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ABSTRACT BOOK

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Abstract Book

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Occurrence of *Phytophthora Cryptogea* Causing Root and Collar Rot on Sweet Cherry Trees in Diyarbakır Province of Turkey

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Abstract

Turkey is the world's largest producer of sweet cherry (*Prunus avium* L.), a member of stone fruits, with approximately 500 thousand tons of fruit produced annually. 24,385 sweet cherry trees are grown in 1,358 da area of Diyarbakır province with 275 t of fruit produced annually. In May 2015, approximately 30% of 500 5-year-old sweet cherry (*P. avium* cv. Ziraat 0900) trees grafted onto 'Mahaleb' in Çüngüs of Diyarbakır province showed wilting, lack of vigor, and dieback, with severely infected trees dying. Reddish necrotic tissues at the base of the trunk often extending to the main roots were observed on those trees. When they uprooted; necrosis on taproots and decay on feeder roots appeared. Tissue samples taken from the margins of crown and root lesions were placed on grated apple corn meal agar amended with P₅ARPH. Plates were incubated for 4 days at 20°C in the dark and a *Phytophthora* species was consistently isolated from the tissues. The morphological features fit the descriptions of *Phytophthora cryptogea* Pethybr. & Laff. *P. cryptogea* was pathogenic on 5 to 7 mm × 20 cm diam. shoots detached from a 1-year-old 'Mahaleb' cherry (*Prunus mahaleb* L.) rootstock tree. Genomic DNA was extracted from a representative isolate. The internal transcribed spacer (ITS) region of rDNA was amplified using the ITS6/ITS4 primer pair and sequenced (GenBank Accession No: MF538788). BLAST searches showed a 99 to 100% identity with many *P. cryptogea* strains AF087475, AY995400, GU111626, GU111624, KP070713, KP070713, KP070715, KP070719, KP070716, KP070721, KP070709 etc. deposited in NCBI GenBank and Phytophthora-ID databases. The provenance of *P. cryptogea* in a sweet cherry orchard in Ankara province (Central Anatolia), in a kiwifruit orchard in Bartın province (Black Sea Region), and in a potato field in Erzincan province (Eastern Anatolia Region) was previously reported in Turkey. However, to our knowledge, this is the first report of natural infection of *P. cryptogea* in a new region, in the Southeastern Anatolia, causing root and collar rot of cherry trees.

Keywords: *Prunus avium*, *P. cryptogea*, Southeastern Anatolia.