# Information Sheet on Ramsar Wetlands

*Categories approved by Recommendation 4.7 the Conference of the Contracting Parties*

NOTE: It is important that you read the accompanying *Explanatory Note and Guidelines* document before completing this form.

**1. Date this sheet was completed/updated:**

Completed: 26.11.1999.

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DD MM YY

Designation date | Site Reference Number

**2. Country:** Hungary

*Region:* Borsod - Abaúj - Zemplén County,
*Districts:* Aggtelek, Jósvafő

**3. Name of wetland:** Baradla Cave System and Related Wetlands

**4. Geographical coordinates:** latitude: min. 48°26'26" max. 48°29'24"
longitude: min. 20°27'56" max: 20°33'28"

**5. Altitude:** (average and/or. max. & min.) 318,3-484,6 m.

**6. Area:** (in hectares). 2075,196 ha

**7. Overview:** (general summery, in two or three sentences, of the wetland's principal characteristics)

The Baradla Cave System is the Hungarian part of the 25 km long Baradla-Domica Cave System that is a typical and the largest subterranean hydrological system of the karst plateau in the territory of Hungary and Slovakia. The site is listed as a representative part of a bilateral UNESCO Biosphere Reserve and the World Cultural and Natural Heritage site. The site is characterised by a permanent subterranean stream, ponds, rich dripstone formations and diverse representatives of subsurface fauna as well as rich archeological findings. The cave has more levels.

**8. Wetland Type** (please circle the applicable codes for wetland types as listed in Annex I of the *Explanatory Note and Guidelines* document.)

**marine-coastal:** **A . B . C . D . E . F . G . H . I . J . K**

**inland:** **L . M . N . O . P . Q . R . Sp . Ss . Tp . Ts . U . Va . Vt . w . Xf . Xp . Y . Zg . "Zk"**

**man-made:** **1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9**

**Please now rank these wetland types by listing them from the most to the least dominant:**

**9. Ramsar Criteria:** (please circle the applicable criteria; see point 12, next page.)

**1a . 1b . 1c . 1d ¶ 2a . 2b . 2c . 2d ¶ 3a . 3b . 3c ¶ 4a . 4b**

**Please specify the most significant criterion applicable to the site: 1d (2d)**

**10. Map of site included? Please tick** ***yes*** ☐ **-or-** ***no*** ☐

(Please refer to the *Explanatory Note and Guidelines* document for information regarding desirable map traits).

**11. Name and address of the compiler of this form:**

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***Please provide additional information on each of the following categories by attaching extra pages*** **(please limit extra pages to no more than 10):**

**12. Justification of the criteria selected under point 9, on previous page.** (Please refer to Annex II in the *Explanatory Note and Guidelines* document*).*

The Baradla-Domica Cave System with its hydrological system and water-related endemic species is one of the finest and most complex karstic developments at medium altitude in the temperate zone.

**13. General location:** (include the nearest large town and its administrative region)

Miskolc with appr. 200 000 inhabitants is situated 70 km far from the Biosphere Reserve.

**14. Physical features:** (e.g. geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth water permanence; fluctuations in water level; tidal variations; catchment area; downstream area; climate)

**Topography**: Low, karstic mountain region with a maximum altitude of 484 m. The area consists of limestone of Wetterstein, Steinalm and Gutenstein types and some dolomites.

**Climate**: The climate is humid continental with long summers. The Carpathian Mountains have relatively strong climatic influence upon the area. The average annual temperature is rather low (8.2 °C) and the average temperature is only 15.5 °C in the growth season, such value can be measured only at the higher mountains of Hungary. The annual precipitation was between 600-700 mm but it significantly decreased during the last years, with an average of about 400-500 mm. The local microclimates are strongly influenced by the relief.

**Geology and geomorphology:** The Baradla-Domica Cave System is built up mainly of Triassic limestone with some dolomite. The Pelsőc-Aggtelek-Égerszög capture line goes here, which is the border of the covered and uncovered karstic area. The sinkholes of the cave system can be found along this capture line. The area is showing all the typical features of karstic region of medium height, such as small valleys, perennial- and large-discharge springs, brooks, scarcely forested or barren rocky mountain-sides and large dry dolines.

