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DISEASE NOTE

First report of *Neoscytalidium dimidiatum* causing branch dieback and canker on apple in Turkey

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Turkey is one of the leading producer of apples worldwide. During summer 2020, about 6% of apple trees in a commercial 'Gala' apple orchard in Sur district of Diyarbakır, Turkey showed symptoms of dark black lesions on the outer bark, branch dieback, vascular discoloration, stem canker and tree death. Twenty symptomatic tissues from five trees were surface-disinfected in 2% sodium hypochlorite for 2 min and plated onto potato dextrose agar (PDA). The plates were incubated at 25 °C for 7 days in dark. Fifteen *Neoscytalidium*-like fungi was obtained from symptomatic tissues. The colonies were white at first, gradually turning dark grey to black. Conidia forming as arthric chains from aerial mycelia were cylindrical-truncate, dark brown, thick-walled, disarticulating, 0 to 1 septate, 4.43 to 8.69 × 3.23 to 1.29 um (n = 30). These morphological characteristics were consistent with the description of *Neoscytalidium dimidiatum* (Crous et al. 2006). ITS and EF1-α gene regions of the reference isolate M1 were sequenced with primers ITS1/ITS4 and EF1-728F/EF1-986R and deposited in GenBank (Accession Nos. MZ566845 for ITS and MZ576211 for EF1-α), respectively. The sequences were 99.82–100% identical to those of *N. dimidiatum* (Penz.) Crous & Slippers strain CBS 145.78 (ITS: MH861121, EF1-α: KF531795). Pathogenicity tests were performed by inoculating 6 branch segments at 30 cm in length. The outer bark at the inoculation area was surface-sterilized with 70% ethanol and a uniform wound was created on the center of each branch segment with a cork borer 4 mm. The equivalent-sized mycelia plug was placed on the wounded surface. Inoculation wounds were wrapped with parafilm and the branch segments were incubated at 25 °C in moist chambers. Control plants were inoculated with sterile PDA plugs. After five weeks, dark-brown necrotic lesions appeared on inoculation point of branch segments like those observed in the orchard, while control plants remained symptomless. The pathogen was re-isolated successfully from inoculated tissues, thus fulfilling Koch's postulates. To our knowledge, this is the first report of *N. dimidiatum* associated with dieback and canker of apple in Turkey (Farr and Rossman 2021).

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Declarations

Ethical statement This article does not contain any studies with human participants or animals.

Conflict of interest All authors declare that they have no conflict of interests.

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