

THE GEOCONSERVATION OF THE BADENIAN DEPOSITS FROM NEAGONEA VALLEY (MEHEDINȚI PLATEAU GEOPARK)

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ABSTRACT. The paper presents preliminary results of the study on geodiversity documentation Mehedinți Plateau Geopark. The proposed measures for geoconservation of the Neagonea Valley area consist to reveal elements of geodiversity like value and resource in a strategy geoconservation and tool for sustainable development of protected areas. Whereas, Neagonea Valley is an interesting fossil place is probably the most important among Badanian sites of Mehedinți, including Mehedinți Geopark Plateau can extend the buffer zone including Neagonea Valley with the proposal of geological conservation area. Thus, the Neagonea Valley can be open scientific tourism for promoting and supporting research with the aim the geoconservation in the Mehedinți Plateau Geopark.

Key words: geoconservation, Badanian, Mehedinți Plateau Geopark.

REZUMAT. Geoconservarea depozitelor badeniene din Valea Neagonea (Geoparcul Platoul Mehedinți). Lucrarea prezintă rezultatele preliminare ale studiului privind documentarea geodiversității Geoparcului Platoul Mehedinți. Măsurile de geoconservare propuse ale arealului Văii Neagonea constau în evidențierea elementelor de geodiversitate ca valoare și resursă în cadrul unei strategii de geoconservare și instrument de dezvoltare durabilă a ariilor protejate. Având în vedere că Valea Neagonea este probabil printre cele mai importante situri badeniene din Mehedinți, inclusiv din Geoparcul Platoul Mehedinți se poate extinde zona tampon incluzând și Valea Neagonea cu propunerea de zonă de conservare geologică. Astfel, Valea Neagonea poate fi deschisă turismului științific pentru promovarea și sprijinirea activitățile de cercetare ce au ca scop geoconservarea în arealul Geoparcului Platoul Mehedinți.

Cuvinte cheie: geoconservare, Badanian, Valea Neagonea, Geoparcul Platoul Mehedinți.

INTRODUCTION

In general, the Geopark is an area of nature protection established and officially recognized in a region with very important place in geologically, representing an optimal territory geoeducation practical activities and geotourism. Mehedinți Plateau Geopark was declared protected area in 2004 (Meilescu et al., 2004) based on the following considerations:

- The area showed a great interest for geologists, geobotanists, zoologists and biospeleology researchers;
- Beauty and wilderness of the area consisting of exotic woods gives various unique features;
- The scenery is wild and varied;
- The historical vestiges give color to the area;
- Locals retain still the customs old and traditional.

The Mehedinți Geopark Plateau is situated in southwestern Romania and in the northern part of the Mehedinți County, between Mehedinți Mountains and Getic Piemont (Meilescu et. al., 2004). This park is neighboring with tow protected areas: The Iron Gates Natural Park in the south-west and north-west Domogled - Cerna Valley National Park (Fig. 1) with 17 scientific reserves an area of 106,000 ha.

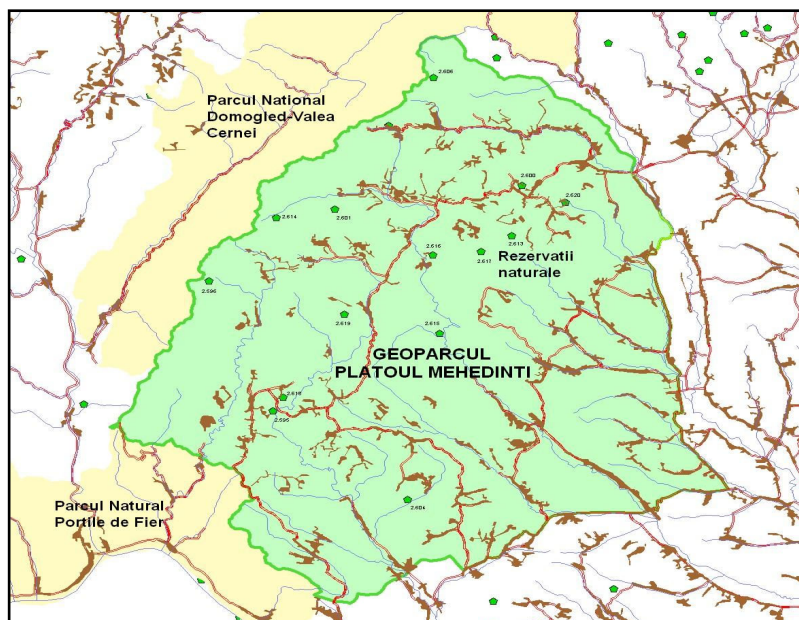


Figure 1 - The map of the Mehedinți Geopark Plateau Natural Park, after Meilescu (Meilescu et al., 2004).

In this paper are presented research on the Badenian deposits in Neagonea Valley located 12 km north-east from Drobeta Turnu Severin, Mehedinți County, being part of the Mehedinți Plateau Geopark.

