

### 13. Herding in the karst

Due to the former breeding of household animals, grasslands and hay meadows rich in species with a mosaic-like structure have been created in the Aggtelek Karst. Unfortunately, a lot of hay meadows and pastures have been invaded by weeds or shrubs, and trees have begun to spread as a result of the declining number of grazing household animals. Typical endangered species of pastures are the cross-leaved gentian plant (*Gentiana cruciata*) and the stemless carline thistle (*Carlina acaulis*).



Cross-leaved gentian

### 14. Hay barn at Kuriszlán

Good quality hay gained from mountaneous hay meadows was used for feeding household animals in the winter. To be able to store and keep dry the hay, huge hay barns were built at the edges of hay meadows. These were wooden constructions without walls but with strong roofs.

### 15. Charcoal burning place

Charcoal burning as a main source for getting income had begun to spread at the forested areas of the Carpathians since the beginning of the 19th century. An even place was created so that woods could have been set up vertically to form a cone. It was covered with soil to be able to control a slow burning of the wood. To get a fine quality of charcoal, burning was made to last for 8-12 days depending on the size of the wooden cone. Then the soil layer was removed and the ready charcoal was separated according to the quality. Unfortunately, nowadays charcoal burning is ceased to exist in the surrounding areas and this way an ancient knowledge is lost.

### 16. Top of the Vine Hill

According to historical records, fruit trees were already planted at the lower or on the upper parts of vineyards in the area in the 12th-13th centuries. Regularly mowed grasslands rich in species have been evolved under the fruit trees. In the spring plenty of flowers are in bloom around the small wine cellars. One of the most beautiful flowers is the endangered lax viper's-bugloss (*Echium russicum*).



Owlfly

### 17. Vineyard Hill of Jósvalfő, „Kónya” Peak

In the old times the warm southern slopes were used as vineyards by inhabitants of nearly all the villages of the area. Unfortunately, about 100 years later wine production ceased to exist because of the devastating phylloxera disease. Some of the vineyards were replanted by resistant species imported from America but in much less number, most of the slopes were planted by fruit trees.



Vineyard Hill of Jósvalfő

### 18. Wine cellars

Many small wine cellars were built along the narrow trails of the Vineyard Hill. Most of the cellars indeed are underground and small houses providing a suitable places for squeezing grapes were built above them. Stones were removed from the vineyards and carried to the edges of properties, now they look like low stone walls.

### 19. Fruit tree seedling nursery of the Aggtelek National Park

„Téli aranypármén”, „simonffy piros” – these are old local apple types that cannot be bought in big stores recently. Actually, these local types had been improved for centuries in a way that they would be well-adapted to the local microclimate. About a dozen plum and pear varieties, more than two dozens of apple types as well as many cherry and walnut varieties were known. Although, they are not so „decorative” like fruits available in stores nowadays but still very tasty and even richer in vitamins. The purpose of the national park is to conserve the genes of these old varieties in the fruit tree seedling nursery so that they can be replanted in the local gardens.



### 20. Jósva Valley

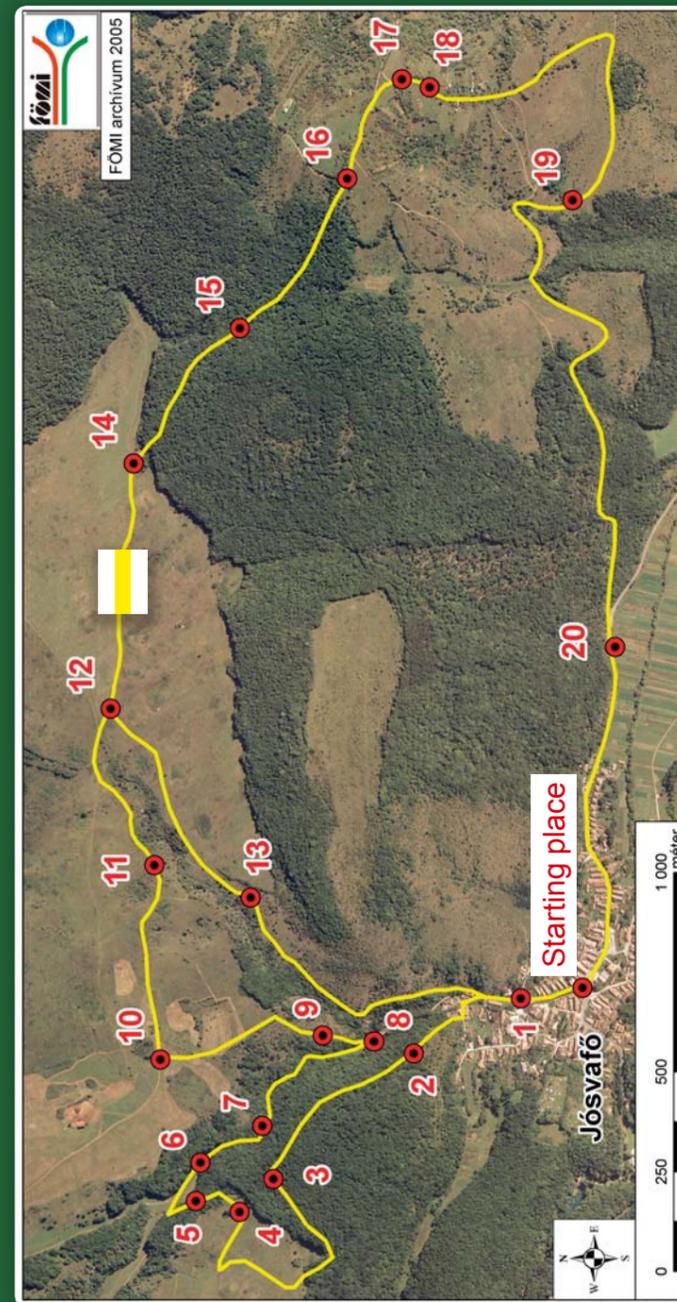
Farming used to be typical in those valleys and plateaus where the soil layer was thick. Several small farmlands being relatively narrow, „belt-like” fields were created and pesticides and herbicides were not used. Fortunately, they still exist surrounding many villages of the area and are still suitable habitats for those plant and animal species among which several ones have disappeared in the other parts of Hungary because of industrial agriculture.

