Annual Zoological Congress of "Grigore Antipa" Museum

17-19 NOVEMBER 2010
BUCHAREST, ROMANIA

Book of Abstracts

Edited by:
Dumitru Murariu, Costică Adam, Gabriel Chişamera, Elena Iorgu, Luis Ovidiu Popa, Oana Paula Popa

MUZEUL NAȚIONAL DE ISTORIE NATURALĂ GRIGORE ANTIPA

"Grigore Antipa" National Museum of Natural History

CZGA 2010 Organizing committee

Dumitru Murariu (“Grigore Antipa” National Museum of Natural History)
Luis Ovidiu Popa (“Grigore Antipa” National Museum of Natural History)
Costică Adam (“Grigore Antipa” National Museum of Natural History)
Elena Iorgu (“Grigore Antipa” National Museum of Natural History)
Oana Paula Popa (“Grigore Antipa” National Museum of Natural History)
Gabriel Chişamera (“Grigore Antipa” National Museum of Natural History)

CZGA 2010 Scientific Committee

Acad. Dr. Octavian Popescu (Scientific Director of the Institute of Biology of the Romanian Academy, Bucharest, Romania)
Acad. Dr. hab. Ion Toderaş (Director of the Institute of Zoology of the Academy of Science of Moldavia, Kishinev, Moldavia)
Prof. univ. Dr. Marian Traian Gomoiu (Corresponding member of the Romanian Academy, Bucharest, Romania)
Dr. Dan Munteanu (Corresponding member of the Romanian Academy, President of the Natural Monument Protection Committee of the Romanian Academy, Cluj Napoca, Romania)
Dr. Dumitru Murariu (Corresponding member of the Romanian Academy, General Director of “Grigore Antipa” National Museum of Natural History, Bucharest, Romania)
Prof. univ. Dr. hab. Bronisław W. Wołoszyn (The Institute of Animal Systematics and Evolution of the Academy of Sciencies of Poland, Krakow, Poland)
Dr. György Makranczy (Hungarian Natural History Museum, Budapest, Hungary)
Prof. univ. Dr. Otilia Zărnescu (University of Bucharest, Romania)
Prof. univ. Dr. Lotus Elena Meşter (University of Bucharest, Romania)
Prof. univ. Dr. Maria Năstăsescu (University of Bucharest, Romania)
Prof. univ. Dr. Dan Cogălniceanu (“Ovidius” University of Constanța, Romania)
Conf. univ. Dr. Marius Skolka (“Ovidius” University of Constanța, Romania)
Dr. Modest Guțu (Senior research scientist, “Grigore Antipa” National Museum of Natural History, Bucharest, Romania)
Dr. Ileana Negoescu (Senior research scientist, “Grigore Antipa” National Museum of Natural History, Bucharest, Romania)
Conf. univ. Dr. Ioan Sîrbu (“Lucian Blaga” University, Sibiu, Romania)
Dr. Eugen Nițu (Senior research scientist, “Emil Racoviță” Institute of Speleology of the Romanian Academy, Bucharest, Romania)

Patronized by:
"Grigore Antipa" National Museum of Natural History, Bucharest, Romania

Supported by:
The Romanian Academy

Murariu D., C. Adam, G. Chişamera, E. Iorgu, L. O. Popa, O. P. Popa (eds) 2010. Annual Zoological Congress of "Grigore Antipa" Museum - Book of abstracts. "Grigore Antipa" National Museum of Natural History, Bucharest, Romania.

ISBN: 978-606-8015-40-8

Cover design: **Adrian Mihalcea-Suru**
Editorial assistance: **Mihaela Barcan-Achim**
Technical assistance: **Petruța Dumitrică**

Printed by "Editura Salgo", Sibiu, Romania

Summary

Invited speakers

Oral presentations

Taxonomy. Faunistics. Zoogeography

Paleontology

Ecology

Invasive species

Parasitism in the animal kingdom

Biodiversity Conservation

Studies and recovery of the natural history museum patrimony

Poster presentations

Taxonomy. Faunistics. Zoogeography

Ecology

Parasitism in the animal kingdom

Biodiversity Conservation

Studies and recovery of the natural history museum patrimony

CZGA 2010 PROGRAMME

WEDNESDAY, 17th OF NOVEMBER 2010

8:30-12:00
Registration

8:50-9:00
Dumitru MURARIU - Welcome and Greetings

Invited speakers

9:00-9:45
Octavian POPESCU - Bionanotechnologies - current and future prospects

9:45-10:30
Marian Traian GOMOIU - Our daily zoology

10:30-11:15
Modest GUȚU - The marine zoodiversity, between knowledge and estimation

11:15-11:45
Coffee break

Taxonomy. Faunistics. Zoogeography

Chair: Eugen NIȚU (Bucharest, Romania)

11:45-12:00
Ioan SÎRBU, Ana Maria BENEDEK - New data concerning the freshwater bivalves from Romania

12:00-12:15
Serge UTEVSKY, Peter TRONTELJ - Phylogeny and phylogeography of medicinal leeches (genus *Hirudo*): fast dispersal and lack of genetic structure

12:15-12:30
Modest GUȚU - The genus *Leptochelia* Dana, 1849: systematic novelties (Crustacea: Tanaidacea)

12:30-12:45
Augustin NAE, Ioana NAE - Arahnological studies in the Piatra Craiului Massif (Meridional Carpathians, Romania)

12:45-13:00
Ionuț Ştefan IORGU, Elena Iulia IORGU - Bush-crickets and Grasshoppers (Insecta: Orthoptera) from Ciucaş Mountains: notes on faunistics, bioacoustics and ecology

13:00-14:00
Lunch break

14:00-14:15
Eugen NIȚU - The Cholevinae of Romania (exlusive Leptodirini) (Coleoptera, Leiodidae)

14:15-14:30
Corneliu PÂRVU, Răzvan POPESCU-MIRCENI - The occurrence, swarming and mating behavior of two dipteran species (Diptera: Dolichopodidae, Tabanidae) in Syria

14:30-14:45
Levente SZÉKELY - The Lepidoptera of Bucharest and its surroundings (Romania)

14:45-15:00
Irinel E. POPESCU - First record of genus *Adontomerus* Nikol'skaya (Hymenoptera: Chalcidoidea: Torymidae) in Romania with a description of a new species

Paleontology

Chair: Dan GRIGORE (Bucharest, Romania)

15:00-15:15
Dan GRIGORE, Viorica MILU, Rodica TIȚĂ - New paleontological pieces in the National Geological Museum: Paleontological collection from Bicaz Gorges – Hăşmaş National Park (Romania)

15:15-15:30
Rodica CIOBANU, Nicolae TRIF - Diodontidae (Osteichthyes) from "The Turnu Roşu (Romania) Eocene Limestone" Reserve

15:30-15:45
Katarzyna STANIK, Bronisław W. WOŁOSZYN - Variety of environmental factors determining morphology of Holocene bat populations in Polish Mountain and Upland areas

15:45-16:15
Coffee break

Biodiversity Conservation

Chair: Dan COGĂLNICEANU (Constanța, Romania)

16:15-16:30
Dan COGĂLNICEANU, Dorel RUŞTI, Gina-Carmen COGĂLNICEANU - The need for setting sound national priorities in conservation within the European Union

16:30-16:45
Angela R. GLATSTON - European Zoos and Biodiversity conservation

16:45-17:00
Gabriel BUICĂ - Preliminary data on the isolated *Testudo graeca* population from the enclosed area of the "Cetatea Histria" Museum Complex, the Danube Delta Biosphere Reserve, Romania

17:00-17:15
Constantin ION, Ciprian MÂNZU, Adrian URSU, Emanuel BALTAG, Alina IGNAT - The relation between the birds' diversity and the habitats heterogeneity in wetlands

17:15-17:30
Attila D. SÁNDOR, Cristian DOMŞA - GIS and analytical tools for completing the network of Special Protected Areas (SPA) for the conservation of Romania's forest birds

17:30-17:45
Diana ION - Volunteering among vultures – good practice for a conservation project

17:45-18:00
Discussions

18:00-18:30
Poster session

THURSDAY, 18th OF NOVEMBER 2010

8:30-12:00
Registration

Invited speakers

9:00-9:45
Dan MUNTEANU - Forerunners of the binomial zoological nomenclature

9:45-10:30
Otilia ZĂRNESCU - Animal regeneration: present and perspectives

10:30-11:00
Coffee break

Ecology

Chair: Ioan SÎRBU (Sibiu, Romania)

11:00-11:15
Daniela Minodora ILIE, Horea OLOSUTEAN - Aquatic and semi aquatic Heteroptera from South-East Transylvanian small rivers

11:15-11:30
Attila D. SÁNDOR - The distribution of the corncrake (*Crex crex*) in relation to land use in the SE part of the Transylvanian Basin

11:30-11:45
Ancuța CAISIN, Angelica CURLIŞCĂ, Nicolae C. PAPADOPOL - Some comparative data about the accommodation of wild and born in captivity (Aquarium Beijing / R. P. China) *Tursiops truncatus* (Montagu, 1821) to the environmental condition from Complex Museum of Natural Sciences Constanța

11:45-12:00
Grzegorz KŁYS, Bronislaw W. WOŁOSZYN - Airflow as a crucial factor for choosing a place of hibernation

12:00-12:15
Dumitru MURARIU - Comparative mammal species communities in Buzău and Teleajen Valleys – Romania

Invasive species

Chair: Marius SKOLKA (Constanța, Romania)

12:15-12:30
Ana-Maria KRAPAL, Oana Paula POPA, Teodora TRICHKOVA, Dimitar KOZUHAROV, Ana-Maria PETRESCU, Elena Iulia IORGU, Zdravko HUBENOV, Luis Ovidiu POPA - Genetic diversity of *Dreissena bugensis* (Mollusca: Bivalvia) in Romania and Bulgaria as revealed by microsatellite analysis

12:30-12:45
Ana-Maria PETRESCU, Oana Paula POPA, Elena Iulia IORGU, Ana-Maria KRAPAL, Luis Ovidiu POPA - DNA-barcoding technique applied on some alien and native Romanian decapods

12:45-13:00
Marius SKOLKA, Cristina PREDA - Recent data regarding the Asian Ladybug *Harmonia axyridis* Pallas, 1773 (Coleoptera – Coccinellidae) in Romania

13:00-14:00
Lunch break

14:00-14:15
Cristina PREDA, Marius SKOLKA - Early stages of the invasion process of *Metcalfa pruinosa* Say, 1830 (Homoptera: Fulgoroidea) along the Romanian coastal area

14:15-14:30
Cristina PREDA, Marius SKOLKA - Data on the ecology of *Cameraria ohridella* Deschka et Dimić, 1986 (Lepidoptera: Gracillariidae) in Constanța county

Invited speakers

14:30-15:15
Marieta COSTACHE - New molecular aproaches for evaluating biodiversity

15:15-16:00
Andrei Daniel MIHALCA - Parasites - biodiversity or pest?

16:00-16:30
Coffee break

Parasitism in the animal kingdom

Chair: Doina CODREANU-BĂLCESCU (Bucharest, Romania)

16:30-16:45
Dominika MIKA-OLSZEWSKA, Bronisław W. WOŁOSZYN, Aleksandra SMYŁŁA - Occurence of selected gram-negative bacteria in bats faeces

16:45-17:00
Andrei Daniel MIHALCA, Michal SLOBODA, Istvan FALKA, Ioan GHIRA, David MODRY - Eustrongylidosis in reptiles: an emerging disease in Europe

17:00-17:15
Ana Maria BENEDEK, Anamaria GURZĂU, Ioan SÎRBU - External parasites on small mammals from Transylvania, Romania

17:15-17:30
Elena Claudia COIPAN, Alexandru Filip VLADIMIRESCU, Valeria PURCĂREA-CIULACU, Gabriela NICOLESCU, Octavian CIOLPAN, Irina TEODORESCU - Tick species (Acari: Ixodoidea) distribution, seasonality, and host preferences in Romania

17:30-17:45
Costică ADAM, Gabriel CHIŞAMERA, Viorel POCORA - Chewing lice (Phthiraptera: Amblycera, Ischnocera) from wild birds in the Danube Delta Biosphere Reserve (Romania). Taxonomical and parasitological data

17:45-18:00
Emilian PRICOP - Preliminary study of fairy flies diversity (Hymenoptera: Chalcidoidea: Mymaridae) in Moldova (Romania)

18:00-18:15
<u>Discussions</u>

18:15-18:45
<u>Poster session</u>

FRIDAY, 19th OF NOVEMBER 2010

8:30-12:00
Registration

Invited speakers

9:00-9:45
Ion TODERAŞ - Aspects of functional and evolutive ecology of animals. An interdisciplinary approach

9:45-10:30
Iordache ION - The zoological research history from "Alexandru Ioan Cuza" University of Iaşi (Romania)

10:30-11:15
György MAKRANCZY - The Coleoptera collection in the Hungarian Natural History Museum and study of the Family Staphylinidae

11:15-11:45
Coffee break

Taxonomy. Faunistics. Zoogeography

Chair: Lotus Elena MEŞTER (Bucharest, Romania)

11:45-12:00
Mioara COSTACHE, Daniela RADU, Adriana CHIOREAN, Florin MUNTEANU - Adaption and growth in captivity of the species *Polyodon spathula* (Walbaum, 1792)

12:00-12:15
Carmen GACHE - Preliminary study on the bird fauna in the Jijioara River Basin

12:15-12:30
Mirela Sabina RIDICHE, Janos Botond KISS - References regarding the species of ringed migratory birds found in the flood plain of the Danube, between Calafat and Jiu (Dolj county, Romania)

