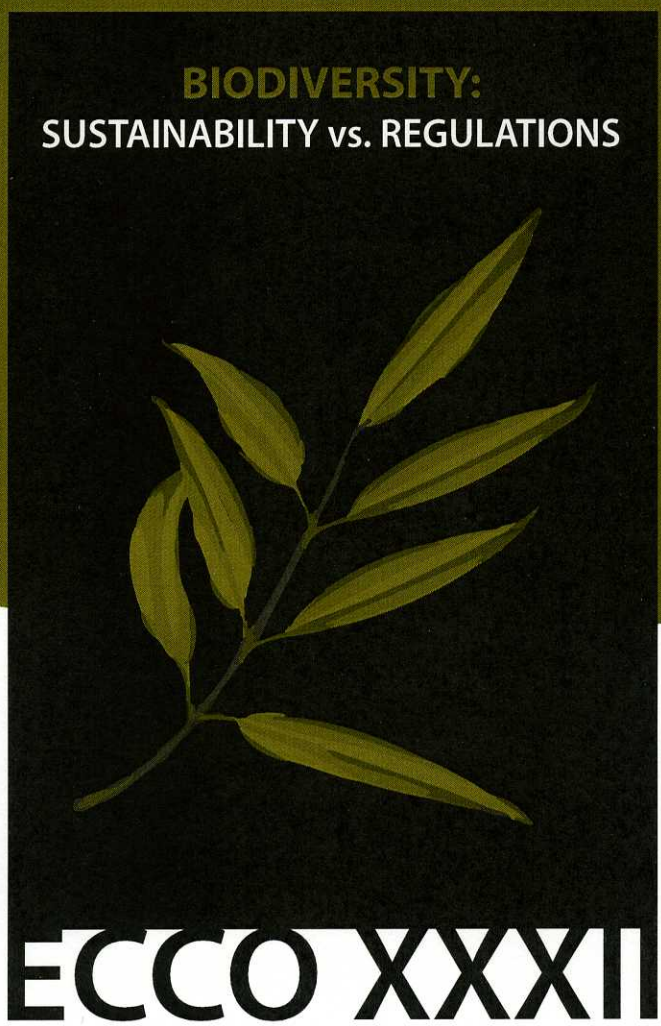
XXXII Annual Meeting of the European Culture Collections' Organization

AGRICULTURAL UNIVERSITY OF ATHENS



"Biodiversity: Sustainability vs. Regulations"

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Requalifying a Brazilian culture collection of *Aspergillus* section *Flavi*

F.A. Couto[1], C. Santos[2], N. Lima[2] and L.R. Batista[3]

[1] Department of Biology, Federal University of Lavras, Lavras, MG, Brazil
[2] IBB-Biological Engineering Centre, Micoteca da Universidade do Minho, Braga, Portugal
[3] Department of Food Science, Federal University of Lavras, Lavras, MG, Brazil
cledir.santos@deb.uminho.pt

Brazil hosts one of the greatest biodiversity in the world. However, little is known about its microbial component. The establishment of culture collections and their activity is essential to properly explore and preserve this enormous untapped biodiversity, and unlock its biotechnological potential. Furthermore, advent of polyphasic taxonomy, application of new and up-to-date technologies allows us to refine taxonomic assignment and reassess currently deposited biological resources.

In 2007, the Mycotoxins and Mycology Laboratory from the Department of Food Science of Federal University of Lavras (Minas Gerais, Brazil) established the culture collection of filamentous fungi (CCDCA). This collection preserves potentially mycotoxigenic fungi isolated from food. Currently, it contains more than 1000 strains of *Alternaria*, *Aspergillus*, *Chaetomium*, *Cladosporium*, *Eurotium*, *Fusarium*, *Mucor*, *Neosartorya* and *Penicillium*. The strains are preserved and maintained by periodic subculture, mineral oil, Castellani (distilled water), silica gel or filter paper methods.

The present study results from a partnership between CCDCA and Micoteca da Universidade Minho (MUM). Twenty strains of *Aspergillus* Section *Flavi* from CCDCA were analysed using phenotypic, biochemical and physiological traits and using 11 different type or reference strains from MUM. Morphological characterisation was performed by cultivation in different media (CYA at 25 °C and 37 °C, MEA and CZ at 25 °C). Phenotypic characterisation included the use of MALDI-TOF MS. The toxigenic potential of the isolates was checked after growth in AFPA medium, followed by HPLC-detection of aflatoxins and cyclopiazonic acid. Mass spectrometry by MALDI-TOF was also used to detect the presence of mycotoxins and other secondary metabolites.

Overall, a good agreement among the different methods of identification at the species level was obtained. However, a clear inconsistency was observed between the morphological and MALDI-TOF results for one of the strains. At this stage, the phenotypic polyphasic approach gives a sound result to the requalification of this set of strains. Molecular biology (ITS region, beta-tubulin and calmodulin sequences) will be performed to achieve the taxonomic position of these strains within the section *Flavi*.

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