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The Journal of Plant Pathology Editors' Choice August 2024

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In the August 2024 issue of the Journal of Plant Pathology, the Editors have opted to select two apparently basic studies focused on a) the expansion of our understanding of the host range of a novel, invasive insect-vectored pathogen, and on b) the isolation and diagnosis of entire communities of foliar fungi from symptomatic, asymptomatic, and nursery-grown trees. Both studies employ what could be defined as a classical plant pathology research approach, based on fungal isolation, fungal identification, and fungal inoculations. However, we believe these two studies highlight how classical, and seemingly basic, plant pathology research can be timely and cutting-edge when employed to answer important questions. Specifically, the questions answered by these two Editors' Choice papers concern (a) the host range of an emergent invasive pathogen that is threatening both wild and cultivated plants worldwide, and (b) the fungal foliar community composition of a rare, endangered (only 30 adult individuals survive to this day) and extremely beautiful tree species in the equally beautiful island of Sicily. What makes these studies even more noteworthy is their clever comparative experimental design. The first study, in fact, compared the susceptibility of a tree species native to South Africa to that of its cultivated relative, by inoculating a novel, invasive and emergent pathogen on healthy plants of both species. In the second study, fungal communities from symptomatic, asymptomatic and nursery grown trees were compared: the presence of the same fungi in healthy vs. symptomatic plants and in nursery plants provide clues on their possible endophytic life stage and on possible pathways of pathogen introduction in this last remaining stand of an endangered tree species.

In the paper: "*Fusarium euwallaceae*, symbiont of the paninvasive polyphagous shot hole borer, is pathogenic to cultivated but not wild olive trees in South Africa", Crous and Roets (South Africa) broadened the knowledge on the host range of the vascular pathogen *Fusarium euwallaceae* vectored by the paninvasive polyphagous shot hole borer beetle *Euwallacea fornicatus*. It should be noted the subject is timely and relevant, given that both the beetle and the associated fungus are emerging global threats to trees, and are both widely regulated worldwide. For instance, both *F. euwallaceae* and *E. fornicatus* are quarantine pests in the

they provide evidence that cultivated European olive (*Olea europaea* subsp. *europaea*) is rather susceptible to *F. euwallaceae*, while and native African olive (*Olea europaea* subsp. *cuspidata*) is not. Based on the outcomes of inoculation experiments and on the known aetiology of the disease, they predicted that disease severity on cultivated European olive may increase in the future because of climate change. Results presented in this paper have relevant practical applications and may help not only olive growers, but pest risk assessors and managers as well, when taking decisions on how to mitigate the impact and spread of this fungal pathogen.

In "Insights on the fungal communities associated with needle reddening of the endangered *Abies nebrodensis*", Frascella et al. (Italy) presented very interesting data on the fungal communities associated with a true fir species (*Abies nebrodensis*) that is not only endemic and exclusive to Sicily, but that is also classified as critically endangered by the IUCN, because its population is composed by only 30 trees. Surveys and samplings were carried out both in natural conditions and in nurseries. In addition to describing the major symptoms observed, the researchers isolated and identified a number of fungi, including *Valsa*, *Cytospora* and *Rhizosphaera* spp. As some of these fungi were isolated both in reddened and green tissues, they are likely to be endophytes. This study has the obvious merit of being one of the first to shed light onto the communities of fungi associated with the foliage of an endangered tree species in the Mediterranean area.

Please, join us in congratulating our South African and Italian colleagues for their ingenuity and hard work which resulted in the production of two classical and important contribution to the fields of Plant Pathology, Plant Ecology and Conservation Studies!

Matteo Garbelotto, Editor in Chief

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