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Update of grapevine trunk disease fungi occurred in Italy

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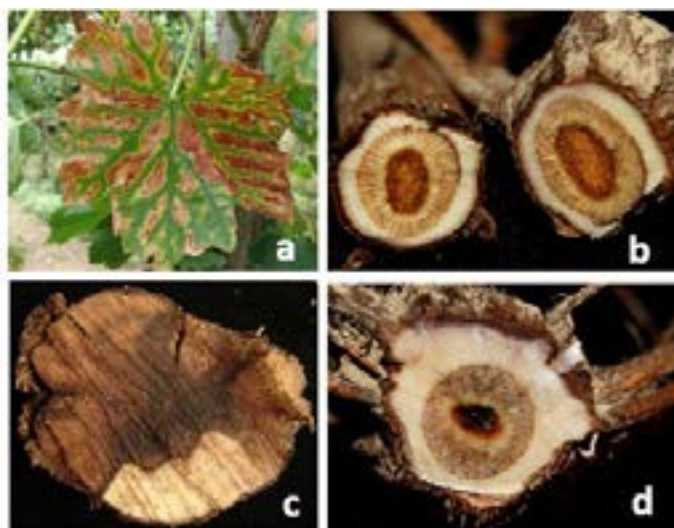
Statement of the Problem: Grapevine trunk diseases represents an important topic for many countries worldwide. A great number of fungi affects vineyards from root to trunk, stem and berries. Regarding the trunk diseases, black foot disease, Botryosphaeria dieback and Petri disease fungi are the most important causing severe reduced yields.

Aim: The purposes of the present study was to identify the most common and spread grapevine trunk disease fungi occurred on vineyards in southern Italy through morphological and molecular approaches. To confirm the pathogenicity ability of some fungal species were carried out pathogenicity tests.

Methodology & Theoretical Orientation: By molecular tools, the ITS region, the β -tubulin and elongation factor, and partial histone 3 genes were amplified and sequencing to perform the phylogenetic analyses. A detailed morphological study was also carried out. Pathogenicity tests were performed on 1-year-old shoots with the representative fungal species isolated from grapevine samples. The data collected were statistically analysed.

Findings: In this study, a new fungal species was described as *Thelonectria blackeriella* and together *Dactylonectria torrensensis* and *Ilyonectria liriodendri* it was associated with black foot disease for first time in Italy. In addition, *Lasiodiplodia citricola*, known as fungal pathogens of *Citrus sp.*, *Juglans regia*, and *Prunus persica*, was isolated from grapevine, and so associated with cankers and dieback of grapevine both for Italy and for the rest of the world.

Conclusion & Significance: Our studies showed that the fungal population inhabiting the grapevine wood is very various and spread worldwide ranging from black foot disease to Petri disease and Botryosphaeria dieback. The finding of *T. blackeriella* and of *L. citricola* demonstrated that number of fungi associated with these diseases is always increasing..



Biography

Antonia Carlucci is a Researcher in the Department of Sciences of Agriculture, Food and Environment in Foggia, Italy. She is also head of plant pathology and diagnosis laboratory for quarantine fungal and bacterial pathogens in University of Foggia. Dr. Carlucci received her PhD in Biotechnology of agricultural and food products from University of Bari, Italy. She is expert of morphological and molecular characterization of fungi by phylogenetic studies. She has been involved in many research projects related to Plant Pathology and described ten novel fungal species by molecular approaches. Dr. Carlucci has been interesting to research and study new control means regarding the solarization practice, use of biostimulants, resistance inducers, fungal antagonists and biocides substances.

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