



Magyarország-Szlovákia  
Határon Átnyúló Együttműködési  
Program 2007-2013

## **Partnerséget építünk**

**A Bükki Nemzeti Park Igazgatóság természeti értékeinek kutatása  
I.: „Az Ipoly–vízgyűjtő vizes élőhelyeinek komplex felmérése,  
közösségi jegyzékeinek kidolgozása” (HUSK0801/066)**

### **KONFERENCIAKÖTET**



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**FELSŐTÁRKÁNY,  
2011.02.10.-11.**

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### **ZÁRÓKONFERENCIA ÉS ZÁRÓ MUNKAÉRTEKEZLET** **A Bükki Nemzeti Park Igazgatóság természeti értékeinek kutatása I.: „Az** **Ipoly–vízgyűjtő vizes élőhelyeinek komplex felmérése, közösségi** **jegyzékeinek kidolgozása” (HUSK0801/066)** **Munkanyelv: magyar, a szlovák előadásokhoz tolmácsolást biztosítunk**

#### *A konferencia és workshop célja:*

- a projekt során született eredmények bemutatása (*rendezvény első napja*)
- a vizes élőhelyek természeti értékeinek kutatásával, vizesélőhely–rehabilitációkkal foglalkozó programok, bemutatkozási lehetőségének megteremtése, vélemények, tapasztalatok cseréje (*rendezvény második napja*)
- a rendezvényen kiemelten szeretnénk lehetőséget biztosítani más Nemzeti Park Igazgatóságok vizesélőhely–rehabilitációs és ehhez kapcsolódó kutatási programjainak bemutatására

*Időpont: 2011. 02. 10. – 11.*

*Helyszín: Bükki Nemzeti Park Igazgatóság Felsőtárkányi Oktató-és Látogatóközpont (Felsőtárkány, Ifjúság u. 34/1.)*

#### **Program:**

##### **2011. február 10. csütörtök**

- **09.00. – 10.00. Regisztráció, szállás elfoglalása**
- **10.00. – 10.30. Megnyitó – Ivan Koubek igazgató SOPSR, Nemzetközi együttműködésért és EU kapcsolatokért felelős igazgató, Duska József igazgató, BNPI**
- **10.30. – 10.45. A BNPI természetvédelmi célú fejlesztéseinek bemutatása – Dudás György igazgatóhelyettes, BNPI**
- **10.45. – 11.00. „Az Ipoly–vízgyűjtő vizes élőhelyeinek komplex felmérése, közösségi jegyzékeinek kidolgozása” című projekt bemutatása, kutatási eredményei – Schmotzer András szakreferens, BNPI**

## 11.00. – 11. 30. Sajtótájékoztató

**Plenáris előadások** (*Levezető elnök: Dudás György, igazgatóhelyettes, BNPI*)

- **11.30. – 12.00. Dr. Lengyel Szabolcs:** Természetvédelmi célú kutatási projektek tervezése
- **12.00. – 12.30. Dr. Varga Ildikó:** Közösségi jelentőségű élőhelyek és fajok monitorozása Magyarországon
- **12.30. – 13.00. Zagyva Andrea:** VKI szempontú monitorozás Magyarországon

