Taxonomy, pathogenicity and phylogeny of fungi associated with Botryosphaeria dieback in Sicily. V. MONDELLO[1], S. GIAMBRA[1], G. CONIGLIARO[1], L. SANTOS[2], A. ALVES[2] and S. BURRUANO[1]. [1]*Agricultural and Forestry Sciences Department, University of Palermo, viale delle Scienze, 4, 90128 Palermo, Italy.* [2]*Departamento de Biologia, CESAM, Universidade de Aveiro, 3810-193 Aveiro, Portugal.*
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Since the first report of "Botryosphaeria dieback" caused by *Lasiodiplodia theobromae* in 2008, other Botryosphaeriaceae were found associated with declining vines in grape-growing areas of Western and Central Sicily. In a recent study, *Diplodia seriata*, *Lasiodiplodia* sp., *Neofusicoccum parvum* and *Neofusicoccum vitifusiforme* were isolated from declining grapevines. In order to fulfill Koch's postulates and verify any genetic variability among isolates, pathogenicity, morphological, molecular and phylogenetic analyses were performed. The pathogenicity of eighteen isolates was tested by inoculating 2-year-old rooted grapevine cuttings (cv. Inzolia) and evaluating vascular discoloration length after 6 months. Morphological identification was based on microscopic (conidial morphology and dimensions) and macroscopic (growth rate) parameters. ITS and EF1-α regions were sequenced and compared to those deposited in sequence databases through Blastn searches, followed by phylogenetic analyses. All the tested isolates caused vascular discoloration *in planta*, sometimes with significant lesion length differences among strains of the same species, even if genetically identical, confirming the difficulty to consider several Botryosphaeriaceae species as primary or secondary pathogens on grapevine. The phylogenetic analyses confirmed our previous identifications, but showed that *Lasiodiplodia* isolates, first identified as *L. theobromae*, where the recently described species *Lasiodiplodia mediterranea*. The studies conducted on grapevine trunk disease pathogens in Sicily confirm the presence of different botryosphaeriaceous fungi as pathogens in several grape-growing areas of Central Western Sicily, and highlight their potential economic impacts on Sicilian viticulture.