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THE NATURAL POTENTIAL AS A PREMISE FOR THE DEVELOPMENT OF TOURISM IN SĂLAJ COUNTY, ROMANIA

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ABSTRACT*. The Natural Potential as a Premise for the Development of Tourism in Sălaj County, Romania.* The tourism resources integrate the totality of attractive elements within a territory. The natural attractions of Sălaj County have been approached in this paper by analysing the four categories that are long-established in the scientific literature: morphological, climatic, hydrological and biogeographical tourist attractions. The geographical location of Sălaj County provides a privileged situation and a relative geographical unity, marked by a complex and complementary natural environment derived from the presence of a varied morphology. The karst morphology includes caves (Cuciulat, Măgurici), gorges (Babei Gorges), karst springs (Barcău Springs), and other attractions. The alternation of hard rocks and softer rocks, more friable and less resistant to erosion, led to the emergence of interesting forms, the result of differential erosion, such as the Dragons' Garden (*Grădina Zmeilor*), the Devil's Rock (*Stânca Dracului*), "The Old Man and the Old Woman" ("*Moșu și Baba*"). Mineral and thermal waters are used for curative purposes at Băile Boghiș, Băile Bizușa, Jibou and Șimleu Silvaniei. The biogeographical potential is represented mainly by the vegetation cover, which is very diverse, including both forests and valuable flowering plants. Sălaj County has a significant natural potential, which is yet to be capitalized from the perspective of tourism, because natural attractions in Sălaj County are still little known to tourists, even in Romania.

Keywords: *Sălaj County, tourism potential, natural attractions, Romania*.

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1. Introduction

The tourism resources integrate the totality of attractive elements of a territory that may be capitalized in the field of tourism, regardless of their natural or human origin and the existing relations between them. They lie at the basis of the emergence and development of tourism and represent its "raw materials". Also, their qualitative, quantitative and locational features, as well as the insertion of structurally, physiognomically, dimensionally and functionally adapted tourism facilities, may determine the setting up of convergent tourism flows, which may be different from the point of view of size, intensity and diversity. They may also determine the option for the type or form of practiced tourism and the intrinsic value of the tourism consumption, according to which one may account for the economic efficiency of the associated tourism act (Cocean and Dezsi, 2009; Snak, Baron and Neacşu, 2001; Glăvan, 2000; Glăvan, 2010; Cândea and Simon, 2006; Muntele and Iaţu, 2003; Ielenicz and Comănescu, 2009).

The attractive resources belonging to the natural environment are a "gift of nature" and they represent a tourism category which integrates the entirety of the physical-geographical components of a territory (Cocean and Dezsi, 2005, Cocean and Dezsi, 2009). Their intrinsic features constitute the determining factor in terms of tourism development in a territory and also play the predominant role in establishing the value of the tourism potential of that territory (Muntele and Iaţu, 2003, Cocean and Dezsi, 2005, Cocean and Dezsi, 2009, Dezsi, 2006, Ciangă and Dezsi, 2007, Ciangă, 2003, Ciangă, 2007). The natural attractive resources reveal a high genetic, dimensional and physiognomic diversity. They include certain concrete, material elements of the geographical environment, such as the landforms, the waters, lithological structures, vegetation, fauna, but also certain characteristics of the natural environment (the climate, especially). In fact, the natural enviornment plays a double role, that of material support for all tourism activities, and also the essential reason for such activities, when its beauty determines the emergence of tourism flows (Cocean and Dezsi, 2009). Therefore, the tourism potential of the natural environment, in its entirety or by means of its components, exercise a different power of attraction for varied categories of effective and potential tourists, supporting the development of a large range of tourism types and forms.

Tourism, as a phenomenon and activity that has a growing impact on the contemporary world, has favourable conditions for development in the territory of Sălaj County in Romania. It is stimulated by a varied tourism potential including natural and man-made components which stand out in terms of originality and even unicity, exerting a differentiated power of attraction and representing the fundamental factor in the development of tourism.

2. Methodology

In order to provide a general image of the tourism resources of a territory, the natural attractions of Sălaj County will be approached in this paper by analysing the four categories that are long-established in the scientific literature: *morphological, climatic, hydrological and biogeographical tourist attractions* (Cocean and Dezsi, 2009; Ciangă and Dezsi, 2007; Muntele and Iațu, 2003; Ielenicz and Comănescu, 2009; Cocean and Dezsi, 2005; Dezsi, 2006; Cândea and Simon, 2006; Glăvan, 2000; Glăvan, 2010).

The identification, inventory, and analysis of the attractive features of the tourism resources belonging to the natural environment in Sălaj County is founded on a comprehensive field research. The countless visits in the field were doubled by a thorough bibliographical documentation. However, this has revealed a rather low number of contributions, which had in view mainly the research and the description of specific realities for certain settlements in Sălaj County (Pop, Bălaș, Bodiș, 2017, Pop, 2011, Burghele, 2015-2017), the whole county by means of monographical-type of studies or tourism-related ones (Mór, 1901-1904, Morariu and Sorocovschi, 1972; Cormoș, 1980; Babih et al, 1980; Abrudan, 2007; Medve, Daroczi and Coste, 2011; Pop, 2008, Vedinaș et al., 2018), research projects and grants (Sălaj County Masterplan - https://www.cjsj.ro/), and a few scientific papers published in journals or volumes of proceedings from national or international scientific events (Ciangă, Dezsi, Pop, 2007, Pop, 2007, 2008a, 2008b, 2009a, 2009b, 2011, 2015).

