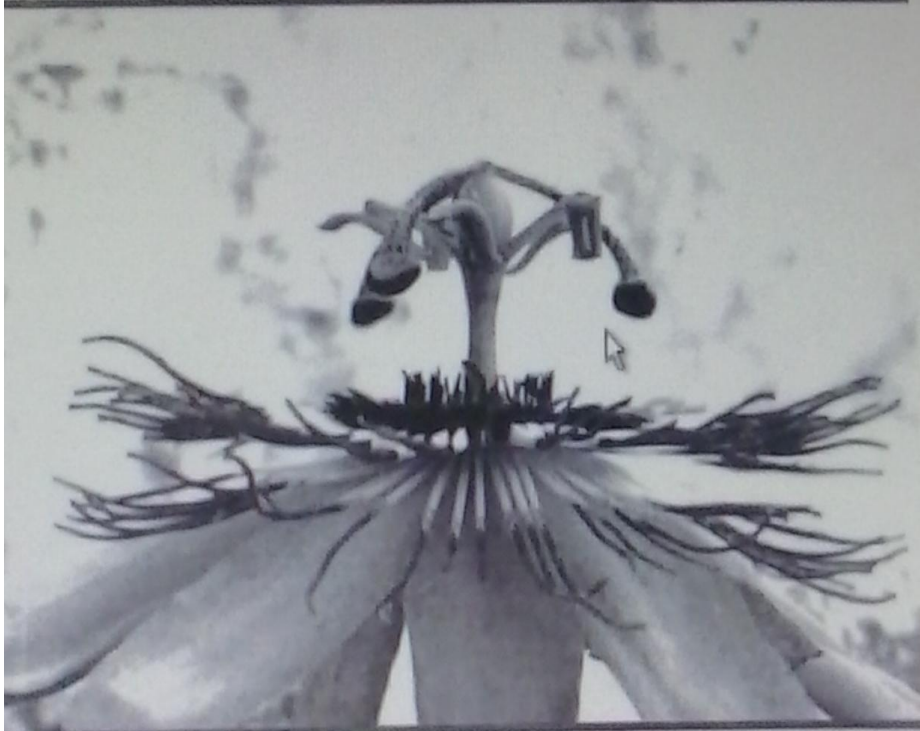




The First Mediterranean Symposium on
Medicinal and Aromatic Plants
(MESMAP-2013)
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ABSTRACT BOOK



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**ACCUMULATION OF TOXICOLOGICAL IMPORTANT COMPONENTS
IN MUSHROOMS FROM MACEDONIA**

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The fact that mushrooms can accumulate toxic components induced the elemental content and pesticide investigation in the four mushroom species gathered in arable and agriculture land in Macedonia. Toxic heavy metals (Cd, Pb) were analyzed by ETAAS, and other elements were analyzed by FIMS (Hg) and FIAS (As) methods, respectively. Pesticides were analyzed by GC-RCD (organochlorine) or GC-NPD (organophosphorus) methods. Results expressed on dry mass basis indicated on the presence of toxicological important components. The average values for heavy metals were higher than the maximum concentrations imposed by Macedonian regulation¹ in 25 % for Cd and 50 % for Pb of the investigated samples, but below the European Union tolerance limit value. Hg concentration ranged from 0.083 to 0.604 µg/g dry weight (dw) is far below the provisionally tolerable weekly intake (0.004 mg/kg body weight), reevaluated recently by WHO. *Volvariella gloiocephala* has the highest arsenic level of 4.94 µg/g while the other species' concentrations fell within the range of 0.152 to 1.97 µg/g dw. Organophosphorus pesticides were not detected and not all tested organochlorine pesticides were present. Where organochlorine pesticides were found quantities were less than 0.001 µg/g dw. Higher concentrations were estimated for γHCH but lower than our permission.

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