

Place of biocultural heritage in post Covid-19 tourism destination choice

Mesto biokulturnog nasleđa u post Kovid-19 izboru turističke destinacije

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Abstract: Rural space, protected areas, and nature in general become so-called “hot spots” in the tourist perspective in the last two years. The covid-19 outbreak caused growing commercial tourism to have a tendency to transform and go a step far from sustainability to regenerative directions. These changes consider “to rebuild”, “renew”, and “getting back to tradition and roots” where ecosystem services and wild plants in focused. In recent times, several studies of tourists’ behaviors and attitudes towards utilization and interest in wild edible plants have been conducted. This study represents the results of research conducted on 53 tourists and 20 local touristic households in the Biosphere “Golija-Studenica” to explore relationships between wild edible plants utilization/collection and the tourism experience. According to the results, there is an increased interest or demand for wild edible plants by tourists and local people. On the one hand, these demands are the result of long traditions and on the other hand the increased desire for healthy food. Different socio-demographic backgrounds of tourists impact their environmental awareness, knowledge and education on goods and services from nature. This study highlights the need to fulfil ecological responsibility when tourism occurs in ecologically worth areas to achieve bicultural conservation and regenerative approach.

Keywords: biocultural heritage, tourism, wild edible plants.

Sažetak: Ruralni prostor, zaštićena područja i priroda uopšte postali su takozvane „vruće tačke” u turističkoj perspektivi u poslednje dve godine. Pandemija Kovid-19 prouzrokovala je da rastući komercijalni turizam ima tendenciju da se transformiše i ode korak dalje od održivosti ka regenerativnim pravcima. Ove promene podrazumevaju „ponovnu izgradnju”, „obnovu” i „vraćanje tradiciji i korenima” u čijem fokusu su usluge ekosistema i divlje bilje. U novije vreme sprovedeno je nekoliko studija ponašanja i stavova turista prema korišćenju i interesovanju za samonikle jestive vrste. Ova studija predstavlja rezultate istraživanja sprovedenog na 53 turista i 20 lokalnih turističkih domaćinstava u Biosferi „Golija-Studenica” kako bi se istražili odnosi između korišćenja/sakupljanja divljih jestivih biljaka i turističkog doživljaja prostora. Prema rezultatima, postoji povećano interesovanje ili potražnja za samoniklim jestivim biljkama od strane turista i lokalnog stanovništva. Sa jedne strane, ovi zahtevi su rezultat duge tradicije, a sa druge povećane želje za zdravom hranom. Različite socio-demografske pozadine turista utiču na njihovu ekološku svest, znanje i obrazovanje o dobrima i uslugama iz prirode. Ova studija naglašava potrebu da se odgovori na aspect ekološke odgovornosti kada se turizam javlja u ekološki vrednim područjima u cilju postizanja očuvanja biokulturnog nasleđa i regenerativni pristupa turizma.

Ključne reči: biokulturno nasleđe, turizam, samoniklo jestivo bilje.

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INTRODUCTION

The growing tourism industry in the last ten years was stopped by the covid-19 breakout. The return of tourists in the post-vaccine period transformed travels into “greener”. Efforts to establish sustainable tourism which balances social, economic and environmental issues moved one step further toward so-called “regenerative tourism”. This kind of tourism considers options “to get back to roots”, “to renew”, and “to restore” things damaged after pandemic. Regenerative tourism promotes innovative tourism direction by incorporating tourism practices within local communities and ecological aspects that support symbiosis between nature and human well-being (Riznić et al., 2018; Bellato & Cheer, 2021). Pollock (2019) used the terms ‘flourishing’ and ‘thriving’ to explain new tourism intention to promote health programs in tourism destinations. This program emphasizes relationships between tourists and nature. After many destinations became restricted for foreign tourists, food tourism, as other branches, took serious changes. Numerous studies show increased demands for natural boosters, such as medicinal and aromatic plants, local natural products, or indigenous traditional knowledge and recipes (Khanna et al., 2021). In the first line, a world report on medicinal plants trade (Timoshyna et al., 2020) shows increased demand for plant ingredients to support human health – through medicines, food, and well-being products caused by people turning to herbal treatment of Covid-19. Changes are visible not only in the rural touristic offer, but then in general culinary innovations which are based on specific and unusual natural ingredients in food dishes such as algae, sprouts, microgreens, edible flowers, and edible insects (Božić, Milošević, 2021). One more reason for the increasing demand for natural products in the Covid19-post Covid19 period is that “increased consumption of highly processed foods can negatively affect human health” (Motti, 2022, p.1). The healthy alternative, such as wild edible plants / mushrooms, were perceived by tourists in the last two years. Rural areas represent an indivisible link with local food, which plays a pivotal role in preserving traditional knowledge, attracting tourists, and supporting the regional economy (Zhang et al., 2019). Tourism recognized as business could provide diversification of economic activities to local communities and a significant source of financial benefits for natural resource management in rural areas (Wu et al., 2018). Food tourism business should involve wild edible plants and nature-inspired products to contribute to social and ecological surroundings.

