

ANALELE ȘTIINȚIFICE ALE UNIVERSITĂȚII „AL. I. CUZA” IAȘI  
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## TĂUL ZÂNELOR FROM COLIBIȚA – MORPHOTOURISTIC CHARACTERISATION

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**Abstract:** The Colibița cauldron benefits from important attractive resources and represents an area with a touristic vocation, as ever since the beginning of the 19<sup>th</sup> century and up to the year 1976 a climacteric resort functioned here. Nowadays the local and district authorities stipulate the re-launching of this resort and the optimal capitalization of every attractive resources hereby. Tăul Zânelor is a mountain lake situated in the south-eastern part of the cauldron and, thanks to its morpho-functional features, it represents an attractive objective acknowledged both locally and regionally. In this context, the present study is meant to bring a series of information of a genetic-evolutional order, so as to emphasize the role of the geomorphologic factors in shaping the touristic image of the lake, of the surrounding area and cauldron limits, as well as to imagine future touristic products that rely on the relief's attractiveness.

**Key words:** *morphotourism, mountain lakes, Tăul Zânelor, Colibița*

### I. INTRODUCTION AND METODOLOGICAL CONSIDERATIONS

The District Council of Bistrița-Năsăud and the City Hall of Bistrița Bârgăului have a project to re-launch the touristic resort of Colibița. Therefore, the present material is intended to analyze from a geomorphotouristic perspective one of the attractive landmarks within this area, namely Tăul Zânelor.

This geomorphohydrographic site has been researched along with years in order to understand both the dynamics of its reports with environmental factors and its solicitation as touristic objective. Henceforth, there have been made measurements of the lacustrine basin, observations on the morphodynamic processes (washing, flowing, colmatage), on the antropic and pressure factors (pasturage, clearings, touristic activities) and hydrological (evolution of water level and lacustrine surface, alimentation sources), as well as photos taken in different periods of the year for a comparative study.

Our demarche has as main goal to clarify some morphogenetic aspects and emphasize their attractive valences for the touristic act. Although within the space of the Colibița cauldron the main landmark for relaxing activities is the reservoir, there is a segment of tourists who are interested in morphotouristic objectives, among which Tăul Zânelor is to be mentioned. Therefore, the data obtained during our research can lead to increasing the motivation for the

practice of some specific forms of tourism such as: scientific, route or thematic tourism. Likewise, this study can be the basis for future improving and capitalization actions in what concerns Tăul Zânelor.

## II. ANALYTICAL ASPECTS

Tăul Zânelor is a mountain lake situated in the south-eastern part of the Colibița cauldron, at the base of the ridge “Chicera lui Pasăre”, at an altitude of 1260 m. The morpho - environmental analysis points out certain particularities concerning its genesis, thus increasing the degree of its attractiveness. So, the lake is situated at the contact of a steep slope with a large deluvio-coluvial terrace that dominates a glacis prolonged towards the Colbului valley.

This residual slope is part of a more ample erosion front carved on the southern side of the cauldron space, within the volcanic-sedimentary plateau of the Călimani mountains, between Șaua Scurtu and Cheile Bistriței, under the ridges Piciorul Scurt (1491 m)-Chicera lui Pasăre (1508 m)-Țiganca (1393 m)-Fundu Secului (1323 m) and Dl. Calului (1570 m)-Piatra lui Orban (1462 m). The amplitude of this front is of 200-300 m, and its shaping took place in the superior pliocene along with the cauldron's carving. In this period as well there takes place the finalization of glacis at the base (glacis of Colibița), between Cheile Bistriței and the Valley of the Tirimiul de Sus.

