

BIRDWATCHING, ORNITOLOGICAL TOURISM AND AVITOURISM: TERMINOLOGICAL DISPUTE AND REVIEW OF WORLD AND RUSSIAN PRACTICES

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Abstract

Nature-oriented types of tourism in the current conditions are particularly relevant. Today, destinations offering an ecotourism tourism product are in demand. Birdwatching, an integral part of ecotourism programs, is especially popular in the countries of North America and Western Europe. In Russia, activity associated with watching birds is gaining popularity. Birdwatching has several advantages due to almost any territory is inhabited by birds, and therefore it is possible to organize observations for them. However, there are many terminological blank spots and problems. That is why the article is aimed at substantiating and characterizing the modern forms of birdwatching and ornithological tourism and confirming them by studying practices of organizing observations of the avifauna. The article provides a review of scientific publications dedicated to birdwatching. Today there is an abundance of terms denoting the observation of birds in their natural environment: birding, birdwatching, twitching, ornithological tourism, avitourism. The study of cases and theoretical works makes it possible to characterize each of these concepts and distinguish between them. Today, there is a growing trend in the popularity of urban birding and avitourism, in which the natural habitat is the urbanized environment. Observations of the avifauna can also be organized in marginalized territories, and this makes it possible to consider them as places for ecotourism. The research result is important methodological conclusion about the relationship among the concepts of birdwatching, ornithological tourism and avitourism.

Keywords: Birdwatching; Urban Birdwatching; Tourism Segments; Avitourism; Ornithological Tourism; Ecotourism; Nature-oriented tourism.

OBSERVAÇÃO DE AVES, TURISMO ORNITOLÓGICO E AVITURISMO: DISPUTA TERMINOLÓGICA E REVISÃO DAS PRÁTICAS MUNDIAIS E RUSSAS

Resumo

Os tipos de turismo orientados para a natureza, nas condições atuais, são particularmente relevantes. Hoje em dia, os destinos que oferecem um produto turístico de ecoturismo são procurados. A observação de aves, parte integrante dos programas de ecoturismo, é especialmente popular nos países da América do Norte e da Europa Ocidental. Na Rússia, a atividade associada à observação de aves está ganhando popularidade. A observação de aves tem várias vantagens devido ao fato de praticamente qualquer território ser habitado por aves, pelo que é possível organizar observações para elas. No entanto, existem muitos pontos cegos e problemas terminológicos. Este artigo visa, portanto, substanciar e caracterizar as formas modernas de observação de aves e de turismo ornitológico e confirmá-las através do estudo de práticas de organização de observações da avifauna. Para tanto, fornece uma revisão de publicações científicas dedicadas à observação de aves. Hoje em dia existe uma abundância de termos que denotam a observação de aves no seu ambiente natural: observação de aves, observação de pássaros, contorções, turismo ornitológico, aviturismo. O estudo de casos e trabalhos teóricos permite caracterizar cada um destes conceitos e distingui-los entre si. Atualmente, há uma tendência crescente na popularidade da avitocultura e do aviturismo urbano, em que o habitat natural é o ambiente urbanizado. As observações da avifauna podem também ser organizadas em territórios marginalizados, o que permite considerá-los como lugares de ecoturismo. O resultado da investigação é uma importante conclusão metodológica sobre a relação entre os conceitos de observação de aves, turismo ornitológico e aviturismo.

Palavras-chave: Observação de Aves; Observação de Aves em Meio Urbano; Segmentos Turísticos; Aviturismo; Turismo Ornitológico; Ecoturismo; Turismo Orientado para Natureza.

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Resumen

Los tipos de turismo orientados a la naturaleza, en las condiciones actuales, son especialmente relevantes. Hoy en día, los destinos que ofrecen un producto turístico de ecoturismo están muy solicitados. La observación de aves, parte integrante de los programas de ecoturismo, es especialmente popular en los países de América del Norte y Europa Occidental. En Rusia, la actividad asociada a la observación de aves está ganando popularidad. La observación de aves tiene varias ventajas debido a que prácticamente cualquier territorio está habitado por aves, por lo que es posible organizar observaciones para ellas. Sin embargo, hay muchos espacios en blanco y problemas terminológicos. Por ello, el artículo pretende fundamentar y caracterizar las formas modernas de observación de aves y de turismo ornitológico y confirmarlas mediante el estudio de las prácticas de organización de las observaciones de aves. El artículo ofrece una revisión de las publicaciones científicas dedicadas a la observación de aves. Hoy en día abundan los términos que denotan la observación de aves en su entorno natural: birdwatching, observación de aves, contorneo, turismo ornitológico, aviturismo. Los estudios de casos y los trabajos teóricos permiten caracterizar cada uno de estos conceptos y distinguirlos. En la actualidad, la popularidad de la avitocultura y el aviturismo urbano, en los que el hábitat natural es el entorno urbanizado, va en aumento. La observación de aves también puede organizarse en territorios marginales, que pueden considerarse lugares de ecoturismo. El resultado de la investigación es una importante conclusión metodológica sobre la relación entre los conceptos de observación de aves, turismo ornitológico y aviturismo.

