First report of anthracnose and fruit mummification of olive fruit (Olea europaea) caused by Colletotrichum acutatum in Brazil


The olive tree is an arbooreal species belonging to the family Oleaceae with recognized importance in the production of olive oils and olives. In December 2008, typical lesions of anthracnose, with mature fruit mummification were observed in olive tree fields in Minas da Fe, in the state of Minas Gerais, Brazil. A fungus was isolated directly on potato dextrose agar (PDA) from conidia collected from pink to orange masses on infected fruit. A typical fruit sample was deposited in the local herbarium (VIC 31209). The isolate showed a pink colony on PDA, producing sporodochia with a mass of hyaline aeresporanges with pointed ends. Based on these morphological characteristics the fungus was identified as Colletotrichum acutatum, which has been reported to cause anthracnose on olive trees in other countries and most recently in Australia (Sergeeva et al., 2008). In Brazil, C. acutatum is reported to cause disease on fruit of apple, citrus, strawberry, peach, plum, nectarine, medlar, and on yerba-mate (Kimati et al., 2003).

Identity was confirmed by extracting the DNA of a monoclonal isolate, OLP 570, and amplifying the ITS region of the rDNA by polymerase chain reaction with primer ITS4 and specific primers for C. acutatum (CaIn2; Sreenivasaprasad et al., 1996) and C. gloeosporioides (ClIn; Mills et al., 1992). Isolates of C. acutatum (DAR78874 and DAR78876) and C. gloeosporioides (DAR78875) obtained from Australian olive trees were used as positive controls. The primers ITS4 and CaIn2 amplified a single DNA product of 490 bp, as expected for C. acutatum. Pathogenicity was confirmed by placing a 40-mm disk of PDA colonized with OLP 570 on 40 olive fruits that were either intact or slightly wounded. Non-colonized PDA disks were used as negative controls. The inoculated fruits were transferred to Gerbox-type boxes with high humidity and kept in a growth chamber at 25°C. Typical anthracnose symptoms were observed only on the slightly wounded inoculated fruit 4 days post-inoculation with subsequent fruit mummification after a further 3 days. This is the first report of C. acutatum causing anthracnose and mummification of olive fruit in Brazil.

References


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Botryosphaeria dothidea causing canker of grapevine newly reported in China

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In the summer of 2009 in Zhejiang, Jiangsu, Guangxi, Shanxi, Beijing, Tianjin and Hebei Provinces, a decline of grapevines (Vitis vinifera) was identified with symptoms of dieback on one or more shoots, accompanied by elongated oval-shaped cankers in the wood, shredding and rot of fruit clusters. A total of 121 diseased samples were collected from affected areas and from these samples more than 1000 infected tissue pieces were used for pathogen isolation. Tissue from the lesion margins was surface-sterilized by placing it in 75% ethanol for one min, then rinsing with sterilized water (three times) before placing on potato dextrose agar plates incubated at 28°C for 5 days. (Niekerk et al., 2004). Hyphae from the colony margins were transferred to fresh agar plates to obtain pure isolates.

Botryosphaeria dothidea was isolated from 44 of the diseased samples. Colonies of B. dothidea were white, becoming grey or dark brown with age. Pycnidia started to develop after 10 days. Conidia measured 4–9 μm. Some isolates were used for ITS sequence analysis to confirm the morphological identification. The primers ITS1 and ITS4 were used to amplify part of the nuclear rDNA operon by PCR (White et al., 1990). Ten ITS sequences were obtained (GenBank Accession Nos. GU226844 to GU226830, GU226832, GU226834 and GU226835). All sequences showed 99–100% homology with B. dothidea (Urbez-Torres et al., 2006). This is the first report of grapevine canker associated with B. dothidea in China.

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References

