Delimination of the Szerencs-hilly country and the Harangod region, and the latter’s geographical conditions

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Abstract: The Harangod-region is the eastern part of the North-Alföld alluvial deposit slope. It is bordered by the Hernád from west, by the Gilip and Takta from east, and by the Sajó from south. Each and every author mentions a different northern border for the area. László Boros [1] draws the Szentistvánbaksa-Hernádkércs-Monok border between the Szerencs-hilly country and the Harangod region.

The rain and the dissolution water forms the slightly isoclinic area with surface and ruled erosion. The loamy layers beneath the loess are especially appropriate for runner, which lead to land slides, mostly in the Hernád’s left high banks, moreover the bank is destructed and ripped by the river’s undermines.

Keywords: creep, land border, loess, land slide

1. Introduction

The Harangod region is slightly mentioned in the books. The aim of my research is the geographical examination of the region, which partly extends to the natural elements that has some kind of effect on the local economy and settlement-network. The aim of this essay is to give a short introduction about the geographical capabilities of the region.

2. Material and Methods

In the literature, the micro-region is mentioned as Harangod or Harangod-region. It’s name has several origin. According to the most well known source, it got the name after the bells (in hungarian harang) of the hajdú lookout. These bells were clanged when the enemy got close in the 17th century, to arouse the
attention of the defenders in Rákóczi flocks around Szerencs. „And since that
time the whole province is still place of Harangod, Harangok.” [2].
Imre Galuska [3] doubts it, he mentions that the Harangod as a brook’s name
appeared earlier than the 17th century, although, it was not there (the Harangod
to the east from Csanád; the Harangó brook running down from the Cserehát to
the Hernád). He assumes, that the Harangod-brook got the name first, than the
settlement and after that the micro-region. The brook might got its name after
the catholic brazen-caldron (bell/harang) or after the blue-bells (harangvirág)
blooming on the banks [3].

3. Results and discussions

A. Delimination of the Harangod-region

The Harangod-region is the eastern part of the North-Alföld alluvial deposit
slope. It has a 350 km² area. It is bordered by the Hernád from west, by the
Gilip and Takta [1,4] from east, and by the Sajó from south. The northern
border is questionable.

In the Hungarian micro-region cadaster system [5] it only has 150 km²,
therefore the borders do not cover the real location. Based on the essay „A
kárpát-pannon térség tájtagolódása” [6] the accurate delimination is difficult,
because it does not contain a detailed micro-regional analysis.

Szerencs-hilly country’s (which is a micro-region in the Tokaj-mountains )
southern delimination [7] is easily identifiable with the two, above mentioned
author’s [1,4] line that deliminates the northern border of the Harangod: we
move up from the mouth of the Gilip-brooke, we arrive to the Majos-hill then
we move to north along the Kaptár- and Hosszú-hill, Ingvár, Nagy-Répás-peak,
to west we find the Tetétlen, Baksa-mound and at the end the border of
Szentivánbaksza (1. diagram).

Zoltán Pinczés [7] says the border between the Szerencs-hilly country and
Harangod-region is artificial, while László Boros [1] says the border is doubtful.
The most probable border is the above mentioned version. Above all, because
the area between the above mention line is a geographical unit, and if we take a
look at it’s land use, the micro-region is quite unified in that area too.

B. The evolution the Harangod-micro-region

The region’s oldest surfacial rocks can be finding in the northern parts of
the region, at the border of the Szerencs-hilly country. The technical literature
mentions it as the hilly country’s fifth [8] and third [7] range. The transition
between the two micro-regions is formed by the volcanic hills, which are in the right bank of the Gilip-brooke.

From south (Legyesbénye) to north the riolit-cones (domes) of Majos-, Kaptár-, Hosszú-hill and Inygár can be find, one after the other (Szerencs Riolittufa Formation, Kishuta Riolit Department). The line is closed by the Nagy-Répás-peak. It’s base rock is different. It is from acid pyroxene andesit (Baskó Andesit Formation). The formementioned hills are from the riolit bursts at the early-szarmata, the latter one is the result of the andesit volcanic action at the late-szarmata [9].

The region’s further evolution was helped by the pannon era’s seasuffusion, and it’s sediment-formation, where limestone, pebble, clay, sanded clay, and loamy sand were sedimentoed [1]. These are visibly layered e.g. at the Hernád’s highbank.

At the frontier of the early- and late-pannon, the Pannon-lake became swampy, smaller lakes rained, while the Hernád’s left bank lifted, and became lean. At the lifted, one-time boggy lakeshore, a slight coal-formation went on. Pál Rozloznik [10] describes this coal as lignite and coal-slate, while László Boros [1] mentions sub-bituminous coal. Nowadays we know, that according to the German nomenclature, the soft sub-bituminous coal is identical to lignite [1], therefore we can accept the term of sub-bituminous coal. This coal was mined between 1920 and 1950 by the local people in Alsódobsza and in its surrounding.