3. Results and discussion

Due to its position, Sălaj County is at the contact of three major geographical regions, that have a complex and complementary tourism potential – Apuseni Mountains, the Transylvanian Basin and the Western Hills.

The geographical location of Sălaj County provides a privileged situation and a relative geographical unity, marked by a complex and complementary natural environment derived from the presence of a varied morphology. The lithology, as well as the geological and hydrological evolution, led to the structuring of a morphological matrix consisting of a set of mountainous, hilly, plateau and basin units, fragmented by valley corridors.

All these determined a stratified structure in terms of morphology and altitude, and a high fragmentation generated by the drainage network, implicitly leading to a physiognomy characterized by a peculiar landscape diversity. Moreover, all these had a specific impact on the climatic and bioclimatic features, on the hydrological component and, not in the least, on the

biogeographical vertical stratification. Each of these incorporate their own attractive resources, but also represent the auxiliary factors of promoting the characteristics of the others, so that the favourable aspects derived from the cooperation between the parties are added to the individual contribution of each of them, therefore resulting a complex, diversified and attractive natural environment.

Despite the fact that the altitude does not exceed 1000 m anywhere in Sălaj County (the maximum height is 996 m in Măgura Priei, Meseş Mountains), the county is characterized by the presence of a significant natural tourism potential, especially due to the existence of interesting landforms, the presence of mineral and thermal waters, the richness and diversity of the flora and fauna.

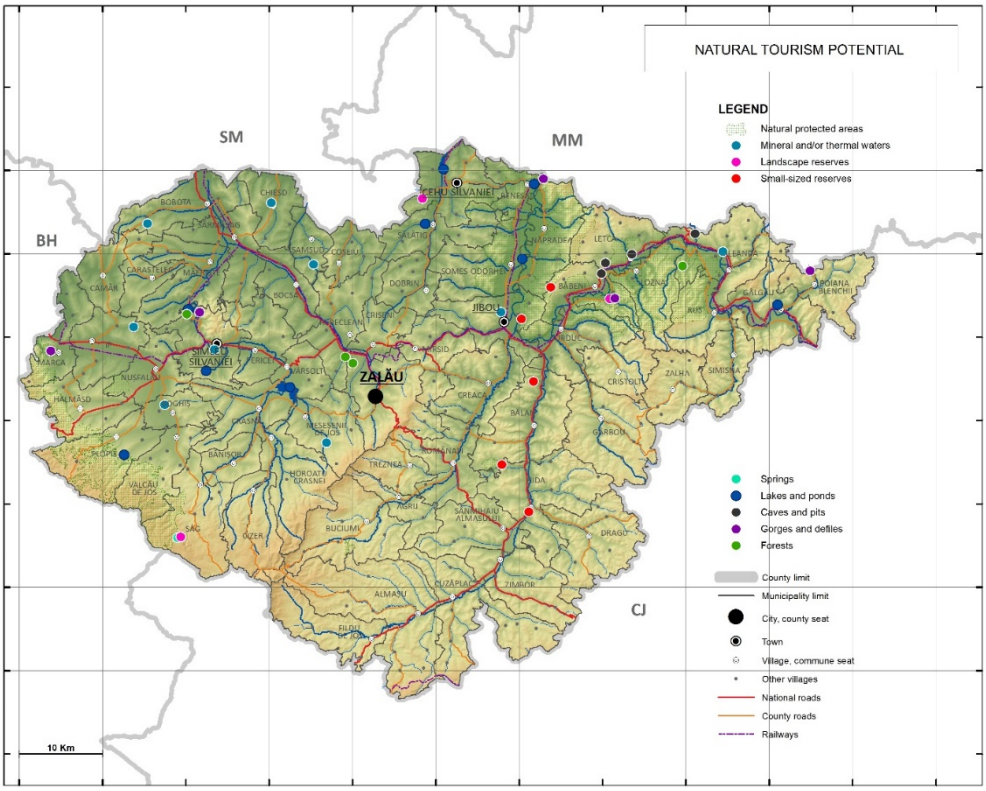

Fig. 1. The natural tourism potential of Sălaj County, Romania.
Source: the authors

The morphological tourism potential is provided by the presence of special forms and processes, that have an attractive potential, mainly by means

of forms and microforms specific for **karst morphology** – caves (Cuciulat, Măgurici), gorges (Babei Gorges), karst springs (Barcău Springs), escarpments, karst plateaus (Ponorul Negrenilor), pot caves, sinkholes, limestone pavements.

The Eocene limestones cover extended areas in the North-East part of the county, in Purcăreț – Boiu Mare Plateau and Prisnel Ridge, especially North of Someș Valley, a region which is characterized by a **high potential for speleotourism**.

Close to Cuciulat village (Letca commune), during the exploitation works in the limestone quarry, a cave was discovered in 1978. It was named **Cuciulat** (like the village) and was initially explored by a team from "Emil Racoviță" Speleological Club in Bucharest, who noticed red-coloured parietal paintings. Together, the cave galleries are 1707 m long and 34 m deep. In 1979, there was more substantial research, which revealed the presence of cave paintings of exceptional importance, unique at the time in Romania and this part of Europe. They represented mainly animal figures (a horse, a cat, a bird, as well as others, harder to identify), but also some human figures, belonging to the Stone Age (Late Paleolithic or, according to other researchers, Mesolithic or Neolithic). Because there was a danger of vandalism, the authorities closed the entrance to the cave in 1984 with an iron railing. Later, the slope collapsed, covering the entrance, which is no longer accessible. The cave might be introduced in the scientific and tourism circuit if large works would be executed to stabilize the slope where the entrance is located. Works are also needed to plan a controlled way of access to the cave and inside, taking into account that access (when was still possible) was difficult even for experimented and well-equipped speleologists. Funds are difficult to access also because the cave is located exactly on the boundary between Băbeni and Letca communes, which raises a problem of authority regarding the juridical regime of the land. An easier alternative would be the construction of a "replica" cave, a kind of natural science museum, where interested visitors might enter without problems to see replicas of the original paintings in Cuciulat Cave. Such a small replica was built in 2014 at the County Museum of History and Art in Zalău.

