

ROSAVIN AND SALIDROSIDE CONTENT IN EXTRACTS FROM RHIZOMES OF ROMANIAN CARPATHIAN POPULATION OF *Rhodiola rosea* L.

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Introduction

Rhodiola rosea L. (golden root) is a valuable medicinal plant, which due to its precious properties is intensively collected and is in danger of extinction in many regions of the globe. The active components, characteristic of the species *R. rosea*, accumulate mainly in rhizomes, having adaptogenic, biostimulatory, and antioxidant properties. The curative properties of this species are largely due to phenylpropanoids (glycosides of cinnamic alcohol - rosavin, rosarin, and rosin), phenylethanoids (p-tyrosol and its glycoside salidroside), and terpenes.

Keywords: *Rhodiola rosea* L., adaptogen, secondary metabolites, rosavin, salidroside.

Purpose

The aim of the research was to determine the content of rosavin and salidroside in ethanolic extracts from the rhizomes of *R. rosea* plants in the Carpathian population, Romania.

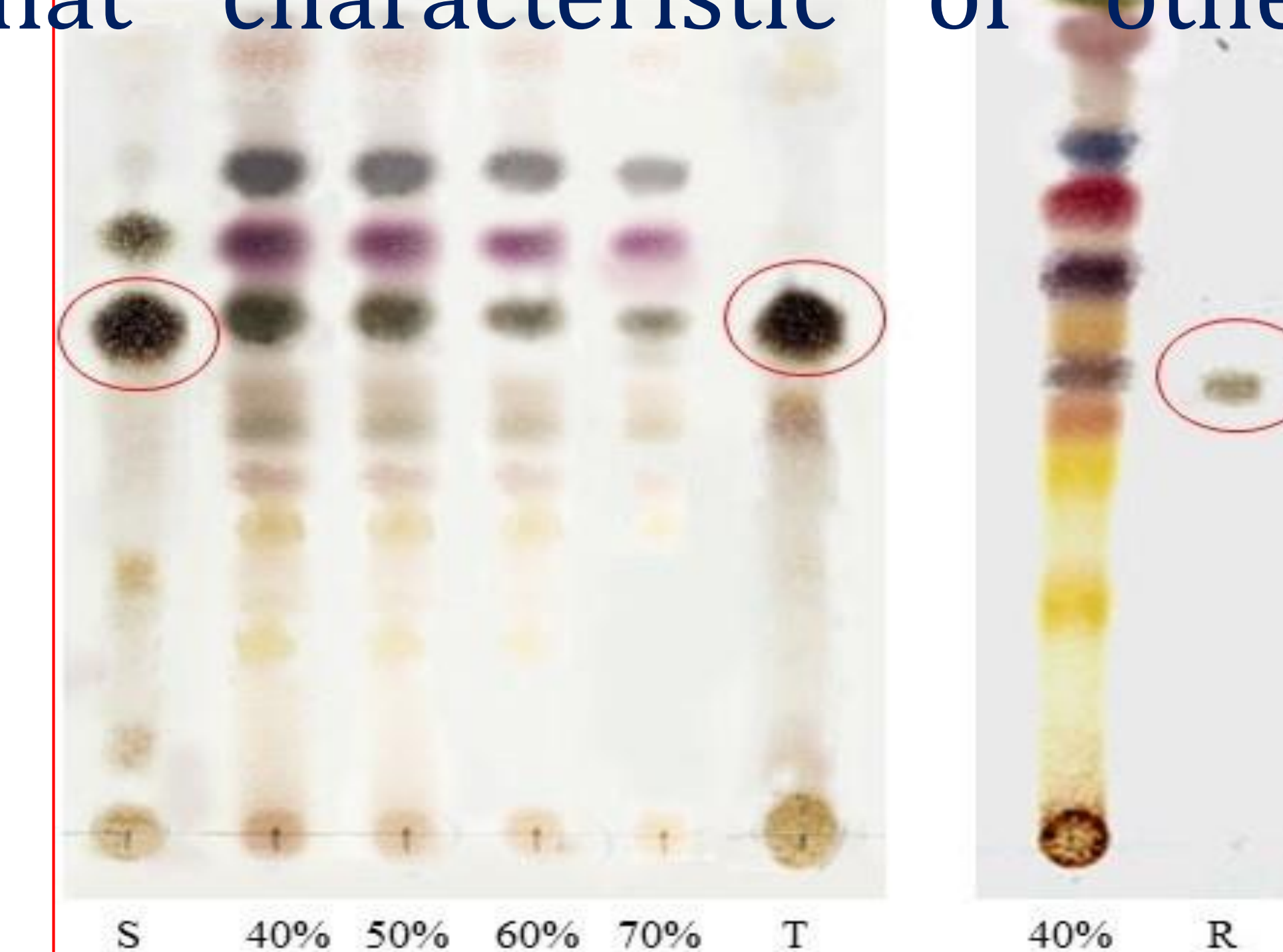
Material and methods

Ethanolic extracts (40-70% EtOH) were analyzed by thin-layer chromatography (CSS) and UV-VIS spectrometry at λ_{\max} 254 and 276 nm wavelengths, recalculated to rosavin and salidroside.

Results

The intensity of the Rf bands characteristic of rosavin and salidroside in the chromatogram of the extract in the 40% ethyl alcohol solution was the highest, compared to that characteristic of other extracts.

Increasing the concentration of ethyl alcohol from 40% to 50, 60 and 70% led to a gradual decrease in the intensity of all components.



The results obtained by UV-VIS spectrometry reveal that the rosavin content in *R. rosea* rhizome extracts is $1.25 \pm 0.19\%$ and salidroside $1.53 \pm 0.98\%$.

Conclusions

Based on the data obtained by CSS and spectrophotometric method, we can conclude that rosavin and salidroside from *R. rosea* rhizomes are best extracted in 40% ethyl alcohol solution, and the content of active principles in rhizomes collected in the Carpathian Mountains, Romania, falls within the characteristic data for *R. rosea* rhizomes collected in other regions of the Earth.