



## THE ALLELOPATHIC POTENTIAL OF THE MOSS *FONTINALIS ANTIPYRETICA* ETHANOLIC EXTRACTS

A *Fontinalis antipyretica* lombosmoha etanolos kivonatának  
allelopátiás potenciálja

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Bryophytes synthesize and accumulate different chemical compounds including specific metabolites such as phenolics and terpenoids, whose concentration and content may vary on environmental conditions. Some of the chemical compounds found in bryophytes can affect the vegetative growth and reproduction of nearby plants. It is unknown and thus rather important to investigate if aquatic bryophytes display allelopathic potential on other plants naturally absent from water. Therefore, the aquatic moss *Fontinalis antipyretica* Hedw. was selected to examine its allelopathic potential. The main aims of this study were to examine the effects of different concentrations of ethanolic extract ( $10^{-2}$ ,  $10^{-3}$ ,  $10^{-4}$  mg/ml) on seed germination of lettuce and radish, and on the length of hypocotyl after three and five days. Moreover, the effects of those extracts on the total chlorophyll content in radish and lettuce seedlings were documented after five days. The highest concentration of extract ( $10^{-2}$  mg/ml) manifested positive effects on the seed germination of lettuce after both three and five days. Nevertheless, neither of the tested extract concentrations had any positive or negative effects on the hypocotyl length of radish and lettuce. On the other hand, the highest concentrated extract ( $10^{-2}$  mg/ml) exhibited a slight inhibitory effect on the seed germination of radish. In addition, the highest concentration of *F. antipyretica* ethanolic extracts affected the total chlorophyll content of lettuce and radish seedlings after the fifth day, significantly reducing the concentrations of those photosynthetic pigments compared to control groups. Although *F. antipyretica* is an aquatic species, it displays different effects on lettuce and radish seed germination, growth, and development suggesting that it contains some compounds with potential allelopathic effects. Therefore, *F. antipyretica* might be a chemically interesting species used as a natural bioherbicide or biopesticide in the future.