

## BIODIVERSITY NATURE RESERVE KEYS SOHODOL, GORJ

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**ABSTRACT:** The paper proposes a presentation of flora and fauna, their respective habitats existing in Gorj county Sohodolului Keys, and a brief presentation of the karst landscape, that soil characteristic.

**KEY WORDS :** biodiversity, species, habitat, karst relief.

### 1. INTRODUCTION

By the term "biodiversity" refers to diversity of living organisms from terrestrial and aquatic ecosystems and the ecological complexes of which they are part.

Sohodolului keys, at the northern boundary of the county Gorj, Hunedoara county, are located in the northern part of the village Runcu, characterized by the following coordinates in stereographic projection system in 1970: Nord (X) -353841,42, Est (Y) – 405801,58

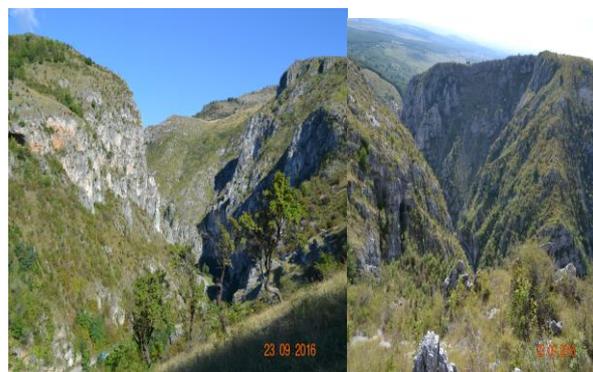
From geographically Gorge lies Sohodolului Valcan Massif, which is part of a massive Retezat mountains Godeanu. Valcan mountains with close Mehedinti Mountains south Carpathian arc between Jiu and the Danube.

### 2. THE GEOLOGY AND SOIL CHARACTERISTICS

#### 2.1 GEOLOGY OF THE AREA

Geological structure of these mountains is made up mostly of crystalline limestone-fescue-series Lainici-Păiuș, clorito complex sericitos- that separates some less metamorfozată- Tulișă- series, consisting of conglomerates, quartzites and crystalline limestone that make up mountains Oslea, Garbovu, Răstovanu feet Șimleului northern Great and Small Șimleului.

Rama Valcan Southern Mountains, consists of upper Cretaceous age limestone, Jurassic-Cretaceous lower respectively, where the river Simon, the source below the top Șiglăul Mare (1682m), dug most spectacular gorge-gorge Sohodolului. (Fig. 1)



*foto Iosif Cristian*

Fig. 1. Sohodolului keys

Sohodolului keys, cover an area of approximately 350 ha, is a nature reserve in category IV IUCN mixed their unique "tunnels" dug by the river.

Karst topography, name introduced worldwide by J. Cvijic karst science, specifically Sohodolului Gorge, formed by processes of corrosion, erosion and biochemical leading to the emergence of karst surface-Exokarst (Ditches, sinkholes, springs, gorges and karst valleys sohodoluri) and deep karst forms - endokarstic (inside caves "carved" erosion, corrosion and chemical precipitation).

Clints represented by a system of narrow grooves separated by ridges, are common in the area between Șușița Green and Simon, and to the east of the valley Deleşului, the bush, Magura, Babel, but also on the slopes delimiting Keys Sohodolului. (Fig. 2)



*foto Iosif Cristian*

Fig.2. Field clints

Sinkholes, depressions funnel-shaped oval or circular in appearance, with diameters ranging from a few meters to over 1 Km, found on the surface of erosion Gornovița platform with its three levels.

Potholes, entries vertical caves, the most representative located in Mount Pleșa are:

- a. Clocoticiul of staples Saratura with depth - 99m, which is the largest group in the country stalagmite (10 meters)
- b. Clocoticiul skeleton Părețelilor of -149 m depth, where the largest vertical well in the country of -121 meters.

Carstic- valley crossed by the river gorge Sohodolului- fast and clear water, which sometimes creeps in alluvial bed, giving rise to SOHODOL (Etymologically means "Dry Valley" in summer), then appear in different places far into Stroiești village, the village arcane form of springs, the most vigorous source of Jales.

Forms endokarstic - caves - Gorge Sohodolului their emblem is NĂRILE- two ovoid galleries dug by the river Simon, one 76 meters long,(Figura 3) and the other 57 meters downstream of them followed the 12-meter long gallery called – Furnace - (Fig. 4), circular shape, called RING RING ruler or LA, which are numerous such as: Gârla Cow Cave, Kings, etc.