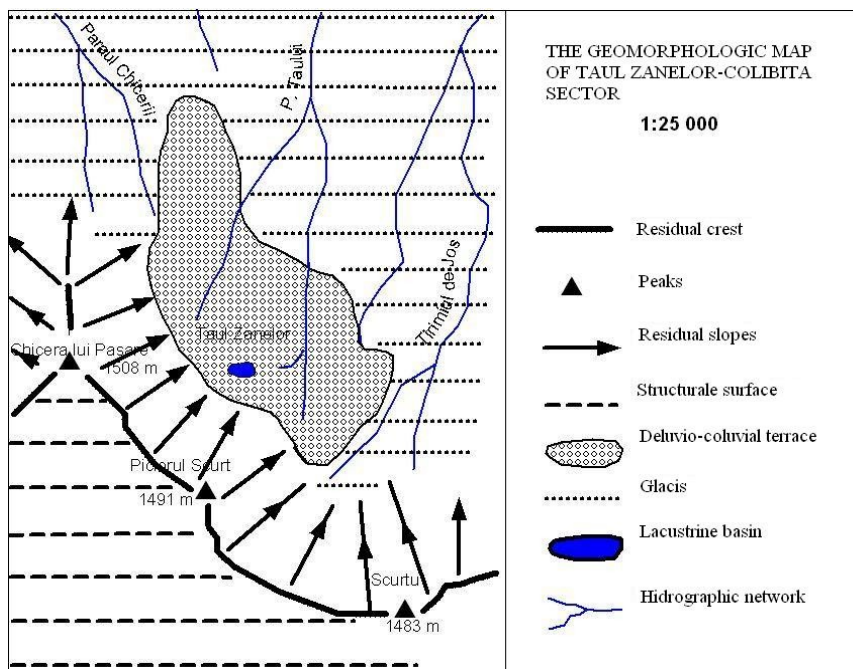


Fig.1- The geomorphological map of Tăul Zânelor-Colibița sector

In the periglacial period the morphogenetic processes strongly shaped this sector, accentuating the older lines of the relief and generating specific ones with a high attractive potential (crests and residual peaks, abrupts, isolated rocky formations, dim valleys, accumulations of detritus, provenance basins).

Returning to the area of Tăul Zănelor, there is to be shown that the deluvio-coluvial terrace sheltering the lake individualized itself by the end of the periglacial period through the accumulation of materials detached from the steep slope between the peaks Piciorul Scurt and Chicera lui Pasăre, under the action of gelifraction processes and lies between Pârâul Tirimiul de Jos, at east, and Pârâul Chicera, at west (*fig.1*). This promontory comes in contact with the glacis from the Colbului valley at 1200 m, and its mass has been fragmented by Pârâul Tăului in three short mountain tops, cut off at 1260-1300 m, out of which the most relevant from a touristic point of view is Culmea Tăului, situated in the central part (*fig.3*). The surface of this accumulative morphostructure is of 0.53 km<sup>2</sup>, and it consists of andesite blocks and volcanic deposits enclosed in an argillaceous matrix and fixed by dendritic vegetation.

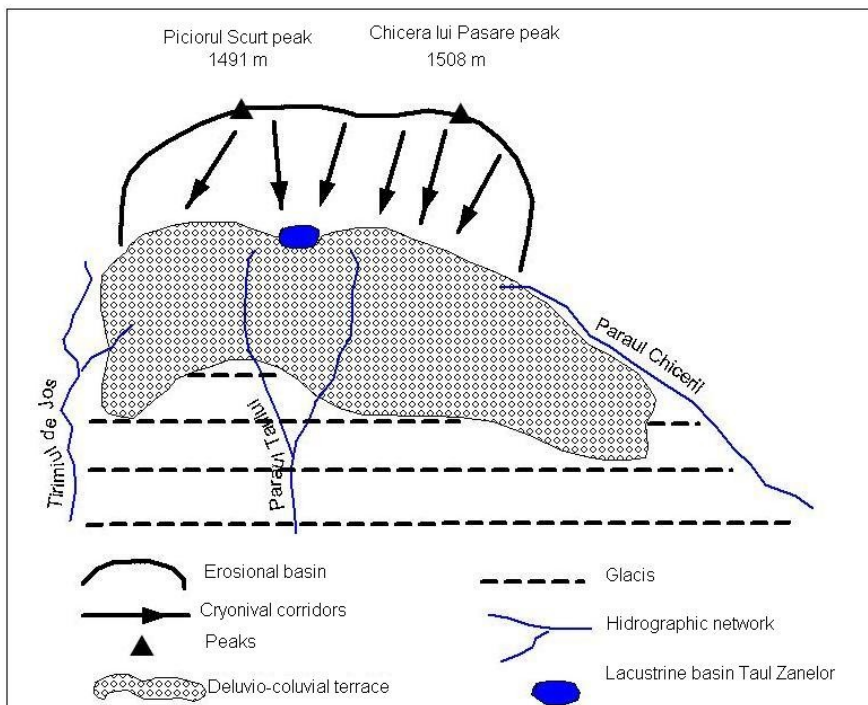


Fig.2- The morpho-functional scheme of the area Tăul Zănelor

The situation in the field shows that, at a certain point, the slope collapsed and the displacement of detritus on the surface took place in the central sector,

occupied by Poiana Tăului, probably through a rotational mechanism, a fact that led to the evacuation of these materials towards the front of the slope. Here, at the contact between the displacement body and the slope, there took shape a dislevelment which subsequently gave birth to the lacustrine basin.

