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V TOMTO SBORNÍKU FORMOU ČLÁNKU**

CONFERENCE “15 YEARS OF THE PODYJÍ NATIONAL PARK –
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ABSTRACTS OF PAPERS NOT INCLUDED IN THIS ISSUE

DIPTERA OF THE PODYJÍ NATIONAL PARK AND ITS ENVIRONS

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The area of the Podyjí NP and its close environs were thoroughly investigated in 2001–2004 in order to learn more information about the Diptera fauna. Altogether, 3,606 species were identified. In the final monograph resulting from our research (BARTÁK M., KUBÍK Š. (eds.) 2005: Diptera of Podyjí National Park and its Environs. – ČZU Praha, 432 pp.) we reported 137 records of new species in the Czech Republic and another 155 in Moravia. The most striking feature of the Podyjí NP's Diptera fauna is the surprisingly frequent occurrence of species with clear affinity to mountainous habitats. A relatively large number of the species collected in the Podyjí NP were obviously obtained due to the efficient collecting methods used (Malaise traps, white and yellow pan water traps, emergence traps, sweeping, car nets, etc.). The Podyjí NP proved to be very important for nature conservation, altogether 252 species included in the recent regional Red list were found (= 26.1% of all Czech species included) and several species discovered for the first time in the Czech Republic by the present investigations in this area were proposed in addition to this list.

Key words: Diptera, Podyjí National Park

**THE IMPACT OF PRECIPITATION CHANGES ON PLANT AND SOIL
PROCESSES IN DIFFERENT GRASSLAND ECOSYSTEMS**

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A field experiment was established in the spring 2006 to simulate the quantity of rainfall in order to determine the responsiveness of grassland ecosystems to different climate scenarios. Roofs con-

structured above the canopy of grass stands and gravity irrigation simulated three climate scenarios: (1) rainfall reduced by 50%, (2) rainfall enhanced by 50% and (3) the full natural rainfall of the current growing season. Roofs were made of plastic transparent strips (small troughs) that partially excluded rainfall. The amount of rainfall intercepted by the trough roof was piped as gravity irrigation at another plot. Plots without roofs represented an ambient plot. Twelve plots of 2 × 3 m were laid out in block design (n = 4) in area of relatively homogeneous vegetation at chosen localities.

Experimental study sites were located (1) in the Podyjí National Park near the town of Znojmo in the southern Moravian lowland (altitude 320 m, dry acidophilous short grass vegetation), (2) in the Moravian-Bohemian Highlands near the town of Hlinsko (altitude 530 m, wet *Cirsium* meadow) and (3) in the Moravian-Silesian Beskydy Mts. near the locality Bílý Kříž (altitude 890 m, montane *Nardus* grassland).

The impact of different water availability was studied on the nutrient uptake and nutrient use for grassland production, as well as on the accumulation and mineralization of plant litter as the source of nutrient supply to plants. Our study was thus focused on the three following main themes: (1) changes in the presence and cover degree of individual plant species, (2) differences in the production of above- and below-ground plant mass and N pools, differences in soil microbial activity and litter decomposition, N and P use for production and N turnover through biomass, and (3) changes in the soil organic matter and nutrient reserve, nutrient transformation and nutrient availability. We particularly specified, how and to what extent soil N mineralization and nutrient availability reflected differences in precipitation. Results obtained during the first year of experiment are presented.

Key words: grassland ecosystems, precipitation changes

TWO DECADES OF SPATIAL PLANNING AND GIS USE AT THE TERRITORY OF THE PODYJÍ/THAYATAL NATIONAL PARK

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In the 1990s, the unique territory of the National Park was only covered by regional plans on scales of 1:50,000 and 1:10,000. The first Regional Plan of the Podyjí Protected Landscape Area was digitally designed in 1985 and authorized in 1989. After 1990, the NP Administration, Znojmo District Authorities, municipalities and the Czech Ministry of the Environment decided to make and co-finance new local Urban Plans in close cooperation, to avoid common conflicts between nature conservation and local societies. From the very beginning, all the Plans were created in accordance with the Geographic Information System. The author set up the GIS in NP and led the Spatial Planning Department and regional/local GIS in Znojmo for years. This article describes procedures, methods and results over the last 20 years. Advanced geoinformation technologies influenced planning methods and opened new large potential. The objective remains: to serve for sustainable development with primary respect to the excellent heritage of nature in the Podyjí-Thayatal valley.

