DIVERSITY AND PROTECTION IN TÂRNOVU STONE (THE CĂPĂȚÂNII MOUNTAINS, VÂLCEA COUNTRY)

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Abstract. *The paper represents a new contribution to the knowledge of natural floristic patrimony of Târnovu Stone from the Căpățânii mountains, Vâlcea county. There are first presented the 16 new species that grow in this massif and thus increase the biological diversity and ecoprotection potential.*

Keyword: *limestones, landscape, trees, shrubs, grass vegetation, new species.*

Rezumat. Diversitate şi protecţie în Piatra Târnovului (Munţii Căpăţânii, judeţul Vâlcea). *Lucrarea reprezintă o nouă contribuţie la cunoaşterea patrimoniului vegetal al Masivului Piatra Târnovului din Munţii Căpăţânii, judeţul Vâlcea. Este menţionată prezenţa a 16 specii de plante necunoscute până acum din acest masiv, care sporesc diversitatea biologică şi potenţialul natural ecoprotectiv.*

Cuvinte cheie: *calcare, peisaj, arbori, arbuşti, vegetaţie ierboasă, specii noi.*

Târnovu Stone is a limestone outlier located on the interfluve between the Latorița and the Repedea within the Căpățânii Mountains, which reaches 1,880 m altitude (Fig. 1). There predominates karst landforms: walls, pinch, troughs, slopes, needles, grottoes, caves, avens. This legendary mountain was first noticed by the famous geologist Gh. Munteanu-Murgoci (1902) who made a good description, after an attempt to explore Haiducilor Cave. The first observations on flora items and phytocoenoses belong to Bielz, Krauss, Hergotta and Klotz, who collected plants from Piatra Târnovului in a trip made in 1874; presently, the herbarium is preserved at the Bruckenthal Museum in Sibiu.

The Târnovu Stone was named "the vigilant eye of the mountain" by the writer Doru Moțoc and the author Gheorghe Stănescu dedicated it a poem (PLOAIE & MOȚOC, 1992).

Our research in Târnovu Stone began over 30 years ago together with prof. univ. PhD. Traian Ştefureac from the University of Bucharest. The geomorphologic and floristic value was presented in PLOAIE & ŞTEFUREAC (1983).

The landscape is particularly known for the brilliant white limestone, which is crystalline within certain perimeters and appears from the spruce forests located at the foot. The Tithonic – Neocomian limestone is strongly modified by tectonic processes with broad diaclases and with layers tilted to the north-west at an angle of 70 degrees from the vertical. Congelifraction phenomena grind permanent walls, causing the accumulation of rocks on both mountainsides. Vegetation covers 40-50% of total area.

Of trees, the spruce fir develops on both slopes, to the walls, and in some eastern troughs up to the top. Some isolated specimens of larch *(Larix decidua* MILL. ssp. *carpathica* (DOM.) ŠIMAN*)* go up to 1,800 m. A compact cluster of larch also appears on the eastern slope. Shrubs are represented by *Pinus mugo* TURRA, which grow on the main ridge and on the western slope, while juniper (*Juniperus communis* L.) covers smaller areas on the eastern side. In wet troughs, there can be noticed: mountain alder (*Alnus viridis* (CAIX) LAM. & DC.), coronet (*Spiraea ulmifolia* SCOP.), dwarf willow tree (*Salix retusa* L.) and rhododendron (*Rhododendron myrtifolium* SCH. & KY.). The species *Cotoneaster integerrimus* has been recently identified on steep rocks at 1,750 m altitude.

Grass vegetation is predominantly developed on rocky belts; there abound saxicolous graminaceae (*Festuca violacea* GAUD., *Sesleria coerulans* BAUMG.) and other plants (*Cerastium alpinum* SCHUR*, Thymus comosus* SCHUR*, Carex sempervirens* VILL., *Saxifraga aizoon* JACQ.*, Dianthus spiculifolius* SCHUR*, Aster alpinus* L., etc.). In the rock cracks near the summit, there grows the Carpathian-Dacian *Papaver corona sancti-stephani* ZAP., yellow poppy, but there were also found *Galium anisophyllum* VILL., *Cerastium alpinum* L. etc. We have recently discovered other interesting species like *Lilium martagon* L.*, Epipactis atrorubens* (HOFFM.) SCHULT.*, Cotoneaster integerrimus* MEDIK *Centaurea atropurpurea* W. & K.*, Trollius europaeus* L.*, Neottia nidus-avis* (L.) RICH.*, Anemone narcissiflora* L.*, Veronica bachofeni* HEUFF.*, Geranium macrorhisum L., Ceterach officinarum* (L.) WILLD.*, Asplenium ruta muraria* L.*, Behen vulgaris* MNCH.*, Hyeracium villosum* JACQ.*, Juniperus sabina* L.*, Aconitum tauricum* WULF. and others. The limestone slide rocks from the southern slope are marked by the presence of the species *Rumex scutatus* L. All these species are new for Piatra Târnovului (Plate I and II).

Among animals, there were observed: the chamois (*Rupicapra carpathica*), common viper (*Vipera berus*) and the horn viper (*Vipera ammodytes*), wallcreeper (*Tichodroma muraria* L. 1766), raven (*Corvus corax* L.), blackcock (*Tetrao urogallus* L. 1758), kerstel (*Falco tinnunculus* L. 1758), jay (*Garulus glandarius* L.), woodpecker (*Picus viridis* L. 1758*, P. canus* GMEL. 1788*),* crossbill (*Loxia recurvirostra* L. 1758), mountain eagles (*Aquila chrysäetos* L. 1758) etc.