## 13.00.– 14.00. Ebéd

## 14.00. – 17.00. A projekt kutatási eredményeinek bemutatása

- **Dr. Müller Zoltán:** Az Ipoly folyó Szlovákia és Magyarország területére eső felső és középső vízgyűjtőjén található víztestek és vizes élőhelyek ökológiai és természetvédelmi szempontú felmérése c. projekt logisztikai háttere (technikai információk, tervezés)
- **Mgr. Michal Adamec:** Survey of representative land habitats located in the upper and middle watershed of the river Ipeľ (Ipoly) in Slovakia, seen from the aspect of ecology and nature protection.
- **Dr. Gulyás Gergely:** Az Ipoly felső– és középső vízgyűjtőjének, Magyarország és Szlovákia területén található vízfolyásainak és jellegzetes vizes élőhelyeinek növényzeti vizsgálata a Natura 2000, a Víz Keretirányelv és az inváziós növényfajok szempontjából.
- **Dr. Müller Zoltán:** A makrogerinctelen fauna Víz Keretirányelv szerinti vizsgálata a felső– és középső Ipoly vízgyűjtőjének Magyarországon elhelyezkedő részén.
- **Dr. Juhász Péter:** A makrogerinctelen fauna Natura 2000 elvek szerinti vizsgálata a felső– és középső Ipoly vízgyűjtőjének Magyarországon elhelyezkedő részén.
- **Csipkés Roland:** A halfauna Víz Keretirányelv szerinti vizsgálata a felső– és középső Ipoly vízgyűjtőjének Magyarországon elhelyezkedő részén.
- **Korompai Tamás:** Az Ipoly felső– és középső vízgyűjtőjének, Magyarország és Szlovákia területén található jellegzetes vizes élőhelyeinek lepkefaunisztikai vizsgálata és egyes Natura 2000 fajainak felmérése.
- **Marek Svitok:** Survey of representative water and wetland habitats of the upper and middle watershed of the river Ipeľ (Ipoly) in Slovakia, in accordance with the Water Framework Directive and Natura 2000 principles.
- **Dr. Burai Péter:** A hiperspektrális felmérés eredményei az Ipoly Balassagyarmat és Ipolytarnóc közötti szakaszán.

## 17.00. – 18.00.: Poszterek bemutatása

## 18.00. –től: Fogadás (vacsora a Szikla Étteremben)

## **2011. február 11. péntek**

**09.00. – 13. 00. Előadások** (levezető elnök: *Dr. Varga János, főiskolai docens, EKF*)

- **9.00. – 9.25. Selmeczi Kovács Ádám – Sipos Katalin:** Az Ipoly-völgy természetvédelmi fejlesztése a torkolattól Balassagyarmatig
- **9.25. – 9.50. Milan Novikmec – Marek Svitok-:** Research of macroinvertebrates of characteristic water bodies and streams of middle and upper reach of Ipeľ River (Slovakia) in terms of principles of Natura 2000 and WFD.
- **9.50. – 10.15. dr. Cservenka Judit – Petróczi Imre:** Élőhely-helyreállítás és gyepkezelés a Tapolcai-medencében (LIFE06 NAT/H/000102)
- **10.15. – 10.40. Ludmila Cernecka:** Spiders (Araneae) of the middle section of the Ipeľ river-basin
- **10.40. – 11.05. Biró Csaba:** Élőhely rehabilitáció a Kolon-tavon

### **Kávészünet**

- **11.30. – 11.55. Peter Urban:** Amphibians (*Lissamphibia*) and Reptiles (*Reptilia*) in the upper catchment area of the Ipeľ river
- **11.55. – 12.20. Bogyó Dávid:** A Közép-beregi sík komplex élőhely-rehabilitációja LIFE-Nature program
- **12.20. – 12.45. Takács Gábor:** Természetvédelem, vízgazdálkodás, mezőgazdaság, vidékfejlesztés – Együttműködés vagy konfliktus?
- **12.45. – 13.10. Dr. Szabó Attila:** Az Erdőtelki Arborétum vizes élőhelyeinek természetvédelmi szempontú előzetes felmérése vízminőségi szempontok valamint néhány kiemelt növény- illetve gerinctelen és gerinces csoport alapján

**13.10 – 13.30. Zárszó, a konferencia értékelése**

**13.30. – Ebéd, majd hazautazás**

### ***Szervezőbizottság***

Dudás György általános és szakmai igazgatóhelyettes, Bükk Nemzeti Park Igazgatóság  
Dr. Kiss Béla, szakmai igazgató, BioAqua Pro Kft.  
Dr. Juhász Péter, ügyvezető igazgató, BioAqua Pro Kft.  
Dr. Müller Zoltán, üzletfejlesztési igazgató, BioAqua Pro Kft.  
Dr. Varga János főiskolai docens, Eszterházy Károly Főiskola Állattani Tanszék