PREVIOUS RESEARCHES. The occurrence of fossil plants in the Badenian deposits near Pârlagele, at Neagonea Valley has been mentioned for the first time by Stancu and Țicleanu (Stancu & Țicleanu, 1974). In this site was pointed out 16 taxa, including 2 new species and 7 species reported for the first time in Badenian flora of Romania: *Sequoia sternbergii* (Goeppert) Heer, *Libocedrites salicornoides* (Unger) Heer, *Pinus laricoides* Menzel, *Pinus* sp.1-

samina, *Pinus* sp.2-samina, *Magnolia* sp., *Daphnogene cinnamomeifolia* (Brongt.) Bronn, *Persea givulescui* n.sp. Ticleanu, aff. *Juglans acuminata* Al. Braun, *Myrica lignitum* (Unger) Sapporta, *Populus* sp. (n. sp.?), *Ulmus longifolia* Unger, *Tilia josephinae* n. sp. Ticleanu, *Acer* sp. aff., *A. angustilobum* Heer, *Acer* sp. aff., *A. trilobatum* (Sternberg) A. Braun.

In his monograph paper "Neogene stratigraphy of the western Dacic Basin" Marinescu (Marinescu, 1978) describes the representative profiles of the western Dacic Basin, including profiles to limit Sarmatian/Badenian which can be seen on left tributaries Neagonea Valley.

From outcrops on the left slope of the Neagonea valley were identified (Diaconu & Meilescu, 2011) 10 mollusks species and 8 fossil plants species. From outcrop on the left side of the valley Neagonea were collected following of mollusks: *Chlamys elegans* Andrusov, *Chlamys seniensis* Lamck., *Congerina panaci panaci* Pavlovic, *Glycymeris* (G.) *deshayesi* Mayer, *Cardium latisulcum* Munster, *Cardium plicatum*, *Ostrea digitalina* Dubois, *Cerithium europaeum* Mayer, *Conus ponderosus* Brocchi, *Turritella* sp.

The fossil vegetal remains identified in outcrop on the right Neagonea Valley, 200 meters downstream of where the mollusks were collected, are: *Pinus* sp., *Quercus* sp. *Carpinus grandis* Unger, *Laurophyllum* sp., *Juglans acuminata* Al. Braun, *Myrica lignitum* (Unger) Sap., *Populus* sp., *Tilia josephinae* Ticleanu. In the Sarmatian deposits from Neagonea Valley were identified and some species of corals: *Heliastrea reussana* Reuss., *Solenastrea manipulata* Reuss.

Diaconu and Meilescu (Diaconu & Meilescu, 2012) proposes a geotourist route on Neagonea Valley (Mehedinți) opened for scientific tourism to promote and support the research aimed to preserving the natural heritage of the Mehedinți Plateau Geopark area. Geotourist route Neagonea Valley, the first of its kind in Mehedinți County will be open for scientific tourism will be useful for the nature park administration both for changing the internal zoning and for future monitoring activities of sites and public awareness in local communities on the conservation of these values of national heritage.

The projects implemented of Mehedinți Plateau Geopark Administration are:

1. The project "*Principles of sustainable tourism in Mehedinți Plateau Geopark*" Neighbourhood Programme Romania-Serbia 2004-2006:

-The aim of this project is facilitate cooperation in public awareness domain and ecotourism between neighboring protected areas: Plateau Geopark Mehedinți (Romania) and National Park Djerdap (Serbia) to create preconditions for sustainable tourism.

2. The project „*The rehabilitation of Centre monitoring at Mehedinți Plateau Geopark*” Neighborhood Programme Romania-Serbia 2005:

-The aim of this project is to promote long-term cooperation between the administrations of the two protected natural areas: the Mehedinți Plateau Geopark (Romania) and the Djerdap National Park (Serbia), for the benefit of communities

on both sides of the Danube, for a better protection and preservation of the natural heritage of the area.

-The Mehedinți Plateau Geopark Monitoring Center will provide accommodation for any groups of researchers, who will carry out research and documentation activities, tourists or other persons interested in knowing the natural and cultural riches of the area in question.

3. The project „*The management to biological and geological resources in European level and public awareness in Mehedinți Plateau Geopark*”:

-The aim of this project is the efficient of the natural environment conservation activities in Mehedinți Plateau Geopark and the site of community importance within it, supporting protected area management, increase the institutional capacity of protected area target and promoting awareness activities aimed at reducing or removal of anthropogenic pressures on species and habitats of community interest.

GEOLOGICAL SETTING. From geologically point of view, the studied area represents the west part of the Dacian Basin and involves among other various lithologies, marl tuffite clay with numerous globigerine equivalent "*marls with globigerine*" from Muntenia (Marinescu, 1978). Local, in the Bâlvănești sector, above them there are very fossiliferous gravel, sand and marl clay. They also include a layer of volcanic tuffite. To the north, sands and marl clays have a great thickness, replacing the gravel.

The Badenian deposits sequence exposed on the left bank of Neagonea Valley contains: gravel with boulder cement (2 meters), fossiliferous gravel (1.5 meters), clay with tuffite lens (1 meters), coarse gravel mixed with boulders (4 meters), sandy layers and blocks (5 meters). The deposits of the outcrop on the right Neagonea Valley, 200 meters downstream of where the mollusks were collected, include: 2.5 meters of gray clay with bands of tuffite clay with foliage impressions, yellow clay from 3.5 to 4 meters gray fine stratified.

