

# ENVIROMAGAZÍN

5/2003

## *From the Table of Contents*

|    |                                                                                                              |
|----|--------------------------------------------------------------------------------------------------------------|
| 4  | Climate change – a scientific or a political problem?                                                        |
| 5  | Climate joins us                                                                                             |
| 6  | Action Plan for Transport and Environment in the SR                                                          |
| 8  | Sustainability – the way to the better and cleaner future                                                    |
| 10 | Biodiversity endangered by pesticide pest control                                                            |
| 12 | Biological protection of plants by microscopic fungus <i>Trichoderma</i>                                     |
| 14 | Ecocentres in Great Britain                                                                                  |
| 15 | Green Apple 2003                                                                                             |
| 16 | Black mulberry ( <i>Morus nigra</i> ) occurrence near Pukanec                                                |
| 18 | Dolomites – “a garden” full of flowers                                                                       |
| 20 | What is the role of minerals in a human body?                                                                |
| 23 | She loves ground squirrels                                                                                   |
| 24 | New environmentally friendly use of lignin waste products for chemoprevention of cancer and genetic diseases |
| 26 | Industrial parks building in Slovakia                                                                        |
| 28 | Don't be afraid of radiated preserved foodstuffs                                                             |
| 30 | Nature and cultural heritage protection in a caricature                                                      |
| 32 | Friends and conservators of underwater life in the High Tatras met at the Festival of Diving Films           |
| 34 | Štiavnica metamorphoses in Jozef Vydriák's works                                                             |
| 34 | Photo competition                                                                                            |
|    | Enclosure                                                                                                    |

## *Slovak Academy of Sciences and environment*

**Branislav Petko / SAS**

Slovak Academy of Sciences (SAS) commemorates this year 50<sup>th</sup> anniversary of its establishment. The primary mission of SAS is obtaining of new knowledge about nature, society and technology in order to provide the scientific basis for the development of Slovakia. In the foreword the author, the chairman of the SAS's Committee for Environment and the member of the SAS's Presidency, presents activities and achievements of SAS. SAS's environmental policy is a controlled process, the result of which is, besides others, the Agreement on Co-operation in the field of environmental research and monitoring between SAS and MoE SR from 1999.

(page 3)

## *Climate change – a scientific or a political problem?*

**Gabriela Fischerová / MoE SR**

The Convention on Climate Change from 1992 and the Kyoto Protocol from 1997 are undoubtedly the most complex and ambitious agreements in the field of environmental protection and sustainable development ever adopted. The Convention seeks the stabilisation of atmospheric concentrations of greenhouse gas emissions at a safe level. The Protocol also includes the greenhouse gas emission trading system, the so-called mechanism of clean development and others. However, the Protocol has not entered into force yet. The key issue at present is the Protocol ratification by the Russian Federation. The article asks the question if the climate change is a scientific or a political problem.

(page 4-5)

### ***Climate joins us / the exhibition***

A unique interactive exhibition "Climate Joins Us" has been travelling in the Tatra region from October of this year. At present up till 31 January 2004 it has been installed in the Podtatranské Museum in Poprad, in February 2004 it will be in Kežmarok and in March in Spišská Nová Ves. The exhibition consisting of 20 coloured panels is intended for pupils of 8 to 12 years and it provides many facts and information.

(page 5)

### ***Transport and environment***

**Mária Brišáková/ Ministry of Transport, Post and Telecommunications**

The author states at the beginning of the article that the transport in SR was not developing favourably in relation to the objectives of sustainable development during the monitored period of time (1993-2000). Unfavourable impacts of transport on the environment, caused by growing performance of environmentally unfavourable road transport, mainly individual automobile transport, were partially eliminated during the above-mentioned period of time by improving of ecological parameters of the vehicle fleet.

(page 6-7)

### ***Sustainability – the way to the better and cleaner future***

**Ludovít Sluka / Ekopolis**

The Ekopolis Foundation supports, in its environmentally oriented open programmes, groups of citizens, organisations and associations, for whom the philosophy of social-economic progress connected with environmental devastation and loss of biodiversity is alien. The author of the article presents one of two key topics including activities that are in compliance with the foundation's mission. Namely, the topic of the environment presented by the Open Environmental Grant Scheme and the scheme Alternatives of Nuclear Energy. The second topic, which will be presented on pages of *Enviromagazín*, will be rural areas. This subject consists of following programmes: Citizens in a Village, Life in a Village and Amber Road.

(page 8-9)

### ***Seniors in Teplý Vrch***

**Ján Kleinert**

Seniors of nature protection met at the beginning of October for the ninth time already in the Drieňok environmental education centre of the Slovak Environmental Agency (SEA), near the water dam Teplý Vrch.