Close to Cuciulat and Șoimușeni, in Purcăreț – Boiu Mare Plateau and Prisnel Ridge, there are also other caves. For instance, **Lii Cave,** near Cuciulat, has a total length of the galleries of 1510 m and is 29 m deep. It is relatively easy to explore in the first part, before the first sump. **Moara lui Pocol Cave** is located near Letca, and is the longest one, with 3493 m of galleries and it has a total depth of 79 m, but it is very difficult to access. There are many other smaller caves, without spectacular speleothems, as well as potholes and other karst-related landforms, attractive for tourists who enjoy nature and subterraneous adventures.

A special attraction is **Măgurici Cave** near Rostoci village (Ileanda commune), which became a protected area of national interest (corresponding to IUCN Category III – speleological reserve) by Government Decree 2151 of 30 November 2004. It is a natural monument and a Site of Community Importance (SCI) and therefore part of Natura 2000 network. The cave was explored and mapped in 1978, having a total length of 543 m and a depth of 30 m. The estimated area is 1 ha. Its importance resides particularly in the presence of five bat species, of which three are unique in Europe and represent priorities for EUROBATS (The Agreement on the Conservation of Populations of European Bats) – greater horseshoe bat (*Rhinolophus ferrumequinum*), lesser horseshoe bat (*Rhinolophus hipposideros*) and common bent-wing bat (*Miniopterus schreibersii*). Also, the cave has several galleries (the Ascending Gallery, the Bats Gallery, the Guano Gallery), round halls (Junction Hall), diaclases, humps and calcite parietal deposits.

The cave also shelters antodites and gypsum monocrystals. For the first time in Romania, gypsum crusts of the starburst type have been discovered here, along with gorgeous gypsum aggregates formed in the clay mass on the cave floor. Among the discovered minerals, the novelty would be the presence of phosphammite (only for the second time in the world, it exists only in another cave in Australia), francoanellite (it exists in only three other caves in the world), mirabilite, bassanite, cesanite, monetite and taranakite, all rarities for the mineralogy of caves in Romania.

The cave is a site of hibernation, reproduction and breeding for the bats, so its introduction in the tourism circuit is problematic both from the perspective of bat conservation and that regarding the rare minerals existing here.

Also in the limestone area in the North-East of Sălaj County, on the boundary with Maramureş County, one finds **Babei Gorges**, epigenetically carved in limestones by Poienii Valley (also locally named Gorges Valley). The gorges are 1 km long and may be easily crossed along the county road 109 F, which follows the riverbed, connecting Someş Valley (Gâlgău) and Lăpuş Land. The closest villages are Poiana Blenchii (Sălaj County) and Baba (Maramureş County).

Babei Gorges have been included on the list of nature reserves even since 1977, and in 2000 they became a protected area of national interest, corresponding to IUCN Category IV (geological reserve), covering an area of 15 ha. They present an interest for tourists mainly because of the spectacular landscape dominated by scarps, and secondly as a result of the presence of karst-related landforms – small caves, karst springs – **Bulbucul**, dry valleys, canyon-like valleys (**Devil's Dell - Vâlceaua Dracului**), where small waterfalls also emerge, with 2-3 m water drop, sinkholes, limestone pavements, along with the specific flora and fauna. From the point of view of human use, two traditional lime kilns are preserved, as they are still in use by the local population, out of the 40 or more which had existed here in the past.

At the southern end of Prisnel Ridge, on the right bank of Someș River, close to Rona village (Jibou town), there is another nature reserve, **Rona Limestones**. It became a geological-type protected area of national interest by means of Law 5 in the year 2000, covering an area of 0.5 ha. It presents lacustrine deposits made of white-grey and cream-rusty limestones, alternating with grey-blueish marls, lying in monoclinal strata, containing a high number of fossilized remains of mollusks, fish or reptiles. It is also a nature monument and presents especially a scientific (paleontological) interest and it is of a lesser interest for tourists.

The limestones also emerge in the southern and south-western parts of Sălaj County, at the contact between Meseș Mountains and Plopiș Mountains (Oșteana Col or Piedmont), on the territory of Tusa village (Sâg commune), where a specific karst morphology has developed. The area is dominated by **Ponor Plateau**, a rather flat karst area, representing a suspended syncline. It is also named **Negreni Plateau**, to differentiate it from other plateaus that have identical names, in Apuseni Mountains or elsewhere. There are many karst landforms and microforms, such as caves, potholes – the **Pothole with a Hall near the Large Spring**, sinkholes, limestone pavements, springs, swallow holes, waterfalls. There are also two karst springs that have a substantial discharge, the **Large Spring (Izbucul Mare)** and the **Small Spring (Izbucul Mic)**, known mostly under the name **Barcău Springs**, taking into account that they represent the main springs of Barcău River, which is representative for the western area of Sălaj County. The region is well covered by forests, mainly beech (*Fagus sylvatica*) and hornbeam (*Carpinus betulus*), to which one may add other plant species, such as coralroot (*Dentaria bulbifera*), and animal species of interest.