**Soils:** The variety of soil types reflects the heterogeneous geological composition of the region. Limestone, dolomites and their scree at the base of slopes are covered by the product of long-term weathering and residual soils (*terra rossa*). Brown rendzinas, common rendzinas and luvisols occur on the lower slopes of valleys, where gravels or clayey materials have accumulated through the weathering of limestones. Cambisols and rendzinas are characteristic of plateau sites with fewer fine karstic forms and with thicker weathering deposits, often continuously covered by oak-hornbeam forest. In the basins, brown soils are found on the margins, and hydromorphic floodplain and floodplain gley soils in the floodplains.

**15. Hydrological values:** (groundwater recharge, flood control, sediment trapping, shoreline stabilisation etc.)

Groundwaters and surface waters of the Baradla-Domica Cave System

1.Groundwaters

1.1. Karstic water

As the Baradla-Domica Cave System is in a karstic region, the major part of the groundwater is stored in the tectonic fissures, fractures and dissolutional cavities of the karstified Triassic

limestones and dolomites. The recharge derives from the rainfall infiltrating through the surface, and from meteoric waters flowing into the karst system through sinkholes.

1.2. Confined groundwater
In the Baradla-Domica Cave System area confined groundwater occurs only south from Aggtelek, in the 50-100 m thick Pannonian clayey-sandy-pebbly sediments. This sequence is considered more or less impervious because of its clay content, therefore only 5% of the rainfall can infiltrate. A part of the infiltrating water feeds the karst beneath, another part flows laterally towards the springs on the south. Some local springs discharge on the surface of the clayey pebble horizons.

1.3. Unconfined groundwater
Unconfined groundwater occurs only in the valleys of major streams, and in the fluvial pebbly sediments of basins.

2. Springs
Springs can be best characterised by discharge, which is determined by the geological-morphological build-up of the catchment area, and basically by climatic conditions (rainfall, evaporation, melting). Depending on these conditions, the discharge of a spring may vary between a few l/min and a few thousand l/min. In this area the Jósva spring has the biggest discharge with a minimum of 3900 l/min and a maximum of 450.000 l/min (and even 1.200.000 l/min in 1959!). In certain springs the lunisolar effects were demonstrated.

3. Surface waters
The area is part of the catchment area of the Sajó river, which flows into the Tisza.

4. Still waters
The surface of the Baradla-Domica Cave System is poor in still waters, the territory of them is small. The most well-known is the pond Vörös-tó, which formed in a doline due to its plug by clay. The Vörös-tó can dry out during long dry seasons. The pond has developed at the end of the last century in the area of a doline, which clogged up with clayey sediments, which were eroded from the adjacent slope after the demolition of the vineyards. Another important example is the pond Aggteleki-tó, which was formed by filling up of the sinkhole of the "Törökmecset" side-passage.
Some artificial ponds are known near to Aggtelek (flood prevention of the Baradla cave) and in the Baradla cave (rowing pond).

**16. Ecological features:** (main habitats and vegetation types)

**Habitats** according to the whole territory of Aggtelek National Park:

- caves
- stream, springs
- steppes, dry calcareous grasslands ad rocky grasslands,
- thermophilous forest fringes,
- humid grasslands and wet meadows,
- dry heathland,
- Juniper downs,
- tall herb communities,
- thickets,
- extrazonal beech forest,
- hornbeam and oak forest,
- termophilous oak forest,
- scrub forest with pubescent oak,
- ravine forest,
- rockforest,
- riparian communities with willow.

**Caves:**

*Important/Vulnerable species:*

Niphargus aggtelekiensis, Mesoniscus graniger, Duvalius hungaricus, Eukoenenia austriaca vagvoelgyii, Allolobophora mozsaryorum, Rhinolophus euryale, Rhinolophus ferrumequinum, Rhinolophus hipposideros, Plecotus austriacus, Plecotus auritus, Myotis nattereri, Myotis bechsteini, Myotis emarginatus, Myotis mystacinus, Myotis daubentoni, Myotis dasycneme, Eptesicus serotinum, Nyctalus leisleri.