### ***Biodiversity endangered by pesticide pest control***

**Institute of Zoology of SAS Bratislava**

During the years 2001-2002 the effects of the recommended chemical pest control of apple trees [early –spring spray, protection against apple fruit sawfly (*Hoplocampa testudinea*), two treatments against apple moth (*Cydia pomonella*)] concerning the changes of species diversity of arthropods, were investigated. It was proved that twice as much individuals have occurred on the controlled trees than on treated ones. Implementation of recommended insecticidal pest control reduced the occurrence of beneficial species of arthropods (predators) to about 49 %. The species in question belong to following groups: Mites (Acarina) – 53%, Spiders (Araneae) – 34 %, Stink – bugs (Heteroptera) – 66 %, Beetles (Coleoptera) – 45 %, Two- winged flies (Diptera) – 41 %, Nettwingers (Planipenia) – 66 %. Reduction of predators resulted in the overpopulation of others phytophagous pests - European red mite (*Panonychus ulmi*), Apple rust mite (*Aculus schlechtendali*), Apple bud moth (*Spilota ocellana*), Spotted tentiform leaf miner moth (*Lithocolletis blancardella*), Pear leaf blister moth (*Leucoptera scitella*), Apple pygmy (*Stigmella malella*), Peach leaf miner moth (*Lyonetia clerkella*). In accordance

with the integrated pest management principles to stop the unfavourable effects of insecticides on beneficial fauna, the system of target protection has been developed, taking into consideration the best suited period of time and method of protection against phytophagous species.  
(str. 10 – 11)

***Biological protection of plants by microscopic fungus Trichoderma***  
**Vladimír Farkaš, Chemical Institute of SAS**

The accumulation of organic and inorganic residues in environment is one of negative impacts of the intensive chemicalisation of agriculture in the last decades. This fact affects unfavourably not only environment but, consequently, also human health. The biological protection of plants seems to be a suitable alternative to mitigate this impact. The author of the article presents the results of the project “Preparations for the Biological Protection of Plants on the Basis of *Trichoderma* Fungus”. The application of these preparations will not only reduce the consumption of chemical pesticides but it will also help in the improvement of the environment, soil, ground and surface waters.  
(page 12-13)

***A symbolic cemetery in the Demänovská valley***  
**Tomáš Trstenský**

At the symbolic cemetery in Ostredok in Demänovská valley for several decades already tablets have been placed with the names of the victims of mountain accidents in the Low Tatras.  
(page 13)

***Ecocentres in Great Britain***  
**K. Kosková, M. Vincík / SEA**

On the occasion of the successful implementation of the two-year project “Living Nature”, in which the Slovak Environmental Agency (SEA) co-operated with the Field Studies Council (FSC), SEA accepted the invitation to visit ecocentres in Great Britain. Almost all centres managed by FSC are gifts from middle aristocracy, who, as the satisfaction, was granted the tax relief. These centres are tailored to the purposes of practical environmental education and at the same time they have preserved their original architecture of English countryside.  
(page 14-15)

***Green Apple 2003***  
**Alena Kostúriková / SEA**

At the beginning of November, the educational project Living Nature, which was co-ordinated by the Slovak Environmental Agency in co-operation with the Field Studies Centre from Great Britain won The Green Apple Award 2003. The Deputy of the State Secretary for Trade and Industry of the Great Britain handed over this award to the representatives of SEA at the House of Commons of the British Parliament on behalf of The Green Organisation.  
(page 15)

***Black mulberry (Morus nigra) occurrence near Pukanec***  
**Branislav Mikuška/ Biological Institute of SAS**

In 2001 – 2002, a research was carried out near the Pukanec village, which is well-known for abundant occurrence of the black mulberry. The research consisted mainly of the monitoring of chronology, age composition and health condition of individual trees. Each tree near Pukanec has been recorded in the map. In comparison with the eighties of the last century, when 460 trees were reckoned here and the estimated age of the oldest ones was 500 year, during the last research 421 trees were recorded.  
(page 16-17)

***Dolomites – “a garden” full of flowers***  
**Lubor Čačko**

Italian Dolomites are considered the most beautiful mountain in Europe. The author of the article writes that Dolomites are interesting not only from the landscape point of view. At the beginning of a short mountain summer this region changes into a wonderful coloured landscape of the most varied flowers and it reminds of a huge open-air botanical garden.

(page 18-19)

***What is the role of minerals in a human body?***

**Ivan Križani and Stanislav Jeleň, Geological Institute of SAS**

Issues of the origination, function and characteristics of minerals in a human body do not belong to notorious. Minerals in human body form aggregates consisting of genetically related mineral and organic substances that were formed during the process of the organism development from the products of its life activity and also in the process of the transformation of necrotic biomass into the mineral one. The authors of the article write about biominerals origination and functions, methods and techniques of their study, they analyse in detail minerals of bones and teeth, urinary and biliary calculi, calculi of salivary glands, calculi in tumours, etc.

(page 20-22)

***She loves ground squirrels***

**Ján Dzúr**

The portrait of the natural scientist Lucia Bobáková, the youngest employee of the Muránska planina National park. Lucia has been working on the rescue of several endangered European animals within the international LIFE project. She has become attached especially to sousliks, named also ground squirrels.