The whole area has been included in the **Tusa-Barcău landscape reserve**, which became a protected area of national interest (forestry and landscape reserve) by Law 5 of 2000, covering an area of 15 ha. It partly corresponds to the site of community importance (SCI) of the same name, **Tusa-Barcău**, which covers however only 10.7 ha and is part of Natura 2000 network in Romania. It is an area quite often visited by tourists, especially in summer and in week-ends. This would require a larger view on the planning of the entire region, to make it more accessible, and, on the other hand, to make the tourists stay for longer periods, by developing facilities or accommodation units in the nearby villages (particularly, in Tusa). Also, information and warning boards would be needed for tourists who are careless regarding nature conservation. Tusa trout farm, close to the reserve, is a tourist attraction in its turn, somehow connected to the specific nature of the protected area.

The landforms developed on other hard rocks, such as **crystalline schists** (Meseș Mountains, Plopiș Mountains, Șimleu Hill, Coșeiu Hill, Dealul Mare-Țicău Hill, Prisnel Hill, Preluca Hill) or **igneous rocks** (the southern part of Meseș

Mountains), is also potentially attractive, especially in those areas characterized by loftier forms (locally named "Osoaie" or "Măguri", especially in Meseș Mountains), which present scarps on the contact with the surrounding areas.

The alternation of hard rocks with softer rocks, more friable and less resistant to erosion, led to the emergence of interesting forms, the result of differential erosion. The sandstone strata, well represented in Someșan Plateau and Almaș-Agrij Basin, determine the formation of scarps and structural inselbergs, such as those at the **Dragons' Garden (Grădina Zmeilor)** located near Gâlgău Almașului, Bălan commune, and also locally known as "La Încheieturi". The Oligocene – Lower Miocene microconglomerates and sandstones suffered processes of weathering, run-off and collapses, which led to the emergence of a ruiniform morphology, characterized by the presence of rocks and groups of rocks that have all kinds of shapes, and very diverse names ("Soldier's Daughter", "The Dragon and the Dragoness", "The Old Man", "The Monks", "The Captain", "Cleopatra's Needle", "The Soldiers", "Eve", "The Guard Soldier", "The Small Finger", "The Sphinx"). They form a chaotic set of rocks, that have most bizarre shapes (towers, fungi, needles), surrounded by spectacular escarpments.

Fig. 2. The Dragons' Garden (*Grădina Zmeilor*).
Photo by Raularian Rusu

The region became a protected area of national interest (geological and landscape reserve) and also a natural monument according to Law 5 of 2000, covering an area of 3 ha, which includes the entire slope of Dumbrava Hill, where these rocky formations lie. It is a very popular tourist attraction, often visited, reason for which supplementary works would be needed for the tracks and paths, as access is difficult in rainy days or in winter. Also, information boards would be very useful.

Many protected floristic and faunistic species have been identified within the reserve, and some of them are endemic to this area.

Similar in terms of origin and aspect, but less spectacular due to the smaller size, are the **Sandstones of the Devil's Rock**, a rocky formation in the area of Hida village, which became a protected area of national interest (geological and landscape reserve) and also a natural monument according to Law 5 of 2000, covering an area of 0.001 ha. The rock, located close to Almaș Valley, was formed by its detachment from the package of sandstones as a result of water erosion and weathering. It has the shape of a fungus, 6.5 metres high, and is made of sandstones in the upper part, and microconglomerates and weaker sandstones at the base.

In the same category, of rocky formations that have a special shape, one includes the set of rocks known as "**The Old Man and the Old Woman" ("Moșu și Baba")**, near Someș-Guruslău village (Năpradea commune), approximately 2 km away from the built-up area of the village, close to Valea Caselor, on Prisnel Hill, below Stogu Peak. Unlike the Dragons' Garden and the Devil's Rock, this rocky formation is made up by Eocene limestones, which are harder and more resistant to erosion compared to the friable rocks around them, and therefore stand out significantly. "The Old Man" is 13 m high and slimmer, while "The Old Woman" is only 5 m high but has a larger diameter. There are also other smaller rocks around them. It also became a protected area of national interest (geological and landscape reserve) and also a natural monument according to Law 5 of 2000, covering an area of 0.2 ha. The area is covered by forest and is also of interest from a floristic, faunistic and paleontological point of view.

The large **cliffs** may also represent attractive areas. In this category one includes **Stanii Cliţului landscape reserve**, located near Cliţ village (Băbeni commune). It is a significantly high and wide rocky escarpment, made up predominantly by Oligocene sandstones, including intercalations of red clays and brown coal. The cliff guards the left bank of Someș River between two of its tributaries, Cliţ Valley and Ruginoasa. It is very impressive as normally seen from DJ 109 E county road which runs on its base, along Someș River.

The area became a protected area of national interest (landscape reserve) by Law 5 of 2000, covering an area of 16 ha. Apart from the beautiful

landscape, it also presents a floristic interest. Besides the usual arborous and arbustive species, there are some peculiar herbaceous species, such as heather (*Calluna vulgaris*).