12:30-12:45
Victoria NISTREANU, Dan GRIGORE - Preliminary data on the morphology of shrews from genus *Sorex* on the territory of Republic of Moldova

Studies and recovery of the natural history museum patrimony

Chair: Rodica SERAFIM (Bucharest, Romania)

12:45-13:00
Irinel E. POPESCU, Ana DAVIDEANU, Grigore DAVIDEANU - Museum of Natural History: from Linnaean Collections to centres of research and revealing the evolution and primordial importance of biodiversity to human society

13:00-14:00
Lunch break

14:00-14:15
Liviu-Răzvan PRIPON - Cultural importance of isolation as a tendency of the museum pieces from public collections

14:15-14:30
Rodica SERAFIM, Sanda MAICAN - Cerambycids and Chrysomelids species (Coleoptera: Chrysomeloidea) recently entered in the patrimony of "Grigore Antipa" National Museum of Natural History (Bucharest). Igor Ceianu Collection

14:30-14:45
George-Ştefan NĂZĂREANU - The collection of exotic fishes exhibited in "Grigore Antipa" National Museum of Natural History, Bucharest (Romania)

14:45-15:00
Discussions

15:00-15:30
Poster session

16:00-18:00
Visit of the permanent exhibition of "Grigore Antipa" National Museum of Natural History

Poster Presentations

Taxonomy. Faunistics. Zoogeography

P 01.
Voichița GHEOCA - Variability in *Cepaea hortensis* populations at the eastern limits of its range in Romania

P 02.
Ioana-Cristina CONSTANTINESCU - First record of *Discourella radnaensis* (Acarina: Anactinotrichida: Uropodina) from Serbia

P 03.
Otilia IVAN, Neculai Alexandru VASILIU - New species and new records of oppiids (Acari: Oribatida: Oppiidae) from Romania

P 04.
Adina CĂLUGĂR - Faunistic researches on gamasid mites (Acari: Gamasina) from some hayfield protected area from Moldavia (Romania)

P 05.
Alina–Mihaela VLĂDUȚU - Consideration on the benthic invertebrate fauna from the Doamnei River (Romania)

P 06.
Cecilia ŞERBAN - Data about true bugs (Insecta, Hemiptera, Heteroptera) collected from Mediterranean Expeditions [Results of "Focida" 2006, "Punia" 2006, "Atlas" 2007 and "Bolkar" 2009 Expeditions]

P 07.
Mihaela CRISTESCU - Diversity of nocturnal lepidopterofauna (Lepidoptera-Heterocera) in an urban ecosystem - the Botanical Garden Galați

P 08.
Simona STAVRI, Nicolae CRĂCIUN, Otilia ZĂRNESCU - Histological and histochemical characterization of caudal fin regeneration in *Carassius auratus gibelio*

P 09.
Irina POCORA, Viorel POCORA - New data regarding the distribution of *Pipistrellus kuhlii* (Chiroptera) in Eastern Romania

P 10.
Oana CHACHULA, Gabriel CHIŞAMERA, Lotus Elena MEŞTER - Bats diversity in various types of hibernacula from Dobrogea, Romania

P 11.
Victor GHEORGHIU, Cătălin STANCIU, Răzvan ZAHARIA, Dumitru MURARIU, Gabriel CHIŞAMERA - New contribution to the distribution of Syrian bats [Results of "Sabkha 2010" Expedition]

P 12.
Gabriel CHIŞAMERA, Dumitru MURARIU, Petre Bogdan MATEI, Cătălin STANCIU - Preliminary results of the observations on Moroccan mammals [Results of "Atlas 2007" Expedition]

Ecology

P 13.
Gabriela NICOLESCU, Alexandru Filip VLADIMIRESCU, Valeria PURCĂREA-CIULACU, Liviu PRIOTEASA, Elena FĂLCUȚĂ, Elena Claudia COIPAN, Constanța BORONEANȚ, Alexandru I. PETRIŞOR, Gabriela DUMITRESCU, Diana POPESCU, Lucia IONESCU, Simona BICHERU, Aurora ALEXSE - West Nile Virus in Romania

P 14.
Elena Iulia IORGU, Ionuț Ştefan IORGU - The diversity of the Orthoptera comunities in hygrophilous grasslands and marshlands in Southern and Eastern Romania

P 15.
Laura Mariana POPA, Ionuț Ştefan IORGU, Elena Iulia IORGU - Ecological studies on the Orthoptera (Insecta) populations from the Danube Delta Biosphere Reserve: the saline soils from Histria

P 16.
Lavinia PAUL - The role of necrophagous insect species in decomposition of organic matter (Romania)

P 17.
Valeria PURCĂREA-CIULACU, Aurora ALEXSE, Diana POPESCU, Gabriela DUMITRESCU, Janos Botond KISS, Mihai MARINOV, Gabriel CHIŞAMERA, Alexandru I. PETRIŞOR, Gabriela NICOLESCU - Wild birds and West Nile Virus in Romania

P 18.
Viorel POCORA, Gabriel CHIŞAMERA, Costică ADAM - Preliminary results of bird ringing campaigns from Letea grind (the Danube Delta, Romania) in 2008-2010 period

P 19.
Alexandru-Nicolae STERMIN, Liviu-Răzvan PRIPON - Little crake (*Porzana parva*) juveniles behaviour and interaction with the other bird species in the post-breeding season

P 20.
Mariana POPOVICI, Luminița BEJENARU, Romeo CAVALERIU, Florentina OLENIUC - Osteometric study in *Bos taurus* samples associated with Prehistoric Communities of Cucuteni Culture

Parasitism in the animal kingdom

P 21.
Ionelia Claudia GOGA, Doina CODREANU-BĂLCESCU - The trematode *Clinostomum complanatum* (Platyhelminthes: Digenea) identified at the perch from the small reservoirs along the Preajba Valley River

Biodiversity Conservation

P 22.
Luiza FLOREA, Florian BODESCU - The distribution of community conservative fish species from Natural Protected Area Rosci0229 Siriu

P 23.
Luiza FLOREA, Florian BODESCU - Fish community prospective monitoring from Natural Protected Area Rosci0229 Siriu

P 24.
Georgi POPGEORGIEV, Nikolay TZANKOV, Yurii V. KORNILEV, Borislav NAUMOV, Andrei STOJANOV - Species diversity of amphibians and reptiles in the Special Protected Area "Ponor", Northwestern Bulgaria

Studies and recovery of the natural history museum patrimony

P 25.
Adriana CHIOREAN, Laura ALEXANDROV - Proposals for ecological education improvement in natural science museums

P 26.
Ioan TĂUŞAN, Gabriela CUZEPAN - Genus *Lucanus* Scopolii, 1763 (Coleoptera: Lucanidae) in the Natural History Museum Collections of Sibiu (Romania)

P 27.
Ioan TĂUŞAN, Corneliu BUCŞA - Longhorn beetles (Coleoptera: Cerambycidae) from „Dr. Karl Petri" Collection of the Natural History Museum of Sibiu (Romania). Part II: Cerambycinae, Necydalinae and Vesperinae subfamilies

P 28.
Sergiu TÖRÖK, Gabriela CUZEPAN - Data regarding genus *Parnassius* Latreille, 1804 (Lepidoptera: Papilionidae) in the Natural History Museum Collections from Sibiu

P 29.
Radu-Ştefan PANĂ, George-Ştefan NĂZĂREANU - Restoring stages of *Charcharodon charcharias* (Great White Shark) exhibited in "Grigore Antipa" National Museum of Natural History, Bucharest (Romania)

P 30.
Radu-Ştefan PANĂ, George-Ştefan NĂZĂREANU - Restoring stages of *Manta birostris* (Giant Manta) exhibited in "Grigore Antipa" National Museum of Natural History, Bucharest (Romania)

Photo Exihibitions

Wojciech GUBAŁA, Krzysztof SKROK, Bronisław W. WOŁOSZYN - Bats of the Carpathians

Bronisław W. WOŁOSZYN - Protected and unprotected landscapes of Romania

INVITED SPEAKERS

BIONANOTECHNOLOGIES - CURRENT AND FUTURE PROSPECTS

OCTAVIAN POPESCU

Romanian Academy, Institute of Biology Bucharest, Splaiul Independenței no. 296, 060031 Bucharest, Romania; e-mail: opopescu.ubbcluj@gmail.com
"Babeş-Bolyai" University, Interdisciplinary Research Institute on Bio-Nano-Sciences, Molecular Biology Center, Str. August Treboniu Laurian no. 42, 400271 Cluj-Napoca, Romania

Key words: biotechnology, nanotechnology, bionanotechnology, nanomedicine.

Bionanotechnology can be defined as biological applications of *nanotechnology*. Nanotechnology and bionanotechnology are completely new concepts, made-up late in the twentieth century, in a very close relationship with the *biotechnology*, but adds the ability to design and modify the atomic-level details of the objects created. The extent of these disciplines is still being outlined. Nanotechnology has been defined as engineering and manufacturing at nanometer scales, with atomic precision. The theoretical constructions popularized by K. Eric Drexler are perhaps the most visible examples, and these are often further classified as *molecular nanotechnology*. Bionanotechnology is a very particular kind of nanotechnology but, at the same time, it is closely linked to biotechnology (when nanoscale understanding and design are not necessary). There is some debate regarding the equivalence of terms bionanotechnology and *nanobiotechnology*. In this context, the bionanotechnology might be viewed as the use of nanotechnology towards biological applications, and, on the contrary, the nanobiotechnology concerns the utilization of biological macromolecules and self-assembling structures towards technological applications. From a scientific point of view, the topics are mostly interdisciplinary. The classical science disciplines of biology, chemistry, physics, mathematics, computer science and engineering are integrated to solve the secrets of the nanoworld. Molecular self-assembly occurs universally and reproducibly in nature (minerals, biological composites such as pearls, silk, teeth, bones, muscle and extracellular matrix, and in macromolecular assemblies such as hemoglobin, enzymes, cell membranes, membrane channels, chromatin, ribosomes, etc.). These multifaceted fabrication processes pose a great challenge for scientists and engineers. The complexity of the molecular structures and the diversity of strategies and applications clearly require multidisciplinary approaches. For this reason, the plural *bionanotechnologies* is also acceptable. It is clear that biology has much to offer the physical world in demonstrating how to recognize, organize, functionalize and assemble new molecular materials and tools for applications in everything from electronics to medicine. As bionanotechnologies grow up, we will redesign the biomolecular machinery of the cell to perform large-scale tasks for human health and technology. *Nanomedicine* will be the biggest winner. Bionanomachines work best in the environment of a living cell and so are customized for medical applications. Complex molecules that seek out diseased or cancerous cells are already a reality. Sensors for diagnosing diseased states are also developed. Replacement therapy, with custom-constructed molecules, is used today to treat diabetes and growth hormone deficiencies, with many other applications in perspective. This emerging and rising research field of bionanotechnology promises huge potential for the development of nanodevices with specific biological properties. Since 2000, the field has grown constantly by more than 20% each year. Currently, USA, Europe and Asia make approximately equal contributions, which suggests broad consensus with respect to its significance and promise for the future. Bionanotechnology has become the paradigm shifting science and technology providing the pathways towards a sustainable and high quality of life society. However, bionanotechnologies carry with them an acute ethical responsibility. As with any technology, the potential for mishandling is enormous, therefore bionanotechnologies must retain *respect for life and the need for a balance of benefit over harm resulting from any intervention.*

ASPECTS OF FUNCTIONAL AND EVOLUTIVE ECOLOGY OF ANIMALS. AN INTERDISCIPLINARY APPROACH

ION TODERAŞ

Institute of Zoology, Academy of Sciences of Moldova, 1 Academiei St., 422, Chişinău, MD-2028, Moldova Republic; e-mail: iontoderas@yahoo.com

Key words: functional ecology, cold-blooded animals, interdisciplinary studies.

Basing on interdisciplinary studies, significant results were obtained, which demonstrated the firmness of the developing theory of the cold-blooded animals, as a support of the functional ecology. Thus, the methodological estimation base of the geo-chemical labour of animals was elaborated, coupled with the intensity of their energetic metabolism, with the productivity rate, and also the concept on the connection universality of the matter and energy flow for the functioning of the cold-blooded animal communities with the exponential growing type, parabolic and sigmoid (asymptotic).

OUR DAILY ZOOLOGY

MARIAN-TRAIAN GOMOIU

National Research and Development Institute for Marine Geology and Geoecology, 304 Mamaia Blv., 900581 Constanța, Romania; e-mail: mtgomoiu@gmail.com; mtg@cier.ro

Key words: new research strategy, zoology, taxonomy, biodiversity, conservation.

In 2010 - the International Year of Biodiversity, the author, animated by new ideas that flame modern biology, addresses the Romanian zoologists, and does not address them only, in the context of The Second Annual Congress of Zoology organized by "Grigore Antipa" Museum of Natural History, launching an appeal to action in order to make themselves better known in society, to become a voice in the service of the enormous zoological resources of the country and the Planet, considered not only as a biodiversity target, but especially as a source of the people's sustainable welfare. There is still time for the scientific community to leave their fortress and demonstrate the paramount usefulness of multiple and complex zoological studies, meeting the people's increasing interest in nature knowledge, and, at the same time, facing the problems in the daily existence of the people overwhelmed by the stress and haste of modern life in an ever changing and artificial habitat.

This paper briefly analyzes, at the level of the year 2010, the global and national biological problems and, at the same time, proposes a review of the virtues of biology - zoology in particular and the way they are reflected in the socio-human system. It is a plea for the actions of the Romanian scientific community devoted to zoology, which are designed to raise public awareness with regard to the importance of improving zoological knowledge and the management of this complex potential for the sustainable benefit of society.

