



First report of Sclerotinia rot caused by *Sclerotinia sclerotiorum* on *Lens culinaris* in Bangladesh

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Lentil (*Lens culinaris*) is an important grain legume with various uses as food and feed because of its protein-rich grains and straw. Globally, it is cultivated as a rainfed crop on 3.85 million ha with a production of 3.59 million tonnes (Erskine *et al.*, 2011). Over the last few years, disease has become a major threat to lentil production in Bangladesh where lentil is grown annually as a major winter-season (rabi) pulse crop. Sixteen diseases have been reported to attack lentil in Bangladesh (Bakr, 1994). Recently, a new disease syndrome (stem, leaf, flower and pod rot) was observed in the Pabna district of the country. In 2014, infection was observed in 80% of the plants in a 0.5 ha field (Fig. 1).

For pathogen isolation, different parts of the infected plants such as leaf, stem, flower and pod were cut into small pieces and surface sterilised by immersion in 0.5% sodium hypochlorite for one minute, rinsed three times with sterile distilled water and cultured on potato dextrose agar (PDA). After 11 days fungal colonies developed with white mycelium and produced a ring of large sclerotia at the periphery of the PDA plates. The sclerotia were dark brown to black in colour and medium to large in size (mean 6 mm) (Fig. 2). The hyphae were hyaline, branched and multinucleate. The cultural and morphological characteristics of the isolate were recorded for identification. On the basis of morphology, the fungus was identified as *Sclerotinia sclerotiorum* (Lib.) de Bary (Bolton *et al.*, 2006). The pathogenicity of the fungal isolate was confirmed by re-inoculating healthy lentil plants. Inoculum was prepared in wheat bran, ten-day-old cultures of which were spread on the surface soil of pots containing 58-day-old lentil plants that were kept at room temperature. After 10 days, stems of the plants were covered by white fluffy mould. Dark brown to black sclerotia were also observed on the soil surface. The inoculated

fungus was re-isolated from symptomatic plant parts as previously described. To confirm the identification, genomic DNA was extracted from fresh mycelia grown on PDA plates using a standard plant DNA kit (Geneaid, Taiwan). Internal transcribed spacer (ITS) regions of the nuclear-encoded ribosomal RNA genes (rDNA) were amplified using the ITS1-ITS4 primer pair (White *et al.*, 1990) and the amplified PCR product was sequenced. A BLAST search with the 520 bp sequence from the amplicon (GenBank Accession No. KP729418) showed 100% identity with sequences of *Sclerotinia sclerotiorum* isolates in the NCBI GenBank. To the best of our knowledge, this is the first report of Sclerotinia rot in *Lens culinaris* caused by *Sclerotinia sclerotiorum* in Bangladesh.

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Figure 1



Figure 2

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