Key words: GIS, spatial planning, standard, building law, geoinformation

GRASSHOPPERS AND CRICKETS OF THE PODYJÍ NATIONAL PARK

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From 1991 to 2006, the survey of grasshoppers, crickets and cockroaches was carried out in the Podyjí National park and in its surroundings. A total of 44 localities were observed. The specimens were caught by sweeping and catching individuals, they were also observed and registered by song. In total, 50 species of grasshoppers and allied insects were found. The majority of species are widespread in the zoogeographical province of deciduous forests of Europe and Asia. The most common species either prefer higher grasslands or do not have any specific requirements to the height of vegetation, or live in bushes, trees or in dead leaves. The common occurrence of some stenotopic or termophilous species resulted from warm and dry mesoclimate of the studied area and of the presence of short xerothermic grasslands and localities with sparse vegetation. Due to the dry character of the studied area with only few wetlands and ponds, the occurrence of hygrophilous species and semi hygrophilous species was low. Owing to the fact that the studied area is located on the border of the biogeographical provinces of Pannonia and Central European deciduous forests, several species are on the edge of their range there. The study was supported by the grant No. MZE 0002070201 of the Ministry of Agriculture of the Czech Republic.

Key words: Ensifera, Caelifera, faunistics, Podyjí National Park, Czech Republic

MAPSERVER OF THE PODYJÍ/THAYATAL NATIONAL PARK AS A CONSEQUENCE OF BILATERAL COOPERATION

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Since 1992, the Geographic information system (GIS) of the Podyjí National Park has been created by its administration with the aim to support decision-making in the office and public awareness of nature protection in this area. The GIS of the Podyjí National Park is based on the ESRI and Topol data formats. When the Thayatal National Park on the Austrian side of the valley was established, ways of managing common geographical data were looked into. To improve nature conservation awareness, common GIS was made available to the public through the internet on the base of Mapserver (this technology was developed by the Minessota University – <http://mapserver.gis.umn.edu/>). Mapserver is an OpenSource product, very cheap and useful for managing. The datasets are made public and private. The public part is based on a tourist map with complements of aerial photographs. The private part is destined for internal use in both offices, it contains data, publication of which could be risky for the described feature. During the creation of Mapserver, technical and legal problems of crossborder data sharing were solved. Mapserver of the Podyjí/Thayatal NP is a very good example of crossborder cooperation in the bilateral territory, ways of problem solving have an international meaning. This project is available at <http://mapy.nppodyji.cz/>.

Key words: Podyjí National Park, mapserver, GIS

DISTRIBUTION OF THE *NETOCIA UNGARICA* (COLEOPTERA: SCARABAEOIDEA: CETONIINAE) IN THE CZECH REPUBLIC

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Netocia ungarica Herbst, 1792, is distributed in a broad area of steppe biotopes from Central Europe to Mongolia and Northwest China. About ten subspecies of *N. ungarica* have been described so far. The northwest margin of the range of the nominotypic subspecies extends South Moravia.

Based on data from literature and collections of several museums and private entomologists, we have discovered the following facts. Till the 1930s, the species was distributed all the way into Brno, and one record was even published from the Moravian karst (Adamov). Then the species began to disappear and the last record we found was from the 1950s. After this time, the species was considered extinct.

Surprisingly, in the year 1999, one specimen was caught in the surroundings of the Popice village at the border of the Podyjí NP. In subsequent years, the beetles were discovered in several microlocalities on the southern edge of the Podyjí NP and near Miroslav. At some localities, the beetles were found in high numbers.

Key words: *Netocia ungarica*, Podyjí National Park, Czech Republic

THE THAYATAL/PODYJÍ NATIONAL PARK – A HABITAT FOR THE WILDCAT (*FELIS SILVESTRIS*)?

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The project shall help to answer the following questions:

What is the quality of the Thayatal/Podyjí National Park as the wildcat habitat?

Is the wildcat (temporarily) present in or close to the Thayatal/Podyjí National Park?

Where can animals come from/go to?

How could the presence and status of the wildcat be monitored in the National Park area?

