

Title First report of *Penicillium glabrum* causing fruit rot of pomegranate (*Punica granatum*) in Greece

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Abstract

During September and October of 2008 in the region of Larisa (central Greece), postharvest fruit rot was observed on pomegranate (cv. Kapmaditika), which is rapidly increasing in production in Greece, causing losses of 10 to 20% after 2 months of cold storage (5 to 6°C). Infected fruits showed green conidiophores in the calyx area, while internal symptoms consisted of soft, brown tissue that became covered with green mycelium and conidiophores. To isolate the casual agent, conidia and conidiophores were scraped aseptically from the internal fruit rot, suspended in sterile water, and streaked onto potato dextrose agar (PDA). Single hyphal tips were then transferred to new PDA plates. A fungus consistently isolated from the infected tissues was identified as *Penicillium glabrum* (Wehmer) Westling on the basis of morphological criteria, with conidiophores smooth or finely roughened and conidia in compact columns, glubose to subglubose, approximately 3.0 µm, with walls somewhat echinulate (1). The identification was confirmed by sequencing the internal transcribed spacer (ITS) region spanning ITS1, 5.8S, and ITS2 of the ribosomal DNA (2). The nucleotide sequence was submitted to GenBank (Accession No. FN313540). The pathogenicity of the isolated fungus was tested on five mature pomegranate fruit (cv. Kampaditika) after being surface sterilized with 5% sodium hypochlorite. A plug (5 mm in diameter) obtained from the margins of a *P. glabrum* colony was transferred to wounds (3 × 3 mm) made with a scalpel in the surface of fruit. Fruit inoculated with sterile PDA plugs served as controls. Fruit were incubated at 22°C and 80% relative humidity in the dark. Extensive decay, similar to that observed on diseased fruit in the field, was observed on the inoculated fruit 7 days after inoculation, whereas control fruit showed no decay. The pathogen was reisolated from inoculated fruit but not from the noninoculated fruit. To our knowledge, this is the first report of *P. glabrum* causing postharvest fruit rot of pomegranates in Greece.