A surface of 1,300 ha of this area has recently been declared Natura 2000 site, but the study of the entire biodiversity is still at the beginning. A full inventory of species and habitats has not been achieved yet. Research is much more difficult because of rocky terrain and rock instability. The summit tourist paths no longer exist and thus, the tourist flux has considerably decreased. The sheep breeding does no longer have the intensity registered in the past years. All these make up the richness of the vegetal cover and we are glad that the area has regained its previous natural

state, which is characteristic for the regions no longer exposed to humans' aggression. A certain number of rare plants and animals, which have patrimony value, found shelter in this area. It is a good reason to further investigate this mountain massif and to ensure respect for natural values. In addition, our research aims at contributing to the setting up of a nature reserve as we proposed years ago (PLOAIE, 1999). We are convinced we shall enhance the protected natural heritage of Romania and we will militate to increase environmental awareness on behalf of humanity.

CONCLUSIONS

16 new species from the Târnovu Stone, the Căpățânii Mountains, Vâlcea county are presented in this paper. These species increase the biological diversity and ecoprotection potential of this region.

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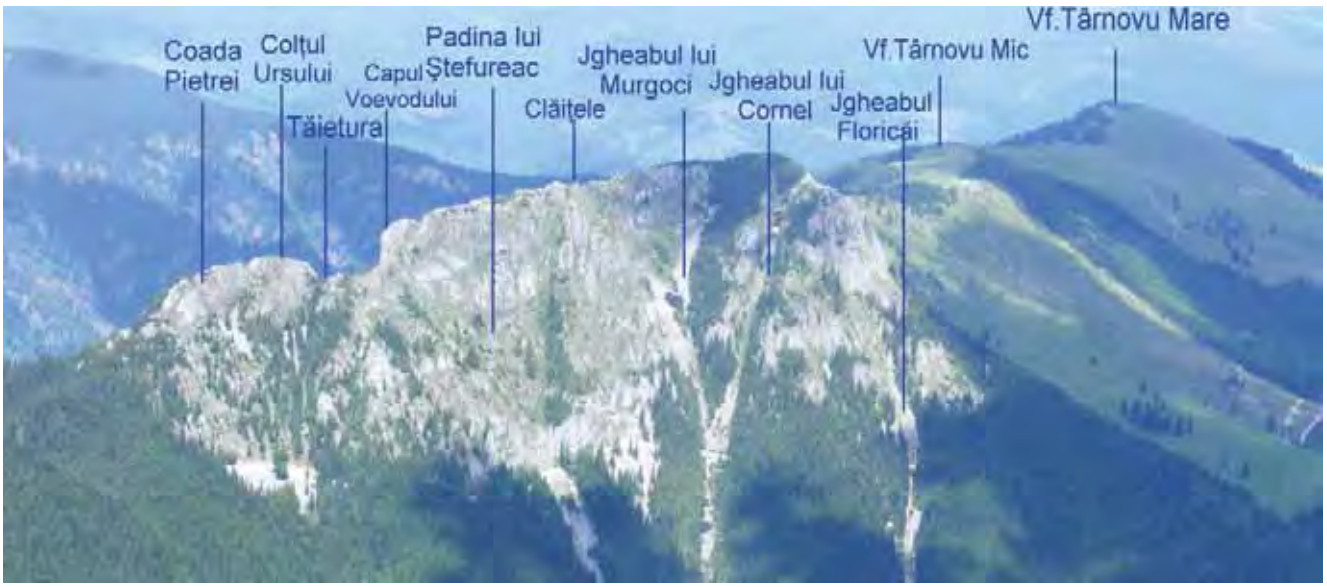

Figure 1. The Târnovu Stone – view from Nedeia Peak.
Figura 1. Piatra Târnovului – vedere de pe Vârful Nedeia.

PLATE I / PLANŞA I

1.The ridge of Piatra Tărnovului / Creasta Pietrei Tărnovului
2.Spruce fir (*Picea abies* (L.) Karst. on the south slope / Molidiş (*Picea abies* (L.) Karst. pe versantul sudic
3.Piles (*Neottia nidus-avis* (L.) Rich. / Trânji (*Neottia nidus-avis* (L.) Rich.
4.*Epipactis atrorubens* (Hoffm.) Schult.
5.*Anemone narcissiflora* L.
6.*Hieracium villosum* Jacq.

Photos by GH. PLOAIE

PLATE II / PLANSA II

1. Lily (*Lilium martagon* L.) / Crin de pădure (*Lilium martagon* L.)
2. *Eryssimum transsilvanicum* Schur / Mixandră de munte (*Eryssimum transsilvanicum* Schur)
3. *Veronica bachofenii* Heuff.
4. Larch tree (*Larix decidua* Mill. ssp. *carpathica* (Dom.) Siman / Larice (*Larix decidua* Mill. ssp. *carpathica* (Dom.) Siman
5. *Calamintha alpina* (L.) Lam.
6. *Hedysarum hedysaroides* (L.) Sch. et Th.
7. *Behen vulgaris* Mnch.
8. *Rumex scutatus* L.

Photos by GH. PLOAIE