**Seasonal variations of airborne, dustborne and foodborne fungi in flooded and unflooded area in Croatia**

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The purpose of this study was to investigate post-flood mycological patterns in Gunja compared to an unaffected area (Gornji Stupnik) in Croatia.

During 2016 in each sampling period 20 indoor airsamples (IAS), 5 outdoor airsamples (ODAS) and 10 dust samples (DS) were taken at 5 repaired (RH)/ unrepaired houses (UNRH) in Gunja, 5 control houses in Gornji Stupnik (SH) and 10 IAS and two DS in the elementary schools in Gunja (ESG) and Gornji Stupnik (ESS) Additionally, food samples (FS) were collected in both Gunja (FSG, N=10) and Stupnik (FSS, N=5). Dichloran 18%-Glycerol Agar (DG-18) and Malt Extract Agar (MEA) were used for AS, while for DS and FS Dichlorane Rose-Bengal Chloramphenicol Agar (DRBC) and DG-18 were used.

Similar patterns of aeromycota were observed in both sampling periods at the locations specified, while the concentrations of airborne fungi were significantly higher in summer period than in winter period, as well as in flooded compared to control area. The highest concentrations of aeromycota were measured in UNRH (IAS and ODAS). *Penicillium*, *Cladosporium* and *Aspergillus* (sections *Aspergillus*, *Versicolores*, *Circumdati*, *Nigri*) genera were prevailing although in EES *Rhizopus* sp. were frequently isolated. Aspergilli from the section *Versicolores* were less common in UNRH compared to RH and SH. Concentration of fungi was significantly higher in DS from Gunja compared to control area. In winter period the highest concentrations were observed in RH while in summer period they were higher in UNRH. Although the composition of dustmycota corresponded to aeromycota, Aspergilli(*Versicolores)* were more frequent in DS. Higher concentrations of fungi were observed in FSS than in FSG in winter while they were similar in summer. *Fusarium* spp. were the dominating species in both sampling periods while Aspergilli (*Flavi*, *Circumdati* and *Nigri*) were more frequent in summer than in winter period.

Significantly higher concentrations of airborne and dustborne fungi in flood affected compared to control area increase the health risk for humans due to inhalatory exposure to potential mycotoxin producers. These results underline the issue of yet unrepaired houses in flood affected area as these represent the significant source of fungal contamination.

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