

ESTIMATION OF THE GEOMORPHOSTRUCTURES WITH GEOMORPHOSITE VALENCE IN THE NORTHERN PART OF THE HUNEDOARA COUNTY (WESTERN ROMANIA)

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Résumé: *Estimation des géomorphostructures avec la valence de géomorphosite dans la partie nord du comté de Hunedoara (Ouest de la Roumanie).* "Un lieu" peut avoir une signification unique, dans ce cas, elle se réfère au relief, mais très souvent, "un lieu" ou un "endroit" a plusieurs significations résultant de la combinaison de plusieurs facteurs qui donnent à cet endroit une caractéristique particulière. Donc, il y a des lieux définis par l'association d'aspects culturels, spirituels, historiques, archéologiques, architectoniques, touristiques, éducatifs, etc conduisant à de multiples formes de valorisation touristique. Au cours des ans, et dans le comté de Hunedoara, 45 aires protégées ont été établies, soit un total de 2 626 ha, en plus de 2 parcs nationaux et de 2 parcs naturels. Les forteresses de Hill et Deva datent de 1269. C'est un site géographique remarquable en raison de ses caractéristiques historiques et archéologiques. Les attributs historiques et paysagers sont amplifiés (ou sont magnifiés) en raison de l'existence de plus de 1 300 espèces endémiques et d'une large vue sur le Corridor Mures. L'appréciation du paysage étant facilitée par une télécabine mise en service par la municipalité de Deva. La Colline Uroiului (ou encore la colline Uroi) est un site géographique remarquable aux niveaux national et européen en raison de ses valences à caractère didactique. C'est un site unique pour la richesse de ses enclaves et de ses géode et de sa variété minérale faisant ainsi de la Colline Uroiului une localisation minérale typique du Pseudobrookit $\text{Fe}_2\text{Ti}_2\text{O}_5$, de même que pour ses particularités historiques, archéologiques et esthétiques. C'est un grand point de vue panoramique sur le Corridor Mures. Le Mont Vulcain a été classé comme réserve géologique (avec une superficie de plus de 5 ha). C'est un massif isolé, figurant une olistolite. C'est un site site géologique aux caractéristiques scientifiques et esthétiques en termes paysager.

Mots-clés: géosites, valences, Colline Deva, Colline Uroiului, Mont Vulcan.

Introduction

The geographical position, the complex geological structure, the areal geomorphologic complexity, the altitude difference 2300 m (200 m on the Mures Valley and more than 2500 m in the Retezat Mountains), the climate, vegetation, soils, different exposures, the great slopes amplitude etc, all these favor the existence of natural habitats for geo-biodiversity conservation of ecological importance, also scientific and scenery, historical-archeological, cultural-spiritual, teaching values etc, the Hunedoara County could use them better through tourism etc. Across the years, in Hunedoara County, there were

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established 45 protected areas, classified in: scientifically reservations-1, monuments of nature-3, mixed reservations-16, speleological reservations-3, paleontological reservations-4, botanical reservations 9, forest reservations-1, geological reservations-2, landscape reservations-1, with a total area of 2626 ha, and also an additional 2 national parks and 2 natural parks.

From northern part of Hunedoara County we taken into analyze the geosites: The Fortress Hill and the Deva Fortress, The Uroiului Hill and The Vulcan Mountain (fig. 1).

