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P-219 - A NEW SPECIES OF *PENICILLIUM* SECTION *RAMOSA* FROM TUNISIAN APPLES

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Background

One of the limiting factors that influence the economic value of fruit is the short shelf-life caused by fungal deterioration. The symptoms of infection may remain dormant until post-harvest. In a mycotoxin contamination survey of apples from markets in Tunisia, 54 *Penicillium* strains were isolated. However, two isolates could not be assigned to any described species based on morphological and molecular phylogenetic analyses. The aim of this study was the characterisation and description of this new putative species.

Method

For morphological analyses, strains MUM 17.62 and MUM 17.80 were inoculated in triplicate in CYA, YES, G25N, CSN and MEA media and incubated in the dark at 25 °C for 7 days. CYA plates were also incubated at 30°C and 37°C. Colony size was measured and for microscopy analysis, fungi grown in MEA was used. Multilocus sequence analysis (MLSA) was performed through comparison of partial β -tubulin (*benA*), calmodulin (*cmd*) and nuclear ribosomal internal transcribed spacer (*ITS*) region with sequences available in GenBank derived from type strains of *Penicillium* species. All the sequences were aligned and phylogenetic trees were assembled using MEGA.

Results & Conclusions

For MUM 17.62 and MUM 17.80, the colonies growth was very restricted in the different media. No growth was observed on CYA at 30 °C and 37 °C. The strains showed slight differences in green colour. Both presented velutinous, sulcate and irregular colonies in MEA. Microscopically, the conidiophores were biverticillate and the conidia ellipsoidal. MLSA revealed that the two strains belonged to *Penicillium* section *Ramosa*. Fingerprinting using the M13 microsatellite showed that the two strains are not clones and analysis of the isoepoxydon dehydrogenase (*idh*) gene revealed that they are not patulin producers. In summary, in terms of multigene phylogeny the two strains are closely related to *P. lenticrescens*, *P. chroogomphum* and *P. soppii* of the section *Ramosa*. However they well-circumscribe a novel fungal species, *Penicillium tunisinus* sp. nov.

References & Acknowledgments

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