Can something be done to increase immigration of wildcats into the National Park region?

Could hybridisation with domestic cats (*Felis catus*) be or become a problem for a local population of the wildcat?

The project shall provide a scientific base to be able to decide usefulness of conservation activities for the wildcat.

If so, the project shall provide the concept and action plan for doing it.

Key words: *Felis silvestris*, Thayatal/Podyjí National Park

MONITORING OF RECREATION AND VISITOR FLOWS IN THE PODYJÍ NATIONAL PARK: THE FIRST RESULTS FROM THE YEAR-ROUND PROJECT

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Inaccurate data on the visitor flows is often an impediment to the effective management of protected areas. This data typically relates to: (1) the number of visitors and (2) visitors' profiles e.g. length of stay, means of transportation, motivations and primary activities. The main aim of this year-round monitoring project was to obtain relevant quantitative and qualitative information. Fourteen monitoring sites were established throughout the area and a questionnaire survey was performed on

a random sample of visitors. At each site, visitors were monitored and registered. Two monitoring days were randomly selected every month. In January, February, November and December, this schedule was reduced to one monitoring day per month due to very low number of visitors in the winter season. During the survey period, 251 questionnaires were collected. The results showed a nearly equal proportion of cyclists (50.3%) and hikers (46.6%). Men (56.8%) aged 25–39 years (38.6%), having complete secondary education (53.4%) and coming by car (66.3%) to the Podyjí National Park (N=251) represented the largest demographic group. The most frequently visited sites were: Na Keplech, Gruberův mlýn, U Milíře, Příčky and Zadní Hamry. The project was carried out in cooperation with the Podyjí National Park Administration and was financially supported by the European Union within the INTERREG III A Programme.

Key words: Podyjí National Park, tourism

MONITORING OF FRUIT TREES IN THE PODYJÍ NATIONAL PARK

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On the territory of the Czech Republic, a wide range of fruit cultivars have been raised since knowledge of grafting was introduced probably from the Roman Empire. Cultivation of fruits became very widespread and a high number of land varieties and cultivars persisted up to the second half of the 20th century. Due to changes in land ownership and agricultural priorities, old orchards and alleys were cut down. Consequently, specific varieties of fruit were very seriously threatened. Therefore, the subsequent inventory of specific types of fruit and obsolete cultivars of domestic origin were initiated in 1993. Since 1994, many expeditions have been undertaken on the territory of the Czech Republic. The Podyjí region was included in fruit mapping and monitoring in 1997. Fruit trees were looked for, recorded, localized using GPS and cultivars were determined. The state of health was evaluated and recorded. Valuable and promising materials as possible genetic resources were marked for *in situ* conservation and/or for possible transfer to the field nursery in Holovousy as an *ex situ* collection. Many plums ‘Švestka domácí’, unfortunately widely infected by Plum Pox Virus, were recorded. The occurrence of *Mespilus germanica* was noticed at several localities. In the past, it was often grafted on *Crataegus* spp. or on seedlings of pears. Walnuts belong to common fruit trees in this territory. A tree with rich fruit clusters was found. In a wide range of cherry cultivars, the traditional cultivar ‘Znojemská kaštánka’ was not found. The most common found cultivars were the following: Apples: ‘Baumanova reneta’, ‘Bernské růžové’, ‘Blenheimská reneta’, ‘Coulonova reneta’, ‘Croncelské’, ‘Harbertova reneta’, ‘Kanadská reneta’, ‘Kožená reneta podzimní’, ‘Kožená reneta zimní’, ‘Lebelovo’, ‘Průsvitné letní’ and ‘Strýmka’. Cherries: ‘Hedelfingenská’, ‘Lyonská raná’, ‘Napoleonova’, ‘Německá rychlice’, ‘Schneiderova’, ‘Šakvická’ and ‘Velká černá chrupka’. Projects QC0063, 1G46066, Ministry of Agriculture.

