

Lipophilic and hydrophilic compounds in seabuckthorn vegetative parts and extracts

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Common seabuckthorn (*Hippophae rhamnoides*) has been used in traditional medicines in Tibet and Indian Himalayas. During the second half of the 20th century, numerous animal experiments and clinical studies have been carried out to investigate the physiological effects of different fractions and products. In our first study seabuckthorn vegetative parts (leaves and shoots), collected in the end of spring and five lipophilic compounds — three homologues of tocopherol (T) α , β and γ , plastochromanol-8 (PC-8) and β -carotene by NP-HPLC/FLD/DAD were analysed. The α -tocopherol and β -carotene were predominant lipophilic antioxidants in each vegetative part, accounting for 78.3–97.0 % of identified compounds. In our second study different seabuckthorn extracts (water / ethanol / oil) obtained from the shoots together with leaves were studied and analysed for following indices: chlorophyll A and B, total carotene, tannin, α and γ tocopherol. Results show that the content of chlorophyll in extracts varied from 3.3 (B) to 10.1 (A) mg 100 g⁻¹. The high concentration of tannins — 48.7 mg 100 g⁻¹ was also found. The content of α -tocopherol was 4.2 mg 100 g⁻¹, while γ -tocopherol and total carotenoides 1.7 and 1.4 mg 100 g⁻¹, respectively. This study expands our knowledge on lipophilic compounds in seabuckthorn shoots in combination with leaves and provides information for uses of extracts for health improvement of newborn calves.

Keywords: *Hippophae rhamnoides*, leaves, shoots, compounds