*foto Gătej Bogdan-Andrei*

Fig.3. Nostrils



*foto Gătej Bogdan-Andrei*

Fig.4. Furnace

Ring Lady or ring Stone a "Gateway to Heaven", at an altitude of 190 meters of the road, according to a hypothesis, is thought to be the mouth of the cave entrance Pîrlajului nearby, which was formed following the collapse of the ceiling of the cave. (Fig. 5)



foto Iosif Cristian

Fig.5. Lady Ring

## 2.2. PEDOLOGICAL KEYS SOHODOL

Regarding pedology in the upper valley Sohodolului where rocks are acidic (granite, granodiorite), soils are brown-acid types, mountain low profile, highly acidic, with pH 4.5 and rich material skeleton-like.

Portions of the limestone soils are the type rendzinelor mountain rich in organic matter and slightly acid with pH 6.5.

Scarlet color of the slopes exposed to the sun, gives the ground of "terra rossa" called by M. Popov M. Spirescu - red soils of cones. (Fig. 6)



foto Iosif Cristian

Fig.6. Soils or terra rossa red cones

## 3. BIODIVERSITY OF KEYS SOHODOL

Sohodolului valley area is characterized by a great wealth of species of vascular plants, about 345 species belong to 71 families. The large number of vascular plants is explained by geomorphological conditions and by climatic conditions.

Sunlight on exposed rocks, Gorge Sohodolului growing species such as strajnicul (*Asplenium trichomanes*) (Figure 7.) rust (*Asplenium ruta-muraria*); maidenhair fern or (*Asplenium northern*); nail Ciutat (*Ceterach officinarum*)(Figure 8);



foto <https://www.google.ro/Trichomanes>

Fig.7. Strajnicul (*Asplenium trichomanes*)



foto:[https://www.google.ro/unghia+ciutei+\(Ceterach+officinarum\)](https://www.google.ro/unghia+ciutei+(Ceterach+officinarum))

Fig.8. Unghia ciutei (*Ceterach officinarum*)

The keys, the vegetation is represented by several species of rare flora: Bria (*Atham hungarica*) (Figure 9); bear's ear (*Primula auricula*) and a wild mixandră (*Erysimum comatum*).



foto:[https://www.google.ro/=\(Athamanta+hungarica&biw](https://www.google.ro/=(Athamanta+hungarica&biw))

Fig.9. Bria (*Athamanta hungarica*)

Here, the rocks of a side forming keys, meet hedges of lilacs (*Syringa vulgaris*);

sumac (*Cotinus coggygia*) and Turkish cherry (*padus mahaleb*).

Upstream, out of keys on both sides of Valley Sohodolului are beech forests in Components that fall trees such as birch, elm, pear tree, maple, sycamore, maple, silver lime, hawthorn and chestnuts or nuts.

Animal species characteristic of the area, a Mediterranean are -*Vipera ammodytes* viper, land tortoise - *Testudo hermanni* nun - *Scolopendra cingulata* scorpion - *Euscorpius carpathicus*.

The steep walls of limestone cavities keys can observe two species of rare birds such as priority: the wallcreeper (*Tichodroma muraria*) (Figure 10.) and Rock swallow (*Hirundo rupestris*)(Fig.11).



foto Sursa Internet

Fig.10. The wallcreeper (*Tichodroma muraria*)



foto Alexandra Ion

Fig.11. Rock swallow (*Hirundo rupestris*)

Other rare species that nest in these places by the river Simon, are bunting (*Emberiza cirulus*), white wagtail (*Motacilla alba*), yellow wagtail (*Motacilla cinerea*), brook blackbird (*Cinclus cinculus*), and

several pieces of stone Blackbird (*Monticola saxatilis*), and above keys can be seen flying over kestrel (*Falco tinnunculus*). (Fig.12)



foto Alexandra Ion

Fig.12. Vânturelul roșu (*Falco tinnunculus*).

Key features in the forests Sohodolului meet species such as bear (*Ursus arctos*), roebuck (*Capreolus capreolus*), deer (*Cervus elaphus*), wild boar (*Sus scrofa*), hedgehog (*Erinaceus europaeus*), squirrel (*Sciurus vulgaris*), wolf (*Canis lupus*), wild cat (*Felis silvestris*), lynx (*Lynx lynx*) (Figura 13), and in Sohodol river water species: trout, (*Cottus gobio*), (*Gobio uranoscopus*) și (*Barbus meridionalis*).



Fig.13. Fauna from Cheile Sohodolului

### 3. CONCLUSION

1. Sohodolului Gorge is a tourist attraction by karst forms
2. Sohodolului Gorge can be seen rare species of flora and fauna.
3. Following erosion, corrosion and chemical precipitation, formed karst topography, characterized by sinkholes, ditches, caves, etc..
4. Sohodolului keys are a nature reserve, which are located in the protected area ROSCI0129 North West Gorj.
5. Key features Sohodolului biodiversity, annually attracts tourists and scientists.

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