**Revealing ambrosia beetles/fungi association: a new species of *Thyridium* (Thyridiaceae, Thyridiales) infecting bay laurel and associated with the invasive wood-boring pest, *Xylosandrus compactus* (Coleoptera: Curculionidae: Scolytinae)**

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Bay laurel plants were occasionally sampled in urban areas and in nurseries of the Catania and Syracuse provinces (Sicily, Italy), starting from 2022. Most plants showed attacks of the invasive wood-boring pest *Xylosandrus compactus* (Coleoptera: Curculionidae: Scolytinae), in association with stem blight and internal necroses. *Thyridium*-like colonies were consistently recovered from symptomatic tissues, while, the main beetle mutualist, *Ambrosiella xylebori*, inhabited mainly the inside of beetle galleries. *Thyridium*-like isolates were identified based on the morphological characteristics and molecular phylogenetic analyses of six genomic loci (ITS, LSU, *act1*, *rpb2*, *tef1*, and *tub2*). The isolates were identified as a member of the genus *Thyridium* (Sordariomycetes, Thyridiaceae), forming a clade significantly distinct from all *Thyridium* species for which sequence data are available. Therefore, our isolates have been described as a new species. Pathogenicity tests were performed testing a representative isolate on bay laurel plants maintained in a growth chamber. The isolate was pathogenic and reproduced symptoms identical to those observed in the nurseries. The new species of *Thyridium* was consistently re-isolated from inoculated plants and the identity was confirmed by morphological identification and molecular analysis completed Koch’s postulates. The role of *Xylosandrus compactus* as vector of the new *Thyridium* species was also successfully demonstrated by fulfilling Leach’s postulates. Overall, the present study provides new important knowledge on fungal species associated with stem blight and internal necroses in bay laurel and on the potential epidemiological role of *X. compactus*.

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