At the end on the pannon era, significant part of the Harangod-region became drought. This surface had given place to the rills that came form north until the end of the Pleistocene, among them, the sediments of the Ancient-Hernád [12].

In the Pleistocene, the Harangod-region was a periglaciar area. Due to the lack of rainwater, the rill’s sediment transportation was dropped, therefore the wind could blow out the fine dust from the silt-cones, and loess formation began. It’s thickness decreases from the Hernád’s highbank (Alsódobsza – 8m) to east [1].

C. Morphology, surface formation in our days

Nowadays, the silt-cone plain’s surface is mostly formed by water. The rainwater and the fusible-waters create derasion valleys with erosion, and deep caldrons with line erosion. The formementioned slowly forms the soil, grades the surface, while the latter, especially at sudden rainfalls, form fastly receding

\[^{1,2}\text{Regional eras}\]
gullets. Characteristically, these evolve in places with high relief energy, such as the Hernád’s highbank.

The most spectacular formations are in the Hernád’s highbank, and were formed by the sloping mass moves without supplier agent between Gibárt and Gesztely. It has two types: creep and ripping.

C. 1. Creeps

It’s formation is influenced by several factor. The most important is the runner. The pannon layers under the loess are the most appropriate for runners. In this case sand is proper water-conductor, and they evolve in the border of loamy, slobby layers [13]. These loamy, slobby layers are given in the pannon complex, while the water which is needed to the humidity flows through the loess, and it increases the weigh of the creeping layer. According to József Szabó [13], runners are usually evolve in the pannon layer, therefore it could not be linked directly to the first, under loess watertight layer. The necessary water amount is mostly from the spring thaw and summer rains, therefore creeps are more often these times.

Considering the creep types, the above soles are in the majority. The under sole and sole creeps are rare [13].

The form types are various. Tongue-shaped, coffin-shaped and staged creeps are occurent, and drawer creeps based on the coffin-shaped creeps slide clay [1].

Regarding their age, because there are no creeps covered, buried by loess, we can assume that there were no creeps before loess formation, else they were absolutely erosed [13].

C. 2. Ripps

Sloping mass moves without runner, the main cause is the sinuous Hernád’s bank demolition. The undermined, week, support less substance falls. We have documentation about younger creeps and ripps, because significant settlements had to move (e.g.: Alsódobsza 1740, Csanálos 1865, Söstófalva (Hoporty) 1870) [1,4].

D. Harangod-region’s climate

According to the climate classification of György Péczely [14], the region is in the warm-dry climate scope. The mean yearly temperature slightly differs from the national (10°C), it is 9,5 - 10°C. The yearly temperature oscillation is
The number of summer days is 80-90, while the number of swelter days could be 20-25.

The number of freezing days is 90-95, the number of winter days is 25-30. The number of coldest winter days is 10-15 [15].

From the agriculture’s aspect (which is the most important industry in the region) the most important period of the year, is when the temperature is constantly above 10°C, it is from 12 April until 15 October [1]. The number of snowy days is also important, regarding the frost defense in the case of the autumn fling. This is only 10-15 day in the Harangod-region [15]. The yearly fall amount is 525-550 mm, which is low in nation-wide.

E. Hydrogeology

The region is poor in constant surficial rills. The most significant waters are the Hernád, Gilip, Takta and the Sajó; these are also forming the region’s border. In it’s area, only the Harangod-brooke is significant, although this, and the Gilip-brooke are periodic at their spring. The reason behind the absence of larger, constant waters is the little rainwater, slight slope, and the loess’s good water-receiving feature. It is also poor in springs, layer-springs can be find in the Hernád’s highbank [1].

F. Soil

It’s soils are mostly loess based kastonozem, chernozem with secondary carbonates. Near by the watercourses fluvisol and solonetz are typical [5].

G. Natural flora and agriculture

Due to the plough lands, that cover 90% of the region, it’s natural flora can be find only in a few places. Significant, protected botanical associations can be find in the uncultivated areas. In the Hernád’s highbank, the erosing loess wall gives place to loess flora (heverő seprőfű, harasztos káposzta, apró nőszírom, etc.), tátorján (Crambe tataria), which is protected by the Megyaszó Tátortjános Nature Reservation. The inner rills of the region somewhere followed by swamp meadows [16].
4. Conclusion

Based upon the above mentioned facts, the Harangod-region’s research has to be continued in two lines. On one hand, nature- and land protection, because nature reserves has slight role in education, and interesting parts are waiting to be introduced and protected, such as the Hernád-high bank.

On the other hand, the analysis of the agricultural area’s potential, considering the preservation of the flora’s remains, and cultivation in accordance with the soil types.

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References


[10] Rozloznik, P. (1932), A Tokajhegyalja délnyugati részének a vele délfelől határos sík terület földtani viszonyai. (For the foot of the hill Tokaj southwestern part and from the...