This movement of the slope resulted in caveing-in basinet marked by the peaks Chicera lui Pasăre and Piciorul Scurt, and the polishing processes continued, a fact confirmed by the cryonival corridors on its facade. Through these cryonival corridors the detritus materials were evacuated and they accumulated like a bank slope at its base. Following these proceses there were built two large gelifract cones that closed the previously formed microcauldron both at east and west (*fig.2*).

This microcauldron might have sheltered a firm lens at that time, as the area was part of a cryonival level (700-1600 m), characterized by gelivo-nival processes during the cold season and pluvio-torrential ones during the warm period of the year. This lens of firm was not likely to melt even during summer seasons, and its weight may have contributed to the shaping of detritus layer and delineation of the future lacustrine basin.

In holocene, along with temperature raising, a first delineage of the lake occurred, and water accumulation was done gradually, as function of the forming of a waterproof ooze layer on the bottom of the lacustrine basin, under the action of streaming and washing processes that transported the finer material from the slopes around.

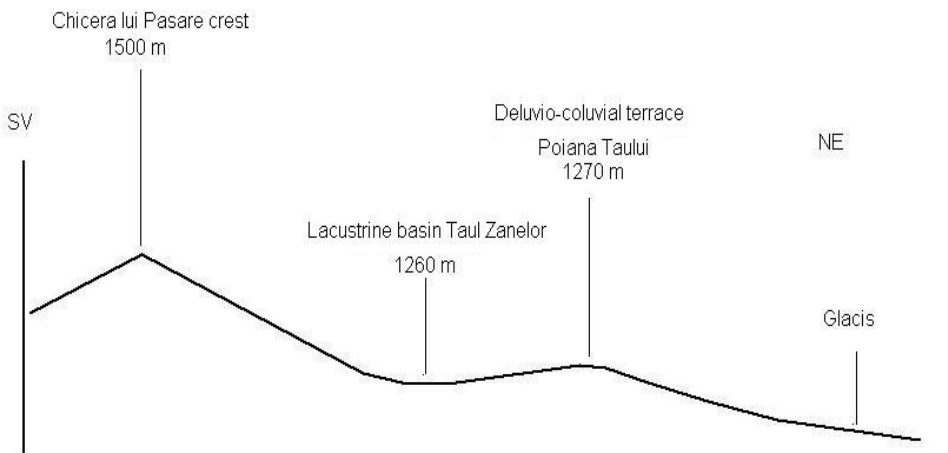


Fig.3-Geomorphic profile in the sector of Tăul Zânelor-Colibița

Tăul Zânelor has an oval shape, prolonged towards ENE-WSW, measures 75 m in length and 30 m in width, has a surface of approximately 1400 m<sup>2</sup> and its depth is over 4 m in the central area. Its bottom is covered with a brown ooze layer

of about 30-40 towards the basin's margins, and its banks are mainly covered by water sedge (*Carex pseudocyperus*), more present on the northern and eastern sides. The western and southern parts come into contact with the spruce forest. On the western part there can also be encountered tree trunks in an advanced stage of peatification, accompanied by some dwarf willows, fern and mosk. In the past, those tree trunks were to be found in the eastern part of the lake as well, but apparently they were removed by the sylvan authorities of Josenii Bârgăului who are in charge of the area.

The lake's dimensions underwent significant changes within the last 30 years of our observations. Thus, on the shallower eastern and northern shores, its surface got diminished by 3-5 m, due to hydrophilic vegetation (sedge), a fact confirmed by the comparative analysis of some photographic materials.

On the southern shore of the lacustrine basin, the contact with the steep slope underneath the peak Chicera lui Pasăre is marked by a detritic embankment composed by andesitic angular blocks insedimented and attached to the forest. On this surface, 2-3 m above the lake, a pastoral path was laint out coming from the east (Șaua Scurtului) and going towards west by the slope's base, until the Pănulețului valley. As we previously mentioned, on the eastern and western sides, the microcauldron sheltering the lacustrine basin is marked by high ledges, formed by two gelifraction cones descended from the slope in periglacial.