MATERIAL AND METODHS

To achieve the objectives of documentaries have been a protected area field goal, focusing on aspects of geological diversity, conservation status of nature reserves, inventory, description and systematic paleontological sites in Mehedinți Plateau Geopark.

RESULTS AND DISSCUSIONS

The administration of Mehedinți Plateau Geopark coordinate the activity in the GPMH area for landscapes protected, biodiversity conservation and sustainable using of the natural resource, in according of plan the management and the internal zoning a park. In Mehedinți Plateau Geopark are 15 reserves (with status of strictly protected area) and 6 newly proposed.

According to “GEO 57/2007” on the regime of protected natural habitats, wild flora and fauna, “The main purpose of Mehedinți Plateau Geopark is the protection and preservation of national representative samples biogeographical area comprising natural elements particular in terms of physical geography, flora, fauna, hydrological, geological, paleontological, speleological, pedological or other, enabling visits for scientific, educational, recreational and tourism”.

The proposal for the geoconservation of the Badenian deposits Neagonea Valley was consistent with the primary purpose of the Geopark and the objectives proposed in the management plan, namely:

- Promoting a type of tourism that does not harm the park, leading to the enhancement of park values and incorporating cultural and traditional values of the area's tourist circuit Mehedinți Plateau Geopark;

- Raising awareness and educating the public and stakeholders to understand the importance of nature conservation and for support in order to achieve the objectives of Plateau Geopark Mehedinți the natural park of the Natura 2000 site.

Based on the above considerations, the proposed measures for geoconservation of the Neagonea Valley area consist to reveal elements of geodiversity like value and resource in a strategy geoconservation and tool for sustainable development of protected areas. Whereas, Neagonea Valley is an interesting fossil place is probably the most important among Badenian sites of Mehedinți, including Mehedinți Geopark Plateau can extend the buffer zone including Neagonea Valley with the proposal of geological conservation area (Fig. 2).

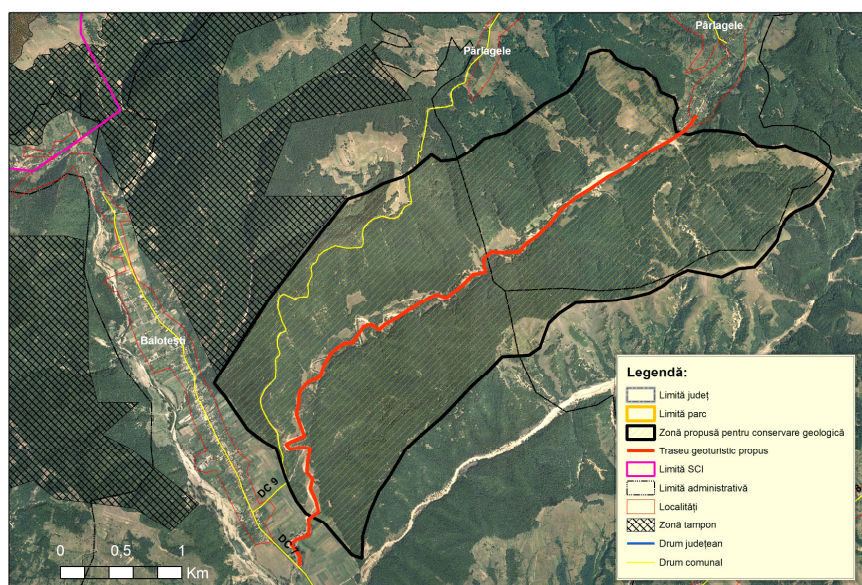


Figure 2 - The map of proposed conservation area and route geological geotourism Neagonea Valley - producer Strinoiu Tiberiu eng - GPM.

Thus, the Neagonea Valley can be open scientific tourism for promoting and supporting research with the aim the geoconservation in the Mehedinți Plateau Geopark.

CONCLUSIONS

Mehedinți Plateau Geopark (GPMH) has great potential for education through different ecosystems, species richness of plants and animals, still unspoiled habitat presence or minimally influenced by human presence. It is a true "living laboratory".

Neagonea Valley is an interesting fossil place is probably the most important among Badenian sites of Mehedinți, including Mehedinți Geopark Plateau open scientific tourism for:

- Promoting and supporting research aimed at preserving the natural heritage of the area Mehedinți Plateau Geopark;

- Practical activities with students and for sampling and sample topics for scientific research, analysis and writing as educational material collections based on established protocols written agency Mehedinți Plateau Geopark;

- Complete ongoing scientific database.

The paper will be useful for natural park administration internal zoning changes and for future monitoring activities of those sites and public awareness of local communities on the conservation values of these national treasures.

Threats to geodiversity the Geoprak area are the exploitation of the rocks in quarries or of silt in the gravel. This leads to habitat destruction, and thus destruction and loss of biodiversity. Other types of threats they are natural hazards, earthquakes, landslides, floods.

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