Key words: Podyjí National Park, monitoring of fruit trees

FOREST MANAGEMENT PLANNING IN THE PODYJÍ NATIONAL PARK

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Near-natural forest communities, characterized by a great diversity of trees as well as by their unique spatial and age differentiation, are represented in the Podyjí National Park on the relatively largest area in comparison with the other Czech national parks. In the course of the last ten years, implementation of forest management measures (so called restoration management) and the monitoring of changes in the condition of forest stands have been bringing a number of complications related to the standard method of the forest management plan based on age classes. Two- and multiple-storeyed forest stands with a high number of tree species, in which lower levels do not still take a share in volume production, can only be described with difficulties when using the method of age classes (e.g. establishment of mean mensurational variables for the tabular derivation of the standing volumes of forest stands). In 2003, a new forest management plan was created according to methodology using multi-source forest inventory, it was based on forest quality. The statistic method of establishing the condition of forests and the diversion from temporal arrangements of forests are the main differences in comparison with the currently used forest management plan using the system of age classes. The Podyjí National Park is the first area in the Czech Republic where this new methodology has been implemented.

Key words: forest management plan, statistical inventory, Podyjí National Park

MONITORING OF BATS IN THE PODYJÍ NATIONAL PARK AND ITS CLOSE SURROUNDINGS

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The monitoring of bat populations in the Podyjí National Park and its close surroundings has been carried out using several methods. Individual hibernacula and nursery colonies have been surveyed in the region since the late 1950s. Since 1992, the roosts have been checked regularly. In total, 25 winter roosts and 12 nursery colonies of synanthropic species have been monitored at present and further suitable roosts have been searched continuously. In the period of flight activity, bats have been studied with the use of mist netting at Ledové sluje. This site was found to be extremely attractive for the bats and the research has been carried out there in the spring, summer and early autumn in order to cover both the local breeding populations and migrants coming to the site from wider surroundings. Comparable data from 7 seasons (1993–1995, 2000–2002, 2006) is available. The last monitoring method, applied in the region from 2005, was the survey of echolocation calls of bats at three transects using ultrasound detectors.

The obtained data documents the development of the populations of the synanthropic bat species in the region over the last 50 years. Moreover, the stability of the population of “forest” species in the last 13 years has been well illustrated, which represents a particularly high quality record at the national level. Concerning active bat conservation, consistent protection of roosts of synanthropic species appears to be of key importance. Several of them were found destroyed or under direct threat during the period of regular monitoring.

Key words: Chiroptera, Podyjí National Park, monitoring

PREDACEOUS DIVING BEETLES (COLEOPTERA: DYTISCIDAE) OF THE ZNOJMO REGION

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Over the last ten years, we have carried out an intensive faunistic research of the water beetle family Dytiscidae in the Znojmo district, and particularly in the Podyjí National Park. We gathered more than 1500 records from 46 localities. Altogether, 79 species of Dytiscidae have been documented from the region, among them 57 species from the National park and its buffer zone. The first number represents about 66% of the dytiscid fauna in the Czech Republic.

The localities with the highest number of found species were “Vrbovecký rybník” (44 spp), “Trávní Dvůr – střed” (38 spp), “Oleksoviczká mokřina” (32 spp), and in the Podyjí National Park also “Rybník za farou, Popice” (22 spp).

Among the numerous interesting records, we would like to mention the valuable finding of *Porhydrus obliquesignatus*, which represents the first record of this species in the Czech Republic, as well as repeated findings of *Hydroporus fuscipennis* and *Agabus fuscipennis*, confirming the occurrence of these species in Moravia.

Key words: Dytiscidae, Podyjí National Park, Znojmo Region

RE-NATURATION OF THE THAYATAL NATIONAL PARK

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The Thayatal National Park covers an area of about 1330 ha, 90% of it are formed by woods. About 350 ha of these forests have been shaped by man for many centuries. Forestry and hunting have left distinct marks. Particular spruce and douglas fir were introduced for economic reasons, they modified the natural forest populations. Spruce forests are not natural in the Thayatal and have led to acidification of the soil, resulting in dramatic loss of species. Neither false-acacia is autochthonous and it causes accumulation of nutrients. That is why such populations have been converted into semi-natural deciduous forests, which will again provide valuable habitats for many threatened species of fauna and flora in the future. In semi-natural forests there is a different situation, the species are adapted to the habitat, individuals are of various ages and dead wood remains in the forest. After finishing the programming of forest conversion, we will stop any further economic intervention. Nature in the National Park must be left undisturbed.

