



First report of the yeast-like fungus *Aureobasidium iranianum* causing leaf blight on date palms in Tunisian oases

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Date palm (*Phoenix dactylifera*) is of significant economic importance and represents a key source of income to many farmers in southern Tunisia. Various biotic and abiotic factors such as pests, diseases and weather conditions affect date palm health and productivity. Recently, an outbreak of a new disease appeared on date palms in an oasis in the Kebili region. Initial symptoms consisted of oval to elongated tan lesions on frond tissue. Lesions were surrounded by brown to purple borders (Fig. 1). As the disease progressed, lesions elongated, coalesced, and caused drying out of frond tissues in many of the crowns (Figs. 1-2). Drying of the foliage began with the oldest fronds and extended inward to younger fronds of the crown.

Symptomatic leaves of date palm cv. Deglet Nour were collected for analysis. After incubating leaf pieces in a moist chamber for 48-72 hours at 28°C, fungal growth was observed on leaf lesions. Conidia were transferred to potato dextrose agar (PDA) plates. Colonies on PDA were moderately fast growing, smooth, flat, rapidly turning to olivaceous black with dark green, irregular margins, and covered with slimy masses of conidia (Fig. 3). Conidia were produced in dense clusters and were hyaline to dark brown, smooth, one-celled, variable in shape and size (ellipsoidal to spherical to ovoid), straight or slightly curved, with rounded to subtruncate bases. The colony and conidial morphologies matched those of *Aureobasidium* (Zalar *et al.*, 2008). Two single-spored isolates (Au1 and Au2) were used for characterisation studies. Sequencing the ITS region of the ribosomal RNA gene (GenBank Accession No. MG722806 and MG722807) after amplification with primers ITS1 and ITS4 (White *et al.*, 1990) revealed a 99.4% nucleotide identity with *Aureobasidium iranianum* (Genbank JX205092) (Arzanlou & Khodaei, 2014).

To fulfil Koch's postulates the adaxial sides of detached date palm leaves (n=12) were inoculated with 50 µl droplets of a 10⁶ conidia/ml suspension of isolate Au1 and incubated at 28°C at high humidity under natural light. Two weeks after inoculation, brown spots developed on all inoculated leaves and the pathogen was re-isolated from all spots.

Aureobasidium iranianum has been reported as a pathogen causing a foliar disease of bamboo (Arzanlou & Khodaei, 2012). To our knowledge, this is the first report in the world of *A. iranianum* causing a disease of date palm. This emerging problem should be studied further to minimise its impact on date palm production in Tunisia.

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Figure 1



Figure 2



Figure 3

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