

УДК 338.48:502

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MUSHROOMS AS A TOURIST ATTRACTION ON AN ECOLOGICAL TRAIL

Ecotourism traditions in Belarus are relatively new and are still created. One of the formed and well proven trends is ecological trails. The objects that deserve more attention for showing and discussion, are the mushrooms and mushroom-like organisms. Guides in their stories about mushrooms pay little attention to their biology, ecology, species composition, and so on, despite the fact that by the number of species composition, mushrooms several times exceed vascular plants and are roughly comparable to a variety of insects known for Belarus.

The successful involvement of the fungal component in the guide stories requires special training of highly qualified specialists, possessing both questions related to the knowledge of mycology and have the basics of guided tours. The most effective this can be achieved by including the mycological sub-themes in tours on already prepared educational and informative ecological trails, as evidenced by the “mushroom topic” method on a practical training of students. The story of the guide on environmental issues during the passage of the route should be strictly focused on this specific target audience of listeners. The most relevant, causing increased interest from tourists, on the ecological trail are the questions that affect aspects of the edible and poisonous mushrooms, the appearance of fruiting bodies, the conservation of species diversity of this group of organisms, their role in nature and the possibility of economic use as well as a wide range of other problems, including the environment, ecology, phytopathology others.

Key words: ecotourism, ecological trail, mushrooms, mycology, tour story sub-themes, showcase.

Introduction. Officially by 2013, urban population of the Earth overgrew rural population, according to the information provided by international organizations. Reduction of rural population on the territory of Belarus can be tracked back in the first decades after the World War II. According to National Statistical Committee of the RB the ratio of urban to rural population was 77% to 23% by the end of 2015. Such parity leads to information stream failure between the older generation and younger generation, where the knowledge of nature in general and its individual aspects are being “lost”. Mushrooms were broadly involved in the life of the Belarusians as the object of the living nature. One of the traditional methods of its usage was a gastronomical one. In the national cuisine, whether it is elite or simple one, mushrooms got a special place. It was predetermined by the fact that meat was strictly forbidden during the fasting days and dried mushrooms were popular for creating flavor and taste for dishes. It is most likely you will find “mushroom picking...” phrase in literary works. Children of different ages usually went to woods and had competitions like “Who’s the fastest...”, “Who’s the best gatherer...” and etc. People of all ages shared knowledge with each other, the eldest taught the youngest to identify species, showed them places of growth and etc. Adults also took part in mushroom picking, especially during autumn time, when there wasn’t any fieldwork. As for them this kind of activity acted as some kind of a therapy; it is well-known that mushroom picking is also called “silent hunting”.

It should be noted that mushroom selling has always been a profitable business. According to “Geo-

graphical materials and statistics of Russia, collected by the headquarters of officers” (1862–1864) and “The describing experience of Mogilev province” (1882), the territory of the present-day Belarus was the main provider of pickled saffron milk cap and milk mushrooms to the capital of the Russian Empire. From the middle of 20th century till the Chernobyl disaster the range of harvestable mushrooms stood out with the great species diversity. According to the data, provided by CSA BSSR, during the period from 1954 till 1974 the biggest officially registered tonnage of dried mushrooms was about 550 tons, marinated and pickled – 8,340 tons. In the 1980s there was a significant reduction of harvested mushrooms, such tendency lasted until the middle of 1990s. Dynamics of forest products harvesting have been increasing since 1996. The stability of this escalation is provided by heightened demand for chanterelle – *Cantharellus cibarius.*, by Western Europe pharmacological corporations. Focusing on chanterelle has led to harvesting almost 100% of biological capacity of chanterelle (Grodno and Gomel regions) [1, 2].

It is important to carry out the full-scale propaganda work about mushroom knowledge, because it is usual thing that there are a lot of people get in hospitals every year with mushroom poisoning.

Main part. Analysis of worldwide experience allows us to mark several main directions of the mushroom tourism development such as a part of gastronomical tourism, festival tourism and scientifically educational tourism. The last one is highly demanded, because many people are interested in learning about their culture. The simplest way to fulfill this is to take eco trail trip.

Different countries have different titles of trail: trail of nature, trail of science, trail of natural science. Length of these trail is designed to be completed within several hours or several days.

According to "Recommendations on improvement of ecotourism in the Republic of Belarus" (2008), the route includes objects which are a combination of natural and historical values [3].

The program of eco trail trip development is of a great attention in our country. These Eco trails are organized for people of all ages: from preschoolers to adults. Today there are more than 70 eco trails all around territories of Belarusian forestry, reserves, preserves and national parks, also more than 600 eco trails are functioning under the educational establishments (80 of them are included in the list approved by the Government of the Republic of Belarus). In most cases eco trails go across the most interesting places where you can get acquainted with the natural attractions.