Key words: Thayatal National Park, forest conversion programme

WEEVIL BEETLES (COLEOPTERA, CURCULIONOIDEA) – 10 YEARS OF RESEARCH IN THE PODYJÍ NATIONAL PARK

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Weevils of the Znojmo district are represented by 587 species (i.e. 64% of all weevil species known to the Czech Republic; it is the richest region in the country). The species diversity is concentrated in the Podyjí National Park which hosts 495 species. These results are based on a historical collection, very sparse literature data and especially my investigation of the area during 1996–2005. The historical collection contained 250 weevil species collected within the surroundings of Znojmo in 1921–1944. The Podyjí National Park is the only Czech locality for weevils *Euryommatus mariae* and *Cyphocleonus achates*. The weevil *Barypeithes albinae*, a very common species for this area, is endemic to Moravia and the surrounding regions. A number of species were found on the absolute limits of their distribution range, 130 species are regarded as threatened according to the current red list – most of them are species of non-forest habitats. The extraordinary species diversity originates mainly from the biogeographical location and high habitat diversity in the Podyjí National Park. To preserve the current fauna, it is necessary to propose a proper way of management practice for every kind of habitat.

Key words: Curculionidae, Podyji National Park

NEUROPTEROID INSECTS (NEUROPTERA, MEGALOPTERA, RAPHIDIOPTERA, MECOPTERA) OF THE PODYJÍ NATIONAL PARK

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The species composition and habitat associations of the insect orders Neuroptera, Megaloptera, Raphidioptera and Mecoptera in the Podyjí National Park were studied in the years 2004–2006. The results are based mainly on the author's own collection but as well on materials collected by M. Barták and Š. Kubík (Czech University of Agriculture, Prague) into Malaise traps within the project "Diptera of the Podyjí National Park and its environs".

Preliminary results of this research were presented on a poster, including photographs and references to literature resources. Altogether, 47 species from 7 families of Neuroptera, 1 species of Megaloptera, 5 species of Raphidioptera and 4 species of Mecoptera have been recorded in the Podyji NP up to the present time. The Podyji National Park thus belongs to one of the most species-rich areas in the Czech Republic, at least concerning neuropteroid insects. Several rare and remarkable species (e.g. *Dendroleon pantherinus*, *Myrmecaelurus trigrammus*, *Mantispa styriaca*) were confirmed in the eastern part of the National park. The complete results will be summarized in a separate paper, which will be published in 2008.

Key words: Neuroptera, Podyji National Park

CHANGES IN LANDSCAPE USE AND HABITATS SUCCESSION VERSUS JEWEL BEETLES (COLEOPTERA, BUPRESTIDAE) IN THE PODYJÍ NATIONAL PARK

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Intensive research has been carried out since 1987 in the Podyji National Park. 79 out of 108 species known to the Czech Republic were found. Almost all assumed species have lived in natural habitats (rocky pinewood, thermophilic oakwood, alluvial stands along the Thaya River). Replacement habitats (meadows, xerotherm pastures and heaths, remnants of alluvial forests) have been a

home to many rare and endangered species, their imagoes have fed on flowers, grass and leaves of solitary grown trees, larvae on herbs, leaves of trees, living and dead wood. Concerning the Czech Republic, species diversity of Buprestidae in the Podyjí NP is exceptional. A mosaic of habitats containing places with wood succession as well as areas where succession is blocked, have been very suitable for these heliophil, phyto- and xylophagous beetles. Succession has been blocked artificially, which imitates the natural activity of rivers, beavers, large and medium-sized ungulates, which used to create this mosaic of habitats in the wild. Some sensitive species living in the northernmost border of their occurrence have become extinct. They were dependent on old fruit trees and pastures.

Key words: Buprestidae, Podyjí National Park

BIRDS OF THE PODYJÍ NATIONAL PARK: YESTERDAY, TODAY AND TOMORROW

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This report summarizes continual improvement of our understanding of the avifauna of the Podyjí National Park. The first information on birds from the recently funded National park comes from the end of the 19th century, when V. Čapek mentioned the recording of *Monticola saxatilis* near Vranov n.D. The last species, which was added to the list of birds, was *Prunella collaris*, discovered near Vranov n. D. in January 2006. No research was carried out until 1990. Since 1995, 2 reports giving the total number of bird species in the Podyjí National Park have been published, and another for the Thayatal National Park. Since 2004, research in the field targeted in chosen habitats and targeting particular species have been carried out.

