First report of *Curvularia tuberculata* leaf spot on *Archontophoenix alexandrae* in Pakistan

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Archontophoenix alexandrae (F. Muell.) H. Wendl. & Drude (Alexandra palm) is a perennial ornamental palm distributed in tropical and subtropical regions worldwide. Ovoid with chlorotic halos brown spots ranging from 9 mm to 2 cm in size scattered on leaves blades from margins to midrib were observed in Kasur and Faisalabad districts of Punjab, Pakistan with 56 and 43% disease incidence, respectively. Under severe conditions, spots enlarged and turned into necrotic lesions covering major leaf area. Symptomatic leaves tissues were cut, surface disinfected with 3% sodium hypochlorite solution for 30 s, placed onto potato dextrose agar (PDA) culture medium and incubated at 28°C for 72 h. Single hyphal tips were taken for fungal purification. Grayish to black septate branched hyphae with zonate sporulation, unbranched, geniculate conidiophores (83–126 µm in size) producing conidia straight to curved with 3–5 septations (16–34.5 × 11–13 µm in size) were observed (Ellis 1971). To confirm the morphological identification, the DNA of a reference isolate was sequenced. The sequences of three loci internal transcribed spacer (ITS), glyceraldehyde 3-phosphate dehydrogenase (GAPDH) and RNA polymerase II second largest subunit (RPB2) showed 100% similarity to strain of CBS 146.63. These sequences were deposited to GenBank with following accession numbers MF448225, MN972616 and MN972617, respectively. Based on morphological and molecular analyses the reference isolate was identified as *Curvularia tuberculata* B. L. Jain. The reference isolate was deposited to Fungal Molecular Biology Culture Collection (FMB-CC-UAF) University of Agriculture Faisalabad, Pakistan with accession number FMB0005. To fulfill

Koch's postulates, a pathogenicity test was performed on six-month-old plants of *A. alexandrae*. Spore suspension of 1×10^5 spores/ml concentration was sprayed on young leaves, while sterile distilled water on control plants. After 7–10 days of incubation, symptoms were observed on leaves as during survey and *C. tuberculata* was confirmed as fungal pathogen by re-isolation. To our knowledge, this is the first report of *C. tuberculata* causing leaf spot on Alexandra palm in Pakistan and worldwide (Farr and Rossman 2020).

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Compliance with ethical standards

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

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

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