences. Those results showed that the molecular identification was consistent with the morphological features.

For pathogenicity assay, two-week-old peanut (Luhua No.8) seedlings were inoculated with two mycelial plugs

(8 mm in diameter) in a growth chamber (30 °C in the day and 25 °C at night, a 12-h photoperiod and 80% RH). All inoculated seedlings exhibited typical basal stem and root rot symptoms two weeks after inoculation. No symptoms were observed on control plants treated with sterile distilled mycelial plugs, and *C. parasiticum* was consistently re-isolated from symptomatic tissue. To our knowledge, this is the first report of *C. parasiticum* causing peanut black rot in Guizhou, China.

Declarations

Ethical statement The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. Some or all data, models, or code generated or used during the study are available from the corresponding author by request or magazine publisher. The materials we study are harmless to people and animals.

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Xia Zhang and Manlin Xu contribute equally to the paper

✉ Yucheng Chi
87626681@163.com

¹ Shandong Peanut Research Institute, Qingdao, Shandong, China