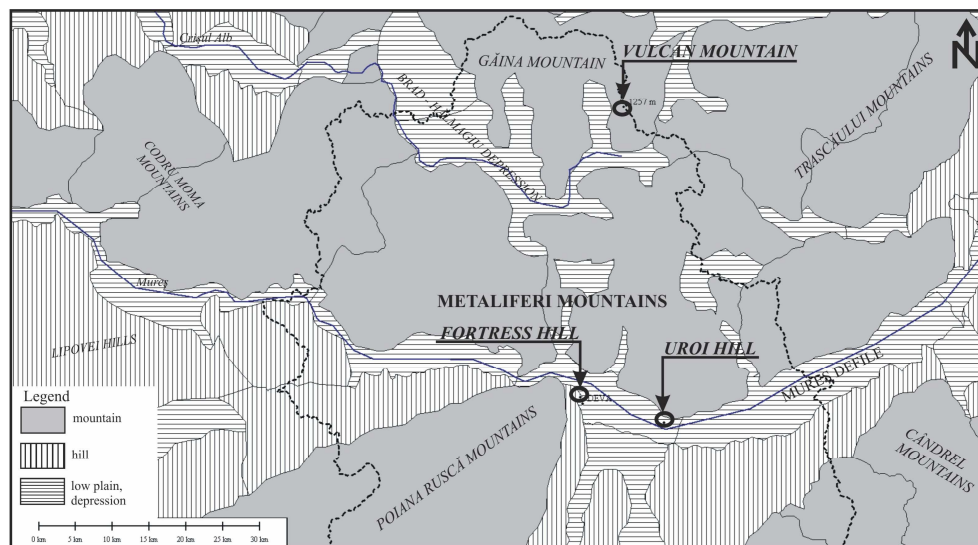


Fig.1. Geographical position of the analyzed geosites.

Since 1940 the **The Fortress Hill and Deva Fortress** represent a mixed natural reservation (fig. 2a, 2c), with an area of 31 ha, elevation 184-371m; the geosite has distinguished itself through its scientific features: the Andezite volcanic cone has been shaped during the Neogene volcanic activity, having favorable conditions of the sub-volcanic phenomena, the magma has never reached the surface, and following the surrounding rocks erosion, the sub-volcanic neck body, with circular shape was emphasized. The volcanic neck was declared historical monument (fig. 2c), maintaining elements from the past; the historic-archeological valences of the geosites were observed, between the geosites and the historical and archeological elements (fortress, fortifications etc) existing a relation that contributes to the value amplification of each of the two types of sites and of the complex they form. The fortress dates from 1269, its walls were sieged by the Turkish Army assaults, the fortification protected the nobles during the peasants' revolts (e.g. the revolt of Horea, Closca and Crisan) and in 1848 the fortress was used by the Army of the Revolution. The esthetic-scenery values are increased by the existence of over 1300 endemically species, some of them are northern indicator of the Mediterranean fauna; also this geosite represents a great overview over the Mures Corridor.

The telecabin (fig.2b) is a big plus for admiring the scenery from the Cetatii Hill (elevator with a 16 persons load, 278 m long, and up to 148m elevation), it climbs through the second platform of the fortress in just a few minutes, it was build by the Deva City Hall and was put in service in 2005.

One of the legends says that the fortress' walls would have been built by some golden hair fairies; they might have been daughters of some giants. In another legend, very close to the Romanian ballad of the "Master Manole", the Hungarian King Bella IV intended to build the Fortress of Deva, but everything they were building during day time, it was ruining during nights; the Kelemen's workers, being advised by the master of the spirits decided that the first of the wives that would reach the top of the hill is to be burnt and her ashes mixed with soil and water, to be used as bonding material for the stones that were composing the walls. The king, seeing the beautiful fortress that was built only in three days and three nights, jailed the workers so that a beautiful fortress like this would not have been raised again. (fig.2d., Rus, D. 2002, 2004.



Fig .2a. The Fortress Hill



Fig.2b. Deva Fortress. The telecabin.



Fig. 2c. The gateway sign indicate The Fortress Hill- monument of nature and Medieval Fortress- historical monument.



Fig. 2d. Stamp, sec XVIII. Town and the fortress (Rus, D, 2002).

The Uroiului Hill (Măgura Uroiului) is located at the junction of the Strei and Mures River, at 400 m altitude, representing the remaining of a central volcano system (fig.3).