Among the issues brought forward, the author mentions: loss of biodiversity and its consequences, challenges of climate change, supporting biodiversity conservation, the decline of taxonomy in the age of biodiversity, the human context of biodiversity - the reflection level in the people's life and consciousness of their interest in zoology and animal life, especially the situation in Romania.

The author considers of the utmost importance that the scientific meetings of specialists in various fields of biodiversity should end with resolutions including strategies and agendas within and outside the scientific community of reference, with recommendations for policy makers at all levels of socio-administrative organization. The multiple tasks designed to revitalize and align the Romanian biological taxonomy to the current scientific practice in advanced countries have to be solved by several responsible social factors, starting with our scientific community and ending at the governmental levels. After a preliminary assessment, the author considers that these tasks should include:

- a new research strategy in zoology and action in every way to adopt and implement it; in this case it is about zoology, but the sphere of interest extends to the entire biodiversity that forms the country's natural capital;
- revitalization of activity in scientific societies, associations and institutions of taxonomy;
- diversifying and maintaining the exchange of ideas with experts in the field of taxonomic exploration and development of taxonomic research in teamwork;
- development of communication with the public and diversification of educational types and levels;
- development of infrastructure work, modernization of equipment and elimination of such ideas as "it's good makeshift" or "that will do";
- promoting and creating conditions for electronic publishing and the adoption of taxonomic impact factors;
- reviving the good initiatives of the past and elaborating monographs in team work, also passing to systematic reviews and developing the knowledge base;
- remaking inventories of flora and fauna species, based on a new scientific approach and on an action plan too;
- extending the range of tools to identify species;
- clarifying the problems of "theoretical" and "applied" taxonomy and fully using the results of the two-way approach.

FORERUNNERS OF THE BINOMIAL ZOOLOGICAL NOMENCLATURE

DAN MUNTEANU

Natural Monument Protection Committee of the Romanian Academy, Institute of Biological Research, Cluj Napoca, Str. Republicii no 48 OP 1, CP 129, Romania; e-mail: academiecmn@yahoo.com

Key words: zoology, nomenclature, binomial names.

In the history of science, the Swedish scientist Carl Linné (1707-1778) is known as the founder of the binomial system in the nomenclature of plants and animals, and the 10th edition of his work „Systema naturae", published in 1758, is considered the birth document of this generally accepted system. However, an overview of old works on "animal history" issued during the Renaissance proves that binomial names were applied to animal species a long time before Linné. Three scientists are the forerunners of the binomial zoological nomenclature: Conrad Gesner, Ulysse Aldrovandi, and John Jonston.

Conrad Gesner (1516-1565), a Swiss scientist, was the author of the first Middle Ages encyclopedia of the animal world, entitled *Historia animalium* and published in years 1551-1558. It is remarkable in this valuable work that about half of the animals described by Gesner have binomial names, of course in Latin. Some species are included in groups that are quite similar to our nowadays genera (the first name), while the second names define the different species of a group/genus. The rest of animals' names had either uninominal names or plurinominal names.

In a chronological order, the second important naturalist of the Renaissance was the Italian Ulysse Aldrovandi (1522-1695). His *„zoology"* was published between 1559-1603 in 9 large volumes and it certainly comprises almost all what it was known in that time about animals. The percentage of binomial names is not so great, because the number of plurinominal names is much higher than in Gesner' work. This is due to the fact that Aldrovandi described a large number of new discovered exotic animals, and he was obliged to fabricate for them descriptive names composed from several words.

The third important forerunner of binomial names in zoology is John Jonston (1603-1675), a Polish scientist originated in Scotland. His *Historia naturalis* (1650-1653) is more concise than the works of his predecessors. As concerning the animal names, most of them are binomial, and the structure "genus name – species name" is clearly established. Moreover, Johnston indicates the criteria used by him to name the different species included in a group (genus).

As a result of the numerous expeditions organized in the 17th and 18th centuries, a large number of animals collected in various countries and continents arrived in European collections and museums. In order to name these new species, the zoologists invented long names describing their main characters, and the “old” binomial nomenclature was forgot.

A long period of time Carl Linné was indebted to this practice and he completely ignored the double names promoted by Gesner, Aldrovandi and Johnston. Analysing the successive editions of his work *Systema naturae,* starting with the first one – 1735, we can see how long has lasted the process of simplification of “linnéan” nomenclature. Linné needed more than 20 years to arrive to a practice that was used a century or two centuries before him. However, Linné’s merit is unchallenged: due to his own scientific prestige, he has imposed the use of binomial system of nomenclature in botany and zoology. At the same time, the system has imposed itself due to its simplicity and practical character.

ANIMAL REGENERATION: PRESENT AND PERSPECTIVES

OTILIA ZĂRNESCU

Department of Animal Biology, Faculty of Biology, University of Bucharest, Splaiul Independenței 91-95, R-050095, Bucharest, Romania; e-mail: otilia.zarnescu@bio.unibuc.ro

Key words: regeneration, evolution, stem cells, regenerative medicine.

Animal regeneration is an example of postembryonic morphogenesis and *de novo* formation of anatomical structures in adult animals through the recapitulation of ontogenesis (Brockes & Kumar, 2008).

The ability to regenerate amputated body varies among animal phyla or even among parts of the same organism. While many cnidarians and platyhelminthes can regenerate an entire individual from a small body fragment, nematodes or birds are incapable of regenerating any structure. On the other hand, lizards can replace a tail but not a limb, while many annelid worms can regenerate a tail but not a head (Bely & Nyberg, 2010). While regeneration is ubiquitous throughout the animal kingdom, only a few species within each phylum are able to regenerate complex structures such as appendages.

Regenerative strategies can differ among animal groups. For example, regeneration can occur via a blastema of presumably undifferentiated cells (e.g. epimorphic regeneration of a salamander limb); through proliferation of existing cell types (e.g. restoration of a tadpole tail); without any proliferation (e.g. morphallaxis in *Hydra*); or by some combination of these mechanisms (e.g. combined epimorphic and morphallactic regeneration in annelids and planarians) (Bely & Nyberg, 2010).

Regeneration has long attracted biomedical interest because of potential of replacing old or damaged tissues with new ones. The objective of regenerative biology is to understand the cellular and molecular mechanisms of regeneration where it occurs naturally. Regenerative medicine then seeks to use this understanding to devise therapies that will stimulate the functional regeneration of damaged tissues that not regenerate spontaneously, or whose regenerative capacity has been compromised (Stocum, 2006). Because the comparative analysis of regenerative process showed that the ability of an organism to regenerate depends on its capacity to access a source of stem cells and/or to reprogram differentiated cells most studies of regenerative biology that are aimed at biomedical applications have focused on stem cells (Galliot & Ghila, 2010). Moreover, understanding why a particular regenerative process takes place in a model system but not in human tissues could provide new pathways to stimulating regeneration if endogenous pathways are unavailable (Alvarado & Tsonis, 2006).

References:

ALVARADO, A. S., P. A. TSONIS, 2006 - Bridging the regeneration gap: genetic insights from diverse animal models. Nature Review Genetics, 7: 873-884.

BELY, A. E., K. G. NYBERG, 2010 - Evolution of animal regeneration: re-emergence of a field. Trends in Ecology and Evolution, 25: 161-170.

BROCKES, J., A. KUMAR, 2008 - Comparative aspects of animal regeneration. Annual Review of Cell and Developmental Biology, 24: 525-549.

GALLIOT, B., L. GHILA, 2010 - Cell plasticity in Homeostasis and regeneration. Molecular Reproduction & Development, 77: 837-855.

STOCUM, D. L., 2006 - Regenerative biology and medicine, Elsevier.

NEW MOLECULAR APROACHES FOR EVALUATING BIODIVERSITY

MARIETA COSTACHE

University of Bucharest, Department of Biochemistry and Molecular Biology, 91-95 Spl. Independenței, Bucharest 5, 050095, Romania; e-mails: costache@bio.unibuc.ro; marietacostache@yahoo.com; marietacostache@gmail.com

Key words: genetic diversity, molecular markers, sequencing, new generation technics.

The genetic diversity has an important impact on the higher levels of biodiversity. Molecular characterization plays an important role in estimating the diversity, individuality and population structure. Wild species are the reservoir of natural resources for genetic biodiversity and we can identify the amount of genetic variability using morphological, biochemical and molecular markers. For evaluation of species diversity, it is essential that individuals can be classified accurately and the identification of taxonomic units and endangered species, whose genetic constitution is distinct from their more abundant relatives.

Today, different techniques are available for identifying genetic differences between organisms and for evaluations of the biodiversity. The choice of technique differs in the way they sample within the genome and in the type of data that they generate. New technologies for detecting variation in DNA are complementary with traditional methods in biodiversity. With the development of new technologies, DNA polymorphisms have become the markers of choice for molecular-based surveys of genetic variation. DNA markers are useful in both basic (e.g. phylogenetic analysis and search for useful genes) and applied research (e.g. marker assisted selection, paternity testing and food traceability).

DNA Sequence-based methods have revolutionized our understanding of species biodiversity. The introduction of the second-generation sequencing has heralded a new era. Next generation sequencing (NGS) is a highly parallelized approach for quickly and economically sequencing new genomes, re-sequencing large numbers of known genomes, or for rapidly investigating transcriptomes under different conditions.

The aim of this presentation is to discuss and to illustrate the principles, advantages and shortcomings of different techniques such as real-time PCR, the microarray and NGS.

References:

LEDERMAN, L., 2009 a - Sequencing - the Next Generation, BioTechniques, 46: 159-161.
LEDERMAN, L., 2009 b - Microarrays - Fulfilling the Promise, BioTechniques, 47: 659-661.
PODOLAK, E., 2010 - Sequencing's new race, BioTechniques, 48: 105-111.
WINDIG, J. J., K. A. ENGELSMA, 2010 - Perspectives of genomics for genetic conservation of livestock, Conserv Genet, 11: 635-641.
YOKOTA, Y., V. MATRANGA, 2010 - Biodiversity for our future. Ecotoxicology, 19: 445-448.

THE ZOOLOGICAL RESEARCH HISTORY FROM “ALEXANDRU IOAN CUZA” UNIVERSITY OF IAŞI (ROMANIA)

IORDACHE ION

“Al. I. Cuza” University, Faculty of Biology, Department of Biology, Bd. Carol I no. 20A, Iaşi 700505, Romania; e-mail: ioni@uaic.ro

Key words: zoology, research, history, “Alexandru Ioan Cuza” University, Iaşi, Romania.

“Alexandru Ioan Cuza” University had set up on 26th of October 1860 and it was the first university from the Principatele Unite, Moldova and Țara Românească. At that time, university included: the Law faculty, Philology and Science faculties with following sections: Mathematics, Physics, Chemistry and Natural Sciences.

In the frame of Natural Sciences, Zoology was taught with Botany. Hardly, in 1890 the two subjects separated. The first graduated professor was Leon Cosmovici that taught a course of Zoo-Physiology. In 1906, the Zoology course became independent and the graduate professor was Ioan Borcea. He put the basis of Zoology Department and he managed it until 1936, when he resigned. I. Borcea has been a great expert of Romanian Zoology, a truly titan. He put the basis of the Entomological School; he founded the Marine-Zoological Station – Agigea, at the Black Sea (1926); he performed many researches on the marine fauna. During 1936-1940, Professor Constantin Motaş continued the teaching of zoology until 1940 when he was transferred at University of Bucharest. The next professor of zoology was Orest Marcu, who graduated at the Cernăuți University. In 1947, he was transferred at “Babeş-Bolyai” University of Cluj. In 1940 the Zoology course was divided in: Invertebrata Zoology and Vertebrata Zoology.

The Invertebrata Zoology was taught by Mihai Constantineanu until 1966, when he was succeed by Filimon Cârdei, until 1971, then succeeded by Libertina Solomon, Constantin Pisică, Ioan Moglan, Ion Cojocaru and today the course is taught by Ovidiu Popovici.

The Vertebrata Zoology was taught by Vasile Ionescu, Zicman Feider, Ştefan Vancea, Nicolae Valenciuc, Iordache Ion and, in present, by Carmen Gache.

The fields close connected to Zoology like: Entomology, Parasitology, Animal Biology, Ethology, Ornithology, Ecology, Hydrobiology were taught by great zoologists: Paul Borcea, Ionel Petcu, Ioan Suciu, Ionel Andriescu, Ionel Miron, Gheorghe Mustață, Viorica Simionescu, Mircea Varvara. In present days, these fields are taught by the experts: Mircea Nicoară, Mariana Mustață, Ştefan Zamfirescu, Victor Surugiu, Irinel Popescu, Constantin Ion, Mircea Mitroiu.

This short history of the zoologists from Iaşi University represents an appreciation sign for these scientists’ work.

THE MARINE ZOODIVERSITY, BETWEEN KNOWLEDGE AND ESTIMATION

MODEST GUȚU

"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mail: mgutu@antipa.ro

Key words: Marine Metazoa, estimations.

Although men were always attracted by the endless water surfaces of the seas and oceans, they implied in the scientific knowledge of the life forms rather late. Causes must be found in the hugeness of the marine waters which covers 71% of the Earth, as well in the depths, which remained inaccessible up to now, although humans reached the moon.

As it is known from the biology history, one of the first papers which referred to some marine animals is *Historia animalium* of the well-known ancient philosopher Aristotle (384-322 î. H.). Much later, in the 13th century, Thomas de Cantimpré (1186-1263) mentioned 57 marine animals in the paper *De naturis rerum*, and in 1554 Guilaume Rondelet (1507-1566) published *Libri di Piscibus Marinis*, the first known paper referring only to marine animals. In the paper, 250 species are described.