After analyzing the attractions presented on eco trails, we've come to the conclusion, that mushroom potential is poorly represented. One of the main reasons for this lag can be the lack of guides, who have the adequate level of mycology knowledge. For that, it is necessary to train highly-qualified specialists, who will be able truly present marvelous world of mushrooms to tourists.

On the ecological track the "mushroom" theme can include range of subthemes. The most important and informative themes are listed below.

The first subtheme: "Edible and poisonous mushrooms" can be on the demand especially during mushroom season. It is important not only ascertain the facts about which species are edible or poisonous, but also focus on the so called "twin" species, which often cause mushroom poisoning.

It is advisable to recall mushroom gathering rules, where the main postulates are:

- pick up the species you know and sure about;
- pick up mushrooms only at ecologically safe places;
- collecting container must be ventilated;
- mushrooms must be put in the container without soil;
- collected mushrooms must be cooked on the same day.

The second subtheme: "Mushroom species listed in the Red Book" can be on the demand on the eco-trails, which go across the old growth plantings and places of nature, which remain nearly untouched despite the agricultural activities of human. These are the areas, where most of the protected mushrooms grow. The chance of seeing these subjects during the excursion route is insignificant. Consequently, the necessary condition to tell about these species is either setting up informational shield or the guide (portfolio) book with de-

scriptive illustrations of the species listed in the Red Book. Here tourists should pay attention to the fact, that not only the basidium and ascus are protected by the law, but also hardly noticeable species, which are in danger of extinction.

"Truffle theme" is of a great attention. The information about "Truffle gathering" (E. Dubkevich. Spizarnia wiejska obywatelska. 1838) on the banks of Neman at the end of 19th century in Belovejskaya Puscha can be found in the literary works. It was also mentioned (A. Vislitsky. Trufle/Tygodnik Ilustrowany : journal. 1865) that truffles were picked on the territory of Polesse. According to the last edition of Belarus's Red Book all truffle species, which grow on the territory of our country are eligible for protection.

The third subtheme : "Fungus on trees" can be unfolded not only in the forest, but on any territory, where trees grow. It is especially relevant in city parks, public gardens, plantings. Tree destroying fungus have big conks, that allows us to understand the complexity of the connections in nature and also it allows to peek over the thin brink between life and death. It is important to draw your attention to the whole complex of biotechnical activities and money, which annually are sent to support the aesthetical aspect of green plantings. It is also necessary to provide the safety of the livelihoods (infected by the group of fungus during different nature disasters, such as squally wind, icing and etc. trees can fall and harm human and his property).

The fact that is interesting in the context of the given theme is the evolution of the lighter, a common thing in our everyday life. In the ancient Roman empire pore fungi mushrooms played the role of modern lighters and matches.

The fourth subtheme: "Phytopathogenic fungus" can be told out to the listeners at every stopping point, because these fungus grow on plants. It is impossible to find them without the help of magnifier, though they show themselves on vegetative organs of plant as spots of different shape and colour, such as dieback, rot, mistletoes, excrescences, distention, tumors and etc. Issues with crops loss, loss of the plant's decorative affinity afflicted by fungus have been worrying humanity since antique times. This problem was described in the work of Pliny The Eldest (between 22 and 24–79 BC). Naturalist raises the question: "What is the source of rash on different plant organs?" though he finds no answer.

Epiphytotics caused by different kinds of ergot (*Claviceps* sp.), and also phytophthora (*Phytophthora infestans* (Mont.) de Bary) killed near as much people as a plague in Europe.

It isn't often mentioned, that for every 3–4 thousand cultivated plants species there are 25 thousands of mushrooms, which cause plant diseases. So, in

conclusion, according to data, which is in open access, total cost of crops is about 13 billion dollars and agriculture losses caused by mushrooms during some years with the value of 1.75 billion dollars.

Conclusion. The number of subthemes related to the display of fungi is not limited to the topics mentioned above. Professionally trained guides in the field of mycology can reveal the issues of application of fungi as a medicinal plant in traditional and herbal medicine; show species that are of unusual shapes Basidia (*Crucibulum sp.*, *geastrum*, earth-star (*Geastrum sp.*), etc). It is also worth to

mention that mushrooms are used not only in different cults all over the world but also as an art objects in the modern urban environment.

In this regard, the existing ecological trail on the basis of the Botanical Garden Negorelsky-experimental forestry “Skazka Negorelskogo forest” [4] can be very useful for preparing highly qualified specialists in the field of tourism, and in various fields of natural management such as mycology. So, on stopping points located in the arboretum, the students of the specialty “Tourism and Nature” can improve their tour guide skills.

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Received 16.02.2016