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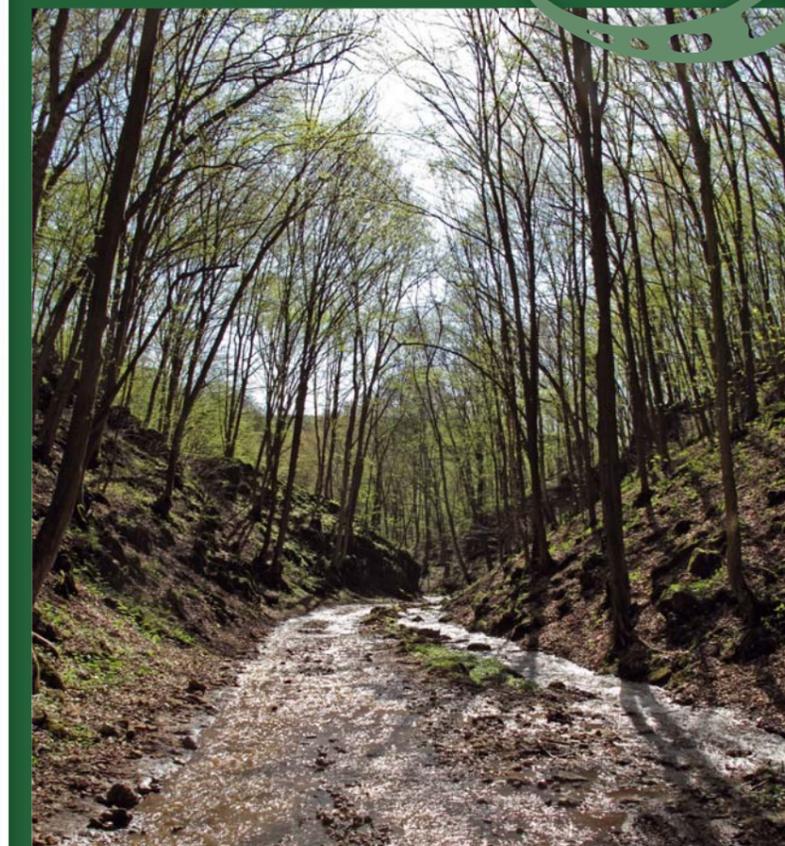
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English

## Tohonya-Kuriszlán Education Trail



Building  
partnership



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Mark: yellow line 

Length: 1-13. stops: 4 km, 13-20. stops: 6 km

Duration: 1-13. stops: about 2,5 hours, 13-20. stops: about 3 hours

By hiking the education trail starting from Jósvalő, the special landscape, karst features and most characteristic habitats of the Aggtelek National Park can be observed. Please, stay on the marked trail so as not to step on endangered, and beautiful plants and disturb animals. Have a pleasant and unforgettable holiday in the region!

### 1. Kúria Environmental Education Centre of the Aggtelek National Park

The Environmental Education Centre of the Aggtelek National Park can be found in the mansion of a former gentry family. Several lectures, education programmes in field, crafting programmes and forest school programmes are provided for kindergarten and primary school children.



Kúria

Specimen of the hucul horse breed can be observed at the stable in the yard.

### 2. Hay meadow next to the village

Without human intervention almost the whole area of the Aggtelek National Park would be covered by forests. Hay meadows, pastures, farmlands were created by cutting off trees resulting in a change of the structures of forests. At the same time, habitats having a mosaic-like structure and being rich in species have evolved.

### 3. A dolina with a forest

Dolinas are the most characteristic and most common surface formations of the karst. They are similar to round or oval bowls and have been evolved by solution of limestone. The dolina at the stop is covered with a horn-



beam-oak forest. Due to the thick foliage of the two tree stratum, there are only a very few shrub species in the forest. Early in the spring the undergrowth is like a colourful carpet because of corydalis species (*Corydalis sp.*), anemones (*Anemone sp.*), rue leaved isopyrum (*Isopyrum thalictroides*), but in the summer only the dark green leaves of the European ginger (*Asarum europaeum*), some specimens of Turk's cap lily (*Lilium martagon*) and the bird's nest orchid (*Neottia nidus-avis*) can be observed.



