

BOOK of ABSTRACTS

**27th Congress
of Chemists
and Technologists
of Macedonia**

**27th Конгрес на
Хемичари и
Технолози
на Македонија**

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Сојуз на хемичарите и технолозите на
Македонија
Society of Chemists and Technologists of
Macedonia

27th Congress of SCTM

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25–28 September 2024

Metropol Lake Resort

Ohrid, N. Macedonia

Skopje, 2024



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Society of Chemists and Technologists of Macedonia
25–28 September 2024, Metropol Lake Resort, Ohrid

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The 27th Congress of SCTM is a



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Dear Esteemed Colleagues and Participants,

We are pleased to present the Book of Abstracts for the 27th Congress of the Society of Chemists and Technologists of Macedonia. Like our previous congresses over the past two decades, this event takes place in the cradle of Slavic literacy—a region with a rich history of intellectual accomplishments. We trust that the heritage, along with the beauty of Lake Ohrid and the city itself, will not only make your stay enjoyable but also serve as an added source of inspiration for your own work.

The SCTM congresses have grown into a prominent platform for regional researchers from all fields of chemistry and chemical engineering. We are honored to welcome plenary and invited speakers not only from Macedonia but also from countries like Czechia, Denmark, Italy, Serbia, Spain, and the United Kingdom. In addition, we are proud to feature a wide range of oral and poster presentations from researchers representing Austria, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Germany, Greece, Italy, Kosovo, Montenegro, Poland, Serbia, Slovenia, Spain, Romania, and Russia. With nearly 200 presentations from 550 authors and co-authors, it is especially gratifying to see many attendees returning as regular participants.

We hope this Book of Abstracts serves as both a source of inspiration and a record of the exceptional work presented at the 27th SCTM Congress. Let's use this opportunity to celebrate not only our achievements but also our resilience, determination, and steadfast commitment to advancing knowledge. Together, we can overcome challenges and, through our collective efforts, continue to drive innovations that make a positive impact on the world.

We extend our heartfelt gratitude to Prof. Jadranka Blaževska Gilev and Prof. Biljana Angjuševa for once again taking on the challenging task of organizing this year's congress. Their tireless efforts and dedication ensured the event's success. We also wish to thank all the members of the scientific and organizational committees who worked tirelessly behind the scenes, with special recognition to Assoc. Prof. Vojo Jovanov, Marija Prosheva and Despina Kostadinova for their management of the website, Book of Abstracts, and other essential tasks.

Our thanks also go to the reviewers and participants whose contributions have been vital to the success of this Congress. Your commitment to the scientific mission emphasizes the value of collaboration, especially during uncertain times. It is through the exchange of ideas, sharing of knowledge, and building of connections that we strengthen our community and advance our fields. Lastly, we express our sincere gratitude to the sponsors, acknowledged at the end of this book, for their generous support.

Prof. Zoran Zdravkovski, president
Society of Chemists and Technologists of Macedonia

BFT P-4**Phytochemical Potential of Wild Berries from the Area of the Pešter Plateau (Serbia)**

Bojana Veljković* and Enisa Selimović

*Department of Natural and Mathematical Sciences, State University of Novi Pazar, Vuka Karadžića 9, 36300 Novi Pazar, Serbia***bveljkovic@np.ac.rs*

The past 20 years have seen a rise in interest in eating wild fruits because of their high bioactive nutrient content and significance as dietary antioxidants. In this study, the wild berry fruits (strawberry, blackberry, and raspberry) from the Pešter Plateau region were examined to determine the level of secondary metabolites. The total phenolics, flavonoids, tannins, and anthocyanins were evaluated. Samples of the same species were taken from localities that are at least 10 kilometers apart. The results of phytochemical analysis are shown in Table 1. The highest concentration of all examined secondary metabolites was recorded in blackberry fruits. Wild strawberry and raspberry fruits contain a similar amount of examined bioactive compounds.

Table 1. Total phenolic content (mg GA g⁻¹ of extract), flavonoid concentration (mg Ru g⁻¹ of extract), tannins (mg mL⁻¹ of extract), total anthocyanins (μg mL⁻¹ of extracts)

	Total phenolic content	Total flavonoid content	Tannin content	Total anthocyanin content
<i>Fragaria vesca</i>	46.51	4.43	0.31	2.97
<i>Fragaria vesca</i>	38.52	5.32	0.38	0.52
<i>Rubus caesius</i>	62.26	7.11	0.95	7.61
<i>Rubus caesius</i>	50.10	5.81	0.47	7.61
<i>Rubus idaeus</i>	38.41	3.50	0.20	2.36
<i>Rubus idaeus</i>	29.76	4.54	0.35	5.77
<i>Rubus idaeus</i>	38.74	3.76	0.52	0.79

Our results indicated promising perspectives for usage of wild berry fresh fruits from Pešter Plateau (which is known as an ecologically significant area) with considerable levels of bioactive compounds. Bearing in mind that wild berries grow without the addition of fertilizers, pesticides, and other additives, they could be an excellent nutritional alternative.

Keywords: wild berries, Pešter Plateau, secondary metabolites, bioactive compounds.