In the north-eastern part of the lake there lays Poiana Tăului (Tăului Glade), moulding the dumped surface of the body that crashed from the originary slope. This slightly inclines towards the lacustrine basin, has a surface of about 3 ha, a length of 250 m on the north-east-south-west direction and a width of 220 m on the lake's axis. Its configuration is a bit wavy, and on its surface there rise from underneath the soil andesite blocks rounded by subaerial erosion, having rather large dimensions, a fact which confirms the detritic origin of the substratum (fig.3).

From the glade's ledge, at an altitude of 1270 m one can admire the steep slope underneath the top Chicera lui Pasăre - Piciorul Scurt, the lacustrine basin, the cauldron area, the hummocks of Bârgău, the Blaja-Prislop top and the Bistricior masif.

The water supply is made by underground waters, rain and snow, and its level underwent no significant fluctuations within the latest period. As for the drainage, Tăul Zânelor has no direct emisaries but the flow of its waters is subterranean, facilitated by the permeability of detritic substratum, a fact confirmed by the presence of some springs next to its limits. Thus, on the sides of the deluvio-coluvial terrace, in the sector of Poiana Tăului, there are to be found the sources of the two affluents of Pârâul Tăului. The origins of the eastern affluent are marked by a spring with relatively large flow (4 l/min), situated in the immediate vicinity of the glade's exit point.

At this moment Tăul Zânelor is in a state of morpho-hydrodynamic and ecologic equilibrium, a fact that proves beneficial for tourism. By the Decision No.3 from March 14, 1995 of the District Council of Bistrița-Năsăud, the site was declared protected area having a status of complex reservation on a surface of 15 ha. The main protection and preservation objective is the lake and the lacustrine ecosystem, to which there are to be added different species of flora and fauna.



*Fig.3-The Lake Tăul Zânelor and Tăului Glade*

At the beginning of the years 1990 the forest on the southern side of the lake was thinned out, which led to the reactivation of flowing processes and subsequently exhuming detritic materials and forcing them down on the slopes. The highest pressure on the lacustrine basin comes on the north side, next to the glade, where water is shallower and the hydrofile vegetation extends rapidly.

Nowadays the forestry and pastoral activities (pen settlement) are forbidden in this area, whereas the touristic activities should be performed by abiding to specific norms meant to induce the lowest possible impact on the environmental components (lacustrine basin, pasture, forestry vegetation). In this context, it is necessary for the authorities of Bistrița Bârgăului and Forestry Domain of Josenii Bârgăului to initiate activities of area development such as building a wooden shelter in Poiana Tăului and a resting and camping place (tables, chairs, fireplace), placing belvedere platforms (over the lake and

surrounding landscape) and information boards, installing garbage disposal containers and revamping the spring at the glade's entry point as well as the access path to the lake, etc.

In spite of the rather small number of visitors, Tăul Zânelor remains, through its morphogenetic and physiognomic features, an important landmark of Colibița, one that attracts tourists from local, regional and national space. The access routes to this area are from both Colibița and the Valley of the Mureș, on marked tracks, and recreational activities can include ecotourism practices such as: strolls in the surrounding area, contemplating landscape from the ledge of Poiana Tăului, observing and listening to the birds (grouses can be encountered in the forests nearby), contemplating and studying the lake, etc.

### III. CONCLUSIONS

The outcomes of our research reveal that Tăul Zânelor is a mountain lake with a lacustrine basin formed by the end of the periglacial period through the downfall of the slope underneath the top of Chicera lui Pasăre - Piciorul Scurt. The morphotouristic context of the lake is characterized by some attractive elements such as: the residual slope, the lacustrine basin and the deluvio-coluvial terrace shaped by the downfall, within which one can distinguish Culmea Tăului, having a dominant position, with great view on the surrounding area.

The morpho-environmental analysis allowed us to have an insight of the genetic-evolutional processes that contributed to this lake's individualization so that, apart from the external physiognomic information which is significant in order to be aware of this objective's value, the tourist can be provided internal morphogenetic information meant to arouse interest and motivation to visiting and understanding the above mentioned lake.

By its morpho-functional features Tăul Zânelor represents a noticeable touristic entity within the Colibița cauldron, worth being capitalized as such, but only through ecotouristic practices meant to ensure the protection and preservation of its environment. In this sense, there ought to be actions of area development and widespread of the norms for ecotouristic behaviour, because Colibița is more and more affected by the mass tourism activities, often overdemanding for the environmental components of this area.

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