(page 23)

***New environmentally friendly use of lignin waste products for chemoprevention of cancer and genetic diseases***

**Božena Košíková, Darina Slameňová and Juraj Labaj, SAS Bratislava**

Lignin is amorphous natural polymeric material composed of phenylpropane units. A unique property of lignin polymer is that it acts in nature as a stabiliser towards various stresses, to which trees are subjected. Potential medicinal applications of lignin biopolymers, derived from wood pulping, were examined with regard to their ability to bind N-nitrosoamines and bile acids. It was revealed that the most effective lignin preparations exhibited also protective effect on deoxyribonucleic acid (DNA) damage induced by oxygen radicals and/or by N-nitrosoamines on mammalian cell lines. Moreover, "in vivo" experiments with laboratory animals confirmed the protective effect of lignin tested on oxidative damage of DNA in lymphocytes. Obtained results allow to develop a new scheme for the use of lignin, isolated from the wastes of pulp and paper industry, as low-cost environmentally friendly natural agents in chemoprevention of cancer and other civilisation diseases.

(page 24 – 25)

***Industrial parks building in Slovakia***

**Katarína Kujanová, Faculty of Architecture of the Slovak Technical University in Bratislava**

The article draws attention to the wide range of issues connected with industrial parks design and construction. Although in Slovakia this process has just started, other countries have good experience with industrial parks. The advantageous strategic position of Slovakia in the middle of Europe promises good functioning of relations resulting from industrial parks operation. With regard to the fact that there is a variety of problems connected with industrial parks, the article focuses on principles of the project and territory preparation and creation of conditions by the government in order regions,

usually with a high unemployment rate, become attractive for investors. The author writes also about advantages and disadvantages of industrial parks building on the so-called “green field”. The article brings examples of industrial parks projects in Slovakia, which are under preparation and also those that have been implemented already.

(page 26-27)

***Don't be afraid of radiated preserved foodstuffs***

**Juraj Tolgyessy Matej Bel University Banská Bystrica, Margita Harangozó Slovak Technical University Bratislava, Ján Ružička and Vladimír Baráni Cyclotron.Centre of SR Bratislava**

Much attention is paid in many countries all over the world to the research of the possibility of the extension the time of foodstuffs storage and agriculture products protection by means of high-energy radiation. Slovakia will soon join these countries by the construction of the Cyclotron centre of SR and by the implementation of the programme for foodstuffs treatment (foodstuffs radiation by a certain type of energy). This process means the exposure of foodstuffs, packed or free, to carefully controlled dose of high-energy radiation. This process cannot increase the normal level of foodstuffs radiation regardless the length or extent of exposure.

(page 28-29)

***Nature and cultural heritage protection in a caricature***

**Rúth Lichnerová, J. Kollár Gallery in Banská Štiavnica**

The author of the article returns to the 2<sup>nd</sup> international competition “Nature and Cultural Heritage Protection in a Caricature”, which was advertised in January 2003 by the Slovak Mining Museum in Banská Štiavnica in co-operation with the Ministry of Environment, Ministry of Culture, City of Banská Štiavnica and others. 63 authors from 15 countries sent 201 caricatures to the competition. Visitors of Banská Štiavnica, Vienna and Sopron had the possibility to see the exhibition of competition works.

(page 30-31)

***Friends and conservators of underwater life in the High Tatras met at the Festival of Diving Films***

**Anna Gudzová, SEA**

Hindsight at the 18<sup>th</sup> International Festival of Diving Films than was held in Tatranská Lomnica in the High Tatras in October 2003.

(page 32-33)

***Štiavnica metamorphoses in Jozef Vydrnák's works***

**M. Čelková**

The artist Jozef Vydrnák from Trenčín has been exhibiting his works under the name “Banská Štiavnica and other topics” in J. Kollár Gallery in Banská Štiavnica. The exhibition bringing the selection of 40 pictures, 35 drawings, graphics and caricatures will last till the end of January 2004.

(page 34)

***World heritage***

New Zealand – Tongariro National Park, Seychelles - Aldobra Atoll, China – Mausoleum of the first emperor of the Qin dynasty, Peru – the old town Cuzco.

## **ENVIROMAGAZÍN**

The journal dealing with the environmental protection and improvement.

The 8th volume, the 5<sup>th</sup> issue, November 2003, published by the Ministry of the Environment of the Slovak Republic and the Slovak Environmental Agency, [www.enviromagazin.sk](http://www.enviromagazin.sk).

Editor's Office: SAŽP, Tajovského 28, 975 90 Banská Bystrica,

tel./fax: ++421-48-4230 694, tel. 4713718

e-mail: [enviro@sazp.sk](mailto:enviro@sazp.sk).

Editor in Chief: Miroslav Tončík

Editor: Alena Kostúriková

Publisher: EM DESIGN, Zvolen

Orders to be sent to the Editor's Office.

Registration: MK SR, No. 1459/96, ISSN 1335-1877

## **DO NOT OVERLOOK**

Dear readers,

Your articles, questions, wishes and comments send please on the e-mail address: **[enviro@sazp.sk](mailto:enviro@sazp.sk)**.

Note: On request we can translate the whole article into English.