**Springs and riparian forest with willow:**
*Important/Vulnerable species:*
Dryopteris carthusiana, Equisetum hyemale
Drusus trifidus, Sadleriana pannonica, Eudontomyson danfordii, Hyla arborea, Salamandra salamandra, Cinclus cinclus, Motacilla cinerea, Neomys fodiens, Neomys anomalus

**Bazophil marshfield** (*Carici flavae - Eriophoretum*)
*Important/Vulnerable species:*
Carex flava, Carex lepidocarpa, Dactylorchiza incarnata, Eriophorum latifolium, Epipactis palustris.

**Wet meadows** (*Cirsio cani - Festucetum pratensis, Junco-Molinietum*)
*Important/Vulnerable species:*
Achillea ptarmica, Betula pubescens, Carex nigra, Dactylorchiza majalis, Epipactis palustris, Gentiana pneumonanthe, Iris sibirica, Salix aurita.
Maculinea teleius, Phragmatiphila nexa, Helix pomatia

**17. Noteworthy flora:**(indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important etc.)

**Endangered or threatened "red Book" plant species:**
*Centaurea sadleriana (IUCN European Red Book)*

**Endangered or threatened species identified at the national level:**
*Adenophora liliifolia (Hungarian RB - actually endangered species)*
**Dactylorhiza majalis (Hungarian RB - actually endangered species)*
**Epipactis palustris (Hungarian RB - actually endangered species)*

**Other important plant species protected at national level:**

| | |
|---|---|
| **Betula pubescens* | *Jurinea mollis.ssp. macrocalathia* |
| **Eriophorum latifolium* | *Neottia nidus-avis* |
| *Carex brevicollis* | *Phlomis tuberosa* |
| *Daphne mezereum* | *Phyllitis scolopendrium* |
| *Dentaria glandulosa* | |

* vulnerable species of different wetlands

**18. Noteworthy fauna:** (indicating, e.g., which species are unique, rare, enendangered, abundant or biogeographically important ; include count data, etc.)

The extended underground world of the Aggtelek & Slovak Karst including the Baradla-Domica Cave System, provides a habitat for more than 500 species of troglobite, troglophile and trogloxene animals including endemic species as well as species first described from this region.

The biospeleological research in the Baradla Cave started as early as the middle of last century. In 1932 Endre DUDICH described already 262 species from the cave, which number

was unique in Europe that time. In 1970 435 species were described including *Protozoa, Nematoda, Rotatoria, Annelida, Crustacea, Diplura, Coleoptera, Diptera, Palpigradi*, *Araneidea,Acaridea, Mollusca,* and *Mammalia*. From among species first described from this region, ***Duvalius hungaricus*** (*Coleoptera*) is an endemic troglobite species living exclusively in the caves of Aggtelek & Slovak Karst; for ***Allolobophora mozsaryorum*** (*Annelida*) Baradla Short Lower Cave is the only known habitat; while ***Mesoniscus graniger*** (*Isopoda*) and ***Niphargus aggtelekiensis*** (*Amphipoda*) are prominent by their large populations and ecological significance.

***Cave-dwelling endemisms:***

*Niphargus aggtelekiensis*
*Mesoniscus graniger*
*Duvalius hungaricus (Hungarian RB - actually endangered species)*
*Eukoenenia austriaca vagvoelgyii*
*Allolobophora mozsaryorum*

**Endangered, threatened or protected animal species on the surface*:***

## Orthoptera

*Tettigonia caudata (Hungarian RB - actually endangered species)*

## Coleoptera

*Carabus arcensis*
*Carabus cancellatus*
*Carabus convexus*
*Carabus coriaceus*
*Carabus glabratus*
*Carabus hortensis*
*Carabus intricatus (IUCN Red List)*
*Carabus ullrichi*
*Carabus violaceus*
*Abax schueppeli*
*Lucanus cervus (Hungarian RB - actually endangered species)*
*Anthaxia hungarica (Hungarian RB - actually endangered species)*
*Meloe autumnalis (Hungarian RB - actually endangered species)*
*Potosia aeruginosa (Hungarian RB - actually endangered species)*
*Trichoferus pallidus (Hungarian RB - critically endangered species)*

