NYMPHAEA LOTUS VAR. THERMALIS
(PĂRÂUL PEȚEA NATURE RESERVE), BRAND NEAR EXTINCTION OF THE BĂILE FELIX - BĂILE 1 MAI (ROMANIA) SPA TOURISM SYSTEM

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Abstract: The Pârâul Pețea Nature Reserve from Băile 1 Mai, Bihor County, is a protected area of IUCN IV* category and a Natura 2000 Site, ROSC10098. It is an ecosystem with thermal waters of European importance, unique by the presence of the species: Scardinius racovitzai, Melanopsis parreyssi and Nymphaea lotus var. thermalis. Through specific analysis methods and tools of interdisciplinary character, the brand value was evaluated, and also the importance of this unique tourism resource for the spa tourism system Băile 1 Mai-Băile Felix. The danger of this symbol extinction due to the thermal water flow decrease in the reserve area requires this scientific approach, aiming in the same time at finding ways to save, protect and promote it.

Key words: Pârâul Pețea Nature Reserve, Nymphaea Lotus var. Thermalis, tourist brand, tourism

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INTRODUCTION
In 1931 Nymphaea Lotus L. var. Thermalis (the thermal water lily or Drește in the colloquial speech) was declared a nature monument, and in 1932 for its protection as a

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1 International Union for Conservation of Nature
Tertiary relic, the *Pârâul Pețea* Nature Reserve was established (ICM No. 1149/1932). Subsequently, the Bihor County Council Decision no. 19/1995 and the Law No. 5/2000, define the protected nature reserve on an area of 4 hectares, of IUCN IV category and included in the *Natura 2000* (ROSCI0098) network of sites of European importance (Berindei et al., 1979, 14; Blaj et al., 1979, 37, 251), with the legal custodian the Țării Crișurilor Museum from Oradea.

**Geographical outline**

*Pârâul Pețea* Nature Reserve is a natural, thermal aquatic ecosystem, being located in the area of contact between the Crișurilor Plain and the prolongation of Pădurea Craiului Mountains, at the North-West part of Șomleu Hill. Positioned at an altitude of about 140 meters, the Pețea stream source is the place called the *Eye of Gypsy*; the stream collects water from several springs in the area, crossing further the settlements Sâmartin and Oradea, finally discharging in the Crișul Repede River downstream of the second settlement (Figure 1).

![Geographical outline of Pârâul Pețea Nature Reserve](image)

**Figure 1. Pârâul Pețea** Nature Reserve location in Bihor County and Romania

The Pețea Lake covers an area of about 600 m² (the value is currently lower due to the flow decrease of the main sources), with a constant water temperature of around 30° C throughout the year thanks to the hot springs supply. The lake is populated with species, scientifically known under the name of *Nymphaea* *Lotus* *L.* *var. Thermalis* (Figure 2 and 5). The inestimable value of this reserve is given by the unique existence through the European area, of tropical plant species living naturally in temperate climate conditions. Among other rare species we mention: *Melanopsis parreysii*² - relict endemic snail (Neubauer, 2014; Figure 4) and *Scardinius erythrophthalmus racovitzae* - Rudd’s Racovița (Figure 3), endemic species of freshwater fish adapted to thermal waters (Mohan et al., 1993, 94-95). All three elements of flora and fauna are on the International Union for Conservation of Nature³ red list of endangered species. As indicated, this *Natura 2000* site ROSCI0098⁴ includes the following species of amphibians and reptiles: *Triturus cristatus*, *Bombina variegata*, *Emys orbicularis*, *Bombina bombina*; fishes: *Cobitis* ² http://www.iucnredlist.org/details/155737/0 ³ http://www.iucnredlist.org/details/full/19948/0 ⁴ http://natura2000.mmediu.ro/upl/formulare/ROSCI0098-%20-%20F.pdf
taenia, Sabanejewia aurata; invertebrates: Unio crassus; Chilostoma banaticum; Callimorpha quadripunctaria; flora and fauna: Hyla arborea, Pelobates fuscus, Rana dalmatina, Rana ridibunda, Triturus vulgaris, Mesovelia thermalis, Cricetus cricetus, Ranunculus aquatilis, Lacerta agilis, Lacerta viridis, Natrix natrix, Natrix tessellata, Vipera berus. To all these we add, the existence in the Pețea riverbed of the sapropelic fossil mud and peat, important first as a living environment and secondly, as a therapeutically valuable resource (Posea 1997, 252).