The natural reserve Uroiului Hill was declared geological natural reservation by the 5/6 March 2000 Act, regarding land planning, Section III – Protected Areas; it is a volcanic body of Miocene Age, having a cupola shape, composed by red-grey Andesite. The volcanic activity was mostly effusive, the volcanic products containing various fragments from the foundation rocks of 10-15 cm diameter size. Uroiului Hill is a geosite

distinguished both at national and European level, through its scientifically and didactical valences (unique site through its enclaves and vugs richness and through its mineral variety) so Magura Uroiului is the typical location for the Pseudobrookit $\text{Fe}_2\text{Ti}_2\text{O}_5$ mineral, described by the Koch A. (University of Cluj-Napoca); the hummock (mamelon) shape of the hill comes from the three successive Andesite lava flows (Bebeleac, 1962); the esthetical and scenery valences of the geosite are underlined by the fact that this is a great overview point over the Mures River Corridor.



Fig. 3. Uroi Hill

The historical-archeological features of the geosite are emphasized by the archeological publications (Martian, 1921, mentions the existence of a Dacian fortification on the Uroiului Hill). Floca O. (1965) described the Uroiului Hill area as being inhabited since pre-history, bringing into discussion the existence of a roman castr and of the medieval fortress from the left side of the hill (destroyed in the XVIIth century). The new findings from the 70's have emphasized Roman and Byzantine Age marks. On the Uroiului Hill, there were running several Andesite quarries that reached the central part of the neck, dating from the Roman Age; these stones were used for building the roman camps, fortifications, roads etc from lower Muresului Valley (Fodorean, F., 2006, pag 342).

One of the legends (Rus, 2001) says that three sisters, one from Deva, one from Uroi and the last one from the Colt Mountain had started a competition for building fortresses. The fairy Uroi was left behind with the works and she had never built the fortress, but stoned by the beauty of the Deva Fortress, raised by her sister, she sorrowful looked in the distance, threw the trowel; this fell at half road, deepened inside and the recently formed hole had been filled with hot water – today's Calan Spa; then she threw the tool that chopped a mountain called in our days the Retezat Mountain (Chopped Mountain) (Coatu Nicoleta, 1986, Rus D., 2004).

The Vulcan Mountain (fig. 4 and 5) -in the local topology it is called "Valcan" and it is located at the Crisul Alb and Aries origins, in the Apuseni Mountains. Elevation 1254m, it is a spectacular presence in the scenery, guarding to the South the Motilor Criseni County, also painted (e.g. "Vulcan Mountain", painted by I. Nicoara (fig.5)). In 1979, the Vulcan Mountain was established as geological reservation (with an area of over 5 ha). The scientifically and esthetical landscaping features of the geosite: it is an isolated massif, composed from limestone "*massif reef limestone, white color, barremian – albian age, wildflis facia. The present outlook of the relief is a result of the erosion that removed the surrounding clay, the limestone block representing an olistolite. The material from it came off and slid from Drocea net*" (Mutihac, 1990). The geosite walls are fit for extreme

sports as climbing and parapanta. Dolines are present on the top plateau and also two water falls (of and 30 m) on the Dragobaldului Stream and the Fantanuta spring. Regarding the vegetation of the mountain there were inventoried about 435 plants species, about 11 endemically species, very important for biogeography.



Fig. 4. Vulcan Mountain
(source: <http://www.ione.ro/blog/wp-content/gallery/Locuri%20frumoase/Muntele-Vulcan.jpg>)



Fig. 5. Paint "Muntele Vulcan / Vulcan Mountain"
(source: I. Nicoara)

Conclusions

The Hunedoara County has 45 protected areas, with a total area of 2626 ha, and an additional 2 national parks and 2 natural parks, some of national or even European importance. In the northern Hunedoara County, the investigated geosites: the Fortress Hill and the Deva Fortress, the Uroiului Hill and the Vulcan Mountain, through cultural, spiritual, historical, archeological, architectonic, tourist, educational-instructive etc better investigation valences can offer future better possibilities for tourist valorization.

Acknowledgements

This contribution presents results from research projects: PNII, ID_751/2007, PNII, ID_667/2008. The authors acknowledge to anonymous reviewer for their thoughtful suggestions and comments.

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