## Trichoptera

**Drusus trifidus (Hungarian RB - actually endangered species)*

## *Lepidoptera

*Papilio machaon*
*Iphiclides podalyrius*
**Maculinea teleius (IUCN Red List, Hungarian RB - potentially endangered species)*
*Satyrium ilicis*
*Brenthis ino (Hungarian RB - potentially endangered species)*
*Argyronome laodice (Hungarian RB - potentially endangered species)*
*Pandoriana pandora (Hungarian RB - potentially endangered species)*
*Neptis sappho (Hungarian RB - potentially endangered species)*
*Limenitis populi (Hungarian RB - actually endangered species)*
*Apatura iris (Hungarian RB - actually endangered species)*
*Apatura ilia (Hungarian RB - potentially endangered species)*
*Charissa (Gnophos) pullata (Hungarian RB - actually endangered species)*
*Oria musculosa (Hungarian RB - critically endangered species)*
*Phragmatiphila nexa (Hungarian RB - actually endangered species)*
*Chersotis fimbriola baloghi (Hungarian RB - potentially endangered species)*
*Euxoa distinguenda (Hungarian RB - actually endangered species)*

## Amphibia

*Triturus cristatus (IUCN Red List)*
**Salamandra salamandra*
**Rana temporaria*
*Rana dalmatina*
**Bombina variegata*
*Bombina bombina (IUCN Red List)*
**Hyla arborea (IUCN Red List)*

## Reptilia

*Ablepharus kitaibelii (Hungarian RB - critically endangered species)*
*Anguis fragilis*
*Lacerta agilis*
*Lacerta viridis*
*Natrix tesselata*
*Natrix natrix*
*Elaphe longissima*
*Coronella austriaca*

## Aves (only species included in the Hungarian Red Book)

*Aquila heliaca (IUCN Red List, Hungarian RB - critically endangered species)*
*Circaetus gallicus (Hungarian RB - critically endangered species)*
*Pernis apivorus (Hungarian RB - actually endangered species)*
**Ciconia ciconia (Hungarian RB - actually endangered species)*
**Ciconia nigra (Hungarian RB - critically endangered species)*
*Tetrastes bonasia (Hungarian RB - critically endangered species)*
*Perdix perdix (Hungarian RB - actually endangered species)*
*Coturnix coturnix (Hungarian RB - actually endangered species)*
*Otus scops (Hungarian RB - actually endangered species)*
*Strix uralensis (Hungarian RB - actually endangered species)*
*Dryocopus martius (Hungarian RB - actually endangered species)*
*Dendrocopos medius (Hungarian RB - actually endangered species)*
*Dendrocopos leucotos (Hungarian RB - actually endangered species)*
*Corvus corax (Hungarian RB - actually endangered species)*
**Cinclus cinclus (Hungarian RB - critically endangered species)*
*Parus cristatus (Hungarian RB - actually endangered species)*
*Monticola saxatilis (Hungarian RB - actually endangered species)*
*Lanius minor (Hungarian RB - actually endangered species)*
*Emberiza cia (Hungarian RB - actually endangered species)*