Besides the scientific concern, society amplified its interest on some species from Neptune's habitat, using them for practical purposes, with economical implications, more and more. I refer both to the food needs and, especially, to those for the satisfaction of some more refined preferences, as it also results from the Italian impressionists' paintings of the 16th century, Alessandro Allori (1535-1607) and Jacopo Zucchi (1540-1595). Although the picture was named "Coral Fishing" (it is about *Corallium rubrum*), we deduce the interest in some molluscs (*Murex*, *Pecten* and others), whose produces (pearls and nacre) were used in hand-made jewels, as the red coral, for intarsia in furniture industry (nacre case) or for producing purple dye.

After the developing of the shipbuilding techniques and the improving of the navigation equipments - which favoured Christopher Columbus' departure in his first trip (1492-1493), and later, other navigators (Ferdinand Magellan, Vasco da Gama, and others) – some encouraging signs appear for those interested in the fauna knowledge. One of the first steps was made by James Cook, who invited the naturalist Georg Forster (1754-1794), Alexander von Humboldt's (1769-1859) good friend, in his second expedition (1772-1775) in the Indian Ocean and South Pacific.

In spite of this, only at the end of the 18th century we can really talk about an intensification of the scientific interest in fauna knowledge, in general, and specifically in the marine one, an important moment being the introduction of the binary nomenclature by Carl Linneé (1707-1778). Also, the success gained by the expedition of the "Beagle" research vessel was a good stimulus within the context of the above mentions, where Charles Darwin (1809-1882) was the naturalist of the expedition, too less known for his studies on the cirriped crustacean. "Valorous" (1852-1854), "Lighting" and Porcupine" (1868-1970) vessels, which preceded the famous "Challenger" expedition around the world (1872-1876), left also from England. Their remarkable results, published in 51 impressive volumes (with an illustration which rouses envy) consists, among others, of the discovering of 4,700 new species to science (an average of 5 species/day). (As an additional information I mention that the Library of "Grigore Antipa" Museum is the only one in Romania which preserves the complete series of the above-mentioned volumes).

Later, other researching campaigns of the marine environment followed, focusing to different aspects, each of them contributing with important discoveries. I refer only to: French campaigns „Travailleur" and „Talisman**"** (1880-1883) in the Mediterranean and East Atlantic, the American expeditions "Albatross" (1882-1891) and "Enterprise" (1883-1884) in Atlantic, Indian Ocean, Tropical Pacific, etc., campaigns of the vessel "Hirondelle I" organized by the Prince Albert I of Monaco (1885-1888) in the Mediterraneean and East Atlantic, "Ingolf" Danish expedition (1895-1896), from the coasts of Greenland, "Siboga" Dutch expedition (1899-1900), whose purpose was to study Indo-Australian flora and fauna, Belgian expedition in the South Pole, with „Belgica" vessel (1897-1899), which had as a naturalist the Romanian scientist Emil Racoviță (1868-1947), and many others.

The study of the zoological material collected during these scientific campaigns, and not only within them, was made by great scientific personalities of that time, included in the history of the systematic zoology, as: J. D. Dana, J. B. P. A. Lamarck, P. A. Latreille, W. E. Leach and H. Milne-Edwards. We owe them and many others, closer to our times, some of them participating to numerous marine scientific campaigns before and after the Second World War and especially in the last decades, for those over 230 thousand described marine species, out of which 200 thousands are metazoans (Porifera, 5,800; Cnidaria, 10,000; Plathelminthes, 15,000; Nemertina, 1,300; Nematoda, 12,000; Ectoprocta, 6,000; Mollusca, 53,000; Annelida, 12,000; Chelicerata, 2,500; Crustacea, 47,000; Echinodermata, 7,000; Urocordata, 5,000; Pisces, 16,500; other groups, including mammals, about 3,000).

In spite of these achievements, hardly reached, we cannot answer even approximately to the question "*How many animal species live in the seas and oceans of the world?*"

A recent estimation is given in an interesting and well documented study, signed by Philippe Bouchet (2006). According to his opinion, the total number of the marine species is of 1.4-1.6 million, out of which only 229,602 are known. But, other specialists present other figures, many times higher. Grassle & Maciolek (1992) estimates the number of the marine species at 5 million, and Reaka-Kudla (1997) mentions at least 950,000 only for the coral ecosystem (citing taken from Bouchet, op. cit.).

Annoyed by these great differences, found by different authors, I decided to do myself some calculations. Without getting into details, I mention that in my estimations, excepting geographical data on the sea surfaces and depths, the bioecological ones, characteristic to some certain marine areas, I based on: quantitative and qualitative studies on the shallow water benthic microfauna (originating in my own collecting, made by diving in apnea in different marine area of the Earth (Andaman Sea, Java Sea, Celebes Sea, south-east of Bali Island, gulfs of Thailand and Mexico, Caribbean Sea, Brazilian Atlantic, etc.); quantitative and qualitative studies on some deep sea crustaceans, collected by different expeditions ("Anton Bruun", from Peru-Chile Trench, "Biogas", from Bay of Biscay, "Benthedi" from Mozambique Channel, "Demeraby", from the north of the South-American Atlantic, etc.); comparisons between the number of the species discovered in the shallow water (in the samples collected by me or other specialists) and deep sea areas (as it results from published data of some marine campaigns), with respect to the collecting surface; comparisons between the number of the described species from different marine ecosystems; knowledge evolution on some crustaceans (copepods, stomatopods, cumaceans, mysidaceans, tanaidaceans, decapods), etc.

Personal estimations, made more cautiously (only at the level of metazoans), show between 2.1-2.35 million *unknown species*. Together with the known ones, it results that the number of the pluricellular species of marine environment is of 2.3 – 2.55 million.

Although my estimations (as it results from my calculation) are higher than those of Bouchet (op. cit.), I think that the real number is even higher. If I dealt with macrofauna in my studies (and I did not know very well the surprising discoveries from the littoral benthic microfauna, and especially from the coral reefs), I would have thought that the estimations made by me were exaggerated. Unfortunately, besides we are influenced by the nature of our specialization subconsciously, we also make other errors involuntarily. One of the errors, made by all specialists, probably, is that they take into consideration the surface of 361 millions sq km covered by seas and oceans, which I think it is a "trap". The slopes, the mountains sides, submarine rocks, etc. are not taken into account, they enlarging very much the marine bottom, in fact, to the prejudice of the water volume (estimated to be 1,480 million cubic km).

In the above mentions, I referred only to the numerical estimation at the species level, not to that regarding the presence of some possible high rank or very high rank taxa (phyla, classes, subclasses or orders). Unfortunately, they are impossible to be anticipated, although I am convinced that in the marine environment there are enough life forms with special morphologic-physiological structures different from what it is known up to now. Who could imagine, three decades ago, the presence of the phylum Loricifera, described in 1983 (as yet with 24 species), of the crustacean class Remipedia (now with 16 species), discovered in 1981 in the deep sea caves of Bahamas or of the class Polyacanthocepala, described only eight years ago? To the mentioned systematic groups of high rank we add the discovering of numerous orders and families, only in the crustacean class being described over 200 such taxa, along the last 30 years.

Under these circumstances I cannot ignore other surprising discoveries, as it is that of the shark *Megachasma pelagis*, of 4.5 m long, known only in 1983, of a whale (*Balaenoptera omurai*), described in 2003, or of a coral reef chain in the North-western Atlantic, at over 1,000 m deep, which stretches from Norway to Portugal, a similar ecosystem being discovered in the Mediterranean, too. Also, I have to mention the hydrothermal springs, with their surprising and unexpected life forms, as *Riftia pachyptila*, a giant polychaete without digestive tract (which feeds by a chemosynthesis process), or as interesting crab (*Kiwa hirsuta*), discovered in the south of the Pacific Ocean, in 2005.

Probably, at least thousand years have to pass till someone will find out if the actual evaluations were real or not.

References:

BOUCHET, P., 2006 – The magnitude of marine diversity. Pp. 31-60. *In*: Durante, C. (ed.) The Exploration of Marine Biodiversity: Scientific and Technological Challenges, Fundation BBVA, Bilbao.

THE COLEOPTERA COLLECTION IN THE HUNGARIAN NATURAL HISTORY MUSEUM AND STUDY OF THE FAMILY STAPHYLINIDAE

GYÖRGY MAKRANCZY

Zoological Department, Hungarian Natural History Museum, Baross u. 13, H-1088 Budapest, Hungary; e-mail: makranczy@zoo.nhmus.hu

Key words: HNHM, Coleoptera collection, history, Staphylinidae.

The beetle collection in the Hungarian Natural History Museum (Budapest) houses 3 million beetles in 44000 standard museum boxes and ranks among the most important collections in Central Europe. The first beetle specimen was acquired in 1824 with the G. Dahl material. The early history of the collection is of two Frivaldszkys: Imre (curator between 1822-1851) and János (curator between 1852-1895). By 1895 the collection grew to 120000 specimens representing 18000 species. After a two-year interregnum, Ernő Csiki was hired and was the first exclusive keeper of the Coleoptera. Apart from bringing in an enormous material sampled by himself, he acquired the collection of Edmund Reitter, one of the most famous coleopterists of all times. In 1937 Zoltán Kaszab was hired, the same year marked the beginning of the modern collection, as he, together with Vilmos Székessy, started uniting the separately acquired materials into one uniform collection according to up-to-date system, with the completion of this task well in the 1950s. In 1948 a type catalogue was prepared. From 1970 many foreign expeditions and local national park explorations contributed to the current size and richness. During the last 3 decades most of the accumulated material has been worked on, identified and made accessible, many type specimens photographed and made available in books and on the internet.

In the new age of collection management the data associated with museum specimens get a new emphasis. For old collections with many type specimens the major tasks are making the material accessible and maintaining or improving its condition. Newly established collections, however, can well utilize the advanced techniques of barcoding and databasing that open up new perspectives in data management. Insect collecting these days should not only use diverse methods but also be prepared for separate preservation techniques. Material collected simultaneously, but killed and kept in 100% ethanol for DNA analysis is essential for modern systematics. The study of Staphylinidae (rove beetles) illustrates well all these new aspects. Being the largest beetle family it challenges collection and preservation techniques by their vast number, great diversity and differences in life habits. This emphasizes the need for a strategy in diverse sampling techniques, professional data recording and proper storage. In the past decades the array of collection techniques included car-netting, undergroud traps and baits, soil-washing and flotation; all capable of bringing in unusual insect material and greatly advancing our knowledge of local biodiversity.

PARASITES - BIODIVERSITY OR PEST?

ANDREI DANIEL MIHALCA

Department of Parasitology and Parasitic Diseases, Faculty of Veterinary Medicine, University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Calea Mănăştur 3-5, Cluj-Napoca 400372, Romania; e-mail: amihalca@usamvcluj.ro

Key words: Parasite conservation, coextinction, coendangered species.

Current estimates state that about half of the living species of Domain Eukarya are parasitic in at least one of their life stage. Five of the animal phyla are entirely parasitic while 12 other phyla are partly parasitic (0.1-80 % of the species). Thus, we can definitely state that parasites are part of biodiversity. However, the general belief of humans about parasites is of a pest. From an anthropocentric point of view, several parasitic species (mainly with human or domestic animals as hosts) are under a permanent attack by pesticides. Moreover, still related to human intervention on nature, some parasites became coextinct together with their host or are coendangered with them. The present review discussed the issues of parasites extinction in the age of pro-biodiversity trends. Parasite extinction fits the four general reasons of species extinction: overkill, habitat loss, invasive species and coextinction. Definitely the most interesting one is coextinction, as in many cases, a single extinct host carries several species of associated parasites. This is certainly more important for parasites with high host-specificity like most coccidia or chewing lice. Several examples are discussed for each extinction mechanism as applied to parasitic species.

ORAL PRESENTATIONS

NEW DATA CONCERNING THE FRESHWATER BIVALVES FROM ROMANIA

IOAN SÎRBU, ANA MARIA BENEDEK

"Lucian Blaga" University of Sibiu, Faculty of Sciences, Department of Ecology and Environmental Protection, 5 - 7 Dr. I. Rațiu St., 550012 Sibiu, Romania; e-mail: meosirbu@yahoo.com

Key words: Unionidae, Sphaeriidae, chorology, variability, ecology.

Present-day data regarding the taxonomy, distribution, variability, population and community ecology of several freshwater bivalve species belonging to the Fam. Unionidae and Fam. Sphaeriidae, from different areas of Romania, are given. There are new faunistical and chorological contributions regarding some *Pisidium sp.* species from Transylvania and Dobrogea, as well as data regarding the Unionidae biometric variability, population and community structure and different spatial-scales dynamics measures. Human impact sources and effects, as well as information regarding pollution ecology of the clams and naiads' species are given hereby. Some Unionidae communities structure are analysed on regional area scale, than along and across river spatial scales, and relations to both physical and chemical freshwater features are discussed. The history of pollution and habitats' debasement are followed by means of time-distribution maps, plotted using present-day information and data from references, dating back to the 19th Century. In this respect, especially the historical distribution map made by the authors, of *Unio crassus* Lamarck, 1819, a "flagship" species listed by the Annex II of the EUHSD (92/43/EEC 1992), Natura 2000, which should be also strictly protected in Romania, is extremely significant. Some data on heavy metals' effects on Unionidae based on laboratory experiments are also presented. Comparing these results with data from references, the bioaccumulation rates and chemical features of different freshwater bodies, related to the distribution of these taxa, an analysis of ecological niches width and tolerances was also made.

