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## Mycotoxins-producing ability of indoor airborne fungi isolated from librarian environment affected by mould contamination

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In the last years, the manage of increasing fungal contaminations inside libraries and archives due to inadequate conservations, such as malfunction of air conditioning systems or lack of cleanliness, has become a complex and expensive problem. Although indoor environments are climate controlled (18–20 °C, 50–60% relative humidity), some fungal species are still able to grow on materials, preferentially in air-stagnation microenvironments.

Regardless the biodeterioration phenomena, these fungi can exert potential impact on human health of workers and students. In indoor environment, the high presence of microorganisms in the air, in the dust or at least as mould contamination on building materials as well as on Cultural Heritage, can be the cause of the well known problem called Sick Building Syndrome (SBS).

The contaminated environment of a Ca' Foscari University of Venice library (Italy) was used as a case study. Stored in Compactus® shelves, more than 27.000 books were affected by a widespread spotted fungal contamination. The major fungal species isolated from both air and contaminated book samples were: *Aspergillus creber*, *A. protuberus*, *Penicillium chrysogenum*, *P. brevicompactum*, *Cladosporium cladosporioides*, *A. penicillioides*, *Eurotium chevalieri*, *E. halophilicum* and *A. jensenii*. These were selected for the multi-mycotoxin analyses with LC-MS/MS in order to determine their mycotoxin-production ability. Several metabolites partly of toxicological relevance were identified, especially for fungi belonging to the revised group *Aspergillus section Versicolores*, i.e. sterigmatocystin, methoxysterigmatocystin and related precursors and side metabolites from the biosynthetic pathway. Moreover, specific investigation has concerned the not well-known fungus *E. halophilicum* as emerging contaminant implicated in book contaminations in specific indoor niches.