*A konferenciát a StrateGIS Kft. szervezi és bonyolítja.*

# **Előadások és poszterek összefoglalói**

**Research of aquatic macroinvertebrates of characteristic water bodies and streams of middle and upper reach of the Ipeľ River basin (Slovakia) in terms of principles of Natura 2000 and WFD**

MILAN NOVIKMEC<sup>1</sup>, MAREK SVITOK<sup>1</sup>, PAVEL BERACKO<sup>2</sup>, TOMÁŠ ČEJKA<sup>3</sup>, ZUZANA ČIAMPOROVÁ-ZAŤOVIČOVÁ<sup>3</sup>, BARBORA KLEMENTOVÁ<sup>1</sup>, ZUZANA MATUŠOVÁ<sup>1</sup>, MIROSLAV OČADLÍK<sup>1</sup> & ANDREA ZAPRIHÁČOVÁ<sup>1</sup>

<sup>1</sup>*Department of Biology and General Ecology, Faculty of Ecology and Environmental Sciences, Technical University in Zvolen, T. G. Masaryka 24, 960 53 Zvolen, Slovakia; e-mail: novikmec@vsld.tuzvo.sk*

<sup>2</sup>*Department of Ecology, Faculty of Natural Sciences of Comenius University, Mlynská dolina, 842 15 Bratislava 4, Slovakia*

<sup>3</sup>*Institute of zoology, Slovak Academy of Sciences, Dúbravská cesta 9, 845 06 Bratislava, Slovakia*

Various water biotopes were investigated within the project HUSK 0801/066 on the upper and middle part of the Ipeľ River basin (Slovakia) in August and October 2010. Localities for study were designated in order to include longitudinal changes of stream communities of the main channel of Ipeľ River (localities of the main channel and some tributaries) and also with regard to represent water bodies of NATURA 2000 areas and localities of possible occurrence of species concerned by the NATURA 2000. Additional sampling sites were selected for scanning of occurrence of invasive species. Macroinvertebrates were sampled according to the sampling protocol for aquatic macroinvertebrates on the guiding principle of EU-STAR/AQUEM protocol. Besides quantitative sampling methods, qualitative sampling was also performed in survey of NATURA 2000 and invasive species. Checklist of recorded species includes 298 taxa of macroinvertebrates of selected groups (Mollusca, Hirudinea, Crustacea, Ephemeroptera, Odonata, Plecoptera, Heteroptera and Trichoptera) from 45 localities. Survey has provided many interesting faunistic records (e.g. *U. crassus*, *B. pentaplebetes*, *L. dalmoni*, *O. reticulata*). The most diverse macroinvertebrate communities were found at epirhithral section of the Ipeľ River. *P. antipodarum* (Gastropoda) was the only invasive species recorded.

Study was part of the project HUSK 0801/066 and partly also supported by the Slovak research and development agency under the contract no. APVV-20-019905 and by the Ministry of Education of the Slovak Republic - VEGA 1/0529/09.

**Key words:** water macroinvertebrates, Ipeľ River, Slovakia, NATURA 2000

## Habitat-restoration and grass management in the Tapolca Basin

DR JUDIT CSERVENKA<sup>1</sup> – IMRE PETRÓCZI<sup>1</sup>

1 Balaton Uplands National Park Directorate

H-8229 Csopak, Kossuth u. 16.

e-mail: [bfnp@bfnp.kvvm.hu](mailto:bfnp@bfnp.kvvm.hu)

The Balaton Uplands National Park Directorate received funding from the LIFE Nature Program with its application in 2006. The project of the identification No. of LIFE06 NAT/H/000102 went on from 01/01/2007 until 31/12/2009. The 455 ha project area is located within the heart of the Tapolca Basin which is not only a Natura 2000 site (HUBF20028) but also part of the Balaton Uplands National Park.