PHYLOGENY AND PHYLOGEOGRAPHY OF MEDICINAL LEECHES (GENUS *HIRUDO*): FAST DISPERSAL AND LACK OF GENETIC STRUCTURE

SERGE UTEVSKY[1], PETER TRONTELJ[2]

[1]Department of Zoology and Animal Ecology, V.N. Karazin Kharkiv National University, Pl. Svobody 4, Kharkiv 61077, Kharkiv, Ukraine; e-mail: sutevsk@univer.kharkov.ua
[2]Department of Biology, Biotechnical Faculty, University of Ljubljana, Večna pot 111, SI-1000, Ljubljana, Slovenia; e-mail: Peter.Trontelj@bf.uni-lj.si

Key words: *Hirudo medicinalis*, *Hirudo orientalis*, *Hirudo verbana*, phylogeny, phylogeography, historical demography.

Medicinal leeches (*Hirudo* spp.) are often viewed as best-studied invertebrates. Yet, little was known of the phylogeography of the most widespread *Hirudo verbana*, *Hirudo medicinalis* and *Hirudo orientalis.* This study investigates the genetic differentiation of the three species across their ranges in Europe, Asia Minor, the Caucasus and Central Asia, using both mitochondrial markers (CO1 and 12S) and nuclear sequences (ITS1, 58S and ITS2). The results reveal the presence of two phylogroups in *H. verbana.* The first clade comprises individuals from southern Ukraine, the North Caucasus, Turkey and Uzbekistan, while the second clade contains leeches from the western Balkans and Italy. The deep break between eastern and western populations of *H. verbana* is corroborated by Bayesian inference, median-joining network algorithm and spatial analysis of molecular variance. The divergence and non-overlapping distributions of the two lineages suggest distinct postglacial colonization histories. Leeches supplied by commercial facilities belong to the eastern phylogroup of *H. verbana*; they originate in the steppe zone of Eastern Europe and Turkey. *H. medicinalis* and *H. orientalis* do not have a strong phylogenetic structure. Both *H. verbana* and *H. medicinalis* have experienced rapid population growth and range expansion. The observed geographical distribution of *H. orientalis* is caused by a rapid colonization of Central Asia and Transcaucasia in the past followed by trapping the populations within isolated wetland habitats scattered about the arid areas. The phylogenetic relationships between the different species of the genus *Hirudo* are in agreement with the distribution of various biological properties in the medicinal leeches.

THE GENUS *LEPTOCHELIA* LANG, 1973: SYSTEMATIC NOVELTIES (CRUSTACEA; TANAIDACEA)

MODEST GUȚU

"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mail: mgutu@antipa.ro

Key words: Tanaidacea, Leptocheliidae, *Leptochelia corsica* Dollfus, 1898, *Leptochelia bispinosa* n. sp., Adriatic Sea, Indian Ocean (Réunion Island).

The lack of knowledge in the morphological changes (generated by age) from the cheliped level of the males of the genus *Leptochelia* Dana, 1849, from a century ago, led to the description of several species new to science, difficult to be identified today (if not impossible) after the morphological features of the females (very similar within the genus). Therefore, a relatively high number of species was reached, very similar, some of them even from the same geographical area, others from very remote marine zones. Finally, Lang (1973) synonymised many of these species with *Leptochelia dubia* (Kroyer, 1842), among which there is also *L. corsica*, described by Dollfus (1898), after a study on the genus *Leptochelia*.

In the tanaidologic material sent for study by different specialists and institutions of diverse geographical areas, I found a female, among others, collected from the Adriatic Sea (Bari, Italy; 9 September 1977) by „Calypso" vessel, which I identified as being *Leptochelia corsica* (after I verified two type-specimens) and consequently I consider it a valid species. I mention from the main features of the female the following: (1) the body (having 7.5-8 mm, comparatively with only 2.5-3 mm in other Mediterraneean species), approximately nine times longer than carapace width; (2) each of the pereonites four and five longer than broad (in all other species of the genus, these pereonites are shorter than wide); (3) the pleon longer than first two pereonites, but much shorter than the following two ones, or four and five, and five and six, measured together; (4) the maxilliped basis with three long simple setae; (5) the last pereopod with nine setae, two of them being longer; (6) the uropod endopodite and exopodite with one and six thin articles, respectively.

From the same area (northern coast of Croatia), I report the presence of other species similar to *L. corsica*, but with body length of only 2.3-2.5 mm, each pereonite wider than long and the maxilliped basis with four long setae, which can be *L. dubia* (Kroyer, 1842), *L. neapolitana* G. O. Sars, 1882 or *L. savignyi* (Kroyer, 1842), each of them being recorded in the Mediterraneean basin.

In another very numerous material (having more of 250 males, females and juveniles), originating in the Indian Ocean (Réunion Island, January-February 1989; collected by the late Dr. Hans-Georg Müller), I found another species belonging to the genus to which I refer in this paper, but this time it is about a new species to science (from the "Leptochelia-*groupe 2*", cf. Lang, op. cit.) which I named *Leptochelia bispinosa* (after the number of spines from the second article of antenna). The main morphologic feature, by which the new species distinguishes from the others is that they have on the second article of antenna two spines (one distotergal and one distosternal, much finer in males) while all the other species have only a distotergal spine. As a matter of fact, the presence of distosternal spine is in contradiction with the genus diagnosis (Lang, op. cit.: 224). For avoiding any doubt, I underline that I found this spine in all 60 specimens (20 females, 20 males and 20 juveniles) randomly verified. The females of the new species differs from others of the genus (out of the antenna spines) by the combination of the following features: (1) body (standard length: 4.3-4.5 mm), about seven times longer than carapace width; (2) each pereonite shorter than wide; (3) pleon length at the most equal with pereonites four and five, together; (4) maxilliped basis with six or seven long setae; (5) last pereopod with eight distotergal setae, six of them shorter. Males (out of the chelipeds configuration, which are similar in all species classified by Lang in „Leptochelia-*group 2”*), differs from female by the body thickness (only 4.5 times longer than wide) and the fineness of spines situated on the first two articles of antenna.

By the description of *Leptochelia bispinosa* n. sp. and the validation of *Leptochelia corsica* Dollfus, 1898, the number of the known species of genus *Leptochelia* increases to aproximaltely 30, out of which some of them are still uncertain.

References:

DOLLFUS, A., 1898 – Campanges de la *Melita. Tanaidae* récoltés par M. Ed. Chevreux dans l’Atlantique et dans la Méditerranée. Mémoires de la Société Zoologique de France, 11: 35-47.

LANG, K., 1973 – Taxonomische und phylogenetische Untersuchungen über die Tanaidaceen (Crustacea). Zoologica Scripta, 2: 197-229.

ARAHNOLOGICAL STUDIES IN THE PIATRA CRAIULUI MASSIF (MERIDIONAL CARPATHIANS, ROMANIA)

AUGUSTIN NAE, IOANA NAE

Institute of Speleology "Emil Racovitza", Biospeleology and Karst Edaphobiology Department, Calea 13 Septembrie, No 3, Sector 5, Bucharest 050725, Romania; e-mail: augustin.iser@gmail.com

Key words: Piatra Craiului Mountains, spiders, mesovoid shallow substratum, caves.

The fauna of spiders of the Piatra Craiului Massif remains insufficiently known and refers mainly to the planticolous and a few species of soil or troglobitic (Adam, 2006; Dumitrescu, 1979; Lotrean, 2006; Sterghiu & Dobre, 2003). Our study is based on the information gathered between the years 2002 – 2010, on the spider communities (structure and seasonal dynamics of fauna) and their relations with the soil and subterranean environments. Representing one of the main karstic regions of the Meridional Carpathians, the Piatra Craiului Massif offers for study a large range of subterranean environments, including caves and different types of MSS (mesovoid shallow subtsratum) (cleitric, choluvial fixed or mobile). The authors identified 79 species of spiders form the three types of investigated environments: profound subterranean environment (caves), mesovoid shallow substratum (MSS) and edaphic (soil) environment. Of them, a number of 53 species are first time recorded for the investigated area and one species (*Improphantes improbulus* Simon, 1929) is new record for the Romanian fauna.

References:

ADAM, C., 2006 – New data on the spider fauna (Arachnida: Araneae) of Piatra Craiului National Park. Research in the Piatra Craiului National Park, 3: 177-183.

DUMITRESCU, M., 1979 – La monographie des représentants du genre *Nesticus* des grottes de Roumanie, I-ère note. Travaux de l`Institute de Spéologie "Emile Racovitza", 18: 53-84.

LOTREAN, N., 2006 – Contribuții la studiul faunei de aranee din Munții Piatra Craiului. Argesis, Piteşti, 14: 67-77. (in Romanian)

NAE, A., M. VLAICU, I. POPA, T. CONSTANTINESCU, V. IAVORSCHI, E. NITZU, 2005 – First note on the invertebrate fauna of caves in the Piatra Craiului National Park. Travaux de l`Institute de Speologie "Emile Racovitza", 2004-2005, 43-44: 133-164.

NAE, A., A. GIURGINCA, 2006 – Preliminary data on the spiders from caves of Piatra Craiului Park. Research in the Piatra Craiului National Park, 2.

NAE, A., 2010 – *Improphantes improbulus* (Simon, 1929) (Araneae, Linyphiidae) new record for the Romanian fauna. Travaux de l`Institute de Speologie "Emile Racovitza", 49: 81-85.

NITZU, E., A. NAE, A. GIURGINCA, I. POPA, 2010 – Invertebrate communities from the mesovoid shallow substratum of the Carpatho-Euxinic area: Eco-faunistic and zoogeographic analysis. Travaux de l`Institute de Speologie "Emile Racovitza", 49: 41-79.

STERGHIU, CL., A. DOBRE, 2003 – Researches on spider fauna of Piatra Craiului Masiff. Research in the Piatra Craiului National Park, 1: 170-177.

BUSH-CRICKETS AND GRASSHOPPERS (INSECTA: ORTHOPTERA) FROM CIUCAŞ MOUNTAINS: NOTES ON FAUNISTICS, BIOACOUSTICS AND ECOLOGY

IONUȚ ŞTEFAN IORGU, ELENA IULIA IORGU

"Grigore Antipa" National Museum of Natural History, Kiseleff Street, no. 1, 011341 Bucharest 1, Romania; e-mails: nusi81@yahoo.com; elenap@antipa.ro

Key words: Orthoptera, Ciucaş, bioacoustics, ecology.

During 8 collecting trips in Ciucaş Mountains in the past 3 years (2008-2010), we identified 44 Orthoptera species; most of the individuals have been collected alive and recorded for bioacoustical analysis. On this occasion, some particular Orthoptera were recorded, like: *Poecilimon affinis* (Frivaldsky, 1867), *Polysarcus denticauda* (Charpentier, 1825), *Pholidoptera littoralis similis* (Fieber, 1853), *Pholidoptera transsylvanica* (Fischer, 1853), *Omocestus viridulus* (Linnaeus, 1758), *Omocestus haemorrhoidalis* (Charpentier, 1825), *Chorthippus oschei* Helversen, O. von, 1986 and the particular bush-cricket *Isophya ciucasi*, recently described from this mountain by the authors. The majority of the species are praticolous (30), followed at a great distance by forest species (8), 3 geophilous and 3 euritop species. Also we identified 19 mesophilous species and 13 mesoxerophilous, followed by hygrophilous species (9) and euribiont species (3). No xerophilous and termophilous species were identified. A sinecological analysis was undertaken near the summit Muntele Roşu (1600m a.s.l.). The most abundant species encountered in this habitat are *Miramella ebneri* Galvagni, 1953, *Omocestus viridulus, Polysarcus denticauda, Euthystira brachyptera* (Ocskay, 1826), while the rarest is *Pholidoptera griseoaptera* (De Geer, 1773). Two species are eudominant for both ecological significance factor and constance - *Omocestus viridulus* and *Miramella ebneri* - and 5 are euconstant in all samples: *Omocestus viridulus, Miramella ebneri, Euthystira brachyptera, Polysarcus denticauda, Pholidoptera transsylvanica*.

THE CHOLEVINAE OF ROMANIA (EXLUSIVE LEPTODIRINI) (COLEOPTERA, LEIODIDAE)

EUGEN NIȚU

Institute of Speleology "Emile Racovitza", Biospeleology and Soil Biology Department, Casa Academiei Romane, Calea 13 Septembrie no. 13, Sect. 5, 050711 Bucharest, Romania; e-mail: eunitu@yahoo.com

Key words: Coleoptera; Leiodidae; Cholevinae; Romania; faunistics; zoogeography.

Owing to their top position among the detritivore trophic category (necrophagous or saprophagous), the species included in the subfamily Cholevinae (Leiodidae) were intensively studied in the Palaearctic region. In this context, we should note that in comparison with the fauna of the Balkan Peninsula or of the Central Europe, very well studied in the past century (Szymczakowski, 1959, 1962, 1965; Horion, 1951 etc.) and permanently updated by faunal revisions, the Romanian fauna of Cholevinae (excepting the Leptodirini) remained almost a *terra incognita*. The principal lists of species were published in old works and need to be updated (Petri, 1912, 1926; Jeannel, 1936 etc.). We do not refer to the tribus Leptodirini not only because it is was very well studied and known for the Romanian fauna, but also his phylogenetic relation/affiliation to the Cholevinae remains uncertain (Newton,1998, 2005).

