

Evaluation of Antioxidant Activity of Some Common Mosses

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The antioxidant activity of ethanol extracts of *Atrichum undulatum*, *Polytrichum formosum* (Polytrichaceae), *Pleurozium schreberi* (Entodontaceae) and *Thuidium tamariscinum* (Thuidiaceae) was evaluated by an electrochemical method (cyclic voltammetry) and standard photometric methods: Fe(III) to Fe(II) reducing power, nitric oxide scavenging (NO) assay and simulation of Fenton-type reaction by nonsite-specific (NSSOH) and site-specific (SSOH) hydroxyl radical-mediated 2-deoxy-D-ribose degradation inhibition. The total content of phenols was determined by the Folin-Ciocalteu reagent. All tested species showed antioxidant effects lower than the positive control, caffeic acid. The extracts of *A. undulatum* and *P. formosum* contained the highest content of phenols and were the most effective in Fe(III) to Fe(II) reducing power, cyclic voltammetry and SSOH assay. By contrast, only the extract of *Pl. schreberi* showed activity in the NSSOH assay. *A. undulatum* and *T. tamariscinum* extracts were the most active in the NO assay. The results suggest that the extracts of *A. undulatum* and *P. formosum* possess stronger antioxidant activity than those of *Pl. schreberi* and *T. tamariscinum*, but they affect the Fenton-type reaction mainly by iron chelation.

Key words: Cyclic Voltammetry, Fenton Reaction, Free Radicals