Biocultural heritage represents the knowledge, skills and traditional practices of indigenous people

/ local communities and biodiversity in their surroundings, from the genetic varieties of growing crops and autochthonous species to the landscapes they create. According to Swiderska (2006), this term could be simply defined as the biological and cultural heritage of indigenous peoples and local communities. Biocultural heritage includes biological diversity, traditional agroecosystems, and territories of ancestral, as well as traditional knowledge, culture, spiritual values of space, and customary laws (Estrada-Castillón et al., 2021). The variety of mentioned components is interconnected and interdependent, which is in line with local communities’ holistic worldviews (Wilson et al., 2018). Biocultural heritage plays a critical role in local communities in preserving nature and makes the inextricable symbiotic link between biological diversity and people (Cocks, 2006).

In post-covid-19 period, a biocultural heritage found its place and importance in traditional products based on local wild edible plants and mushrooms. Products from nature are still playing a crucial role in rural development through tourism, food market and agro-forestry. Ecosystem services, and biodiversity at first, have vital interests in global challenges such as climate changes, pandemics, and environmental problems. These natural ecosystem products offer healthy food in a healthy environment. Regarding several studies in the last two years and tourists’ demands for natural immune boosters, return to nature, tradition and roots, the main idea of this work is to overview the small-scale situation in biosphere reserve “Golija-Studenica” according to wild edible plants/mushrooms consumption demands by tourists and collected by local residents.

1. MATERIALS AND METHODS

1.1. Study area

The study presents the results of research performed in the representative nature reserve “Golija-Studenica”, Serbia. The mountain Golija is located in Western Serbia, nestled between the towns of Ivanjica, Kraljevo, Raška, Sjenica and Novi Pazar. The region stretches across 32 km, surrounded by mountains Zlatibor, Jadovnik and Pešter on the south, with Jelica on the north, Kopaonik, Čemerno and Radočelo on the east and Javor on the west. Golija belongs to the inner zone of the Dinaric mountain system. It stretches in a west-east direction. Relief can be divided into valley-hilly, transitional and mountainous. It is fragmented, with fertile land, rich and diverse flora and fauna, and exceptional preservation of original natural and cultural values. Golija can freely carry the epithet of an air spa in which three climate zones are distinguished. Valley

with hilly covers areas up to 700 m above sea level, and is characterized by a temperate-continent climate modified by the influence of the surrounding mountains. Transitional, covers an area between 700-1300 m above sea level, with long and harsh winters and short, fresh summers. The nature park is an area of well-preserved natural properties of water, air and soil, predominant natural ecosystems and without major degradation changes in the landscape and as a whole represents a significant part of preserved nature and a healthy environment.

Favorable edaphic, hydrological and climatic conditions and dissected relief with deep valleys have conditioned the great diversity of flora and vegetation of this mountain area. Natural resources are of key importance for the space since their scope, diversity and specificity are the basic criteria for the establishment of special regimes for protection, use and management. About 20 forest communities were recorded. So far, 1,091 species of the living world have been recorded on Golija.