Palabras clave: Observación de aves; Observación de Aves en Medio Urbano; Segmentos Turísticos; Aviturismo; Turismo ornitológico; Ecoturismo; Turismo Orientado a la Naturaleza.



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1 INTRODUCTION

The relevance of birdwatching as a direction of nature-oriented tourism can hardly be overestimated. It is one of the fastest growing direction, finding more and more of adherents and forming a specific range of tourist offers. COVID-19 pandemic made natural areas in great request as a places for recreation, and bird watching is one of the popular activities when visiting them.

Birdwatching plays an important role in the tourism industry and creates direct and indirect economic benefits for many countries and communities. Birdwatching is of particular importance in the tourism industry of developing countries, where nature is a key asset and tourism resource. That is why today many countries developing ecological forms of tourism pay special attention to birdwatching.

For US residents, watching the birds in their natural environment is a traditional recreational activity, which is why American birdwatchers constitute a significant tourist market. For example, according to studies conducted by the authorities, birdwatching in the United States brings in billions of dollars, and these revenues are growing every year. In 2011, 46.7 million US citizens watched the birds, of which 88% did it near home and 38% - while traveling (US FWS, 2012).

Therefore, the requests of US ornithological tourists stimulate the development of birdwatching in Central America and the Caribbean, as well as in other popular ecotourism destinations. In Scotland, the Royal Society for the Protection of Birds found that tourists looking to see white-tailed eagles spend between \$8 million and \$12 million annually on the Mull Isle, and that 4% of jobs in Scotland are associated with nature-based tourism (Cherry, Davidson-Onsgard & Moore, 2018).

Birdwatching is actively developing today both in the leading countries in ecological tourism, where nature is the main resource, for example, in Australia, New Zealand, Canada, etc., and in countries that previously paid more attention to more mass types of tourism (beach, religious, cultural and educational, etc.), for example, in India, Thailand, Spain, Turkey, Greece, Poland, etc.

Birdwatching is a promising type of tourism for African countries. For example, in the Republic of South Africa, there are many birdwatching trails, organized both in national parks and in rural areas, which allows supporting local communities and indigenous peoples, providing them with jobs and additional income.

It should be noted that in Africa, initiatives related to the wildlife observation, including avifauna, are aimed not only at increasing income, but primarily at

protecting the environment and species diversity, as well as preventing poaching and illegal trade in including rare birds.

Ornithological tourism is also actively developing in Russia, there are successful practices of birdwatching both in specially protected areas and in parks and rural areas (Afanasiev & Afanasieva, 2017; Goncharova at al., 2020). Ministry of Natural Resources created the portal "Ecotourism in Russia – a trip through protected areas", dedicated to the tourist opportunities of specially protected natural areas. It will certainly become a driver for Birdwatching within such objects (Ecotourism in Russia, 2022).

Birdwatching is now regarded as an ecological direction that has the least negative impact on natural communities and makes a significant economic contribution to the development of territories and countries. However, on the other hand, tourist activity in places for birdwatching without proper organization can harm the environment, disrupting the natural course of bird migration or breeding.

That is why issues related to the development of ornithological tourism attract the attention of both scientists and practitioners in the industry. The number of publications devoted to birdwatching is growing every year, but several theoretical and classification problems still remain.

Therefore, the article is aimed at content analysis of scientific publications on birdwatching for the theoretical substantiation of this type of tourism, identifying its features and characteristics, as well as the diversity of its forms and varieties, reviewing the most successful practices in the field of birdwatching.

2 REVIEW OF SCIENTIFIC SOURCES

2.1 Terminological Problems

The fragmentation and ambiguity of the terminology is one of the typical methodological problems of activities in the field of birdwatching and ornithological tourism.

In the scientific literature of recent years, the term "birdwatching" is increasingly common, which involves the observation of birds in their natural habitat. It is the natural environment with the opportunity to see rare birds that is the main attractor for the tourist-birdwatcher.

However, birdwatching also includes elementary recreational activities, such as birdwatching in a nearby park or even a backyard (Carver, 2013), educational activities in parks and squares, events and environmental campaigns that are held in many municipalities and do not imply the overnight trip.

In other words, the term “birdwatching”, which is gaining popularity as a designation of bird watching tourism, covers a wider range of recreational activities: hobbies, walking, photography, activities with children, nature excursions, contemplation and meditation, etc.

The reports and statements of international organizations, as well as tourists on review sites and popular publications mostly use the term “birdwatching”. UNWTO considers birdwatching as a format for observing wildlife (wildlife watching tourism), and uses the first term in its reports and publications. The same term designates the tourist products involving birdwatching activity. American mass publications also use the term avitourism, which is actively applied to urban areas.