The cliffs may also occur in the narrow sectors of streams, in gorges and canyons, such as those created by valleys when crossing areas characterized by the presence of harder rocks. This is the case of Someş River, which crosses several narrow sectors. At its exit from Sălaj County, on the boundary with Maramureş County, Someş River has cut the hard rocks of Dealul Mare – Ţicău Hill, creating the **Benesat – Ţicău Defile**. Crasna River has also cut Şimleu Hill in its north-western part, creating **Cehei Defile**, while Barcău River has a narrow sector at Preoteasa, then crosses a crystalline promontory near the village of **Marca**, creating a small sector of gorges at exiting Sălaj County into Bihor County. These areas are very beautiful and are very well-known and visited by tourists, because streams are usually accompanied by roads along them. Cliţ Gorges and Teişoara Gorges in Şimişna-Gârbou Plateau are less known and less visited. They are cut into sandstones, they have spectacular abris and very narrow sectors.

Table 1. Nature reserves in Sălaj County

Reserve	Type	Importance	Location	Area (ha)
Dragons' Garden (Grădina Zmeilor)	Geological and landscape	National	Bălan, Gâlgău Almaşului	3
"The Old Man and the Old Woman" (Pietrele Moşu şi Baba)	Geological and landscape	National	Năpradea, Someş-Guruslău	0.2
Racâş-Hida daffodils glade	Floristic and landscape	National	Hida, Racâş	1.5
Rona Limestones	Geological	National	Jibou, Rona	0.5
Cehei Pond	Faunistic	National	Şimleu Silvaniei, Cehei	18.2
Sălaj Valley floodplain with fritillary	Floristic and landscape	National	Cehu Silvaniei	10
Stanii Cliţului landscape reserve	Landscape	National	Băbeni, Cliţ	16
Devil's Rock Sandstones (Gresiile de pe Stânca Dracului)	Geological and landscape	National	Hida	0.001
Tusa-Barcău Landscape Reserve	Forestry and landscape	National	Sâg, Tusa	15
Iaz Marsh	Faunistic and floristic	National	Plopiş, Iaz	10
"La Castani" Forest	Forestry	National	Ileanda, Negreni	7.8
Panic Oak Forest	Forestry and landscape	National	Hereclean, Panic	2.2
Panic Pin Oak Forest	Forestry and landscape	National	Hereclean, Panic	1.7
Lapiş Forest	Faunistic and forestry	National	Nuşfalău	430.4
Măgurici Cave	Speleological	National	Ileanda, Răstoci	1

Table 2. NATURA 2000 sites in Sălaj County

Site	Type	Location	Area (ha)
Middle Stream of Someş River	SPA (ROSPA0114)	Sălaj and Maramureş counties	33259
Lozna	SCI (ROSCI0314)	Băbeni, Ileanda, Lozna, Rus, Surduc	10249
Şes Mountain (Muntele Şes)	SCI (ROSCI0322)	Sălaj, Bihor and Cluj counties	34881
Măgurici Cave	SCI (ROSCI0192)	Sălaj and Maramureş counties	96
Racâş-Hida	SCI (ROSCI0209)	Hida commune	239
Tusa-Barcău	SCI (ROSCI0257)	Sâg commune, Tusa village	10.7

The climatic and bioclimatic potential. Due to its geographical position, Sălaj County has a moderate continental temperate climate, with some Western (maritime) influences, which is characteristic for the western and north-western regions of Romania. The western winds are prevailing.

The specific climate is that of the hills and basins below the mountains, with absolute heights between 200 and 800 m. It is favourable for all people, as a sedative-indifferent sparing bioclimate. It has relatively moderate climatic elements and bioclimatic indices throughout the year, slightly stimulant or non-stimulant for the human organism, which does not need to make special efforts for adaptation or acclimatization. It is considered an ideal bioclimate, which does not have therapeutic contraindications in any season. It is only above 800 m high, on the highest summits of Meseş and Plopiş Mountains, where one finds the features of the mountain tonic stimulant bioclimate, which demands more the neurovegetative and endocrine functions which coordinate and determine the acclimatization of the human organism to specific environmental conditions.

The major configuration of the landforms, as well as the detailed morphology and the vegetal cover, are elements which influence the climate, and therefore the human organism as a result. The climatic factors that have a bioclimatic impact (temperature, precipitation, humidity, winds, duration of sunshine, air composition, solar radiation, etc.) are elements which also influence the tourism activities or the practice of seasonal sports. The treatment of different illnesses depends largely on the relation between the organism and bioclimate, while thermic and hydric factors should be taken into account to carry out a climatic therapy. In carrying out the *aerotherapy* as a type of cure by direct contact of the organism with the atmosphere, the thermic factor and the air ionization are taken into consideration.

The hydrogeographical tourism potential is provided in the first place by the presence of streams in the county, especially Someş River and its tributaries, mainly Almaş, Agrij and Sălaj; Crasna River and its tributaries, especially Zalău; and Barcău River and its tributaries. The manners in which the drainage networks crossing Sălaj County participate to the support and

development of tourism activities come from the edge effects they have, the facilities provided by some sectors for leisure (picnics) or fishing, and the diversification of the landscape they create.

The physiognomy of the river banks (the configuration and detailed morphology, which is different according to the landforms crossed) has a major role in attracting tourists, while their typology imposes the type of practiced tourism. For leisure, forested banks are preferred, which provide a better edge effect, a low fragmentation and an extended riverbed.

Waterfalls are very important for tourism. They are present both in some karst areas (Barcău Springs, Devil's Dell – Vâlceaua Dracului) and in crystalline schist areas, for example in Meseș Mountains.

