First report of botrytis blight of tulip caused by *Botrytis tulipae* in Turkey

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Tulip (*Tulipa* L.) is one of the most important flower bulb crops with production of approximately forty-five million units as cut flowers in Turkey (Anonymous 2018). In 2018, some plants showed disease symptoms consisting of water-soaked spots on petals and leaves in tulip nurseries in Samsun province. Infected plant tissues were cut into small pieces, placed on Tulip Leaf Agar medium after surface sterilization, and incubated at 18 °C for five days. The conidia were unicellular, ellipsoid to ovoid, pale-brown, and measured $8.16\text{--}10.58 \times 12.18\text{--}18.48 \mu\text{m}$ (average $8.8 \times 14.86 \mu\text{m}$). The conidiophores were erect, cylindrical, deep brown in color except hyaline swollen bases, and measured $650\text{--}830 \mu\text{m}$ high. The sclerotia were black, small, circular, $0.96\text{--}1.22 \text{ mm}$ in diameter and arranged uniformly on the medium. These morphological characteristics identified the fungus as *Botrytis tulipae* according to Ellis (1971). To confirm identification, the internal transcribed spacer (ITS) region of rDNA (amplified with ITS1/ITS4 primers), two nuclear genes encoding glyceraldehyde-3-phosphate dehydrogenase (G3PDH) and RNA polymerase subunit II (RPB2) (amplified with G3PDHf/G3PDHr and RPB2f/RPB2r primers) of a representative isolate (Tr-Bt03) were sequenced (White et al. 1990; Staats et al. 2005). The ITS, G3PDH and RPB2 sequences of Tr-Bt03 isolate (MH382821, MH392210 and MH392209, respectively) were 100% identical to those of *B. tulipae* isolates (Bt9601, Bt9806,

Bt9815 and Bt9903) in Genbank. For assessing pathogenicity, the wax layer of leaves of five healthy tulip plants was slightly damaged by hand rubbing, and then five-month-old plants were sprayed with the suspension of conidia (1×10^5 conidia mL^{-1}). Uninfected leaves of the plant with similar features were used as control. Five days after inoculation, typical symptoms appeared on leaves and flowers of all inoculated plants, but not on control plants. To our knowledge, this is the first report of *Botrytis* blight of tulip caused by *B. tulipae* in Turkey.

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