The list of avifauna of the Podyjí NP contains 199 bird species, however, we are uncertain of the occurrence of 5 of them. 86 species have bred regularly, 15 species irregularly, breeding is probable in 20 species, possible in 19 species. 36 bird species have been recorded during migration. 58 species have spent winter in the Podyjí NP regularly, 36 irregularly. 13 species are classified as vagrants.

Key words: birds, Podyjí National Park, list of bird species

THE LOESS OF THE PODYJÍ NATIONAL PARK (MORAVIA, CZECH REPUBLIC)

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During the years 2002, 2003 and 2004, the revision of the geological map of the Podyjí National Park was made. The work was focused on the specification of the extent of loess in given areas. The boundaries of loess accumulations were specified by the results of field research, even the new occurrences of loess were documented. The loess primarily forms smaller accumulations spread all over the territory. It contains an elevated amount of sandy particles. The age of loess is usually upper wúrm. Sedimentation occurred in cold harsh environments in the last glacial cycle. The collected samples were analysed to evaluate their homogeneity. Chemical analysis was also carried out and its results are comparable with the values measured in the Dyjskosvratecký úval. According to the

grain-size analysis, the loess from the Podyjí National Park can be classified as sandy loess. Loess on the studied area belongs to very unhomogenous sediments. It is greatly affected by basement composition, probably in consequence to slope movements.

Key words: Quarternary, Pleistocene, loess, geological mapping, Podyjí National Park

RECENT AND PREVIOUS RESEARCH PROJECTS IN THE THAYATAL NATIONAL PARK

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Since the foundation of the National Park in 2000, scientific research has been ordered by the National Park administration to get base for the management plan. The first studies were focused on topics like vegetation of meadows and heathlands; the degree of anthropogenic influence in the forests of the Thayatal NP; the potential disturbances by visitors, hunting and fishing; the occurrence of invasive species; fish ecology, populations of birds etc. All studies have included suggestions for the management or some special protection measurements.

In recent years, basic research has also become important. There are intensive studies on biodiversity in the Thayatal National Park and the factors influencing it, which were presented at the conference by some authors. There are also studies about grasshoppers, bugs, bumble-bees and lichens. Other projects concern nature management, for example the monitoring of vegetation or bark beetles.

Key words: Thayatal National Park, scientific research

MILESTONES OF FOREST MANAGEMENT IN THE PODYJÍ NATIONAL PARK

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There are many events that have influenced the management of forest stands in the Podyjí National Park. The transfer of the rights to manage forests, forest land and other forest properties in state ownership to the Podyjí NP Administration from 1st January 1994 was undoubtedly a major turning point. The formation of a clear strategy for forest protection, where principles of the management of forest stands were defined with respect to the specified target areas left to spontaneous development was fundamental event. Such strategies have certainly evolved step by step, but it is very important that it has not changed in any significant way and the primary course has only been slightly altered and specified. In agreement with this strategy, individual management measures have been put into practice, such as systematic transformation of forest stands with higher representation of the *Robinia pseudoacacia*. The formation of a “new” forest management plan based on operational inventory was the last significant event. The Podyjí NP has become a pilot area in the Czech Republic, where this type of plan was created and has been adopted and used in current practice.

Key words: forest stands management, strategy of forest protection, forest management plan, Podyjí National Park

CARABID ASSEMBLAGES OF VARIOUS FOREST COMMUNITIES IN THE THAYATAL NATIONAL PARK

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From March to October 2005, carabid beetles, known for their high bioindication value, were investigated using pitfall traps in different forest types of the Thayatal National Park. Their immediate reaction to disturbances and their well known ecological preferences made them generally suitable objects for ecological studies. Four study sites, beech forest (BE), oak-hornbeam forest (OH), floodplain forest (FP) and basswood forest (BA) were chosen for comparison. Altogether, 23 carabid species were identified. The *Aptinus bombardus*, which is described as stenotopic and silvicolous, made up to 50% of all captured individuals. This species was limited to the sites BA and OH, where it adopted a eudominant position. With 13 different species, FP proved to be as a dynamic habitat as alluvial forests and wet meadows and provided the best conditions for high diversity. A hierarchical cluster analysis using presence/absence data displayed FP as a unique site. BA and OH showed the highest similarities in their carabid assemblages. Besides geological and climatic analogy, geographical proximity may also be held responsible for this affinity. These two sites may exhibit a very stable habitat type with only 8 species on average, but a high percentage of stenotopic specialists.

