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DISEASE NOTE

Bleeding stem cankers and root rot caused by *Phytophthora multivora* in *Morus alba*, *Pistacia atlantica* and *Sterculia diversifolia* trees in eastern Sicily

Sebastiano Conti Taguali[1,2] · Cristian Bua[1] · Ermes Ivan Rovetto[1] · Antonella Pane[1] · Federico La Spada[1] · Santa Olga Cacciola[1]

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During a survey in urban parks and gardens of eastern Sicily, bleeding trunk cankers and root rots were observed in scattered mature trees of *Pistacia atlantica*, *Sterculia diversifolia* and *Morus alba*. Isolations onto PARPNH V8-agar medium (Aloi et al. 2023) from stem bark and fine roots from four trees per each host-plant yielded consistently a homothallic *Phytophthora* species. Colonies of single-hypha isolates on potato dextrose agar (PDA) and V8 agar (V8A) were stellate and petaloid, respectively. On V8A, isolates produced semipapillate, persistent, ovoid to obpyriform sporangia (length/breadth ratio 1.7±0.22), oogonia (diameter 25 to 31 µm), paragynous antheridia and plerotic oospores with a thick (2.6±0.5 µm) wall. The identity of 15 randomly selected isolates (five per each host-plant) was confirmed by phylogenetic analysis of the ITS1-5.8 S-ITS2 and the *cox1* gene regions according with Scott et al. (2009) (Figure S1). Sequences of isolates showed 99.4 to 100.0% identity with those of *P. multivora* ex-type MycoBank MB512497 (GenBank FJ237521 and FJ237508). Sequences of isolates selected for phylogenetic analysis were deposited in GenBank (Table S1). The pathogenicity of three isolates (one per each host-plant) was tested on 12-month-old saplings of *P. atlantica*, *S. diversifolia* and *M. alba* by soil infestation and stem wounding (Aloi et al. 2023), in two separate experiments. Within 20 days, all inoculated saplings exhibited leaf chlorosis and stem gummosis (size of stem lesion 13.5–18.3 mm), respectively, with no significant difference in virulence among the isolates. Control saplings remained asymptomatic. Re-isolation from bark and roots of symptomatic saplings yielded isolates morphologically and molecularly identical to those used for inoculations, Previously, *P. multivora* had been recovered from rhizosphere soil of *P. atlantica* and *S. diversifolia* (La Spada et al. 2022). However, this is the first report of *P. multivora* from *M. alba* and as a pathogen of *P. atlantica* and *S. diversifolia* worldwide. This report highlights the importance of surveys in urban green areas.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s42161-023-01547-2.

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✉ Federico La Spada
federico.laspada@unict.it

[1] Department of Agriculture, Food and Environment, University of Catania, Catania 95123, Italy

[2] Department of Agriculture, University Mediterranea of Reggio Calabria, Reggio Calabria 89122, Italy