Some authors distinguish between these two terms, noting that birdwatching is observation using special equipment (Nicolaides, 2014). Birdwatching is considered by most foreign authors as a niche form of ecotourism or even as hobby tourism (Cordell & Herbert, 2002; Nicolaides, 2014; etc.). In the Russian-language content, the authors use terms ornithological tourism, birding, bird watching.

Therefore, we searched for publications over the past five years using the keywords in the Google Scholar service in the English-language and Russian-language content “birdwatching” and “avitourism”. The results are presented in table. 1.

Table 1. The scientific publications content analysis results on birdwatching and ornithological tourism.

<i>Term, keyword</i>		2017	2018	2019	2020	2021
In publications in English	Birdwatching (bird-watching, birding)	1230	1220	1340	1400	447
	Avitourism	48	71	91	81	33
In publications in Russian	Birdwatching	14	30	12	20	5
	Ornithological tourism	430	367	298	266	69

Source: own elaboration, 2022.

As can be seen from Table. 1, the more commonly used term in English language segment of literature is “birdwatching”, and the number of publications is growing. In Russian-language content, ornithological tourism remains the most used term, but the growing popularity of the term “birdwatching” is also obvious. The total number of results for the query “birdwatching” in the Google Scholar system was 20500, avitourism - 612, for the query “birdwatching” - 101, ornithological tourism - 3580.

According to a rough estimate, we can conclude that the English-language content pays more attention to birdwatching. Most of the English-language publications are devoted to the recreational and economic importance of birdwatching as a tourist activity, while in the Russian-language segment, by searching for “birdwatching”, consists the articles on pedagogy and environmental education, as well as on ornithology and the organization of field research.

Another term that is used in English content is twitching tourism (example Connell, 2009), which involves traveling long distances in order to see a rare specimen of avifauna. For such tourists - twitchers - distance and expenses do not matter, they are willing to spend more in order to see and capture a rare species.

A more detailed analysis of the literature allows us to identify several key areas of considering birdwatching as a form of tourism:

- economic importance of birdwatching (indicators of income and expenses, costs of infrastructure formation, importance of

birdwatching in the economy and share in GDP) (Green & Jones, 2010; Nicolaides, 2014; Steven, Castley & Buckley, 2013; Schänzel, 1998; etc.);

- study of birdwatchers as a category of tourists (motivation, typology, determination of their requests and needs, etc.) (Appelgate & Clark, 1987; Aise at al., 2010; Carver, 2013; Connell, 2009; Eubanks, Stoll & Ditton, 2004; Green & Jones, 2010; Scott & Thigpen, 2003; Yuanyuan at al., 2014);
- birdwatching as a direction of environmental protection (Appelgate & Clark, 1987; Alfano, 2014; Barnes, 1998; Cronon, 1996; Kutzner, 2019; Seddon & Ellenberg, 2008; etc.);
- negative impact of birdwatching (Afanasiev & Afanasieva, 2017; Birds of India, 2009; Sekercio, 2002; Scott & Lee, 2010; Seddon & Ellenberg, 2008);
- overview of birdwatching areas (geography, case studies, specifics of birdwatching in specific countries) (Barnes, 1998; Jones & Buckley, 2004; Green & Jones, 2010; Gulsrund & Ooi, 2015; Isaev at al., 2017; Istomina, Luzhkova & Khidekel, 2016; Schänzel, 1998; Xie, 2012);
- birdwatching as part of ecotourism or nature-oriented tourism (Afanasiev & Afanasieva, 2017; Booth at al., 2011; Nicolaides, 2014; Spencer, 2009; Stoddart & Nezhadhossein, 2016);

- methodological issues of birdwatching (reviews of scientific publications, approaches to definition, classification, etc.) (Afanasiev & Afanasieva, 2017; Steven, Morrison & Castley, 2014).

Publications related to the review of scientific literature on birdwatching deserve a special attention.

Steven, Morrison and Castley (2014) studied the publications existing at the time of the release of their study (a total of 66 publications, including reviews and comments) on birdwatching as a direction in tourism in terms of the geography of publications, content and topics of articles, research methods and typology of publications depending on their volume and significance.

More than half of the studies reviewed by the authors used sociological methods aimed at interviewing tourists, operators offering bird tours. These studies used a combination of primary and secondary data, as well as personal experience to discuss the potential positive and negative aspects associated with the industry, or presented "birdwatching profiles" of individual places (for example, Nepal, Australia, Israel, etc.), opportunities for economic development. On the other hand, nine studies analyzed biological data on birds or their habitats using data collected, including in the field.

The study of Steven, Morrison and Castley (2014) highlights those aspects that are paid attention to in scientific publications in English content and allows us to draw some conclusions. Firstly, special attention is paid to birdwatchers, their motivation, environmental awareness, socio-demographic characteristics, willingness to pay for certain services, etc.

That is, more attention is paid to the study of the potential tourist market and its ability to influence the sustainable development of territories. At the same time, the geography of the resource base of this type of tourism is practically not studied, which can be adequately described and evaluated by ecologists, geographers and ornithologists.