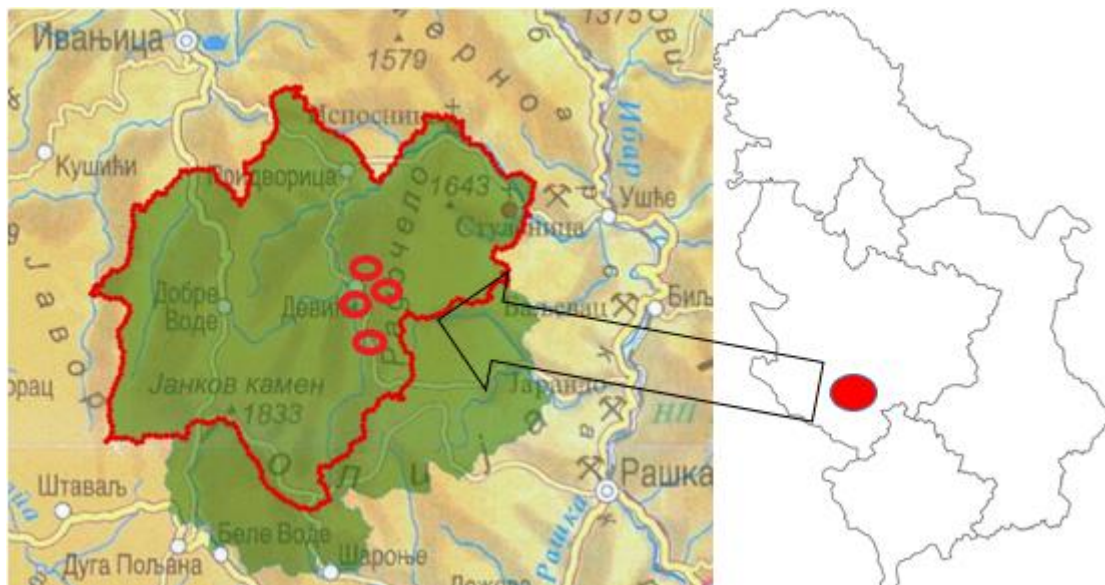


Figure 1. The geographical position of researched area, BR "Golija-Studenica"

1.2. Data collection and analysis

Data were collected using principles of ethnobotanical questionnaires which include face-to-face interviews. The pilot study was conducted in the period summer-autumn 2020 during the high touristic season in BR "Golija-Studenica". Some segments of the comprehensive questionnaire consist of the socio-demographic section, tourist and touristic household's interest in wild edible plants and changes in behaviors. The respondents were chosen using stratified random methods. The household data was collected based on the household questionnaires and interviews in four randomly selected villages. Most interviewees were found by systematic walks through the village, visiting houses and asking the inhabitants. Finally, were collected 53 questionnaires from tourists and 20 from touristic households. Collected data were stored in excel databases for further analysis. Study data were analyzed using descriptive statistics. The results were calculated using RFC - The relative frequency of citation:

$$RFC = FC/N$$

where, FC - represents number of respondents who mentioned particular term or alternative answer and N is a total number of respondents.

2. RESULTS AND DISCUSSION

2.1. Tourist's perception on biocultural heritage

The tourist's demands for wild edible plants / mushrooms are presented in Table 1. The majority of respondents (0.68) confirmed that they had preferred abroad touristic destinations such as exotic places, and travel to world cities, while rural areas and protected sites were reserved for a small number of tourists (between 0.36-0.41). After Covid-19 outbreak, the situation changed, and many tourists decide to visit local destinations related to nature (e.g., rural areas, protected sites, mountains). Wild edible plants/mushrooms find their place in tourists' perception through traditional food recipes, collecting or natural product buying. Using an ethnobotanical method to analyze the frequency of citing a particular plant, it was extracted several species with the highest index of mentioning (RFC) such as *Vaccinium myrtillis* - blueberry, *Allium ursinum* - wild

garlic, *Teucrium montanum* - mountain germander, *Urtica diorica* - nettle, *Fragaria vesca* - wild strawberry, *Rubus ideus* - raspberry, *Cantharellus cibarius* - chanterelles, *Agaricus campestris* - field mushroom, *Lactarius piperatus* - pepper milkcap, *Boletus* spp. - porcini mushrooms.

Table 1. Perception of tourist on biocultural heritage as a factor of destination choice

Question	Alternative answer	FC	RFC %
Before covid-19 outbreak I prefer to visit	Exotic destinations	36	0,68
	Mountains	27	0,51
	World city tours	30	0,57
	Protected areas	22	0,41
	Rural destinations	19	0,36
The reasons for BR „Golija-Studenica“ visit	Landscape	15	0,28
	Climate and health surrounding	21	0,40
	Natural products	27	0,51
	Local Food	29	0,55
Do you use/collect WEP/M	Yes	32	0,60
	No	21	0,40
Do you prefer to eat WEP/M in	Restaurant	9	0,17
	Local guest house	34	0,64
	Self-prepare	17	0,32
Did your demands related to WEP/M were the same before covid-19 outbreak	Yes	12	0,23
	No	41	0,77
What WEP/M species do you prefer to eat/collect	Extracted species with highest RFC <i>Vaccinium myrtillus</i> - blueberry, <i>Allium ursinum</i> - wild garlic, <i>Teucrium montanum</i> - mountain germander, <i>Urtica diorica</i> - nettle, <i>Fragaria vesca</i> - wild strawberry, <i>Rubus ideus</i> - raspberry, <i>Cantharellus cibarius</i> - chanterelles, <i>Agaricus campestris</i> - field mushroom, <i>Lactarius piperatus</i> - pepper milkcap, <i>Boletus</i> spp. - porcini mushrooms		

