

Kombiniran pristop pri ugotavljanju biološke aktivnosti gliv na primeru vrst *Antrodia juniperina* in *Pyrofomes demidoffii* z ugotavljanjem njihovega filogenetskega položaja in dejanskega antikancerogenega in antiaterogenega delovanja

Combined approach in exploring the biological activity of two fungi *Antrodia juniperina* and *Pyrofomes demidoffii*, based on their phylogenetic position and relation to their anti-cancerogenic and anti-atherogenic activity

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Fruitbodies of basidiomycetes fungi *Antrodia juniperina* and *Pyrofomes demidoffii* are commonly found on specific wood substrate of Greek juniper occurring exclusively in warm regions of Europe (south-eastern Balkan Peninsula and Turkey), with high potential for use in human medicine as anti-cancer and anti-atherogenic drugs of natural origin. Preliminary results of tests for the biological activity of dried and homogenised mature sporocarps of basidiomycete fungi *Antrodia juniperina* and *Pyrofomes demidoffii*, as separate and independent applications, indicated their relative high biological activity against adenocarcinoma of glandulla mammae as tested on cancer-induced mouse. Aiming to broaden the list to closely relative species to studied ones comprehensive descriptions and phylogenetic analysis were performed on each of the genus. In the molecular analysis of ITS regions were applied for comparison of phylogenetic relationship among closely related species. Molecular markers separated both *Antrodia juniperina* and *Pyrofomes demidoffii* from their close relatives after ML analysis, thus representing a clear and stable species. The distribution of limited number of potentially biologically active close relatives based on the molecular markers did not show any significant pattern of the distribution of biological activities in common among lineages. In future we expect to include more species and closely related genera in molecular screening for their anti-cancer activity.