The main objective of the project was to improve the condition and enlarge the size of Natura 2000 designating habitats (*Molinia* meadows, marshlands; hayfields). Wide range of activities were performed e.g. assessment of baseline conditions; preparation of a management plan; improvement of water supply; repression of invasive species, and monitoring of changes .

Main results:

- With newly established canals leading from the Kétöles-creek both to the west and the east became possible to ensure the appropriate groundwater-levels.
- The cleaning of the area on about 150 ha aimed the repression of the giant goldenrod and the glossy buckthorn which species have been invasive, and the strengthening of habitats with purple moorgrass. On the areas treated with stem cutting and mowing, significant transformation of habitat structure has been started (e.g. the spreading of purple moorgrass (*Molinia*) meadows showed 350 % increase by the end of the project.)
- The total area of grasses suitable for mowing grew with about 30 %.
- Parallel with the implementation of interventions, monitoring of their impacts were also assessed; e.g. coenological survey of areas formerly covered with invasive plant species, point mapping of protected plant species, and zoological studies focusing on aquatic macroinvertebrates, fishes, amphibians, birds and small mammals.
- An important element of the project was to provide information about the project to the public, and dissemination of the obtained results primarily by forums and field visits held for local farmers, with authorities and experts invited.

Further information: [www.life-tapolcaimedence.hu](http://www.life-tapolcaimedence.hu)



### **Spiders (Araneae) of the middle section of the Ipeľ river-basin**

ČERNECKÁ ĽUDMILA<sup>1</sup>, ČERNECKÝ JÁN<sup>2</sup>, GAJDOŠ PETER<sup>3</sup>

<sup>1</sup> *Central Slovakia Museum, Benolákova 27, 97404 Banská Bystrica, Slovakia e-mail: komata1@gmail.com*

<sup>2</sup> *State Nature Conservancy of the Slovak Republic, Tajovského ul. 28B, 97401 Banská Bystrica, Slovakia, e-mail: [jan.cernecky@sopsr.sk](mailto:jan.cernecky@sopsr.sk)*

<sup>3</sup> *Institute of the Landscape Ecology, Slovak Academy of Sciences, Branch Nitra, Akademická 2, P.O.Box 22, 94901 Nitra, Slovakia, e-mail: [nrukajd@savba.sk](mailto:nrukajd@savba.sk)*

The research of the araneofauna occurring in the middle section of the Ipeľ river-basin was carried out by the authors from July until October 2010. Ten different study sites representing typical habitat types for this landscape, namely wetlands (4 sites), marshlands (3 sites), riversides (2 sites) and a fishpond (1 site), were investigated. A total of 134 species belonging to 25 families have been captured by means of pitfall traps, sweeping, beating, sifting, d-vac sampling and individual collecting. The highest number of species was recorded for the families *Linyphidae* (35 species) and *Araneidae* (23 species). Out of the identified species, ten species are listed in the Red List of Slovakian Spiders in different categories of threat (*Clubiona rosserae*, *Cyclosa oculata*, *Ero cambridgei*, *Cheiracanthium punctorium*, *Marpissa radiata*, *Marpissa nivoy*, *Marpissa pomatia*, *Mendoza canestrini*, *Pseudicius encarpatus*, *Rugathodes instabilis* and *Theridiosoma gemmosum*). High richness of the spider fauna and occurrence of the rare and threatened species for Slovakia indicates a high biotic value of the investigated area.

## **Habitat restoration at the Lake-Kolon**

BIRÓ CSABA

*Kiskunsági Nemzeti Park Igazgatóság*

*H-6000 Kecskemét, Liszt F. u. 19.*

*e-mail: [birocs@knp.hu](mailto:birocs@knp.hu)*

The Lake-Kolon is one of the oldest lacustrine systems within the Danube-Tisza interfluvial area. The original natural state of the lake existed until 1928, then the former marshland - fen vegetation almost completely disappeared up to the middle of the 20th century. The hay and tree plantation became the dominant land usage in the lake bed.