**Figure 2. The thermal water lily**
(source photo: Laszlo Dezso, winner of the first place at the Picturesque Bihor exhibition\(^5\))

**Figure 3. Stamps with Scardinius racovitzai** (issued Romanian Post: December, 8th 2008)

**Figure 4. Stamps with Melanopsis parreyssi** (issued Romanian Post: December, 8th 2008)

**Figure 5. Stamps with Nymphaea lotus var. thermalis** (issued Romanian Post: December, 8th 2008)

**METHODOLOGICAL FRAMEWORK**

The present research represents an interdisciplinary approach of the actual state of the reserve and uses sociological methods for a deepened investigation in this sense. The use of focus-group method in Geography and related fields is revealed by several researches (Burgess, 1996; Zeigler, Brunn & Johnson, 1996; Pratt, 2002).

The main objective of the study was to offer a realistic image of the current state of the natural reserve Părâu Pețea. In this sense, three specific research objectives were delineated:

SO1 – identifying the degree in which the reserve is known among local population from Oradea;
SO2 – highlighting the main causes of degradation;
SO3 – identifying ways of revitalizing the reserve.

In order to achieve these objectives, we used the focus-group method, a sociological research path. This qualitative method is often used when the researcher aims to understand and explain a certain issue in a more profound and complex way (Krueger & Casey, 2005). Up to 12-15 people with similar socio-cultural characteristics are grouped and interviewed together on a certain subject, during 1 or 2 hours (Babbie, 2010). The questions asked during a focus-group are directed and structured in order to obtain quality information from various perspectives.

Our research was based on one focus-group with people of different professions, who can provide competent information and opinions regarding the actual state of Pârâul Pețea nature reserve. We consider that this method is suitable for our investigation due to the fact that the information gathered is more complex and relevant. Thus, the group consisted of 6 specialists in tourism, geology, hydrology, geography, sociology and one representative of local authorities. Discussions exceeded 60 minutes and were moderated by a sociologist.

Research instruments. In order to conduct the focus-group, we have elaborated the research instrument, an interview guide containing 12 questions structured on four major themes of discussion:

1. The degree in which the reserve is known among local inhabitants - this section contained 2 questions aiming to capture the degree in which the reserve is known among local inhabitants and their knowledge about the current state of the reserve.
2. The causes of its degradation - 2 questions were posed within this section: outlining the main natural and anthropic causes of reserve’s state of degradation (including the negative effects generated by tourism).
3. Methods of revitalising the reserve - 3 questions were mentioned in this part referring to most efficient measures of revitalising the reserve; the way in which tourism could contribute to this revival and who should be directly involved in this process (authorities, companies etc).
4. Touristic promotion of the reserve - the last section of the interview contained 5 questions aiming to outline the degree in which the reserve is promoted and what are the most efficient forms of promoting it (in terms of tourism).

All questions were open, so that participants could express freely their opinion and knowledge about the subject. All questions were discussed according to their logical structure and each participant provided us relevant responses. Responses were registered on an electronic device, in order to capture the entire information.

ELEMENTS OF IDENTITY AND REPRESENTATION

Over time many promotional materials were elaborated, among the graphic advertising forms (Ielenicz & Comanescu, 2013, 203-208) used for the information-documentation of tourists and all parties involved, we mention for the Pârâul Pețea Nature Reserve: maps and tourist guides (Baias et al., 2011 (Figure 6); Pop, 2010, 33-34; Pop, 2014, 88-89; Chiriac-coord., 2015, 166-167 (Figure 7)); Tourist Guide with map included. Oradea and the Bâile Felix and Bâile 1 Mai tourist area, 20106; posters and billboards (Figure 9a and 9b); Romanian Tourist Guide7; books, scientific articles (Gaceu & Teodoreanu 2013, 212; Baias et al., 2012, 224; Lascu et al., 2003, 11); atlases (Ilieș coord., 2014, 242-243); web-sites: the Bihor County Council website referred at the

6 www.artmap.ro
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landscape elements: the Reserve with the thermal water lily Pârâul Peţea- Bâile 1 Mai8; logos of the University of Oradea (Figure 15), of the Sânmartin Sport Club (Figure 14), of the Apollo-Felix Spa (Figure 12); the issue of postage stamps (2008) entitled Uniqueness from the Nature Reserve “Pârâul Peţea” – Bâile 1 Mai – Oradea (Figure 5).

