



# First report of *Diplodia gallae* associated with branch canker and dieback of *Quercus suber* in Tunisia

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In March 2017, dieback of cork oak (*Quercus suber* L.) trees associated with branch cankers were observed in Bel-lif forest (9°013' N; 37°04' E; alt. 276,7 m) in north-western Tunisia. The estimated disease incidence was 75% (N = 40). Small pieces of infected branches were surface-disinfected in alcohol (70%). Each piece was transferred to potato dextrose agar (PDA) and incubated at 25 °C in the dark. A collection of thirty isolates was obtained. Colonies on PDA showed initially dense white mycelium gradually darkened with age and becoming grey-black after 7 days at 25 °C. Within 10 days, dark pycnidia measuring 350–500 µm in diameter appeared on pine needles placed on cultures incubated under light. Conidia were hyaline, oval and aseptate, turned oblong to ellipsoid, rounded with truncate bases and some of them developed one septum, 18 to 27 × 10 to 14 µm in size. The fungus was initially morphologically identified as *Diplodia gallae* (Schwein.) Crous, comb. nov. MycoBank MB817673 (Yang et al. 2016). Molecular identification was performed by sequencing the internal transcribed spacer (ITS)-rDNA and a part of the translation elongation factor

1-α (*tefl-α*) region for two representative isolates (D.g02 and D.g05) (GenBank accession Nos. OK189675, OK189676-ITS and OK263146, OK263147-*tefl-α*). BLAST searches of the sequences revealed 100% (MN634019) and 100% (MN633972) identity, respectively, with reference sequences of *D. gallae* isolate (IRNBS8). Pathogenicity tests were carried out on cork oak seedlings of 1-year-old using the two isolates according to Linaldeddu et al. (2008). After 20 days, necrotic lesions developed on all seedlings inoculated with *D. gallae*. Stem lesions measured 4 ± 0.5 cm. The control seedlings remained healthy. The fungus was successfully re-isolated from the infected stems (90%), thus fulfilling Koch's postulates. To our knowledge, this is the first report of *D. gallae* associated with branch canker on *Q. suber* in Tunisia and worldwide (Farr and Rossman 2021).

## Declarations

**Conflict of interest** Authors declare that they have no conflict of Interest.

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