The lakes are remarkable both due to their esthetic and landscaping component, and their ichthyologic fauna (fish). There are several natural lakes – floodplain lakes, karst lakes or landslide lakes (like those on Teștioara Valley - Iezerul Mare and Iezerul Mic), and several reservoirs, such as those at Vârșolț and Sălățig.

Among the natural lakes, **Cehei Pond** stands out. It is located in Crasna River floodplain, close to the village of Cehei, in between the county road and the railway towards the town of Șimleu Silvaniei, and also close to Cehei Defile. The pond lies on a dead branch of Crasna River, separated from the current stream by means of alluvial deposits over a bedrock made of clays and marls. It became a protected area of national interest (faunistic reserve) by Law 5 of 2000, covering an area of 18.2 ha.

It presents a specific palustrine vegetation and a rich fauna, including invertebrates (Coleoptera, Heteroptera and crustaceans), fish, reptiles, amphibians and birds. The reserve was created to preserve the biodiversity, therefore any fishing activities are restricted.

Vârșolț Lake is the largest reservoir in Sălaj County, covering an area of 652 ha. It is located on Crasna River, near the village of Vârșolț. The dam is 17 m high and 2160 m long, and retains a water volume of about 50.2 million cubic metres. It was created in 1976-1979 to stabilize the Crasna River discharge, to control the floods, to protect from flash floods, to provide water to urban and rural settlements in Sălaj County.

From the point of view of tourism, it is attractive especially for those enjoying fishing, which is allowed on the basis of a special permit from Sălaj AJVPS, and for those who want to spend some time on the lake shores. Unfortunately, the lake has a lower level of attraction because it has not been properly designed, taking into account the esthetic and landscaping values of the areas where it is located. It does not benefit from facilities meant for tourism capitalization. There is an almost complete lack of tourism facilities, such as

camping areas, chalets, small accommodation units, nautical leisure bases, areas meant for the practice of sports.

The same holds true for the smaller reservoirs in the county, such as the one at **Sălăţig**, on Mineu Valley. The lake was created by raising a dam in 1982. The purpose was to stabilize the discharge and to control the floods on Mineu Valley and in the catchment of Sălaj River. The dam is 265 m long, 11 m high, while the reservoir covers an area of 70 ha, with an estimated water volume of 3.4 million cubic metres. The reservoir is one of the favourite destinations for recreational fishing lovers.

Unfortunately, the reservoirs in Sălaj County are confronted with the issues of alluviation and siltation. Therefore, the water cover decreases, while the palustrine vegetation advances.

Recreational fishing amateurs may also take into account other smaller natural or artificial lakes in Sălaj County, such as those near Benesat, Someş-Odorhei, Glod (in Someş floodplain), Motiş (Cehu Silvaniei), Şimleu Silvaniei.

Among the swamps, one remarks **Iaz Marsh**, which became a protected area of national interest (faunistic and floristic reserve) by Law 5 of 2000, covering an area of 10 ha. The marsh is located near Iaz village (Plopiş commune) and is an active bog, rich from the floristic and palynological point of view. The vegetation is made up by elements that are specific for peat bogs, including several rare herbaceous species. The wooded vegetation consists of species that are adapted to water and moisture (willows and alders). From the perspective of animal life, there is a high number of Coleoptera species, including a beetle (*Phytobius velaris*) which is unique in Romania. The swamp presents however a low interest for tourists, because the area is difficult to access without specific means.

Mineral and thermal waters are also present and are used for curative purposes at Băile Boghiş, Băile Bizuşa, Jibou and Şimleu Silvaniei. They are also present in other places, where they have been used on a larger scale in the past, but not anymore (for instance in Zalnoc, Zăuan-Băi, Meseşenii de Sus).

At **Băile Boghiş**, a spa resort located in the northern part of Boghiş village (Boghiş commune), one finds sulphurous, sodic, bicarbonated, iodinated and chlorinated mineral waters, as well as thermal waters with temperatures above 42˚C.

They are recommended for the treatment of the following illnesses and diseases: chronic degenerative rheumatic diseases – cervical, dorsal and lumbar spondylosis, arthrosis and polyarthritis; abarticular rheumatism – tendinitis, periarthritis, scapulohumeral periarthrosis; peripheral neurological disorders – light paresis and minor sequels of poliomyelitis; post-traumatic disorders – articular post-traumatic disorders, disorders after surgery on muscles, joints or bones, disorders after sprains, dislocations and fractures; gynecological

diseases – ovarian insufficiency, chronic cervicitis; nutrition and metabolic diseases, and dermatological diseases.

At **Bizuşa-Băi** (Ileanda commune), the mineral waters spring from several places below the rocks along Secătura Valley, out of the Oligocene deposits which start in a continental facies, made up by a complex of brown clays, including strata of lignite, sandstones and limestones with pyrite concretions, which mineralize the waters at Bizuşa. The waters are slightly sulphurous, sulphated, very lightly chlorinated, calcic, sodic and magnesic. Apart from the sources of cold mineral waters, there is also a natural spring with hypothermal waters (19˚C). These waters are characterized by the presence of hydrogen sulfide and carbon dioxide. The hydrogen sulfide is used both for the internal cure in hepatobiliary, nutrition and urination disorders, and for the external cure in locomotor disorders, degenerative rheumatic diseases, post-traumatic sequels and disorders of the peripheral nervous system.