Similar studies are available in the Russian-language content, they are more local, and are devoted to biological diversity and its assessment in terms of attractiveness for tourism in the context of specific protected areas (Isaev et al., 2017; Istomina, Luzhkova & Khidekel, 2016).

Secondly, the positive role of birdwatching is actively emphasized. It can stimulate domestic tourism, contribute to the environment preservation through direct and indirect income of the territories, promote environmental education, form tourist flows with a high level of environmental awareness. So, for example,

Green and Jones (2010) interviewed aviatourists about what is more important for them – to determine the type of bird or the danger of disturbing it, and the majority answered that it would be better not to disturb the birds than to try to identify them and capture.

However, in general, we can conclude that scientific literature does not pay enough attention to the other side of birdwatching. Steven, Morrison and Castley (2014) analyzed 66 sources, and only 10 of them touched were dedicated to this topic in one way or another. In the later sources studied by us, this topic is touched upon only superficially.

Some authors name negative consequences of birdwatching such as activities to attract birds that violate their normal state are noted (for example, the use of playback of recorded sound signals to attract birds into the field of view, close approach to birds for identification purposes) (Afanasiev & Afanasieva, 2017; Birds of India, 2009; Sekercio, 2002), an excessive number of tourists on natural area (Nicolaidis, 2014), the negative impact of ecotourism, etc.

Thirdly, the methodological field of birdwatching is insufficiently developed of the, especially in the context of considering it as a tourist activity. Most often in scientific publications ornithological, avitourism and birdwatching are considering a equal, however, in our opinion, there are a number of key differences between these three concepts (Table 2).

That is, birdwatching, ornithological and avitourism, although they have similar features, are still different. Birdwatching is not always a tourist activity, as it is observing the avifauna, and this motive determines the main activity of the observer. Regarding the way to put it in practice, birdwatching can be implemented in the form of a walk to the nearest park, a field study, a photo walk, a visit to an action or a holiday dedicated to the protection of birds, feeding and observing bird inhabitants of ponds, etc.

Ornithological tourism, unlike avitourism, involves visiting natural areas, including for the purpose of bird watching. Most ornithological tours fit into the ecological paradigm, and in addition to birdwatching, allow tourists to get acquainted with the natural conditions of the territory and enjoy not only observing and identifying the species, but also visiting a specific area.

Avitourism ("bird tourism") is travel for the purpose of observing local birds. In this case the specific bird species act as an attractor for tourists, in contrast to ornithological tourism, where an attractive factor is the territory with its conditions and opportunities to see certain representatives of the avifauna. Birdwatching in large cities is a part of avitourism.

Table 2. Comparative characteristics of birdwatching, ornithological and avitourism features.

<i>Feature of tourism activity</i>	Birdwatching	Ornithological tourism	Avitourism
The main motive of activity	Watching birds in their natural habitat (including in the home region)	Travel to certain natural areas primarily for bird watching	Travel to certain areas to observe local birds in their natural habitat, including urban space
Duration of activity	Varies, depending on goals	More than 1 day (with an overnight stay at the place of stay)	
The need for equipment, qualifications	Not necessarily, depending on the type of activity and requests of the category of tourists		
The presence of a qualified guide (guide)	Not necessary	Advisable	Advisable

Source: own elaboration, 2022.

2.2 Features of Urban Avitourism and Birdwatching as a Form of Tourism and Recreation

In the scientific literature, birdwatching and ornithological tourism is considered as part of ecological tourism, most often in specially protected areas, while cities, especially large ones, are not seen as potential areas for this activity.

Some researchers are studying the development of wildlife tourism in economically depressed small towns and rural areas of the United States and Canada as a way to increase income for these areas (Stoddart & Nezhadhossein, 2016; Scott & Lee, 2010).

And only in recent years we can see the first attempts to comprehend the already existing phenomenon of birdwatching in large cities (Alfano, 2014; Cherry, Davidson-Onsgard & Moore, 2018; Silber, 2015; Wachsmuth, 2012).

This is especially interesting in light of data from the Cornell Lab of Ornithology, which show that cities are home to up to 20% of all bird species in the world (Alfano, 2014). The popularity of urban birdwatching shows that wildlife watchers already recognize the city as a place to get close to it (Cherry, Davidson-Onsgard & Moore, 2018).

The practice of avitourism is actively developing in Western countries. So, David Lindo, British ornithologist, writer and broadcaster, or what he calls himself an "urban birdwatcher", is the ideologist of urban avitourism in Britain. He promotes the idea of birdwatching in an urban environment. He was the first to talk about how every British city has something to offer inquisitive ornithologists.

"You'll find snipes, pied wagtails and meadow pipits on the brownfield sites of Leicester, for example. In York, there are little ringed plovers living in gravel pits on urban wasteland. In Old Trafford, Manchester, I've seen sparrowhawks and cormorants fly over while I've been watching the match. Show me a city, and I can show you a bird – that's my philosophy" (Lindo, 2012).

