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# Aeromycological profile of indoor and outdoor environments

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**Abstract**

The aim of this work was to determine the differences between indoor and outdoor aeromicological composition. The aerobiological study was performed, from 15 January to 14 April 2008, using two volumetric spore traps, one placed indoors and another positioned outdoors on the roof of the Faculdade de Ciências building. A total of 23 000 spores were sampled outdoors and 15 500 spores were identified indoors. In both environments, the most abundant fungal spores were Cladosporium, Aspergillus/Penicillium, Agaricus, Rusts, Agrocybe and Lepthosphaeria. Moreover, Alternaria, Botrytis, Coprinus, Fusarium and Ganoderma spores were also detected in the outdoor air. The outdoor maximum (858 spores m(-3) day(-1)) was registered on the 9 February whereas the indoor peak (614 spores m(-3) day(-1)) was reached two days later. Qualitative similarities were found between the indoor and outdoor aeromicological content however quantitatively spore concentrations differed, suggesting the existence of airflows between the two environments due to ventilation, inefficient isolation or passive transport of spores. The majority of the selected fungal types were night sporulators, the exceptions were Aspergillus/Penicillium and Cladosporium, with daily maximum values during the morning and the afternoon, respectively. Several of the identified spores have been proved as causal agents of respiratory problems. Therefore, it is important to know the microbial composition of indoor air in order to take measures to improve air quality helping to reduce health problems related to respiratory allergic diseases in sensitized patients.

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