COMPOSITION AND RADICAL SCAVENGING ACTIVITY OF THE EXTRACTS FROM *DESCHAMPSIA ANTARCTICA* É. DESV. PLANTS GROWN *IN SITU* AND *IN VITRO*

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Abstract. The aim of the work was to study the compounds available in the *Deschampsia antarctica* plants from various sites on the Argentine Islands region, the maritime Antarctic, to introduce the plants into *in vitro* culture and to compare the extracts from the plants grown *in situ* and *in vitro*. The composition of extracts was investigated using HPLC and MALDI MS methods while antiradical activity was tested in the reactions with DPPH$^{\bullet}$, NO$^{\bullet}$ and OH$^{\bullet}$ radicals. All the extracts were found to contain high amount of phenols (up to 900 mg/L), with luteolin derivatives and hydroxybenzoic acids derivatives being the main bioactive compounds in the extracts from the plants grown *in situ* and *in vitro*, respectively. All the extracts showed high antiradical activity: under standard tests conditions, 10-fold diluted extracts scavenged 50÷90% of DPPH$^{\bullet}$ radicals, 20÷40% of NO$^{\bullet}$ radicals and 40÷60% of OH$^{\bullet}$ radicals. Despite the distinctions in the composition, extracts from the plants grown *in vitro* were not inferior as radical scavengers to extracts from the plants grown *in situ.*

Keywords: phenolic acid, flavonoid, plant extract, antiradical activity, *Deschampsia Antarctica*.