The book «The urban birder's city guide» (Lindo, 2013) under his authorship has become a guide not

only for amateur ornithologists, but also for the city authorities, who are actively developing urban avitourism.

That is why professionals interested in improving the welfare and sustainability of urban areas – from economic planners to civil engineers, zoning experts and landscape designers – should also pay more attention to the phenomenon of birdwatching in urban spaces. Many cities have already recognized urban birdwatching as a financial boon and try to attract urban birdwatchers.

This practice is being actively implemented in the United States, where the US Fish and Wildlife Service has initiated a large-scale program to conserve migratory birds, their migration corridors and habitats, involving active cooperation with city municipalities. A total of 27 US cities today have signed the Urban Bird Treaty under this program, and actively develop urban avitourism (US FWS, 2012).

Examples of successful urban avitourism include the Birmingham Society for the Conservation of Urban Bird Habitat (Birmingham, 2017), a project of the Smithsonian Urban Bird Habitat in Washington DC (Smithsonian Gardens, 2022), and Wisconsin's Bird City program, including Milwaukee (BCW, 2017).

According to some estimates, in New York alone, birdwatchers spend about \$6 billion annually (Carver, 2013). This city demonstrates the successful practice of developing urban avitourism. Birdwatching events are regularly organized in Central Park; when rare specimens appear, birdwatchers get notification via special messengers, and the park is filled with avifauna enthusiasts. So, in January 2021, a snowy owl was seen in Central Park. This caused a lot of excitement, so in order to protect it from the negative impact of citizens and city guests rushing to the park, the work of rangers was organized.

The cities also host ornithological festivals. Vancouver, Moscow (Gorky Central Park of Culture and Leisure) and others can be cited as successful examples of the avitourism development in the cities of the world. Singapore actively develops avitourism (Isaev et al., 2017) in the context of the emerging image of the "garden city", which involves the destruction of

barriers between nature and urban culture. The cities develops birdwatching trails connecting several birdwatching points in one metropolitan area, such as the Tucson Trail (TAS, 2017).

The Big City Birds project operates in Australia, which is aimed at observing and counting birds that live in big cities and beyond (including in rural areas) (BCB, 2020). To do this, the registered users (both members of the general public and professional birdwatchers) can add information at online database.

The information from user consist data on birds and the conditions in which they were seen. The collected data help scientists to study the behavior, movement, reproduction, distribution and use of the habitat of these species in suburban areas, as well as to understand the behavioral traits that have allowed some species to adapt to the conditions and opportunities of urban life. The database is available both in the desktop version and as applications.

In Moscow, the practice of urban birdwatching and the protection of avifauna has a long history. One of the most innovative Moscow facilities is the Gorky Park. It stood at the origins of the history of the celebration of the International Day of Birds in the Soviet Union in 1925 In April 2021, Gorky Park launched the Winged Neighbors project, aimed at preserving the species diversity of the city's birds through creating a comfortable living environment, increasing the population, and educating the population on this issue (Gorky Park, 2020).

A monitoring system for individuals has also been launched, including by means of birdwatching. The park positions the project as a long-term initiative. The project developers are the Gorky Park team, as well as experts from the Lomonosov Moscow State University and Bauman Moscow State Technical University, professional ornithologists and birdwatchers.

The first stage of the project includes the creation of an education system through the already existing Green School, event events, the creation of art and smart birdhouses equipped with built-in cameras, the data from which will be fed into a single monitoring system.

In addition, it is planned to install compact video cameras to determine the number and species diversity of birds. All these activities are intelligently integrated into the leisure and recreational environment, attracting birdwatchers from Moscow, as well as from other regions of the country.

This is not an isolated practice of organizing activities to protect the avifauna and promote it as a recreational resource. So, the Union for the Protection of Birds of Russia holds the action "Nightingale Evenings" annually (RBPU, 2020). The action was first held in Voronezh in May 1999, when a telephone count of the nightingales was carried out. In 2014, the action was first held in 36 cities of Russia: from Kaliningrad in the west to Tomsk in the east, from St. Petersburg in the north to Rostov-on-Don in the south.

The purpose of this action is both scientific – to use data on the number of nightingales in cities as an indicator of the state of the environment, and propaganda – to draw the attention of citizens to the problems of bird protection.

The practice of urban birdwatching and avitourism becomes popular in St. Petersburg, where special ornithological excursions are organized. Within many large cities there are large parks and forests that are places for bird watching activities. But so far it is a separate recreational activity of an individual nature, and cannot be considered a full-fledged tourism.

2.3 Classification of Forms and Types of Birdwatching, Ornithological Tourism and Avitourism

As we can see, today birdwatching as a format of tourist and recreational activities attracts increased attention from both consumers and specialists. The types and forms of birdwatching, ornithological and avitourism are expanding, as well as the requests of tourists. Therefore, an important issue is the actual classification of forms and types of birdwatching, ornithological and avitourism in comparison with each other. We propose a conceptual model for classifying these three recreational activities based on birdwatching (Table 3).