Figure 6. The Geotourist Map Bâile Felix-1 Mai-Betfia (Bihor County) (quoted in Ilieș et al., 2011, 224)

Figure 7. Bihor County Tourist Guide (frontpage), (Chiriac-coord; photo O. Pop, 2015, 166-167)

Figure 8. Illustrated monograph of Bihor County (2012, p. 193)9: Nymphaea Lotus var. Thermalis, Pârâul Peţea Nature Reserve, mentioned among the tourist attractions of Bihor County

9 http://issuu.com/vertigoro/docs/monografie_2012_issu/186
Figure 9. The information panel of Pârâul Pețea Nature Reserve and of the future Ecomuseum project, (2010-photo left) and the trilingual panel of the Pârâul Pețea Nature Reserve (2014-photo right)

Figure 10. Pârâul Pețea Nature Reserve (photo Ilieș Dorina, 2010)

Figure 11. Pârâul Pețea Nature Reserve (photo Ilieș Dorina, 2010)

Figure 12. Nymphaea lotus var. thermalis in the Pârâul Pețea Nature Reserve, during low flow period (minimum number of thermal water lilies) (photo Ilieș A., April 2015)

Figure 12. Nymphea lotus var. thermalis in the Pârâul Pețea Nature Reserve, during low flow period (minimum number of thermal water lilies) (photo Ilieș A., April 2015)

The Pârâul Pețea Nature Reserve is present in the tourism offer of several guesthouses and hotels from the Bâile 1 Mai - Bâile Felix spa tourism system (Ilieș & Josan, 2009): the Thermal Hotel\textsuperscript{10}, the Parmena Pension\textsuperscript{11} from Bâile Felix; from Bâile

1 Mai: the **Hotel Ceres**\(^{12}\), the **Hotel Perla**\(^{13}\), the **Pension Mona Lisa**\(^{14}\), the **Guesthouse Porojan**\(^{15}\), the **Pension Selina**\(^{16}\), the **Pension Thermalis**\(^{17}\), the **Pension Regal**\(^{18}\), the **Elim Villa**\(^{19}\). The thermal water lily is a *tourism brand* for the Băile 1 Mai and Băile Felix resorts and can be found in the name of guesthouses, pensions, hotels: the *thermal water lily* (Băile Felix; Figure 10), the **Lotus Five Star Complex**, presently under (re)construction (investment exceeding 30 million Euro for the modernization of Lotus Hotel, previously two-star, closed in 2006), for turning it in a five-star spa complex (Figure 11); the **Apollo spa** from Băile Felix-Felix (Figure 12) and the **Nymphaea Aquapark** complex (under construction) etc.

**Figure 10.** The Nufărul (**thermal water lily**) Hotel from Băile Felix

**Figure 11.** The **Lotus Complex** (five stars; under construction; 2015) in Băile Felix

**Figure 12.** The Băile Felix pool having as symbol the thermal water lily

**Figure 13.** The **Venus pool** from Băile 1 Mai, having a thermal water lily shape

(Source: Google Earth, 2015)

The environmental problems of the **Pârâul Pețea** Nature Reserve require activities for the *thermal water lily* brand regeneration, an image-element of the Spa system Băile

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\(^{11}\) http://www.promo-romania.ro/Week-end-de-poveste-la-Baile-Felix-Trei-zile.240.html#sthash.iGuco936.dpuf
\(^{13}\) https://www.eximtur.ro/hotel-perla-baile-1-mai-romania—874.html
\(^{15}\) http://www.turism-360.ro/cazare_pensiunea-casa-porojan_2569.html
\(^{16}\) http://www.turism-360.ro/cazare_pensiunea-casa-porojan_2569.html
\(^{17}\) http://www.thermalis.ro/?page=5
\(^{18}\) http://www.cazare-1mai.ro/despre-baile-1-mai.html
\(^{19}\) http://www.vilaelim.ro/atractii/1-mai-1.html
1 Mai - Băile Felix. Unfortunately, it is endangered, leading therefore to the disappearance of a local brand of leisure and hospitality destinations. The diminishing of the lake water (drainage thereof) because of the current activities, make this brand disappear process possible. The prospects for the brand represented by the thermal water lily will have to take into account the fundamental rules on ensuring the brands immortality, and in terms of future threats and opportunities we mention the social trends, the economic, political, environmental issues and globalization (Pringle & Field, 2011, 42, 299).

1. The degree in which the reserve is known among local inhabitants

Unfortunately, the Pârâul Petrea nature reserve from Bihor County does not benefit of a high degree of knowledge among local inhabitants, even if we take into consideration people from Oradea, Băile 1 Mai or surrounding areas. We must mention that this information is related to common people, whose professions do not imply a contact with this reserve whatsoever. But, an interesting fact is being outlined from the discussions: there is a high number of students in Geography and connected fields of study who have not heard about this reserve; therefore, in order to the degree in which the reserve is known, numerous campaigns and practice activities are being conducted within institutional frameworks, especially through higher education institutions. One cause that led to a low degree of knowledge in this sense is the lack of info panels outside the area of the reserve (eg. in the center of the city, on main traffic roads etc).