*FC - frequency of citation, RFC - relative frequency of citation, WEP/M - wild edible plants/mushrooms

The frequency of way of using WEP/M by tourists was also examined (Table 1). The majority of respondents (0.64) affirmed that they had consumed wild edible plants on one to three occasions: at a local guest house rather than preparing by themselves, even though they have the willingness to collect traditional recipes. Local biodiversity represents strong bases for the development of rural tourism. Data on ethnobotanical and traditional knowledge (medicinal and aromatic plant use, cosmetic purpose and nutritional relevance of the wild herbs, and plant genetic resources utilization are crucial in strengthening the overall rural tourism potential through the promotion of traditional products, such as herbal teas, tinctures, cosmetic preparations and local foods (e.g. Dajić Stevanović et al., 2014). In accordance with Covid-19 situation, different tourism branches such as ecotourism, medicinal tour-

ism, nature-based tourism and rural tourism provide a healthy concept of a symbiotic relationship between plant-based food and the environment. This links contributing individuals and communities facing post-Covid19 problems (e.g., anxiety, depression, illnesses, and insecurity). Following tourist demands, possible rural development programs could be established on a strong biocultural heritage which provides an immune-boost basis using medicinal plants and mushrooms, wild edible plants and autochthonous and old crop varieties.

2.2. Touristic household's perception on biocultural heritage

The present survey shows that local natural products and wild edible plants/mushrooms represent the central interest of tourists' expectations. The collection of wild edible plants is mostly similar

before and after Covid-19 with a small advantage to post-Covid19 interest (Table 2). Some wild edible plants/mushrooms are even dried for further use and traded in local markets or prepared in the traditional way as natural products. The economic value of WEP/M plays an important role, but the touristic value is increasing. The results show locals' knowledge of WEP/M is far better than tourists. They use

more than 50 plant species and 12 mushroom species in their daily routine. Local touristic households sold natural products to tourists which implicates that this could be an important source of income and local economic diversification. The wild edible plant / mushrooms are sold in these tourist places as prepared products, dried or food ingredients.

Table 2. Touristic household's perception on biocultural heritage and future tendencies

Question	Alternative answer	FC	RFC%
What tourists expect of...	Clean environment	16	0,80
	Landscape	10	0,50
	Local natural products	17	0,85
	Local WEP/M food	17	0,85
The utilization of WEP/M is the same before/after covid-19 outbreak	Yes	18	0,90
	No	2	0,10
Does exist increased demands for WEP/M in pervious period	Yes	19	0,95
	No	1	0,05
Have you sold WEP/M to tourists like food products/herbs, etc.	Yes	18	0,90
	No	2	0,10
WEP/M have local value	Economic	15	0,75
	Traditional/cultural	12	0,60
	Touristic	13	0,65
Sold WEP/M as	Food products	17	0,85
	Medicinal products	10	0,50
	Local prepared recipes	13	0,65
	Education/herbal tours	8	0,40
What are WEP/M species collecting/offer	Extracted species with highest RFC <i>Juniperus communis</i> - juniper, <i>Vaccinium myrtillis</i> - blueberry, <i>Rumex</i> spp. - greens, <i>Rosa canina</i> - pomegranate, <i>Crategus monogina</i> - haw, <i>Prunus spinosa</i> - blackthorn, <i>Allium ursinum</i> - wild garlic, <i>Teucrium montanum</i> - mountain germander, <i>Urtica diorica</i> - nettle, <i>Cornus mas</i> - cornel, <i>Fragaria vesca</i> - wild strawberry, <i>Rubus ideus</i> - raspberry, <i>Cantharellus cibarius</i> - chanterelles, <i>Agaricus campestris</i> - field mushroom, <i>Lactarius piperatus</i> - pepper milkcap, <i>Boletus</i> spp. - porcini mushrooms <i>Morchella esculenta</i> - common morel, <i>Macrolepiota procera</i> - parasol mushroom		

*FC - frequency of citation, RFC - relative frequency of citation, WEP/M - wild edible plants/mushrooms

According to Pieroni (2017) assessment and sustainable use of local biocultural heritage still present essential aspects of rural development programs through strengthening small-scale agropastoral activities, collecting and utilization of wild medicinal/edible plants and mushrooms, and creating touristic offers based on natural food products.