## Gastropoda

**Sadleriana pannonica (IUCN Red List, Hungarian RB - actually endangered species)*
*Helix pomatia*

## Cyclostomata

**Eudontomyzon danfordi (IUCN Red List)*

## Mammalia

**Neomys fodiens*
**Neomys anomalus*
*Rhinolophus euryale (IUCN Red List, Hungarian RB - actually endangered species)*
*Rhinolophus ferrumequinum (IUCN Red List)*
*Rhinolophus hipposideros (IUCN Red List)*
*Plecotus austriacus*
*Plecotus auritus*
*Myotis nattereri*
*Myotis bechsteini (IUCN Red List, Hungarian RB - critically endangered species)*
*Myotis emarginatus (IUCN Red List, Hungarian RB - critically endangered species)*
*Myotis mystacinus*
*Myotis myotis*
*Myotis blythi ox.*
*Myotis daubentoni*
**Myotis dasycneme (IUCN Red List)*
*Miniopterus schreibersi (IUCN Red List, Hungarian RB - actually endangered species)*
*Eptesicus serotinus*
*Nyctalus leisleri (IUCN Red List, Hungarian RB - actually endangered species)*
*Pipistrellus pipistrellus*
*Nyctalus noctula*
*Sciurus vulgaris (IUCN Red List)*
*Citellus citellus (IUCN Red List)*
*Glis glis (IUCN Red List, Hungarian RB - actually endangered species)*
*Muscardinus avellanarius (IUCN Red List, Hungarian RB - actually endangered species)*
*Felis silvestris (Hungarian RB - actually endangered species)*
*Lynx lynx (Hungarian RB – extinct species)*
*Canis lupus (Hungarian RB – extinct species)*

* vulnerable species of different types of wetlands

**19. Social and cultural values:** (e.g. fisheries production, forestry, religious importance, archaeological site etc.)
Archaeological excavations revealed the presence of prehistoric man in the Baradla Cave in 1876. The most important archaeological sites are the Baradla-Domica Cave System with its settlements of Bükk culture both inside and in front of the cave entrance, and with its charcoal drawings unique in Central Europe. The importance of the karstic springs was recognised by local people as early as in the Middle Ages. The energy of the springs has ever been utilised from ore crushing to milling grains. Even electricity was generated in the first half of the 20th century by the water of the Jósva spring thus creating public lighting in Jósvafő and later in the Baradla Cave.

**20. Land tenure/ownership of:** (a) site (b) surrounding area

**21. Current land use:** (a) site (b) surroundings/catchment

*a. site*

60% is forest,

20% is grassland
20% is cropland and abandoned,

*b. surroundings/catchment*

70% is forest,
25% is grassland,
5% is cropland.

**22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:** (a) at the site (b) around the site

Past:

*a. at the site:*

- forestry
- chemicals used by agriculture
- waste-water and domestic waste

*b. around the site:*

- forestry
- chemicals used by agriculture
- animal husbandry
- waste-water and domestic waste

Present:

*a. at the site:*

- forestry with time and spatial restrictions according to the management plan
- waste-water and domestic waste (decreasing)

*b. around the site:*

- forestry
- chemicals used by agriculture
- animal husbandry (decreasing)
- waste-water and domestic waste

Potential:

*a. at the site:*

-

*b. around the site:*

- forestry (with time and spatial restrictions)
- chemicals used by agriculture (decreasing)
- animal husbandry (decreasing)
- domestic waste

**23. Conservation measures taken:** (national category and legal status of protected areas - including any boundary changes which have been made: management practices; whether an officially approved management plan exists and whether it has been implemented)

The Hungarian section of the Baradla-Domica Cave System is a part of the Aggtelek Karst. The territory of the Aggtelek Karst has been protected as landscape protection area since 1978. It was declared as Biosphere Reserve in the frame of "Man and Biosphere" program of UNESCO in 1979 as well as the Slovak Karst Landscape Protection Area. The Aggtelek National Park (IUCN category II.) was established in 1985 as the continuation of the landscape protection area. The Underground World of Aggtelek and Slovak Karst has been included in the World Heritage List since 1996.

**24. Conservation measures proposed but not yet implemented:** (e.g. management plan in preparation; officially proposed as a protected area etc.)

Management plan exists (from 01. 01. 1997.).