The author presents the first catalogue of the Romanian Cholevinae revised and updated with new records, many of them resulting from personal investigations carried out between the years 1992-2009. The chorology and local distribution (the cartography using the U.T.M. system) of the species known up to present in Romanian fauna are presented, with special remarks on the records from subterranean environments (caves and subterranean superficial environment – MSS). From the 49 species identified in the Romanian fauna, 32 of them populate both on the soil (edaphic) and in subterranean environments. Due to their frequent records from caves and their life cycle, depending, in some phases, on subterranean environments, *Choleva cisteloides dacica* Jeannel, 1922, *Choleva glauca* Britten, 1918, *Catops picipes* Fabricius, 1792, *Catops longulus* Kellner, 1846 and *Catops tristis* Panzer, 1874 are considered troglophilic species. In comparison with the fauna of Cholevine from some countries of the Balkan Peninsula and South-Eastern Europe, the Romanian fauna presents a high species diversity, lower than that of Greece (with 56 species), but higher than those of Bosnia-Herzegovina (44 sp.), Bulgaria (40 sp.), Albania (25 sp.), Serbia (30 sp.). From zoogeographic viewpoint, the Romanian fauna of Cholevinae is more similar to that of Central European region (i.e. 48 species in Poland, most of them occurring in Romania also) than that from the Balkan Peninsula.

References:

JEANNEL, R., 1936 - Monographie des Catopides (Insectes, Coléoptères). Memoires du museum National d'Histoire Naturelle (Nouvelle Série), 1: 1-433.

HORION, A., 1951 - Verzeichnis der Käfer Mitteleuropas (Deutschland, Österreich, Tschechoslowakei) mit kurzen faunistischen Angaben 1. A. Kernen, Stuttgart, 266 pp.

NEWTON, A. F., Jr. 1998 - Phylogenetic problems, current classification and generic catalog of world Leiodidae (including Cholevidae). Pp. 41-178. *In*: P. M. Giachino, S. B. Peck (eds.), Phylogeny and evolution of subterranean and endogean Cholevidae (=Leiodidae Cholevinae). Proceedings of XX I.C.E., Firenze, 1996. Atti Museo Regionale di Scienze Naturali, Torino, 295 pp.

NEWTON, A. F., 2005 - 11. Staphylinoidea. 11.4. Leiodidae Fleming, 1821. *In*: Coleoptera, Vol. I. Morphology and Systematics (Archostemata, Adephaga, Myxophaga, Polyphaga partim). Handbook of Zoology Vol. IV, Arthropoda: Insecta (ed. by Kristensen, N.P. & Beutel, R.G., vol. ed. by Beutel, R.G. & Leschen, R.A.B.). De Gruyter, Berlin, New York.

PETRI, K., 1912 - Auf Grund ihrer Erforschung bis zum Jare 1911. Sibiu (Hermannstadt). Jos. Drotleff, X+376 pp.

PETRI, K., 1925-1926 - Ergänzungen und Berichtgungen zur Käferfauna Siebenbürgens 1912. Verh. U. Mitt. D. sieneb. Ver. F. Naturwiss. In Hermannstadt, 75-76: 165-206.

SZYMCZAKOWSKI, W., 1959 - Verbreitung der Familie Catopidae (Coleoptera) in Polen. Polskie Pismo Entomologiczne (Bull. Ent. De la Pologne), 29 (17): 271-357.

SZYMCZAKOWSKI, W., 1962 - Faunistich-zoogeographische Bemerkungen über *Catopidae (Coleoptera)* der Balkanländer und Südwestsiens (nebst Beschreiung einer neuer Art). Polskie Pismo Entomologiczne (Bull. Ent. De la Pologne), 32 (11): 127-149.

SZYMCZAKOWSKI, W., 1965 - Ergebnisse der Albanien-Expedition 1961 des Deutschen Entomologischen Institutes, 38 Beitrag Coleoptera: Catopidae (exclusive Bathysciinae). Beiträge zur Entomologie, 15 (5/6): 689-699.

THE OCCURRENCE, SWARMING AND MATING BEHAVIOR OF TWO DIPTERAN (DIPTERA: DOLICHOPODIDAE, TABANIDAE) IN SYRIA

CORNELIU PÂRVU[1], RĂZVAN POPESCU-MIRCENI[2]

[1]"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mail: cparvu@antipa.ro
[2]"Oceanic Club" Society of Oceanographical Exploration and Protection of the Marine Environment, 1 Decebal Str., Constanța, Romania; e-mail: club@oceanic.ro

Key words: Diptera, Dolichopodidae, Tabanidae, Syria, two species, distribution, mating, behaviour.

Common project of "Grigore Antipa" Museum of Bucharest and "Oceanic Club" Society of Oceanologic Explorations of Constanța, intitled "Romanian contributions to the study of the Mediterranean fauna" continued in 2010 with the second expedition in Syria.

Among the collected material there were two dipteran species, unreported in Syria (a country less studied from the entomological point of view): *Medetera saxatilis* Collin, (Dolichopodidae) and *Tabanus quatuornotatus* Meigen, (Tabanidae), for which interesting field and environment observations were made; we present these data further on.

Medetera saxatilis, Collin, 1941. On 14th of May 2010, at noon, in one of the dark and humid recesses from the hall of the Medieval Crak de Chevaliers Castle (GPS, N: 34.45.23, E: 37.28.41, altitude: 695 m), one of the colleagues, the biologist Cătălin Stanciu, observed in the flashlight how the walls were practically "papered" by a colony of tens of thousands of little dark green flies, with metallic reflex, which I identified immediately. It was from family Dolichopodidae, genus Medetera. After we photographed these 2.9 mm long flies, we collected several specimens (ca. 3,000), with the entomologic net, which we identified as belonging to the mentioned species after dissections and drawings. We couldn't establish the reason of their large presence in that place. Their larval zoocoenoses are present, more than sure, in the outside defending ditches, full of water and vegetation. Although there are both sexes in the samples, probably in natural proportions, the individuals placed at about equal distances on the walls didn't seem to mate; nor in the samples we found couples. On the other side, the little paper trays impregnated strongly with a greasy substance, a yellow-reddish oil which I found in the body of the dissected males. Our hypothesis is that they could find small invertebrates with soft teguments (dolichopodids are zoophagous) which flourish due to some algae or fungi. The true reason has to be found. The species, reported from England and Spain to Crete, is present in Syria, where it was not reported till now, in the south-easternmost point of its range.

Tabanus quatuornotatsus, Meigen, 1820. Material: 2 ♀♀, Jerz al Jolan, 14.V.2010, leg. R. Popescu – Mirceni, C. Pârvu, 1 ♀, (*araxis* form) Al Assad Lake, 3.V. leg. C. Pârvu, 3 ♀♀, Nabk, 14.V. C. Pârvu, C. Stanciu, R. Zaharia, 1 ♀, Bagdad Café, 7-8.V. leg. R. Zaharia. From the xerophilous vegetation from Jerz al Jolan, at a distance of some hundreds o metres to Euphrates, R. Popescu- Mirceni observed and photographed a Tabanus female which was about to lay its eggs. The observation is welcomed because the species biology is less known. It is known that in Europe, females suck blood, occur in clearings and mountain paths where they attack cattle and man, but there are not data on the egg laying on plant far from water. Probably, the other females found in the desert made the same thing. The species is typically vernal, starting to fly at the end of April. Distribution: Central and South Europe, North Africa, Turkey, Armenia, Azerbaijan, Iran. It was not reported from Syria before.

THE LEPIDOPTERA OF BUCHAREST AND ITS SURROUNDINGS (ROMANIA)

LEVENTE SZÉKELY

RO-505600, Săcele, Str.Viitorului no. 31, sc. B/9, Braşov county, Romania; e-mail: levi.szekely@gmail.com

Key words: Lepidoptera, fauna, old records, new records, Bucharest, Romania.

The research work presents a synthesis of the current knowledge regarding the Lepidoptera fauna from Bucharest and the surrounding areas comprising a radius of 50 kilometers around the Romanian capital city. Data about the fauna composition are presented: the results of the research work beginning with the end of the 19th century, as well the results of the research work carried out in the last 15 years. The research initiated and done by the author himself, led to the identification of more than one hundred species, which were unknown in the past. Even if the natural habitat from this region has undergone radical changes in the 20th century, it still preserves a quite rich and interesting fauna. The forests give shelter to rich populations of the hawk moth *Dolbina elegans* A. Bang-Haas, 1912, one of the most rare from Europe, and some other species with high faunistical and zoogeographical value as: *Noctua haywardi* (Tams, 1929) (that has been reported as a new record in the fauna of Romania from that area), *Catocala dilecta* (Hübner, 1808), *Tarachidia candefacta* (Hübner, [1831]), *Chrysodeixis chalcites* (Esper, [1789]), *Aedia leucomelas* (Linnaeus, 1758), *Hecatera cappa* (Hübner, [1809]) etc. It also comprises the first presentation of the current situation of the protected species from the surroundings of the Romanian capital city - in pursuance of the European Directives and the Romanian Law.

FIRST RECORD OF GENUS *ADONTOMERUS* NIKOL'SKAYA (HYMENOPTERA: CHALCIDOIDEA: TORYMIDAE) IN ROMANIA WITH A DESCRIPTION OF A NEW SPECIES

IRINEL E. POPESCU

Department of Zoology and Ecology, Faculty of Biology, "Al. I. Cuza" University, Bd. Carol I no 11, 700506 Iaşi, Romania; e-mail: irinellus@yahoo.com

Key words: Chalcidoidea, Romania, *Adontomerus*, new species.

Adontomerus Nikol'skaya, 1955 belongs to Torymidae family (Hymenoptera: Chalcidoidea), being placed in the Microdontomerini tribe, close to *Idiomacromerus* and *Microdontomerus* genera from the Toryminae subfamily. Before this communication, only nine species were described (*A. amygdali* (Boucek, 1958), *A. brevicaudatus* Askew & Nieves-Aldrey, 2007, *A. confusus* Askew, 2000, *A. crassipes* (Boucek, 1982), *A. eriogasteris* Nikol'skaya, 1955, *A. gregalis* (Steffan, 1964), *A. impolitus* (Askew & Nieves Aldrey, 1988), *A. nesterovi* Zerova, 1985 and *A. robustus* (Boucek, 1969)). *Adontomerus* genus has a Palearctic distribution, from Tadzhikistan, Turkmenistan and Uzbekistan to Europe (from Ukraine to Spain) being recorded also from Jordan, Algeria and Canary Islands. Species was reared from cocoons of Lasiocampidae (Lepidoptera), galls of Cynipidae (Hymenoptera), cocoons of Megachilidae (Hymenoptera) and from fallen fruits of *Prunus communis* infested with *Eurytoma amygdalii* (Hymenoptera: Chalcidoidea: Eurytomidae) (*A. amygdali*). The associated plants with this genus are from Asteraceae, Fagaceae, Rosaceae and Polygonaceae families. *Adontomerus* is recognized within Microdontomerini by simple to swollen hind femur without a subapical notch, presence of an occipital carina expressed usually just dorsally (in *A. confusus* extending down to the level of the hypostomal foramen), marginal vein 2 to 2.5-3 times the length of the stigmal vein, 1 anellus, metasomal terga 2 and 3 at least slightly emarginated medially.

The specimens of the new species of *Adontomerus* (2 ♀♀, 1 ♂) were collected by sweeping on 25.06.2000 on the vegetation from "Maritime Dune Natural Reserve from Agigea" (Constanța, Romania). This floristic reservation is located in the south-eastern part of Romania, in Dobrogea, a historical region of this country. This reservation is situated in proximity of Black Sea, on the cliff (at 8-12m altitude), between beach and steppe region of Dobrogea. The flora of this reservation is very reach (about 400 species) and has an arenaceous character. The description of this new species of *Adontomerus* is accompanied by photonic pictures and drawings.

ADAPTION AND GROWTH IN CAPTIVITY OF THE SPECIES *POLYODON SPATHULA* (WALBAUM, 1792)

MIOARA COSTACHE[1], DANIELA RADU[1],
ADRIANA CHIOREAN[2], FLORIN MUNTEANU[2]

[1]Center for Fisheries Research and Development Nucet, Romania; e-mails: scp_nucet@yahoo.com; dradu64@yahoo.com
[2]Natural Science Museum, Aquarium Departament, B-dul Elisabeta no 1, Constanța, Romania; e-mails: adrianaacvariu@yahoo.com; angoasa2004@yahoo.com

Key words: paddlefish, North America, captivity, adaption, Aquarium.

In this work, the authors present some of the aspects related to feeding in captivity conditions of the species *Polydon spathula*. Currently, there are 27 sturgeon species (from the order Acipenseriformes), living in rivers, estuaries, nearby ocean coasts and islands from the Northern Hemisphere. The species *Polyodon spathula* is the unique representative of the *Polyodontidae* family in North America, and populate the Mississippi River basin, from Great Lakes area, until to Florida, in the territory of 26 countries, including Canada. Although it is a freshwater fish, it can survive in brackish water.

In Romania, although concerns about introducing and acclimatising the species have started in the 80’s, the first batch of larvae was brought only late in 1992, at the Nucet Fisheries Research Station. The results achieved from numerous experiences on growth in different technological systems, demonstrated the fact that the species may be raised in fish farms in Romania, together with carp and other cyprinids polycultures, partially replacing the production of plankton-eater species.

The first artificial reproduction was made in 2002, and the material obtained as a result of this reproduction is now grown in many farms across the country. Between 2002 and 2008, a lot of experiences were conducted, consequently.

In December 2007, 10 paddlefish specimens were brought to Constanța Aquarium, for an experimental project, which is still carried on.

PRELIMINARY STUDY ON THE BIRD FAUNA IN THE JIJIOARA RIVER BASIN

CARMEN GACHE

"Al. I. Cuza" University, Av. Carol I, 11, 700506, Iaşi, Romania; e-mail: cgache@uaic.ro

Key words: birds, diversity, breeding species, Jijioara.