The restoration procedure got started with the establishing of the Kiskunság National Park (1975). After the land owing arrangements started the water level increased by the reason of sluice establishment. The water level increase have caused a massive reedbed vegetation expansion during the last three decades, but the existing open water bodies are very few within the 1200 ha reedbed. This was the reason why the open water creation started in 1988 on 6,5 ha, and in 2010 on 4,5 ha, as well as further 40 ha is planned to be executed by different machine excavation methods. There took place some other successful field experiments too establishing shallow open waters by different reedbed management methods. In the same time we are intensively investigating the breeding bird population in the reedbed in correlation with the management.

Generally the complex habitat restoration was successful, for example important population of the bittern (*Botaurus stellaris*), Moustached warbler (*Acrocephalus melanopogon*), Ferruginous Duck (*Aythya nyroca*) and Otter (*Lutra lutra*) inhabit the area. Nevertheless the comprehensive rehabilitation of the Lake-Kolon needs longer time and further conscious nature conservation management.

**Amphibians (Lissamphibia) and Reptiles (Reptilia) in the upper catchment area of the  
Ipeľ river**

PETER URBAN

*Department of Biology and Ecology, Faculty of Natural Sciences, Matej Bel University,  
974 01 Banská Bystrica  
e-mail: Peter.Urban@umb.sk*

A study of Amphibians (*Lissamphibia*) and Reptiles (*Reptilia*) was performed during the year 2010 in the upper catchment area of the Ipeľ river (from spring to Málinec water dam). We found 4 species of amphibians (*Bombina variegata*, *Rana temporaria*, *Rana dalmatina* and *Bufo bufo*) and 6 species of reptiles (*Salamandra salamandra*, *Lacera agilis*, *Anguis fragilis*, *Natrix natrix*, *Natrix tessellata*, *Vipera berus*). We also searched for reproductive sites of amphibians (*Rana* spp. and *Bufo bufo*) and counted lay eggs. Results were compared with previous researches.

**Full scale habitat restoration of wetlands in the Central-Bereg-plain region  
(North-Eastern Hungary)**

BALÁZS DEÁK<sup>1</sup>, TIBOR MAGURA<sup>1</sup>, BALÁZS LESKU<sup>1</sup>, ATTILA MOLNÁR<sup>1</sup>, DAVID  
BOGYÓ<sup>1</sup>, PETER OLAJOS<sup>1</sup>

<sup>1</sup>*Hortobágy National Park Directorate*

*P.O. Box 216, H-4024 Debrecen, Hungary*

*Corresponding email: bogyodavid@hnp.hu, deakb@hnp.hu*

The Central-Bereg-plain was used to be formed by water at historical times, and almost the whole countryside was covered by several wetlands and forests. Although since the 18<sup>th</sup> century the intensive usage of the natural resources started, causing the fragmentation and scarcity of forests and wetlands, the region nowadays preserves considerable natural values.

The main objective of our project was to preserve and achieve the favourable state of this habitat-complex. We propose four actions in the region: (i) improvement of water-regime of bogs and forests, (ii) improvement of the microclimate of the bogs, (iii) complex improvement of the status of wooded pastures and pastures (iv) raising public awareness, and cooperate with local people for preserving and maintaining the natural resources of the area.

From 2004 to 2008 we implemented the following main actions in the project area: (i) development of existing water supply wells, (ii) water retention in several wetlands which affected ca. 1500 ha, (iii) establishment of buffer-zones for wetlands, development of habitats for species listed in Annex I. and II. and improvement of the landscape naturalness of the region by planting 101 ha of forests (iv) restoration of 113 ha of wooded pastures (v) restoring 196 ha of pastures, (vi) installation of a wildlife fence around Nyíres-lake to avoid the raised bog from the disturbance of the overabundant game population and (vii) we involved the local farmers, inhabitants and students in the restoration and wise using.