Table 3. Comprehensive classification of species and forms of birdwatching, ornithological and avitourism.

<i>Feature</i>	<i>Types</i>	<i>Forms</i>
By motivation	<ul style="list-style-type: none"> • Scientific (research) tourism • Educational tourism • Entertaining tourism • Hobby tourism • Event tourism • Volunteer (environmental) tourism • Competitive (sports) tourism 	<ul style="list-style-type: none"> • Visiting scientific conferences, field camps, expeditions • Educational practice, off-site classes and educational excursions • Photo-avitures • Visiting holidays and festivals with bird watching • Volunteer trips, camps, conventions, promotions • Birdwatching competitions
By organizing space	<ul style="list-style-type: none"> • Tourism in protected areas • Tourism on special avitourist routes 	<ul style="list-style-type: none"> • Observation in the natural environment (in protected areas)

<i>Feature</i>	<i>Types</i>	<i>Forms</i>
	<ul style="list-style-type: none"> • City avitourism • Tourism in landfills and marginalized areas • Excursion and educational tourism at biological stations and museums of nature 	<ul style="list-style-type: none"> • Surveillance in an urban environment • Observation in organized spaces (at biological stations) • Excursions and eco walks, visiting ecological trails • Master classes
According to the importance of the ornithological motif	<ul style="list-style-type: none"> • Main • Additional 	<ul style="list-style-type: none"> • Ornithological tours • Ornithological excursions or excursions with elements of birdwatching as part of the main tourist trip
By way of travel	<ul style="list-style-type: none"> • Transport • Pedestrian • Using scooters, bicycles, hoverboards, etc. 	<ul style="list-style-type: none"> • Ornithological tours • Excursions • Walks • Quests • Visiting bird festivals • Observations and photo walks • Expeditions • Master classes • Birdwatching competitions
By duration	<ul style="list-style-type: none"> • Recreational forms (up to 24 hours) • Weekend tourism • Up to 2 weeks • Long trips 	
By organization	<ul style="list-style-type: none"> • Organized by firms • Self organized 	
By number of participants	<ul style="list-style-type: none"> • Mass (amateur) • In small groups • Individual 	
By audience	<ul style="list-style-type: none"> • Birding (for professionals) • Scientific birdwatching and ornithological tourism • Amateur birdwatching • Sports and collection birdwatching • Mass birdwatching (for random tourists) 	
By area	<ul style="list-style-type: none"> • In the home region • Domestic (within the country) • International • Twitching tourism (for particularly long distances to identify rare specimens) 	<ul style="list-style-type: none"> • Individual long trips • Ornithological tours (independent and accompanied) • Visiting festivals and holidays, participating in promotions, etc. • Ornithological excursions and excursions with elements of birdwatching

Source: own elaboration, 2022.

Thus, we can conclude that birdwatching as a format of recreational activity is multifaceted and that there is a variety of forms of ornithological tourism organization.

2.4 Practices for Organizing Birdwatching Programs

Today, we can observe many successful practices around the world for organizing birdwatching and ornithological tourism, all of which demonstrate an integrated approach and creative solutions to certain issues of conservation of species diversity by means of birdwatching.

An important mechanism for preserving biological diversity and reducing the load on landscapes is the formation of a tourist infrastructure in the territory where ecotourism activities are carried out. The organization of tourist routes is one of these tools (Kement, at al., 2021).

Today in South Africa, ornithological tourism is seen as an opportunity to attract funds from foreign tourists to the country's budget and use them to support local communities and nature conservation. There are several projects to organizing tourist spaces in nature reserves, programs to promote the country's avifauna

as a tourist resource, and cases of developing various forms of birdwatching.

Zululand Birding Route (ZIBR, 2003) is the first project to develop ornithological tourism in South Africa. To date, this birdwatching route is place for training local guides, which resulting in dozens of tourism and nature-related jobs and 18 SMEs. The route promotes the territory by participating in exhibitions nationally and internationally, it was a finalist for the Smithsonian Institution's Sustainable Tourism Award in 2003 and has made significant progress in South Africa's birdwatching infrastructure. With over 600 bird species recorded, the Zululand Birdwatching Trail is South Africa's hotspot for birdwatchers and consists of a network of guided and self-guided ecotrails.

All routes are equipped with observation points, marked and provided with booklets and maps, which allows managing the tourist flow, controlling and preventing the disturbance of birds in their usual habitats, and ensuring bird watching without interfering with the natural environment. Also, to visit the route, accommodation facilities are in the accessible vicinity, it is also designed for backpackers. The route actively attracts volunteers under various conditions.

An interesting practice of organizing space for

birdwatchers can be considered the Bubali bird reserve in Aruba (BBSA, 2022). Here, the waters of the treatment facilities have formed two man-made lakes, interconnected, which has created a convenient place for rest and breeding of migratory birds. Now the bird reserve in Aruba is inhabited by more than 80 species, and the former tower, built for technical needs, is now converted and serves as an observation point for birdwatchers. At the same time, the area performs all the same functions. It should be noted that Aruba is a predominantly beach holiday destination, and therefore the bird reserve is more of an auxiliary attraction for mass tourists.