Key words: carabid assemblages, forest communities, ecological preferences, Thayatal National Park

WHO WANTS TO BUILD WATER RESERVOIR IN THE PODYJÍ NATIONAL PARK?

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The State Waterworks Plan (1986) should be replaced by the Plan of the Main Watersheds (allegedly due to the implementation of the EU Water Framework Directive). According to the authors of the plan, the major role will be the protection of land suitable for the possible future accumulation of water. They emphasize dynamic development of alluvial plains and they fiercely repeat, that it is not a matter of “new water reservoirs” but just “accumulation of water”. In fact, it is a dangerous game playing with words and terms. If we rename plans to build water reservoirs as protection of water accumulation localities, we face real danger of construction of water reservoirs.

The designers of the plan openly displayed their ideas when introducing the Býčí skála water reservoir, which lies partly in the Austrian area. But the main problem – the reservoir is placed within the area of the Podyjí NP. This means:

either national parks are of no importance. The authors of the plan do not accept that any construction works are forbidden there. So – no NP is needed!

or national parks really are the most strictly protected natural areas. Within their boundaries there will be no construction works either now or in the future. So – no protection for accumulation of water is needed!

Key words: plan of the main watersheds, Býčí skála water reservoir, EU Water framework directive

FOREST TENDING – THEORETICAL STARTING POINTS AND PRACTICAL RESULTS AFTER 15 YEARS

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Forests in the Podyjí National Park (PNP) were long under the influence of humans; nevertheless, a share of near-natural forests in the PNP is the largest of all four national parks existing in the Czech Republic. Forest management in the Podyjí NP has been conceived in accordance with IUCN criteria from the very beginning. As a target, a continuous area with 72% of NP forests (3900 ha from a total of 5400 ha) was delimited to be left to spontaneous succession in the future. For systematic conversion of non-autochthonous stands, the forest stands were classified into four types: natural, transitional, coniferous and acacia. Forests in the natural forest stand type are left to spontaneous development. In the transitional forest stand type, only two treatment measures are permitted.

In 1995, 873 ha of forest stands were left to spontaneous succession with the parameters of near-natural communities. Thanks to the systematic enforcement of regeneration management principles, the area of these stands already reached 2170 ha in 2006. The representation of Scots pine was reduced from 27% to 15% in 15 years. Regarding the hitherto pace of regeneration management, the achievement of the target status can be anticipated in 2025–2030.

Key words: Podyjí National Park, forestry

VEGETATION ECOLOGY RESEARCH IN THE THAYATAL NATIONAL PARK

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During the last years, studies of natural and semi-natural vegetation in the Thayatal National Park have been in the focus of the research activities of the Department of Conservation Biology, Vegetation and Landscape Ecology at the University of Vienna. During the years 1999–2006, four different studies were conducted on behalf of the Thayatal National Park. They were all aimed at filling gaps in knowledge of ecology, species composition and spatial distribution of different ecosystem types and natural habitats in this region. Furthermore, delivery of applicable results, which allow monitoring and evaluation of conservation efforts and land management, was also very important.

Detailed investigation of different grassland types (meadows, fallow and xeric grasslands) was performed by combining the traditional phytosociological Braun-Blanquet approach with modern numerical methods like divisive cluster analysis (TWINSPAN) to classify and identify plant communities. By doing so, 26 communities of xeric grassland and 21 communities of managed mesic meadows and pastures could be identified and scientifically described in the National Park Thayatal. In addition a monitoring programme of non-wooded habitats in the open landscapes was initiated. 40 monitoring sites in representative habitats have been established – a database with syntaxonomical classification, GIS coordinates and photographic documentation has been set up.