As a result of the project a considerable increase in the groundwater level was observed in all of the bog, mire and fen communities. Establishing new habitats and related favourable environmental changes induced appearance or population growth of protected and Annex species: (i) *Leucorhina pectoralis* was detected in the project area, (ii) population of *Botaurus stellaris*, *Circus aeruginosus*, *Lanius collurio*, *Lutra lutra* showed a considerable growth. The project was supported by the LIFE Nature project (LIFE 04 NAT HU 000118).

**Conservation, water management, agriculture, rural development. Place of conflicts, or possibility of cooperation?**

GÁBOR TAKÁCS, DR. ANDRÁS AMBRUS, BRIGITTA BURDA  
*Fertő-Hanság National Park Directorate*

It is well known that there have been left hardly any intact natural or natural-like sites in the industrialized and intensively cultivated parts of Europe, so the few remained spots deserve much attention.

The main purposes of the big alterations of the natural landscape were related to the increasing need of useful agricultural lands, and to have the chance of living much safer in floodplains.

Each of these goals have been more or less reached over the past centuries or the needs became not so important as they were before while the last pieces of the most valuable wetlands restricted to the national parks and other protected areas only.

The battlefield of the representatives of different sectors is well outlined:

- the block of mass production related agricultural experts still stick to the extension of arable land and keep the watercourses in as narrow beds as possible, while the EU CAP decided the harmonization of the relevant EU regulations (N2000, Nitrate, and others, but WFD was not addressed namely – big fault)
- the water managers can serve this purpose and the flood control in a more-and-more sophisticated way, while the EU Water Framework Directive declared the priority of the good ecological status of water bodies
- conservationists try to protect all the available intact or semi-natural lands which still exist against the (industrial) development and increasing land use, conserve the coherence of the network of Natura 2000 sites, and as far as possible enhance the ecological status of the threatened habitats, communities, species through reconstruction, rehabilitation works.
- In the aspect of the rural development there are new requirements, the life style of villages itself compared to the life in the cities represents special social value which deserves conservation in some extent. Keeping people live in the villages and inheriting the local traditions have their own value too.

Now, it is time to find the way of the mutual interest to reach the compromised purpose together instead of fighting each other to defeat the other and have exclusively an expensive win.

One of the possible fields of cooperation are the wetland restoration projects with the support of a suitable agri-environmental scheme, convincing local people to be interested.

Recent presentation collects a couple of examples of running and developing projects and points out possible developments of further cooperation, in the area of duty of the Fertő-Hanság National Park Directorate covering the Répce-valley, Hanság habitat reconstruction sites.

**Conservation oriented assessment of the wetland habitats of the Erdőtelek Arboretum, based on a survey of water quality, plant, invertebrate and vertebrate composition**  
SZABÓ A.<sup>1</sup> BABOCSAY G.<sup>1</sup>, BÍRÓ T.<sup>1</sup>, GULYÁS G.<sup>2</sup>, LÁPOSI R.<sup>1</sup>, MÁLNÁS K.<sup>2</sup> & TÓTH L.<sup>1</sup>

<sup>1</sup>*Institute of Environmental Sciences, Faculty of Natural Resources Management and Rural Development, Károly Róbert College, Mátrai u. 36., H-3200 Gyöngyös, Hungary.*