Another example, when birdwatching in unique territories most often becomes an application, a pleasant bonus to a trip, is the Phillip island (PINP, 2022) in Australia, near Melbourne. It is here that we can see the parade of pygmy penguins, which leave their homes every morning and go to the sea, and then come back in the evening. Each year, more than a million tourists visit Phillip Island, both on their own and as part of organized tours. Special stands for observation were built here.

In our opinion, it is advisable to single out special types of birdwatching, illustrated by Antarctic ornithological tourism, which primarily involves observing penguins in their natural habitat. It covers different categories of birdwatchers, and most often combines the desire to see the rare beauty of Antarctica and its animal world.

In Russia, we can also find successful practices for organizing space for ornithological tourism. Thus, the Curonian Spit National Park in the Kaliningrad Region was recognized as the best place for birdwatching. This result was received due to survey conducted by the Russian booking service Tvil.ru on the Day of the Ornithologist, among users of social networks (Tvil.ru, 2020).

Ecological routes on the Curonian Spit are equipped by platforms and observations spots. The Biological Station of the Zoological Institute of the Russian Academy of Sciences "Fringilla" carries out activities for ringing birds and studying their migratory state on the spit, but in addition to scientific research, it carries out educational activities and welcomes tourists, who can look at how birds are ringed. In addition, it is planned to develop VR-excursions that will allow visitors to take a bird's-eye view of the Curonian Spit (Fringilla, 2021).

Another important birdwatching practice is the organization and holding of celebrations and festivals, most often timed to coincide with memorable dates or times of a particular period in the life cycle of avifauna representatives. For example, World Migratory Bird Day, which is held under the auspices of the

Convention on Migratory Species (CMS) and the African-Asian Migratory Bird Agreement (AEWA), aims to raise public awareness of the conservation of migratory bird habitats around the world. Numerous public events are timed to coincide with this day, among which the most common are bird festivals, educational and educational programs, bird watching under the guidance of specialists, excursions, etc.

In Russia Titmouse Day (November 12) is very popular and of particular importance for the birdwatching development. It has a long history and has been celebrated since the times of Ancient Russia. Around this time, migratory birds arrive for wintering – titmouse, carduelids, bullfinches, waxwings, etc. Promotions and educational programs, events in schools and kindergartens introducing children to the world of feathered friends, and mass holidays are dedicated to Titmouse Day. On this day, enthusiasts hang bird feeders in parks and adjacent territories, thus organizing a space for birdwatching in the winter.

On October 5-6, all countries of Europe, Central Asia and Russia annually host the pan-European bird census – EuroBirdwatch (EuroBirdwatch, 2021). In 35 countries, tens of thousands of volunteers, birders and professional bird watchers take to the field to observe and count birds.

Numerous ornithological festivals abroad are often included in event calendars. Unfortunately, in Russia so far not a single ornithological route has been awarded in the field of event tourism, and not a single event-based ornithological event is on the national event calendar. Most of the event activity in the field of ornithological tourism and birdwatching remains within the narrow circle of interests and communication of birdwatchers.

Last but not least, it is important to consider some practices of organizing competitive birdwatching. Abroad, the Big Year campaign is an informal competition between birders to determine who can see or hear the most bird species in one calendar year within a certain geographical region (ABA, 2020).

These competitions, popular in North America, are usually held within a single US state or province of Canada, as well as around the world, or within the official zone of the American Birding Association (ABA territory includes Canada, the 50 US states, including Hawaii, the French islands of Saint Pierre and Miquelon off the coast of Canada and adjacent waters up to 200 nautical miles).

The traditional Big Year Tournament is drawing criticism from environmentalists for having some environmental implications from traveling to see more birds. Birdwatchers participating in the competition seek to capture more species of birds by any means, including attracting them to camera traps, disrupting

their natural life, and also using drones, fuel vehicles, which negatively affects the environment in general.

Therefore, periodically there are initiatives to hold "green" or alternative competitions similar to the Big Year to raise awareness of both birds and the environment.

Along with the Big Year, there is World Series of Birding, another world-famous contest (WSB, 2022). Participants attempt to identify the highest number of bird species in the entire state of New Jersey (USA) during a 24-hour period on a Saturday in mid-May.

Birdwatchers have several ways to participate in World Series of Birding. Teams can either search for birds throughout the state of New Jersey, limit themselves to a specific county, or count species entirely in one location. The event has been steadily gaining popularity over the years, stimulates the development of domestic tourism and generates income that is then used to protect the avifauna.