In this paper, we present preliminary results on the birds' diversity and seasonal presence, including the breeding bird species on the valley of Jijioara River. This valley is included in the Romanian Nature 2000 Network like part of the ROSPA0042 "Ponds of Jijia and Miletin Rivers". The valley appears like a network of ponds, with different surfaces. The habitats are represented by open waters, reed beds, swampy areas, dry meadows, arable lands, bushes and shrubs areas, but also, some small clusters of trees. We recorded 95 bird species, including some rare breeding bird species in Romania - *Platalea leucorodia*, *Recurvirostra avosetta*, *Himantopus himantopus*, but also some species that present a negative trend in our country – *Ardeola ralloides*, *Anas strepera*, *Porzana parva*, etc. Between the globally threatening species, we mention the breeding presence of the Ferruginous Duck (*Aythya nyroca*). During the migration time, the aquatic birds and the waders form flocks about hundreds individuals using the suitable feeding territories from the area. The only typical fish-eater species is *Phalacrocorax carbo*, appearing only in the migration time; the gulls and terns are breeding with small effectives in the area, larger flocks being recorded just in passage. We analyse, also, the impact of different human activities on the birds' presence and dynamics.

REFERENCES REGARDING THE SPECIES OF RINGED MIGRATORY BIRDS FOUND IN THE FLOOD PLAIN OF THE DANUBE, BETWEEN CALAFAT AND JIU (DOLJ COUNTY, ROMANIA)

MIRELA SABINA RIDICHE[1], JANOS BOTOND KISS[2]

[1]Oltenia Museum, Popa Şapcă Str., no. 8, 200422, Craiova, Romania; e-mail: rimirela@yahoo.com
[2]Danube Delta National Institute for Research & Development, Babadag str., no. 165, 820112 Tulcea, Romania; e-mail: jbkiss@indd.tim.ro

Key words: ringed migratory birds, ringing place, recuperation place, flood plain of the Danube.

The paper presents aspects regarding the statute of preservation of the species of ringed birds in different countries of Europe and found in the flood plain of the Danube, between Calafat and Jiu (county Dolj), their phenology, their zoogeography and some info regarding the migration from the place where they were ringed up to the areas where they were found (the transited distance, the duration of elapsed time between the moment of the ringing and the moment of the finding).

The species of the studied birds (13 items) belong to the following genera: *Phalacrocorax, Pelecanus, Ciconia, Platalea, Anas, Philomachus, Sterna* and confirm the importance of aquatic habitats in the flood plain of the Danube as optimal shelters for the ecologic needs (food, rest, shelter) of the migrator birds.

The info that followed as a result of the finding of the ringed birds can contribute to the elucidation of various problems regarding the migration (routes, speed flight, etc) but also of other aspects regarding the biology and ecology of species (spreading area, longevity, the relation between the birds and the biotope.

PRELIMINARY DATA ON THE MORPHOLOGY OF SHREWS FROM GENUS *SOREX* ON THE TERRITORY OF REPUBLIC OF MOLDOVA

VICTORIA NISTREANU[1], DAN GRIGORE[2]

[1]Institute of Zoology, Academy of Sciences of Moldova, 1 Academiei St., 422, Chişinău, MD-2028, Moldova Republic; e-mail: vicnistreanu@gmail.com
[2]Geological Institute of Romania, 1 Caransebeş St., 012271 Bucharest, Romania; e-mail: dan1_grigore@yahoo.com

Key words: common shrew, lesser shrew, morphology, body and skull measurements.

The studies were accomplished in 2006-2008 in various ecosystems from the whole territory of the Moldova Republic. The animals were collected with snap traps. At the whole 68 common shrews (*Sorex araneus*) and 43 lesser (*S. minutus*) shrews were studied morphologically. The biometric researches were based on the study of biometric traits important from taxonomically point of view. Ten body and skull measurements were made: body length, tail length, hindfoot length, body weight, condylobasal length, brain case breadth, interorbital constriction, brain case height, mandible length and height of mandibular ramus. The results were statistically processed and compared with the existing in literature data.

The species *S. araneus* from Moldova has the body traits within the limits indicated in literature, but are lower to those from the collection of vertebrate animals from the Institute of Zoology of Academy of Sciences of Moldova and to those indicated from north-west of Romania and Ukraine. The biometrical traits values are varying within the limits indicated for shrews in previous studies on the territory of Moldova, in Romania and in Central and Eastern Europe populations.

At *S. minutus* the morphological traits values are closer to those of the populations from the north of the country and from Central and East Europe. The means of body measurements are varying within the limits indicated in previous studies and are close to those indicated for different zones of Romania and for Central Europe. The lower limits of body measurements are higher to those from the laboratory collection. The biometrical cranial values are varying within the limits indicated for this species in literature for the territory of Moldova, in Romania and in Central and Eastern Europe populations.

NEW PALEONTOLOGICAL PIECES IN THE NATIONAL GEOLOGICAL MUSEUM: PALEONTOLOGICAL COLLECTION FROM BICAZ GORGES – HĂŞMAŞ NATIONAL PARK (ROMANIA)

DAN GRIGORE, VIORICA MILU, RODICA TIȚĂ

Geological Institute of Romania, 1 Caransebeş St., 012271, Bucharest, Romania; e-mail: dan1_grigore@yahoo.com

Key words: Palentological Collection, heritage, Bicaz Gorges – Hăşmaş National Park, National Geological Museum.

Our study refers to a new paleontological collection introduced in the National Geological Museum (NGM). It comprises more than 1000 samples of fossils, 250 fossils being inventoried in the NGM. Many of them were already studied and described in scientific papers. The collection represents a part of the paleontological heritage (Grigore et al., 2009) of the Bicaz Gorges – Hăşmaş National Park (Eastern Carpathians, Romania) from the most important paleontological sites of this area, like:

- Ghilcoş Kimmeridgian ammonites from western (walls) site (F1);
- Ghilcoş Cretaceous reef (F28);
- Kimmeridgian with *Lacunosella* from Fagu Oltului Valley (F13);
- Berriasian with *Nerinea* from Ghilcoş northern site (F27);
- Liassic belemnites from Licaş Valley (F29).

At this moment in the inventoried NGM are included:

- Upper Jurassic ammonites (Grigore, 2009, 2010) from the genera *Idoceras, Nebrodites, Presimoceras, Lessiniceras, Trenerites, Sutneria, Decipia, Phylloceras, Sowerbyceras, Calliphylloceras, Holcophylloceras, Aspidoceras, Orthaspidoceras* and other;
- Liassic belemnites;
- Kimmeridgian and Barremian - Aptian brachiopods from *Lacunosella, Pygope* and *Septaliphoria* genera;
- Barremian – Aptian corals from *Trochocyathus, Microphyllia, Flexigyra, Actinastrea, Diplogyra, Heliocoenia* genera and other;
- Jurassic and Cretaceous gastropods (in progress) from *Nerinea* genus and other.

This work was supported by the research projects no. 91-017/2007 (ROTAF) and 31-059/2007 (GEOBIOHAS) financed by Romanian Authority for Scientific Research.

References:

GRIGORE, D., 2009 - Aulacostephanids species (Sutneria genus) from "Acanthicum Beds" of Ghilcoş Massif (The Easthern Carpathians – Romania). Oltenia. Studii şi Comunicări. Ştiinţele Naturii, Craiova, 25: 366-374.

GRIGORE, D., 2010 - Idoceratine (*Idoceras* and *Nebrodites* genera) from "Acanthicum beds" of the Hăghimaş Mts. (the Eastern Carpathians, Romania). Oltenia. Studii şi Comunicări. Ştiinţele Naturii, Craiova, 26 (1): 303-314.
GRIGORE, D., I. LAZĂR, C. GRASU, I. GHEUCA, D. CIOBĂNETE, A. CONSTANTINESCU, I. MARCU, 2009 - Paleotological sites from Cheile Bicazului – Hăşmaş National Park. Oltenia. Studii şi Comunicări. Ştiinţele Naturii, Craiova, 25: 355-365.

DIODONTIDAE (OSTEICHTHYES) FROM THE TURNU ROŞU (ROMANIA) "EOCENE LIMESTONE" RESERVE

RODICA CIOBANU, NICOLAE TRIF

Natural History Museum, Cetăţii no. 1, 550166 Sibiu, Romania; e-mails: rodica.ciobanu@brukenthalmuseum.ro; rodi_ciobanu2005@yahoo.com; nicolae.trif@gmail.com

Key words: teeth, Diodontidae, Late Eocene, Limestone, Turnu Roşu Romania.

The Eocene ichthyofauna from the geological protected area of Turnu Roşu (Porceşti - Sibiu County) has attracted the naturalists attention for a very long period of time as the first studies were performed by Neugeboren in 1850. Most ichthyological studies refer mainly to fossil sharks and less to bony fish. Only Neugeboren has studied the shark teeth.

The present study is focused on the Diondotidae families. The teleostei teeth studied belong to the palaeontological collections (Richard Breckner's Collections) of the Natural History Museum from Sibiu and to private collections (Trif collections).

The identification of the species even at the genus level posed difficulties since the studied teeth are isolated, rather than part of dental apparatus. The main criteria for diagnosis were the morphology of the teeth and the stratigraphical age of the rock where the teeth were found. The 11 teeth studied in this paper belongs to the *Chilomycterus* cf. *hilgendorfi* (Dames, 1883) and *Diodon* sp.

VARIETY OF ENVIRONMENTAL FACTORS DETERMINING MORPHOLOGY OF HOLOCENE BAT POPULATIONS IN POLISH MOUNTAIN AND UPLAND AREAS

KATARZYNA STANIK[1], BRONISŁAW W. WOŁOSZYN[2]

[1]Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Sławkowska Street 17, 31-016 Kraków, Poland; e-mail: katarzyna.stanik@gmail.com
[2]Chiropterological Information Center, Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Sławkowska Street 17, 31-016 Kraków, Poland; e-mail: woloszbr@isez.pan.krakow.pl

Key words: Holocene, bats, palaeoenvironment.

Well known, detailed Holocene climate and palaeoenvironment changes in Polish mountains and uplands were correlated with morphology of bat species common to these areas. Palaeozoological study was based on analysis of bone material from 29 southern-Polish thanatocoenoses, dated with ^{14}C AMS method. Significant influence of local microclimate on bat populations was evidenced. The main factors determining bat population morphology are: increasing occurence of Ash (*Fraxinus excelsior*) as a result of cutting down the mesophilous deciduous forests, appearance of such tree species like Beech (*Fagus silvatica*) and Poplar (*Populus*) and hesitation of average annual temperature during the Middle and Late Holocene. Anthropogenic factors measured mainly as increasing percentage of open areas are also important for existence and condition of bats and can have implications for nature conservation.

AQUATIC AND SEMI AQUATIC HETEROPTERA FROM SOUTH-EAST TRANSYLVANIAN SMALL RIVERS

DANIELA MINODORA ILIE, HOREA OLOSUTEAN

"Lucian Blaga" University, Faculty of Sciences, Department of Ecology and Environmental Protection, 5-7th Dr. I. Rațiu, 550337, Sibiu, Romania; e-mails: iliedf@yahoo.com; mesaje.facultate@yahoo.com

Key words: aquatic Heteroptera, semi aquatic Heteroptera, Hârtibaciu Plateau, Făgăraş Depression, Sibiu Depression, habitats.

The studies made on five campaigns (September-October 2001, May-June 2002, three campaigns between March and October 2004) on aquatic and semi aquatic Heteroptera from south-east Transylvanian small rivers are presented. Material was collected from 23 sampling stations from Hârtibaciu Plateau (8) and Făgaraş (12) and Sibiu (1) depressions.

22 species were identified, most of them at the first report in the area (Paina, 1975; Davideanu, 1999). *Gerris lacustris* Lineé, 1758 is the dominant species according to the number of individuals, often found in association with *Nepa cinerea* Linnaeus, 1758 and *Hydrometra stagnorum* Linnaeus, 1758. Community composition and structure are related with habitat conditions, especially with vegetation quality, station size and the speed of the water flow.

References:

DAVIDEANU, A., 1999 - Contribuții la studiul heteropterelor acvatice din România. Ph. D. thesis, unpublished. (in Romanian)

PAINA, M. I., 1975 - Lista heteropterelor acvatice şi semiacvatice (O. Heteroptera) din R. S. România. Nymphaea - Culeg. Şt. Nat., Oradea. (in Romanian)

THE DISTRIBUTION OF THE CORNCRAKE (*CREX CREX*) IN RELATION TO LAND USE IN THE SE PART OF THE TRANSYLVANIAN BASIN

ATTILA D. SÁNDOR

Babeş-Bolyai University, Faculty of Biology-Geology, Str. Clinicilor 5-7, Cluj, RO-340004, Romania; e-mail: adsandor@gmail.com

Key words: Corncrake, *Crex crex*, landuse, Natura 2000, distribution, grassland.

Corncrakes breed in open or semi-open landscapes, mainly in meadows of tall grass, currently strongly associated with agricultural grassland managed for hay and silage. The species was strongly declining almost all over its European breeding range, being listed as Vulnerable at European level (Tucker & Heath, 1994) because of the long-term and very steep population decline. The declines are thought to be due primarily to changes in grassland management on the breeding grounds associated with agricultural intensification together with loss of suitable breeding habitats, including losses through drainage. It is likely that most rapid declines in Corncrakes have occurred following the mechanization of mowing – the transition from hand scything to mowing machines, at first drawn by horses and then motorized. Mowing machines threaten Corncrakes as follows. Currently the species has been uplifted (Near Threatened, IUCN 2008) due to better knowledge of its population figures in Eastern Europe/Asia and the fact that it recovered in certain parts of the range. Romania holds one of the most important populations of Corncrake in the EU, however, the imminent changes in agricultural practices may change this situation. My study is intended to elucidate the distribution of Corncrake in the SE part of Transylvania and to follow the process of mechanization and its impact on a dense population of Corncrakes. Here, I report the results of a 8 year study, linking Corncrake occurrences to land-use and habitat distribution. The species was using primarily semi-natural grasslands, with most records coming from hay-making meadows (89% of all observations, n=798). The birds were consistent in their habitat selection, with little or no displacement in consecutive years. There is no visible impact of mechanization at the level of the studied population, however a number of other causes forced certain birds to desert breeding areas.