<sup>2</sup>*BioAqua Pro Ltd., Soó Rezső u. 21., H-4032 Debrecen, Hungary.*

The Károly Róbert College launched a full scale habitat rehabilitation program at the Erdőtelek Arboretum in north-eastern Hungary. From March 2010 through September we conducted a complex ecological assessment of the wetland habitats of the area (the alder swamp woods, the central pond, the Hany Creek, and the Matt Channel). The pond sediment was sampled on one occasion, and 39 of its characteristics were assessed. Surface water at four, groundwater at three spots was sampled, and 25 of its physical and chemical characteristics were assessed. The zoobenthos was sampled, the herpeto- and the small mammal fauna was surveyed as set in the protocols of the National Biodiversity Monitoring System. The vegetation was surveyed along transects separated by 50 m distances. Sampling occasions varied between two and four, covering the periods of spring -early summer and autumn. The sediment had no poisonous content, the fluctuation of the groundwater level reached one to two metres during the survey. At the alder swamp the groundwater contained 33.2 mg/l nitrogen, at dry terrain sampling sites this value was considerably lower. The pH, the salt and oxygen content varied significantly among the sampling sites. The composition of the zoobenthos (47 identified spp.) was characteristic of lentic habitats. The species of the former cold spring habitat have largely disappeared. Some of the observed amphibians (four spp.) may be the remnants of the herpetofauna of the alder swamp. The European and the American red-eared pond turtles seem to be released specimens. The mammal trapping yielded four mouse (Muridae) spp. common in dry forest and urban habitats. The vegetation of the alder swamp is impoverished, characterized mostly by disturbance resistant species. The water edge vegetation shows a composition of lentic habitats. Several invasive plant species dominate large parts of the vegetation. Our results show a severe degradation of the alder swamp habitat.

Keywords: Alder swamp woods, ecological assessment, habitat degradation, survey of zoobenthos, amphibians, mammals, plant composition, water and sediment quality.

## Vegetation mapping using airborne hyperspectral technology in the Mid-Ipoly-Valley

BURAI P.<sup>1,2</sup>-SCHMOTZER A.<sup>3</sup>-LÁPOSI R.<sup>2</sup>-TOMOR T.<sup>1,2</sup>-LÉNÁRT Cs.<sup>1,2</sup>-ENYEDI P.<sup>2</sup>

1. *Envirosense Hungary Kft, 4028 Debrecen, Kassai út 129.*

2. *Károly Róbert Főiskola, 3200 Gyöngyös, Mátrai út 36.*

3. *Bükki Nemzeti Park, 3304 Eger, Sánc út 6.*

Within the confines of the Slovak-Hungarian Interreg project, airborne hyperspectral images were taken on 28<sup>th</sup> September 2010, along the state border between Balassagyarmat and Ipolytarnóc which pertains to the common (Slovak-Hungarian) area under the scope of Natura 2000 Network (in 50-50 m width), as well as the special nature conservation area of the “Mid-Ipoly-Valley” with the ID HUBN20062. Digital images were taken by a push-broom type AISA Eagle hyperspectral camera ([www.specim.fi](http://www.specim.fi)) of the whole sampling area, which is capable of imaging in the visible and near-infrared range (VNIR). During the survey, recording happened with 5nm sampling in the full bandwidth (400-1000nm), so each pixel contains 252 spectral channels. High-accuracy OxTS RT 3003 GPS/INS system was used for recording the navigation data. The hyperspectral camera was applied on the Piper Aztec-type airplane (Figure 1).



Figure 1. AISA Eagle hyperspectral sensor and on-board system installed into the aircraft

Flight parameters:

- altitude: 1203m
- flight speed: 55m/s
- swath: 782m
- overlap: 30%
- ground resolution: 0.8 m

During the recording, 11 hyperspectral images were made altogether, from which mosaic was made after the preprocessing process, so a coherent image file is available for the entire sampling plot.