In the post-Soviet space, there is an alternative Big Year competition (Big Year, 2020). It is held annually by the Russian Bird Conservation Union. All bird enthusiast conducting observations in the countries of Northern Eurasia (countries of the former USSR) can participate in the competition. The main task of the participant is to see the maximum number of bird species in the country. Based on the results of the event, the database "Online diaries of observations" is maintained, the results of which are reflected on the map. Also, the participant can mark the bird he or she saw on the map.

The "Birds and People" organization holds competitions in sports ornithology in different regions of Russia, for example, the Cup of the Capital "Spring-2021", the Interregional competition for field photo observations of birds "On the wings of victory", "Defensive Frontiers of Russia", "Territory of Lapwings", and many others (Birds and People, 2022). Participants need for a certain time to see, photograph and correctly determine the maximum number of bird species.

2.5 Software Products for the Development of Birdwatching and Ornithological Tourism

An important element of the organization of birdwatching is its information support. Below we will look at individual software products in more detail. The National Audubon Society in the United States is active in protecting birds and their habitats through scientific research, education, tourism and conservation (Audubon, 2022).

Audubon is also engaged in the development of ornithological tourism, publishing advice on choosing places for observation, the necessary equipment, the travel season, articles and notes of birdwatchers on the

pages of its website and maintains a calendar of events for ornithological tourists. Such activities provide an opportunity for birdwatchers to communicate with their colleagues at festivals, attend excursions and master classes, listen to experts' opinions, take part in classes and seminars, etc.

The society has developed a special mobile application Audubon Bird Guide, which makes it easy to recognize the birds, as well as navigate in search of places to observe them. Audubon Bird Guide is a free and complete field guide to over 800 North American bird species that can be downloaded free of charge for travel planning and implementation.

Birdwatchers can also subscribe to "rare bird alerts" via social media and special birdwatching messengers and receive emails, text messages or even phone calls letting them know when a rare bird has been sighted in their area.

3 CONCLUSIONS

At the moment, the popularity of birdwatching and its manifestations is growing. Due to the presence of avifauna in any corner of the world, almost every country can develop ornithological tourism. This also stimulates competition between the subjects of the tourism market.

On the other hand, as a recreational activity, birdwatching has existed for a long time. Birdwatching, avitourism and ornithological tourism are attracting more and more attention from both tourists and researchers and practitioners of the tourism industry.

In the course of studying the scientific literature, it was revealed that the number of publications on the topic is growing noticeably, especially in the foreign segment, where birdwatching has traditionally been considered a popular activity for a long period.

In Russia, birdwatching is only gaining popularity. This leads to a number of methodological problems, which are expressed in terminological confusion and the lack of an up-to-date and complete classification of the types and forms of beer-watching, ornithological and avitourism.

An attempt to correlate these three concepts, as well as to carry out a complex classification, made it possible to draw a number of important methodological conclusions.

Birdwatching is a form of recreational activity that involves observation of the avifauna. It does not imply the obligation to travel outside the observer's place of living and can be organized in the home region. Birdwatching is observation for different purposes – recreational, entertaining, educational, educational, etc., which can be organized in different ways in various spaces.

In tourism, birdwatching can be used as an additional activity (for example, in eco-excursions to enhance the impressions of tourists) and as the main motive for travel, then we can talk about ornithological tourism and/or avitourism. The first, as a rule, is organized in natural, most often specially protected areas, and the second may include urbanized, rural, industrial and marginalized spaces. The ornithological tourism and avitourism in several foreign publications are considered as identical concepts.

Birdwatching is a form of activity inherent to ecological tourism and is traditionally recognized as one of the ways of sustainable development of territories. However, the involvement of urban and marginalized spaces in ecotourism activities allows us to conclude that the development of modern ecotourism goes beyond the usual definition of it as an activity in natural areas. It is this thesis that allows us to consider birdwatching as a way of sustainable development of urban areas, as well as the involvement of disturbed, unattractive (repellent) landscapes in tourism.

The study of cases of ornithological tourism showed low attention from the municipal authorities involved in the tourism development to birdwatching event activities. In particular there is not a single ornithological event is included in the national event calendar, and birdwatching is presented extremely rarely and fragmentarily in regional calendars.

In general, the considered successful practices can become the basis for studying the experience and technologies for the birdwatching development for its further popularization and development in the regions and settlements of Russia.

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Table. CRediT author statement.

Term	Definition	Author
Conceptualization	Ideas; formulation or evolution of overarching research goals and aims	+
Methodology	Development or design of methodology; creation of models	+
Software	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components	+
Validation	Verification, whether as a part of the activity or separate, of the overall replication/ reproducibility of results/experiments and other research outputs	+
Formal analysis	Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data	+
Investigation	Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection	+
Resources	Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools	+
Data Curation	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later reuse	+
Writing – Original Draft	Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation)	+
Writing - Review & Editing	Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre- or post-publication stages	+
Visualization	Preparation, creation and/or presentation of the published work, specifically visualization/ data presentation	+
Supervision	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team	+
Project administration	Management and coordination responsibility for the research activity planning and execution	+
Funding acquisition	Acquisition of the financial support for the project leading to this publication	+

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