

THE PLANNED LANDSCAPE PROTECTION AREA IN THE WESTERN MECSEK HILLS, HUNGARY

ILDIKÓ HAVASI & TIBOR PARRAG

Duna-Dráva National Park Directorate, H-7625 Pécs, Tettye tér 9, Hungary
ddnp.biomon@ktm.x400gw.itb.hu

Summary

The Duna-Dráva National Directorate (Hungary) is planning to establish a new landscape protected area in the Western Mecsek Hills. This nature reserve would incorporate almost the whole karst surface and a large limestone area on 8000 hectare. We hope that this landscape protection will help to protect not just the karst phenomena but the landscape, the unique flora and fauna, and it will help a facility for recreation. This poster try to represent mostly the speleological and karstmorphological values.

Why do we need a new nature reserve?

The eastern part of Mecsek Hills is under nature protection as Kelet-Mecsek Tájvédelmi Körzet (Eastern-Mecsek Landscape Protection Area) since 1977 because of its flora and wildlife. Now we are working to prepare a new nature reserve in Western Mecsek Hills, which is partially karstland. The planned landscape protection will contain almost the whole karst and the sandstone surfaces. The total area of the planned nature reserve is approximately 8.000 ha, out of it the area of karst surfaces is altogether 5.000 ha. In this poster we would like to show the natural values of this karstland.

On the karst surface there are several kinds of karst phenomena (caves, dolinas, sinkholes...) and natural forest with unique flora. The karst is important water source of some settlements on the edge of hills. Every year more and more tourists visit the Abaliget-cave, our study trails and the peaceful hills and valleys. To preserve the naturalness and clearness of this land for the next generations the best way is to establish a huge, contiguous nature reserve.

The present state

Now there are four smaller nature reserve in Western Mecsek Hills: Melegmány Nature Reserve (on karstland), Jakabhegy Nature Reserve (on sandstone), the surface of Abaliget-cave and Pintér-kert (botanical garden on limestone). We have three study trails: Jakabhegy-hill study trail, Abaliget-cave study trail, and the Tettye-hill study trail. There are more than hundred known caves, four of them (Abaliget-, Kőlyuk-, Vízfő- and Mészégető- cave) are strictly protected. In Abaliget village there is the only one show cave of South-Transdanubia, the Abaliget-cave, every year visited by more than 50,000 people. The cave is under reconstruction.

The caves

The Mecsek Mountains is situated on the southern part of Transdanubia. It has a very complex geological structure. The western part of the mountains is built up of Middle Triassic well karstified limestones and dolomites. The karst area is about 35 km². In the southern neighbourhood of the limestone, Lower Triassic red sandstone and aleurolite areas can be found. They are source areas of small water courses which reach the limestone and disappear in sinkholes and re-emerge in springs on the edge of the hills. The subsurface streams could have carved several caves, but unfortunately just a few have been explored. The largest one is the Abaliget-cave which is about 1.5 km long and the main passage of the cave is utilised as a show cave. In one branch nice helictites are visible. Under the surface there are several hidden caves, waiting for exploration. Behind the 21 meters deep siphon of Vízfő-cave there is an unexplored cave which is maybe five or six kilometres long. We know several potholes, but they are not too deep and often filled by sediment. The deepest cave in Mecsek is Spirál-cave which is a sinkhole on the catchment area of Vízfő-spring. Its total depth is about 100 meters.

The Tettye- spring made a freshwater limestone hill on the southern foot of Mecsek and there is a more than 100 meters long cave in this rock. In the caves of the southern Miocene limestone the evidence of man from the Iron age was found. Some caves contain fossils mainly from the Pleistocene age (e. g. mammoth bones).

The surface karst phenomena

On the karst surface of Western Mecsek Hills we can find lots of dolinas, their diameter is between 10 and 50 meters and some of them deeper than 10 meters. The bottom of few dolinas are covered by clay so we can see small lakes in these dolinas. Dolinas have special climate as it is indicated by the vegetation. The former surface streams carved valleys into the limestone. Due to the surface sedimentation some valleyfloor covered by beautiful freshwater limestone steps as it visible in the Melegmány and Magymély valleys. In the deep, young, erosion formed valleys sometimes we can see waterfalls, when the streams flow over the sinkholes. On the southern slopes there is karrenfield which is hardly covered by soil.

The karstwater

The karstwater has been very important source of drinking water for ages. The annual yield of the biggest karst spring is app. 2 million m³/ year. Four karst springs are utilised as water supply. The Tettye spring have been utilised to supply the town of Pécs since the end of last century. In the eighties, when the utilisation was the most intensive, more than 1.5 million m³ water was used as drinking water. Unfortunately, the utilisation of spring caves caused several irreversible changes in the caves, dripstones and other speleothemes has been destroyed, passages has been enlarged and lot of concrete had been carried into the caverns. The karst springs have an another importance, because two of them supplies the artificial lake system in the Orfű valley. The lakes and holiday resorts are the one of the biggest recreational centre of Baranya county. We are sure that the nature reserve

will help to preserve or improve the water quality. Researches show, that the landuse has great influence on water quality. We studied the Vízfő spring, which catchment area covered by forest and Mészégető spring of which catchment area partially used as vineyard and holiday estate.

The sandstone surface

The sandstone Jakab Hill is the highest point of Western Mecsek Hills (592 m). On the top of the hill we can find the ruin of a Celtic earthwork and tumulus, inside the earthwork we can see a newer ruins of a monastery from the 13th century. On the steep southern slope we find the famous viewpoint of Zsongorkő, from where almost the whole plain of Dráva river is visible. Another geomorphological interests is the Babás Szerkővek, the natural sculpture from sandstone formed by the wind. The soil has low pH values, so there is special flora, its rare and protected plant is the *Vaccinium vitis-idaea*.

The flora and fauna

Almost the whole Mecsek Hills are under the influence of submediterranean climate consequently the Mecsek has unique flora in Hungary. Almost the whole planned landscape protection area (insist on the karst) is covered by forest. On the steep southern slopes we find karst brush forest with *Quercus pubescens*, *Fraxinus ornus* and *Cotinus coggigia* with several protected species (*Ophris cornuta*, *Adonis vernalis*, *Orchis purpurea*...). The top of the hills and the northern slopes are covered by oak and beech forests, the most common tree species are *Quercus petrea*, *Quercus cerris*, *Fagus sylvatica*, *Carpinus betulus*. In the deep valleys the *Fraxinus excelsior* and *Acer platanoides* are abundant. Bellow the trees we can see several submediterranean species, e.g. *Ruscus aculeatus*, *Thamus communis*, *Orchis simia*, *Asperula taurina*, *Convulvulus cantabrica* in the cool valleyeflors the *Phyllitis scolopendrium*, *Lunaria rediviva*, *Stachys alpina* are often visible. In the future the national park directorate have to defend the protected plants against the flower collecting tourists and we would like to minimise the amount of non-native coniferous species.

The caves are good habitats for several bat species, the Abaliget-cave is the most important bat hibernating and propagation place in South-Transdanubia (some species: *Rhinolphus ferrumequinum*, *Myotis dasycneme*, *Myotis daubentoni*....) In the grasslands along the streams we can find the nests of *Crex crex*, the lake system at Orfű village can provide habitat for *Lutra lutra*. Rare insects are *Rosea alpina*, *Isophya costata* and *Cordulegaster boltonii*.