2.3. Place of biocultural heritage in future tourist's destination choice

This research establishes bases for understanding the role, place and importance of biocultural heritage, through the segment of WEP/M as more than natural resources in the future tourism sector. It is known that natural resources have an important ecological, economic and social role, but the value

of biocultural heritage is open space for exploration in different tourism branches (e.g., food tourism, ecotourism, nature-based tourism, rural tourism, etc.). In this study through small-scale research, the

practices and perspectives of biocultural heritage in the tourism business valued the future place of WEP/M.

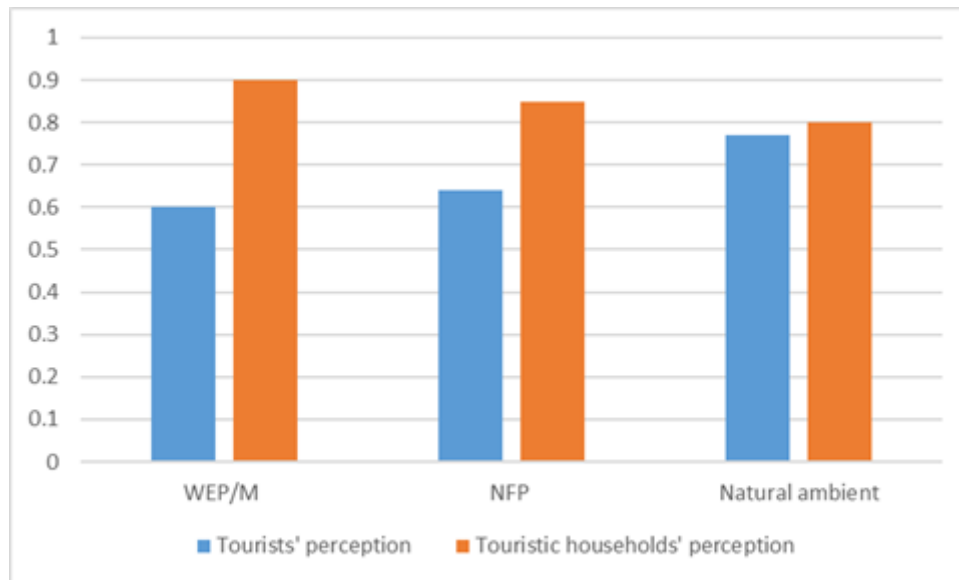


Figure 2. Comparative analysis in perception of tourists and touristic households regarding to their attitude about WEP/M (wild edible plants/mushrooms), NFP (natural food products) and natural ambient

The high values of interest for biocultural heritage, demands by tourist and offer by touristic household are presented in figure 2. The values of interest for WEP/M, NFP and natural ambient were calculated from average RFC values. Both sides of the respondents show that more than 50% of surveyed participants were interested in biocultural heritage. It is expected that for touristic households / local communities biocultural heritage has greater significance than in tourist perception.

Why it is important to pay attention to biocultural heritage? According to Garmestani & Benson (2013), humans have changed ecosystems more rapidly and extensively than in any comparable period in human history. It is a noticeable decline in biodiversity and ecosystem services, even though we know the benefits that humans derive from nature (Skubel et al., 2019). Actual global crises (e.g., climate changes, pandemics) impacted many aspects of life. While on the one hand tourism business trying are keen to return to "business as usual" as soon as possible, on another hand global pandemic provides an opportunity to reset to a regenerative way (Fountain, 2022). Participation and interest in biocultural heritage, especially through food tourism, is growing globally (Fountain et al., 2020).

Regarding study results, understanding individual perceptions concerning natural resource consumption / demands have a dual role in the en-

ouragement of tourism innovation and species conservation.

CONCLUSION

The COVID-19 pandemic has opened a range of opportunities to redirect our thoughts, to more evaluate nature and ecosystem services, and reconstruct tourism offers according to new tourists' demands. Like many sectors, tourism significantly has been touched, but the connection to nature returns it in a positive direction. Food tourism through the natural products, traditional knowledge and skills may become a leading carrier of economic diversification in rural areas, as well as in conserving natural resources. Biocultural heritage connects people and nature. Tourism, especially the food tourism branch in the post-Covid-19 period, may facilitate rethinking activities and provide innovative, forgotten space experiences, inspired by nature-based products.

This study represents a small-scale perception of local hosts and tourist-related to biocultural heritage in the Covid-19-post-Covid-19 period. The results show slow movement to global trends to regenerative tourism direction. As indicators of changes were used statements that referred to nature and concrete natural products were.

It is evident that we are faced with different challenges from global environmental problems and

climate changes to the pandemic. Rethinking tourism could be an open call for a positive relationship between man and nature. The main actors of tourism should direct business in wider ecosystem concept supporting local community's traditional natural resources utilization and harmonizing tourism business model to nature.

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