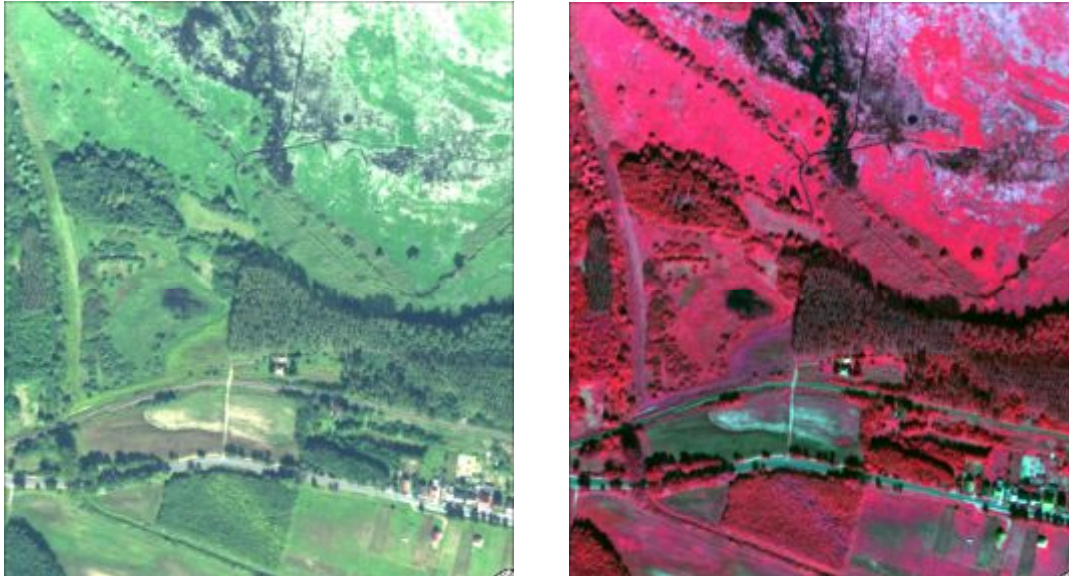


Figure 2. A detail from the hyperspectral image a. visible color range and b. false color (near infrared in the red band) composite

During the prior field trips, the representative vegetation groups and the invasive species which can be found on the sampling plot were assigned by a GPS device, as well as the teaching and monitoring areas, required for the image analysis. From the certain classification groups, measurements were made by ASD FieldSpec ultra-portable spectrophotometer in the same wavelength range, such as hyperspectral images. From the reflectance spectra produced after the calibration a spectral library was made that formed the basis of the subsequent image processing. Classification was made by using reference spectra, applying Spectral Angle Mapper (SAM) method. In this case, the classification algorithm selects the pixels close to the measured spectra on field according to the pre-set searching conditions. During the classification, the major land use categories and invasive weed species that constitute a significant population were defined, such as Giant goldenrod (*Solidago gigantea*), milkweed (*Asclepias syriaca*) and Devil's Beggarticks (*Bidens frondosa*). For the set of the classification parameters and monitoring of the results, control areas measured on field were used. The classification resulting raster data have been exported to SHP vector form, so they can be visualized in different GIS applications.



**Plecoptera (Stoneflies) of the upper and middle part of Ipeľ River basin (Slovakia) -  
results of survey within the project HUSK0801/066**

MIROSLAV OČADLÍK, MILAN NOVIKMEC & MAREK SVITOK

*Department of Biology and General Ecology, Faculty of Ecology and Environmental  
Sciences, Technical University in Zvolen, T. G. Masaryka 24, 960 53 Zvolen, e-mail:  
ocadlik@vsld.tuzvo.sk*

Stoneflies (Plecoptera) were studied in the upper and middle part of the Ipeľ River basin. Localities selected within the project HUSK0801/066 were surveyed according to sampling procedure of Water Framework Directive (August and October). Additional qualitative samples were taken at localities selected as representatives of water bodies of NATURA 2000 areas (August). We recorded 42 taxa of Stoneflies at 35 sampling sites. Occurrence of *Leuctra dalmoni* (VINCON, 2007) is the most interesting faunistic record. According to our expectations, the most diverse stonefly communities were found in the upper part of the main channel of Ipeľ River (epirhithral section, sampling sites IPE\_1054 and IPE\_1057). Diversity of stoneflies decreased downstream the main channel. Based on our results, the upper reach of the main channel and some of the upstream tributaries of the Ipeľ River are the most valuable localities of stoneflies occurrence within Ipeľ River basin.

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**Key words:** Plecoptera, Stoneflies, Ipeľ River, Slovakia

A programmal kapcsolatos további információk a [www.husk-cbc.eu](http://www.husk-cbc.eu) honlapon érhető el.

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