Turk's cap lily

### 4. Swallet of the „Szabó” Well

The swallet has evolved at the bottom of a rather small dolina where rainwater broadened a rupture. There are scattered trees around it, the thick soil layer at the edge of the dolina is always wet due to rainwater continuously flowing from the surrounding hill-slopes towards this place. The swallet leads rainwater into the so called „Szabó” Well which is only some hundreds of metres far from here.

### 5. Location of an ancient spring

Some time ago rainwater from the swallet of the „Szabó” Well probably did not get into the Well itself, but the underground water was brought to the surface by those currently dry springs which can be observed at the bottom of the rock wall close to the stop. If a visitor goes close to the holes of the former springs, wind can be sensed supporting the fact that there are longer passages within the rock. Due to the evolution of the Tohonya Valley, the underground water comes to the surface at a deeper elevation that is actually at the bottom of the valley.

### 6. Tufa dams (tetaratas)

The water of the stream of the „Kis-Tohonya” spring is rich in carbon-dioxide and dissolved lime. While the water flows through small dams evolved from small rocks and branches, it sprinkles many tiny waterdrops from



which carbon-dioxide evaporates and a very little amount of lime seduces on the surface of the dams. The bigger is the dam, the more waterdrops it sprinkles and this way the more lime seduces. Tufa evolving on branches has a very light structure because of tiny holes.



Tufa dams

### 7. Tohonya Valley

The zig-zag line of the valley refers to fractures intersecting one another.

It is a typical cold, humid, dark and narrow canyon with steep rocky slopes providing a characteristic forest habitat for many species. However, the Tohonya Valley is rather short so its flora and fauna also consist of species of hornbeam-oak forests. There are several fern species in the valley e.g. common polypody (*Polypodium vulgare*) and maidenhair spleenwort (*Asplenium trichomanes*). Early in the spring when there is plenty of water in the stream, a rare bird, the grey wagtail (*Motacilla cinerea*) can be observed.



Grey wagtail

### 8. „Nagy-Tohonya” Spring

Kossuth Cave is a sloping fracture cave with narrow ends both at its bottom and top. There is a lower passage full of water at the section of the cave being close to the entrance. The underground water of this lower passage enters the surface at several places, they are called the „Nagy-Tohonya” Spring. When there are big floods, the cave entrance itself also becomes a spring. According to the ebb and flow phenomena, the flow rate of the „Nagy-Tohonya” Spring is sometimes higher, then lower. Interestingly, when the flow-rate is low, the temperature of the water is about 15°C, when there is a big



flood it is about 11°C. It is supposed that the cold karst water is mixed with warmer deep underground water that is why the temperature is changing according to the amount of water.

Ez itt nagyon felcsúszott.

### 9. Horsemen's trail

The trail can be found on a very steep slope, where the fertile soil layer is very thin. Slope steppes and rock grasslands can be observed housing characteristic species like house-leeks (*Sempervivum sp.*) and stonecrops (*Sedum sp.*). Not far from both sides of the trail scattered downy oaks (*Quercus pubescens*) can be seen where succession of grasslands has already been going on.



„Nagy-Tohonya” Spring

### 10. Hucul stud

The hucul stud can be found close to the stop. The small-bodied hucul was originally bred in the Carpathian Mountains. This horse is closely related to the Asian wild horses and it still has characteristic ancient features like a dark line on the middle of the back and zebra-like stripes on the legs. It is able to endure harsh conditions and carry heavy loads on rough terrains. It has a very calm manner that is why nowadays it is used for riding by children, and also coach-riding. Now it is bred by the Aggtelek National Park in Hungary for the purpose of gene conservation as well as managing pastures.



Hucul horses on Gergés Plateau



### 11. Rocky peak

The area is a grassland with high grass species and numerous flowers in the spring and summer such as the spring adonis (*Adonis vernalis*) and the greater pasque flower (*Pulsatilla grandis*). It provides habitat for several butterfly and bird species like the red-backed shrike (*Lanius collurio*), Saxicola torquata, woodlark (*Lullula arborea*). Predatory birds e.g. common buzzard (*Buteo buteo*) and goshawk (*Accipiter gentilis*) looking for their preys can also be observed above the grassland.



Spring adonis

### 12. View point: a look onto the slope of the „Nagy-oldal”

The Aggtelek National Park was declared to be a Biosphere Reserve by UNESCO in 1979. The most valuable as well as the core area of the national park is the „Nagy-oldal” (Great Slope) that can be found on the plateau and steep southern slope of the highest part of the hill (the highest point of the national park is „Fertős” Peak at 604 m elevation). The slope at the bottom of the hill is not so steep that is why it is covered with a thick soil layer and an oak forest. Mosaics of karst scrub forests, rocky grasslands and slope steppes can be seen on the steeper part of the slope and the plateau. Grasslands provide habitats for several rare endangered species from which the most interesting one is the threatened dragonhead (*Dracocephalum austriacum*).



Dragonhead