Mineral or thermal waters are also present in other place in Sălaj County, especially in Silvano-Someşene Hills, but they are not momentarily capitalized for tourism, although they have been used for such purposes in the past. Such waters are found at Zăuan-Băi (Ip commune), where one finds mineral springs including sulphated, magnesic and calcic waters, at Zalnoc (Bobota commune) – sulphurous mineral waters, Valea Pomilor (Şamşud commune) – sulphurous mineral waters, Chieşd (Chieşd commune) – bicarbonated, calcic and magnesic waters, Meseşenii de Sus (Meseşenii de Jos commune) – sulphurous mineral waters.

The biogeographic potential is represented mainly by the vegetation cover, which is very diverse from the perspective of the association of components, and leads to a high landscape diversity.

Within the vegetation cover, the **forest** is very important for tourism. It is considered the most complex natural ecosystem, having a different vertical development according to the age. It is perennial and its physiognomy depends on the species it includes. It covers relatively vast areas, especially in the mountain ranges (Meseş and Plopiş), but also in the plateaus, hills, basins and valley corridors.

The deciduous forests (including mainly beech, sessile oak, pedunculate oak, and hornbeam) are predominant in the mountain ranges and in some hilly areas. They include certain vegetal associations as well as rare plant species which are of interest for tourists or for scientists.

The forest vegetation is therefore attractive for tourists, among other functions, because it represents a natural area in the great outdoors, an oasis of silence, lacking pollution or with low levels of pollution, a possible destination especially for those wishing to evade from the urban space (but not only). The

forest may become a place for leisure, recreation and relaxation by performing certain activities: observation of nature, photography in nature, landscape contemplation, walking, hunting, fishing, phytotherapy, food-related activities, traditional activities. Therefore, the forest combines the features of leisure tourism with those of the curative and sport tourism.

The forests covering the main summits of Meseș and Plopiș Mountains are among those that are the most visited in Sălaj County. They also cover large areas, down the slopes near to the villages located at the feet of the mountains. The tourist trails and routes in these mountains usually cross important forested areas.

Apart from these, there are also large forests in the hilly and plateau areas. Some of them have also become protected areas.

It is the case of **Lapiș Forest** located on the territory of Nușfalău commune, in Barcău catchment. The forest became a protected area of national interest (faunistic and forestry reserve) by Government Decision no. 2151 of 30 November 2004, covering the considerable area of 430.4 ha. It is managed by Zalău Forestry Direction, Șimleu Silvaniei Forestry Department. The reserve was created to protect biodiversity and to preserve the wild flora and fauna in this part of Romania.

The forest features several rare arboreal species, such as grayish oak (*Quercus pedunculiflora*), small-leaved lime (*Tilia cordata*), Turkish oak (*Quercus cerris*), Hungarian oak (*Quercus frainetto*), black locust (*Robinia pseudoacacia*), black pine (*Pinus nigra*), to which more usual species such as pedunculate oak (*Quercus robur*) and sessile oak (*Quercus petraea*) are added. The reserve also provides good living conditions for diverse mammalian and bird species, including several protected species.

Another special forest is **"La Castani" Forest**, located near Negreni village (Ileanda commune). The forest is relatively close to Someș floodplain and is characterized by the significant presence of the sweet chestnut (*Castanea sativa*), in association with beech, sessile oak, hornbeam, birch, sycamore, and cherry. It became a protected area of national interest (forestry reserve) by Law 5 of 2000, covering an area of 7.8 ha.

Panic Oak Forest is located near Panic village (Hereclean commune), between Miții Valley and Panic Brook. It became a protected area of national interest (forestry and landscape reserve) by Law 5 of 2000, covering an area of 2.2 ha. It is characterized by the presence of a rare oak species, the red oak (*Quercus rubra*), associated with other trees (hornbeam, pedunculate oak, hazel). Nearby, there is another reserve, **Panic Pin Oak Forest**, which became a protected area of national interest (forestry and landscape reserve) by Law 5 of 2000, covering an area of 1.7 ha. It is remarkable due to the presence of pin

oak (*Quercus palustris*), along with a rich and varied fauna of mammals, birds, reptiles and amphibians.

Racâș-Hida daffodils glade is one of the reserves meant to preserve special floristic species, including some that have an impact on the landscape and are attractive for tourists during the flowering period. It became a protected area of national interest (floristic and landscape reserve) by Law 5 of 2000, covering an area of 1.5 ha, and is also a site of community importance (SCI) integrated into Natura 2000 network, which however covers a much larger area.

The reserve has the role to protect mainly the daffodil species (*Narcissus stellaris* and *Narcissus augustifolius*), but also other flowering species which occur on this natural meadow, which also includes some clumps of woodland. The area is mainly visited during the flowering period of the daffodils (usually in May).

The **Sălaj Valley floodplain with fritillary** is a similar attraction. It became a protected area of national interest (floristic and landscape reserve) by Law 5 of 2000, covering an area of 10 ha. The reserve is located close to the town of Cehu Silvaniei, in the floodplain of Sălaj Valley, and is meant to protect a species of fritillary (*Fritillaria meleagris*).

The faunistic component represents an element that plays an important role in the diversification and in increasing the attraction of the studied territory. In the context of the current analysis, it is of interest from a scientific, esthetic, sporting and tourism perspective, as it may be capitalized by such activities like hunting or fishing. The natural balance can be maintained by a thorough control of the forestry and environmental authorities.

In order to protect and preserve the threatened species of cynegetic interest, it is important to control the hunting activities and, at the same, to facilitate such activities under strict surveillance. In Sălaj County there are 30 hunting areas, where the above-mentioned risks have reduced or disappeared, because there is a control in terms of reproduction and location of certain animals, and the hunting infrastructure is built and maintained, including hunting lodges, shooting boxes, feeding facilities, observation points, hunting trails.