The most recent study has been dealing with woodland ecosystem types in the framework of biodiversity evaluation within the National Park. As a result, 19 forest plant communities have been described in the context of a complete revision of the syntaxonomical system of forest vegetation in

Austria and a map of the potential natural vegetation has been actualized accordingly. In addition, “hot” and “cold” spots of vascular plant biodiversity could be identified and by combining the data of all vegetation studies. The spatial pattern of alpha- and gamma- diversity could be interpreted in line with modern ecological theories. Last but not least a short interpretation guide of forest plant communities was produced to serve educational purposes as well.

Key words: Thayatal National Park, vegetation ecology, plant communities, monitoring, grasslands, forest

FRESHWATER CRAYFISH IN THE THAYATAL NATIONAL PARK

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Two native crayfish species occur in the Lower Austria, the noble crayfish *Astacus astacus* and the stone crayfish *Austropotamobius torrentium*. The stone crayfish is the most abundant species and occurs in stable, mostly isolated, small brooks. The noble crayfish is highly endangered in Lower Austria and normally restricted to lakes and larger streams. Habitat destruction such as river regulations and the crayfish plague *Aphanomyces astaci* spread by the introduced North American signal crayfish *Pacifastacus leniusculus*, whose populations are expanding, represent the main threats to both autochthonous species. In 2006, baited traps were left in the Thaya River and in turbid, deep water of smaller brooks (Kajabach, Fugnitz) over one week to obtain data about occurrence of the crayfish in the National Park. The brooks were also divided into a series of 50m monitoring units and controlled by a manual survey during the night. Crayfish individuals were marked and another survey of this type was carried out after one week for estimating population density. Size distribution and sex ratio, settlement by epizotic branchiobdellids and injuries were determined to obtain information about the condition of the population. Only *A. astacus* was found in all affluents of the Thaya river; the Thaya showed no occurrence of crayfish. The first results of distribution, abundance and population structure of the noble crayfish in Kajabach are presented.

Key words: Thayatal National Park, freshwater crayfish

FIRST RESULTS OF INVESTIGATION OF XYLOBIONT BEETLES IN THE AUSTRIAN PART OF THE THAYATAL NATIONAL PARK (INSECTA: COLEOPTERA XYLOBIONTA)

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Xylobiont beetles, especially the saproxylic ones, are considered to be one of the most endangered groups of insects, particularly those which need large dimensions of dead wood or old trees have lost their habitats in the course of the last century to an inordinate extent. In consequence of forestry operations in the past, apparently also in the Thayatal National Park, we have found fewer species than expected, like the jewel beetle *Eurythyrea quercus* (Herbst, 1780) or *Acmaeodera degener* (Scopoli, 1763). During the recent investigation, a number of rare xylobiont beetle species were found, such as *Dicerca berlinensis* (Herbst, 1779), *Dicerca alni* (Fischer von Waldheim, 1824), *Coraebus undatus* (Fabricius, 1787) and *Agrilus kubani* Bílý, 1991 (fam. Buprestidae), *Mycetophagus ater* (Reitter, 1879) (fam. Mycetophagidae), *Oxylaemus cylindricus* (Panzer, 1796) (fam. Colydiidae), *Dapsa denticollis* (Germer, 1817) (fam. Endomychidae), *Hedobia pubescens*

(Olivier, 1790) (fam. Anobiidae), *Phytobaenus amabilis* R. F. Sahlberg, 1834 (fam. Aderidae), *Al-lecula rhenana* Bach, 1856 (fam. Alleculidae), *Neomida haemorrhoidalis* (Fabricius, 1787) and *Platydema violaceum* (Fabricius, 1790) (fam. Tenebrionidae), *Liocola lugubris* (Herbst, 1786) and *Potosia aeruginosa* (Drury, 1770) (fam. Scarabaeidae), *Leioderes kollari* L. Redtenbacher, 1849, *Purpuricenus kaehleri* (Linnaeus, 1758), *Saperda perforata* (Pallas, 1773) and *Saperda octopunc-tata* (Scopoli, 1772) (fam. Cerambycidae) or *Gasterocercus depressirostris* (Fabricius, 1792) (fam. Curculionidae). We can hope that the conservation effort will further improve the habitat quality. The continuation of the entomofaunistical inventory in the Thayatal National Park is desirable. About 200 species of xylobiont beetles found during the first two years are only a part of species diversity really expected.

Key words: Thayatal National Park, xylobiont beetles