

## DISEASE NOTE

**FIRST REPORT OF *CYTOSPORA PUNICAE* ASSOCIATED WITH WOOD CANKER AND BRANCH DIEBACK DISEASE OF POMEGRANATE IN TUNISIA**

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Pomegranate (*Punica granatum* L.) is an economically important crop in Tunisia with an annual production of 23,000 tons. During May and June of 2014, severe branch dieback was observed in pomegranate plants cv. Gabsi located in Gabes region with about 8% of disease incidence. Symptoms of the disease included leaf yellowing, wood lesion and canker formation. Isolation of the pathogen was performed from 10 samples of active cankers plated onto PDA medium amended with 100 mg l<sup>-1</sup> of tetracycline hydrochloride. Fungal colonies were then sub-cultured onto PDA medium at 22°C. All isolates were identified as *Cytospora* sp. based on colony morphology, conidial characteristics and pycnidia formation (Palavouzis *et al.*, 2015). The isolates developed white mycelium, which turned green to dark brown with hyaline, allantoid, aseptate conidia (average 4.5 µm × 1.75 µm) and production of dark coloured pycnidia 300 to 450 µm in diameter after 15 days (Peduto Hand *et al.*, 2014). Identity of these isolates was confirmed by sequencing the internal transcribed spacer region. The ITS sequences were deposited in GenBank (Accession No. KT272402). These sequences revealed 99% genetic identity with those of *Cytospora punicae* species available in GenBank (KJ621689; KJ621688). Pathogenicity of *Cytospora punicae* was evaluated by inoculation of two isolates in 1-year-old shoots of pomegranate cv. Gabsi (Palavouzis *et al.*, 2015). The inoculated shoots developed necrotic spots with vascular discoloration spreading downward and upward from the inoculation site. *Cytospora punicae* was recovered from 100% of the inoculated shoots. This is the first report of *Cytospora punicae* causing wood canker and branch dieback of pomegranate in Tunisia.

Peduto Hand F., Choudhury R.A., Gubler W.D., 2014. First report of *Cytospora punicae* causing wood canker and branch dieback of pomegranate (*Punica granatum*) in the United States. *Plant Disease* **98**: 853.

Palavouzis S.C., Tzamos S., Paplomatas E., Thomidis T., 2015. First report of *Cytospora punicae* isolated from pomegranate plants with symptom of collar rot in northern Greece. *Journal of Plant Pathology* **97**: 216.

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## DISEASE NOTE

**FIRST REPORT OF *CLADOSPORIUM* INFECTION OF MANGO INFLORESCENCE IN IRAN**

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During 2013, mango (*Mangifera indica*) producers of the most important growing area of Iran (Hormozgan province), reported extensive damages to panicles of mango trees of cv. Lengra, consisting of necrosis of flowers and pedicels. A fungus was isolated from affected panicles and its morphological traits were determined on colonies grown on Synthetic Nutrient Agar (SNA) medium as described by Bensch *et al.* (2012). Conidia 3-6 × 5.5-20 µm in size were fusiform with visible scars extensions. A portion of the translation elongation factor 1- $\alpha$  gene was amplified (Bensch *et al.*, 2012) and sequenced (GenBank accession No. KT247610). A BLAST search showed 99% similarity with GenBank sequences belonging to *Cladosporium tenuissimum*. Four healthy inflorescences were selected on a mango tree and, after disinfection by spraying 1% sodium hypochlorite and thoroughly washing with sterile distilled water, were sprayed with a spore suspension. Inoculum was prepared by rinsing a 7-day-old culture on PDA with sterile water and adjusted to 10<sup>6</sup> spores/ml. The inoculated inflorescences were kept covered with thin polythene bags for two days. Four control panicles on the same experimental tree were similarly disinfected and kept covered with thin polythene bags, after spraying with sterile distilled water. Symptoms resembling those observed in the field appeared on inoculated panicles from which the pathogen was re-isolated. Control treatments developed no symptoms. To our knowledge, this is the first report of *C. tenuissimum* causing inflorescence infection on mango in Iran.

Bensch K., Braun U., Groenewald J.Z., Crous P.W., 2012. The genus *Cladosporium*. *Studies in Mycology* **72**: 1-401

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