4. Conclusions

Sălaj County has a significant natural potential, especially due to the existence of interesting landforms, the presence of mineral and thermal waters, the richness and diversity of the flora and fauna. However, this potential is yet to be fully capitalized in terms of tourism. The natural attractions of Sălaj County are still unknown or less known for a wide of range of tourists, even in

Romania, and they are mostly visited by locals. The landscape-related attractions are "in the shade" of other attractions in the Carpathians, while the thermal water resorts suffer from the competition of famous resorts in western Romanian counties. Therefore, the next step would the setting up of a very thourough strategy to make tourists aware of the natural attractions of Sălaj County and to work on the overall image of the county as a tourist destination.

REFERENCES

1. Abrudan, I. (2007), *Județul Sălaj. Geografie și Geografi*, Edit. Școala Noastră, Zalău.
2. Babih, T., Bîrlea, P., Bîrjac, D., Ionaș, Letiția, Tulai, L., Beldeanu, Gr (1980), *Sălaj: monografie*. Edit. Sport-Turism, București.
3. Burghele, Camelia (2015-2017), *Satele sălăjene și poveștile lor*, Vol. I-X; Edit. Caiete Silvane, Zalău.
4. Cândea, Melinda, Simon, Tamara (2006), *Potențialul turistic al României*, Edit. Universitară, București.
5. Ciangă, N. (2003), *Geografie turistică*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
6. Ciangă, N. (2007), *România. Geografia turismului*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
7. Ciangă, N., Dezsi, Șt. (2007), *Amenajare turistică*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
8. Ciangă, N., Dezsi, Șt., Pop, C.C. (2010), *The Influence of the Tourism Supply on the Strategy of Tourism Development in Sălaj County*, Studia Universitatis Babeș-Bolyai, seria Geographia, tom LV, nr. 2, Cluj-Napoca.
9. Cocean, P., Dezsi, Șt. (2005), *Prospectare și geoinformare turistică*, Edit. Presa Universitară Clujeană, Ed. a II-a, revizuită, Cluj-Napoca.
10. Cocean, P., Dezsi, Șt. (2009), *Geografia turismului*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
11. Cormoș, V. (1980), Județul Sălaj, Monografie. Edit. Sport-Turism, București.
12. Dezsi, Șt. (2006), *Patrimoniu și valorificare turistică*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
13. Glăvan, V. (2000), *Turismul în România*, Edit. Economică, București.
14. Glăvan, V. (2010), *Geografia turismului*, Ed. a III-a revăzută, Edit. Fundației „România de Mâine", București.
15. Ielenicz, M., Comănescu, Laura (2009), *România, potențial turistic*, Ed. a III-a revăzută, Edit. Universitară, București.
16. Medve, A., Daroczi, I., Coste, Gh. (2011), *Obiective turistice naturale și antropice în nord-estul județului Sălaj*, Edit. Școala noastră, Zalău.
17. Mór. P. (1901-1904), Szilágy vármegye monográfiája (*Monografia Comitatului Sălaj*), vol. I-VI, Budapesta.
18. Morariu, T., Sorocovschi, V. (1972), *Județul Sălaj*, Edit. Academiei Republicii Socialiste România, București.

19. Muntele, I., Iaţu, C. (2003), *Geografia turismului: concepte, metode şi forme de manifestare spaţio-temporală,* Edit. Sedcom Libris, Iaşi.
20. Pop, C.C. (2007), *Resources and the durable development for the tourism activities in the Sălaj County,* „Lucrările Congresului Anual al Societăţii de Geografie din România, Edit. Presa Universitară Clujeană.
21. Pop, C.C. (2008a), *The spatial distribution of touristic resources in the Sălaj County*, Geographia Technica, Cluj-Napoca.
22. Pop, C.C., (2008b), *Turism şi dezvoltare durabilă. Judeţul Sălaj*, Edit. Casa Cărţii de Ştiinţă, Cluj-Napoca.
23. Pop, C.C. (2009a), *Tourist structures - Models for the Sălaj Province: load, capacity, atractiveness, opportunities,* Conference International: Transborder eco-tourism as a chance of the development of the region, Novy Sacz, Poland, pag. 62-65.
24. Pop, C. C. (2009b), *The economy of touristic resources in Sălaj County (Romania),* Internaţional Conference „Trends in the development of modern tourism", Smolyan, Bulgaria.
25. Pop, C.C., (2011), *Strategia de dezvoltare turistică a municipiului Zalău şi a zonei periurbane*, Edit. Casa Cărţii de Ştiinţă, Cluj-Napoca.
26. Pop, C.C., Pop, C. D. (2015), *Opportunities in the tourism economy. Salaj County. Romania*, Studii şi cercetări Geology-Geography, nr. 20, Edit. Ecou Transilvan, Bistriţa.
27. Pop, Florica Bălaş, Lucia, Bodis, Otilia (2013), *Sălaj-Ghidul localităţilor*, Ediţia a II-a, revizuită şi adăugită, Biblioteca judeţeană I.S. Bădescu Sălaj, Zalău.
28. Snak, O., Baron, P., Neacşu, N. (2001), *Economia turismului*, Edit. Expert, Bucureşti.
29. Vedinaş, T. (coord.) (2018), Sălajul la centenar, Edit. Caiete Silvane, Zalău.
30. https://www.cjsj.ro/date/pdfuri/PATJ%20Salaj-%20Et.%20III/PATJ_etapa%20III_rev.pdf