**25. Current scientific research and facilities:** (e.g. details of current projects; existence of field station etc.)
The so called **Complex Ecological State Assessment** (hereafter: CESA) of the Aggtelek National Park and Biosphere Reserve had started in 1992 as well as in the other national parks in Hungary in the frame of a long term, nation-wide programme. Based on former investigations, this programme used unified methods and generally the same taxa have been studied.
This programme has four aims:
- At first the main aim is to assess the present state of the national park and biosphere reserve according to the most important habitats and species.
- The second is that the result of the CESA would be the basis for updating the **zonation** of the national park - according to the actual situation and possibilities - and the basis for the suitable **management plan** for the different zones.
- The third aim is that this complex research project would be the first step of a **long term biodiversity monitoring** and also an attempt of a nation-wide **biomonitoring** which will be applied not only for survey of protected areas.
- The results of the complex ecological assessment and the monitoring system give the scientific background of the **active nature management** and the **restrictions** of any human activity inside the NP.

**Abiotic research:**
Completed:
- geological mapping,
- complex assessment of strictly protected caves, springs and sinkholes.
Ongoing:geomorphology, meteorology, complex assessment of other protected caves.

**Biotic research:**

**The target animal groups of the CESA in ANP**
**1992-93-94**

| **Type** | **Method of sampling** |
|---|---|
| **Ornithological and mammological survey:** | |
| ➔Dynamics of different bird populations: | - spot mapping – Passeriformes: 3x10 ha<br>- spot mapping – birds of prey: 20 000 ha<br>- line mapping: 4 line<br>- species research: Hazelhen, Corncrake, Barn owl, White stork, Red-backed shrike |
| ➔Survey of small mammals | - live traps |
| ➔Data of bird migration | - ringing |
| ***Herpetological survey:** | - observation |
| **Orthoptero-faunistical survey:** | - dish trapping |
| **Lepidopterological survey:** | - collection by singling<br>- light trap<br>*- observation (for protected species) |
| ***Micro-lepidoptera survey:** | - singling<br>- light trap |
| ***Trichoptera, Plecoptera and Ephemeroptera surveys:** | - collection by singling<br>- light trap |
| ***Odonata survey:** | - singling<br>- identification of the exuvia |
| ***Araneidea survey** | - trap |
| **Comparing survey of Carabidae populations:** | - pitfall traps |

| | |
|---|---|
| **Survey of Diptera:** | - Malaise traps<br>- singling |
| **Estimating deer population:** | - observation - method of Langvatn |

## CESA for the vegetation in the ANP 1992-94

| **Type** | **Method of sampling** |
|---|---|
| **Year: 1992-93** | |
| **Botanical survey:** | |
| ➔setting up a flora list of vascular plants | - based on the Herbaria of Hungarian Nature History Museum<br>- based on literature<br>- observation |
| ➔ coenological survey | - coenological relevé - 16 spots |
| **Survey of the changing of vegetation and land-use:** | - analysis of air photo series (1952, 1971, 1988) |
| **1994** | |
| **Botanical survey:** | |
| ➔setting up a flora list of vascular plants | - observation |
| ➔survey of the Cryptogamic flora (Lichens and Mosses) | - based on the Herbaria of Hungarian Nature History Museum and the Esterhazy Teachers Training College in Eger<br>- based on literature<br>- observation<br>- collection |
| ➔coenological survey | - coenological relevé - 40 spots |
| ➔investigation of the ecological demands of Onosma tornense | - 3 study spots : 10x10 m divided into 50x50 cm microquadrat |
| ➔survey for estimation the damage done by game on isolated sample areas | - 6 quadrats (10 x 10 m) with 6 control area |

## 26. Current conservation education: (e.g. visitors centre, hides, information booklet, facilities for school visits etc.)

### Environmental education and public awareness:

- The National Park organises different **summer-camps** for pupils and students: "explore the nature"-camps, work camps (bird-ringing camp, habitat-restoration camp, research camp).
- The National Park organises **fieldtrips** for students of secondary schools, universities and postgraduate students.
- The specialised staff of the National Park usually hold **lectures with slide and video** on the nature and cultural heritage of the region for tourist-groups, students and local people.

### Training programmes for specialists:

- The Aggtelek National Park **helps the teachers' work** in local nursery, primary and secondary schools and organises different programmes and competitions for local children.