The current state of the reserve was outlined during the discussions, although it`s condition and the real causes of the ecological issues in the area cannot be scientifically determined with certainty. Nevertheless, the reserve seems to be in an advanced state of degradation: the lake is drained and on the former ground of the lake there are many weeds that invaded the area. Also, the access for the visitors in the area is restricted and more, the surface of the reserve is locked with chains. As an effect of its degradation, the protected species of flora and fauna are in real risk of extinction. Lately, specialists from the local museum tried to save these species by conserving them in special containers.

“The protected species were taken from the reserve and conserved in special containers at the local museum ....and also at aquarium Galați, in a project framework.
The water is not sufficiently hot anymore in order to maintain proper habitats for these species during winter” (representative of local authorities).

2. The causes of its degradation

We can outline two categories of causes that negatively affected the reserve and led to its current state of advanced degradation: natural and anthropic causes. Referring to the first category, the main factor was the drought present in the area in the last year. It drained out the water in the lake and, as a consequence, the species of flora and fauna entered in the phase of extinction. Anthropic causes came to accentuate the negative dynamic of the reserve; the irrational way in which the thermal waters were exploited through numerous drillings in the area was the main cause in this sense. Other causes were identified are the lack of interest regarding the re-injection of water in the areas were the degree of exploitation reached high values and also the lack of sewagesand treatment points for used water and high degrees of water usage by unauthorized touristic resorts. Tourism and tourists have indirectly contributed to the degradation of the reserve, creating a vicious chain: tourism – touristic resorts – drillings – excessive usage of thermal water – ecological issues for the reserve.

3. Methods of revitalising the reserve

The fundamental and vital methods for revitalising the reserve are related to a rational usage of the thermal water and implementing specific systems for recycling and treating used water. An important role is given also to local and central authorities in reversing the process of degradation, which are responsible, in the first place, of not properly amending people who use thermal water in an irrational way.

“There should be legal regulations...When they (n.a. owner of hotels, guest houses etc.) are authorized to drill, they should also be compelled to have equipment for recycling and treating used water” (hydrologist).

Ongoing information campaigns regarding the negative evolution of the reserve could help increase the degree of awareness among local community members and could promote a real mechanism of civic engagement in this sense. This could also determine authorities to access and implement more projects granted by European Union in order to revitalise and promote the natural reserve.

4. Touristic promotion of the reserve

A subsequent phase after revitalising the reserve is to promote it at local, national and international level, due to the fact that it is a unique reserve in Europe. Even when the reserve was not in the current state of advanced degradation and when it was still opened to visitors, its touristic promotion suffered from low interest: lack of visual promoting materials as touristic panels, advertising banners etc. Even more, tourism agencies did not have any brochures or info materials for visitors and clients.

“Tourism agencies are specialized in promoting local areas....we have authorized touristic guides who can present and develop an organized tourism in our country and in protected areas. If not, everyone comes and promotes Oradea and Bihor County as they wish...chaotic” (representative of touristic agency). The discussions outlined the need for a comprehensive local strategy for touristic development and promotion in Bihor county, which should include Pârâul Pețea nature reserve as one main focal point. The major role that the custodian of the reserve has in the promotion process was also stated by focus-group participants, but in the same time, the financial issues that become a real obstacle in this sense are well known. Oradea city and Bihor county could be very efficiently promoted if they could benefit of a new branding by using symbols representing protected species of flora and fauna – for example the water lily. The use of these symbols on certain visual elements could surely provide a constant level of income and could even increase it, generating also beneficial social and cultural effects in the area.
CONCLUSIONS

Among the protected elements of the Pârâul Peţea Nature Reserve, the thermal water lily is a brand for the Băile Felix and Băile 1 Mai Spa Resorts, promoted and publicized through various tourism offers in hotels, pensions and other accommodation units from the two resorts. Having a good graphic representation in general, some of these materials still add beyond the accurate and useful elements for tourists and all those interested, inaccurate, outdated or unsuitable information. The low amount of advertising material in connection to the reserve (an information panel, several older outdated flyers) and available for the general public, requires new maps and information boards, to be placed in the City of Oradea and in various other strategic points in the neighboring settlements located along the access roads to the two resorts.

The awareness of the local people, considering the local natural values is needed; also producing a material for students, such as the local geography horizon, with a chapter dedicated to nature reserve, ways to protect and promote it is also necessary.

The actual degraded state of the natural reserve represents a complex situation influenced over time by different factors. It is also true that among local inhabitants, extended even to national level, the degree of ecological awareness is very low, thus people do not feel responsible for conserving nature and do not act accordingly.

We must state that local and central authorities are beginning to focus on elaborating management plans for the next ten years, in order to protect and revitalise natural reserves in our country. Related to this, we emphasize the need for a more pronounced sociological involvement regarding the study of different touristic processes and phenomena. A detailed analysis in this sense could fundamentally contribute to the creation and implementation of a realistic development strategy in the local area.

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