Disease Note

FIRST REPORT OF *CYTOSPORA PUNICAE* ISOLATED FROM POMEGRANATE PLANTS WITH SYMPTOM OF COLLAR ROT IN NORTHERN GREECE

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Pomegranate (*Punica granatum* L.) is an important crop in Greece. In spring 2011, plants of cv. Wonderful with symptoms of apoplexy were observed in Vrodou Katerinis, (northern Greece) which, at close examination revealed the presence of collar rot. Isolations from the lower margins of necrotic areaa in acidified PDA (2.5 ml 85% lactic acid per litre of medium to obtain a pH of 3.5 after autoclaving) yielded colonies with a white mycelium that turned green to dark brown and produced dark coloured pycnidia 300 to 500 µm in diameter after 15 days. Hyphae were septate, conidia were hyaline, allantoid to ellipsoid (average 4-6×4.5-5.5 µm). The pathogen was identified as *Cytospora punicae* Sacc. based on morphometric traits and MEGABLAST comparison of the 600 bp long sequence amplified with ITS4/5 primer pair with those from database (GenBank accession No. KJ621688). Pathogenicity tests consisted in carving with a cork borer a 6 mm hole in 1-year-old shoots of pomegranate cv Wonderful, in which an agar plug excised from a 15-day-old culture of *C. punicae* was inserted. Inoculated shoots were incubated at 25°C for 15 days, after which 32 to 41 mm necrotic spots developed. Controls inoculated with sterile agar plugs remained healthy. Re-isolation from diseased shoots of the same fungus used for inoculation fulfilled Koch's postulates. Control shoots inoculated with sterile agar plugs showed no symptoms. *C. punicae* has recently been reported to cause wood canker and branch dieback of pomegranate in California (Peduto Hand *et al*., 2014), but, to our knowledge, this is the first report of *C. punicae* infections in pomegranate plants in Greece.

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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.

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Disease Note

FIRST REPORT OF TOMATO ANTHRACNOSE CAUSED BY *COLLETOTRICHUM BONINENSE* IN MALAYSIA

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In May, 2013, severe anthracnose symptoms were observed on the leaves of tomato plants grown in the Cameron Highlands (Pahang, Malaysia). The disease incidence reached 40% on mature leaves. Typical symptoms included circular, immersed lesions with orange spore masses in a dark centre. When grown on potato dextrose agar at 25°C with a 12 h photoperiod, colonies of a fungus isolated from symptomatic leaves were cream-to-orange coloured. These morphological characteristics are consistent with the description of *Colletotrichum boninense* (Moriwaki *et al*., 2003). Conidia measured 12.5-15.5×4.6-5.1 mm, were generally cylindrical, had obtuse ends and a hilum-like low protrusion at the base. Conidial length/width ratio was 2.8 to 3.0. The internal transcribed spacer RNA region was sequenced (GenBank accession No. KM039057.1) and proved 99% similar to that of *C. boninense* accession no. KJ619456.1. Tomato plants were inoculated with 40-ml droplets of a conidial suspension (10^5 conidia/ml) onto the surface of wounded and non-wounded leaves, using a sterilized hypodermic needle and were then kept in a moist chamber for seven days at 25°C with a 12-h photoperiod. Sterile distilled water was used for inoculating the leaves of control plants. Leaves inoculated with the pathogen showed symptoms similar to those observed in the field within 3-6 days, while no symptoms were present on controls. To the best of our knowledge, this is the first report of *C. boninense* infecting tomato in Malaysia.

Moriwaki J., Sato T., Tsukiboshi T., 2003. Morphological and molecular characterization of *Colletotrichum boninense* sp. nov. from Japan. *Mycoscience* **44**: 47-53.

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