- The National Park with the help of other governmental and non-governmental organisations organises **conferences** and **training programmes** on nature conservation, management and education.
- The National Park organises **fieldtrips** for students and postgraduate students.

**Facilities for education and visitors' centers:**
- Exhibition: Nature values of Aggtelek National Park,
- Village Museum at Jósvafő,
- 2 study trails.

**27. Current recreation and tourism:** (state if wetland is used for recreation/tourism; indicate type and frequency/intensity)
Annually more than 200.000 (national: 90%, foreign: 10%) tourists visit mainly the Baradla showcave.
*Type of touristic activities:* cavetours, tracking on tourist paths and study trails, hunting.
*Tourist facilities:* 2 hotels, 3 tourist hostels, 3 campsites, private rooms, 6 restaurants, tourists paths, 2 study trails.

**28. Jurisdiction:** (territorial e.g. state/region and functional e.g. Dept of Agriculture/Dept. of Environment etc.)
The Aggtelek National Park Directorate is under the supervision of the National Authority of Nature Conservation of the Ministry for Environment.

**29. Management authority:** (name and address of local body directly responsible for managing the wetland)
Aggtelek National Park Directorate (3758 Jósvafő, Tengerszem oldal 1.– Hungary)

**30. Bibliographical references:** (scientific/technical only)

**Speleological and Geological Research** in the territory of Aggtelek National Park
Lerner, J. - Kövesdi, J.: Management Plans for the World Heritage sites - Application of the IUCN Guidelines for the Cave and Karst Protection.
Szunyogh, G.: A Review and Evaluation of the Speleological Treasures of the Béke Cave with the Intention to Target a Complex Scientific Analysis.
Szunyogh, G. : The Mending of Man Made Destruction in the Béke Cave and Ways of the Restoration of the Original Condition.
Sásdi, L.: Karst drainage systems established by water tracing methods in Aggtelek N. P.
Szablyár, P.: The Role of Karstic Springs in the Development of Industries in Jósvafő.
Dr. Dénes, Gy.: The source of the Jósva Stream and the name of the town of Jósvafő.
Less, Gy.: The evolution of the geological structure of the Aggtelek-Rudabánya Mts.
Knauerné Gellai, M. - Baross G.: Geological bearings of the study-paths of the Aggtelek N.P.
Knauer, J.: Relation between morphology and rock-outcropping on some plateaus near Jósvafő.

**Results of CESA in ANP**
Horváth, R. - Tóth, E.: Biodiversity Research in Aggtelek National Park and Biosphere Reserve
Varga, Z.: Biogeographical outline of the fauna of Aggtelek Karst and surrounding areas
Rácz, I. - Parragh, D. – Mező, H.: Studies on Orthptera fauna of Aggtelek Karst
Szabó, S. - Varga, Z.: Changes in species composition and abundance of Lepidoptera in the Aggtelek Karst
Papp B. - Rajczy M.: Bioindication of habitat conditions with Bryophytes at some streams in Aggtelek National Park and Balaton-felvidék region, Hungary

Boldogh, S. - Gombkötő, P.: Monitoring and Conservation of House-dwelling Bat Colonies in Administrative Area of Aggtelek National Park

Horváth, R.. Investigation of bird communities using spotmapping in the territory of Aggtelek National Park

Horváth, R. - Farkas, R. - Kovács, K.: Red-backed shrike scientific research in Aggtelek National Park

Kovács, B.: Fish-faunistical data from the river Bódva in the area of the ANP

Hoitsy, Gy.: Fish-fauna of the waters in the Aggtelek National Park

Dudás, Gy.: The spiderfauna of National Park at Aggtelek

Orci Kirill, M.: A comparative study on grasshopper (Orthoptera) communities in the Aggtelek Biosphere Reserve

Dósa, G.: Inula ensifolia (Asteraceae) as food plant preferred by daily butterflies (Lepidoptera: Rhopalocera)

Deli,T.: Malacofaunistical researches in the National Park of Aggtelek

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