SOME COMPARATIVE DATA ABOUT THE ACCOMMODATION OF WILD AND BORN IN CAPTIVITY (AQUARIUM BEIJING/R.P. CHINA) *TURSIOPS TRUNCATUS* (MONTAGU, 1821) TO THE ENVIRONMENTAL CONDITION FROM COMPLEX MUSEUM OF NATURAL SCIENCES CONSTANȚA

ANCUȚA CAISIN, ANGELICA CURLIŞCĂ, NICOLAE C. PAPADOPOL

Complex Museum of Natural Sciences Constanța, Dolphinarium Department, Bv. Mamaia no. 255, 900552, Constanța, Romania; e-mails: ancacaisin@yahoo.com; angysan2002@yahoo.com

Key words: *Tursiops truncatus,* captivity, accommodation, Black Sea.

The paper presents some comparative data on the accommodation of six *Tursiops truncatus* specimens to the environmental conditions of the pools in Complex Museum of Natural Sciences Constanța.

Three of them were wild, originary from former Russian Black Sea waters (Ukrainian), and the others were born in captivity (AQUARIUM BEIJING/People's Republic of China).

The first three dolphins were brought in 1998, and lived between 1998-2004, and the other three specimens were brought on May 30, 2010.

AIRFLOW AS A CRUCIAL FACTOR FOR CHOOSING A PLACE OF HIBERNATION

GRZEGORZ KŁYS[1], BRONISŁAW W. WOŁOSZYN[2]

[1]Department of Biosystematics, University of Opole, Oleska 22, 45-052 Opole, Poland; e-mail: gklys@uni.opole.pl
[2]Chiropterological Information Centre, Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Sławkowska str. 17, 31-016 Kraków, Poland; e-mail: woloszbr@isez.pan.krakow.pl

Key words: *Chiroptera*, microclimate, airflow, Hibernating Bats.

Bats of the temperate climate zone enter hibernation during the cool period. During hibernation their body temperature is lowered to the temperature of the environment, which causes significant decrease of metabolism. Microclimate research conducted in places of bat hibernation focused so far mainly on measurements of temperature and humidity. Airflow was treated marginally. Airflow was thought to affect the choice of place and the process of hibernation itself and bats choose for hibernation places where there is no airflow. Such conviction was the result of technical difficulties in measuring airflow under 0.1 ms^{-1}.

Results of our research indicate that bats spend the winter in areas, in the vicinity of which there is a considerably stronger airflow than it had been assumed and if the structure (morphology) of walls is complex enough they can find microrefugia whose airflow parameters are optimum.

Choosing a place with particular airflow parameters gives more ways for bats to exchange heat between a bat’s body and air particles surrounding it. Consequently, heat is returned faster due to convection, which occurs when bats enter hibernation. This allows bats to save a lot of energy.

The authors examined two species of bats: *Myotis myotis* and *Plecotus auritus.*

According to research conducted so far the optimal airflow speed for examined species, with humidity ranging from 95 to 100% is 0.04 – 0.09 $ms^{–1}$.

Greater mouse-eared bats prefer places with slower airflow, with the average of 0.06 $ms^{–1}$.

Brown big-eared bats choose places with stronger airflow, where the average is 0.07 $ms^{–1}$.

Significant statistical differences between average airflow speed have been stated for the two species of bats.

Hibernating bats are able to choose airflow values with great precision in relation to other examined factors (temperature and humidity).

Airflow speed in subterranean areas is therefore one of the main factors determining the choice of place of hibernation. The research also indicates that airflow may have an additional role, namely conveying information from outside the subterranean system (weather conditions, smells, etc.)

Knowing the most important factors of bats' settlement determining the choice of hibernaculum and dependencies between conditions of a settlement (ecoclimate) may be significant both theoretically and practically. Knowledge of the dependencies may enable forecasting and constructing artificial settlements for endangered and perishing species of bats.

COMPARATIVE MAMMAL SPECIES COMMUNITIES IN BUZĂU AND TELEAJEN VALLEYS – ROMANIA

DUMITRU MURARIU

“Grigore Antipa” National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mail: dmurariu@antipa.ro

Key words: mammal species, plant association, ecosystems, trophic relations.

Buzău River’s spring is in Tătaru Mountains and ends in Siret River. Teleajen River’s spring is in Ciucaş Mountains and ends in Prahova River. These two valleys are in the Curvature Carpathians and along them there are important roads between Muntenia and Transylvania. From the altitudinal point of view, Low areas (150 – 200 m), the hills (300 – 400 m) and the mountains can be distinguished. Adequately, specific diversity of mammals is altitudinally different along the same valley, but also longitudinally. As regards the first aspect, in the low/plain strip areas along the rivers, the following species occur: *Erinaceus concolor, Talpa europaea, Sorex araneus, Neomys fodiens, Crocidura suaveolens* (from insectivores); *Rhinolophus ferrumequinum, Myotis myotis, M. daubentonii, Nyctalus noctula, Pipistrellus pipistrellus, P. pygmaeus, P. kuhlii, Plecotus auritus* (from chiropterans); *Lepus europaeus* (from lagomorphs); *Spermophilus citellus, Cricetus cricetus, Arvicola terrestris, Ondatra zibethcus, Microtus arvalis, Micromys minutus, Apodemus sylvaticus, A. agrarius, Mus musculus, Rattus rattus* (from rodents), *Vulpes vulpes, Mustela nivalis, M. putorius, Meles meles, Martes martes, Felis silvestris* (from carnivores), *Sus scrofa, Capreolus capreolus* (from artiodactyls). In hilly areas there are also species from the first series, but others can be occurred, too, adapted to the deciduous forests: ***Erinaceus concolor*, *Talpa europaea*, *Sorex araneus*, *S. minutus*, *Neomys fodiens*, *N. anomalus*, *Crocidura suaveolens*** (from insectivores); ***Rhinolophus ferrumequinum*, *R. hipposideros*, *Myotis myotis*, *Nyctalus noctula*, *Pipistrellus pipistrellus*, *Plecotus auritus*, *P. austriacus*, *Vespertilio murinus*** (from chiropterans); ***Lepus europaeus*** (from lagomorphs); ***Sciurus vulgaris*, *Clethrionomys glareolus*, *Arvicola terestris scherman*, *Microtus arvalis*, *M. subterraneus*, *M. agrestis*, *Apodemus sylvaticus*, *A. flavicollis*, *Mus musculus*, *Rattus rattus*, *Muscardinus avellanarius*, *Dryomys nitedula*** (from rodents), ***Vulpes vulpes*, *Ursus arcots*, *Mustela nivalis*, *M. erminea*, *M. putorius*, *Meles meles*, *Martes martes*, *Felis silvestris*** (from carnivores), ***Sus scrofa*, *Cervus elaphus*, *Capreolus capreolus*** (from artiodactyls). In the mountain area there is the species *Sorex alpines*, from insectivores but *Erinaceus concolor*, *Sorex araneus, Crocidura suaveollens* and *C. leucodon* do not occur – marked for the other two altitudinal levels. From chiropterans, the species *Myotis daubentonii, Nyctalus noctula, Pipistrellus pygmaeus, P. kuhlii, Plecotus auritus* and *P. austriacus* were not identified. *Lepus europaeus* is rarer in the mountain area. Rodents are present by the species: ***Sciurus vulgaris***, ***Clethrionomys glareolus***, *Arvicola terrestris scherman*, ***Microtus agrestis***, *Chionomys nivalis*, ***Apodemus sylvaticus***, ***A. flavicollis***, ***Mus musculus***, ***Rattus rattus***, ***Muscardinus avellanarius*** and *Myoxus glis*. From carnivores, the following species were observed: *Canis lupus*, ***Vulpes vulpes***, ***Ursus arctos***, ***Mustela erminea***, ***M. nivalis***, ***Martes martes***, ***Felis silvestris***, *Lynx lynx*, ***Sus scrofa***, ***Cervus elaphus***, ***Capreolus capreolus***. Species *Talpa europaea, Neomys fodiens, N. anomalus, Rhinolophus ferruequinum, Myotis myotis, Pipistrellus pipistrellus, Lepus europaeus, Arvicola terrestris, Apodemus sylvaticus, Mus musculus, Rattus norvegicus, Vulpes vulpes, Mustela nivalis, Felis silvestris, Sus scrofa* and *Capreolus capreolus* have a larger adaptive plasticity, being present in all levels of altitude from Buzău and Teleajen Valleys, while bolded species and subspecies are characteristic to the area where they were reported. Keeping the sens of the paper title, the differences in the specific structure of the mammal fauna consist only in the absence of the species *Pipistrellus pipistrellus* in the Buzău Valley and of the species *Spermophilus citellus* and *Cricetus cricetus* in the Teleajen Valley, species of low altitude; in the mountain area, differences were not observed.

GENETIC DIVERSITY OF *DREISSENA BUGENSIS* (MOLLUSCA: BIVALVIA) IN ROMANIA AND BULGARIA AS REVEALED BY MICROSATELLITE ANALYSIS

ANA-MARIA KRAPAL[1], OANA PAULA POPA[1], TEODORA TRICHKOVA[2], DIMITAR KOZUHAROV[3], ANA-MARIA PETRESCU[1], ELENA IULIA IORGU[1], ZDRAVKO HUBENOV[2], LUIS OVIDIU POPA[1]

[1]"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mails: ana.krapal@antipa.ro; oppopa@antipa.ro; anapetrescu@antipa.ro; popaluis@antipa.ro
[2]Institute of Zoology, Bulgarian Academy of Sciences, 1 Tsar Osvoboditel Blvd., Sofia 1000, Bulgaria; e-mails: trichkova@zoology.bas.bg; zhubenov@zoology.bas.bg
[3]Biological Faculty, Sofia University, 8 Dragan Tsankov Blvd., Sofia 1164, Bulgaria; e-mail: mitko_bf@abv.bg

Key words: invasive species, *Dreissena bugensis*, microsatellite analysis.

In the last 50 years, the quagga mussel, *Dreissena bugensis*, has slowly extended its territory in Western Europe, so that today it is a major invasive species for this area. Recently it has become clear that the species has begun to establish populations towards south of its known territory.

In the Lower Danube, *Dreissena bugensis* was first recorded from Cernavodă area, 300 r. km (Micu & Telembici, 2004), Drobeta-Turnu Severin, 929 r. km (Popa & Popa, 2006), Koshava (km 811) and Sandrovo (km 477) (Hubenov & Trichkova, 2007).

We have sampled four populations from the Lower Danube basin: Ogosta Reservoir in Bulgaria (43°22'31.0"N, 23°10'56.0"E), Danube at Ruse in Bulgaria (43°51'18.7"N, 25°57'8.3"E), Danube at Drobeta-Turnu Severin (44°37'12.0"N, 22°38'51.5"E), and Danube at Galați (45°24'46.8"N, 28°02'42.5"E). The genetic diversity of these populations was assessed in 167 samples at five nuclear microsatellite loci (Dbug1-Dbug5) (Wilson et al., 1999). All the analyzed loci were polymorphic in all populations. Significant deviation form Hardy-Weinberg equilibrium was detected in 10 out of 12 single locus tests ($p<0.05$). Mean expected heterozygosity (H_E=0.893-0.926) was significantly higher than mean observed heterozygosity (H_O=0.537-0.799) across all populations. The differentiation between populations proved to be low ($\max F_{ST}<0,025$) and the founder effect was not detected.

The study was partially funded by the Austrian Federal Ministry of Science and Research within the Project 4-08-2008 of ASO Ljubljana and Sofia – ZSI, by the National Science Fund of Bulgaria, Project DO 02-283/08 and by the National Programme Management Center, Romania, Project PC no. 32107/01.10.2008 allotted to D. Murariu.

References:

HUBENOV, Z., T. TRICHKOVA, 2007 - *Dreissena bugensis* (Mollusca: Bivalvia: Dreissenidae) - new invasive species to the Bulgarian Malacofauna. Acta Zoologica Bulgarica, 59 (2): 203-209.

MICU, D., A. TELEMBICI, 2004 - First record of *Dreissena bugensis* (Andrusov, 1897) from the Romanian stretch of River Danube. *In*: Abstracts of the International Symposium of Malacology, August 19–22, 2004, Sibiu, Romania.

POPA, O. P., L. O. POPA, 2006 - The most westward European occurrence point for *Dreissena bugensis* (Andrusov, 1897). Malacologia Bohemoslovaca, 5: 3-5.

WILSON, A. B., E. G. BOULDING, K.-A. NAISH, 1999 - Characterization of tri- and tetranucleotide microsatellite loci in the invasive mollusc *Dreissena bugensis*. Molecular Ecology, 8: 692-693.

DNA-BARCODING TECHNIQUE APPLIED ON SOME ALIEN AND NATIVE ROMANIAN DECAPODS

ANA-MARIA PETRESCU, OANA PAULA POPA, ELENA IULIA IORGU, ANA-MARIA KRAPAL, LUIS OVIDIU POPA

"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mail: anapetrescu@antipa.ro

Key words: molecular technique, native astacid, alien decapods.

In the Romanian waters there are listed three species of native astacid crustaceans (freshwater crayfish): *Astacus astacus* (noble crayfish), *Astacus leptodactylus* (narrow-clawed crayfish) and *Austropotamobius torrentium* (stone crayfish). Six species of alien decapods were also reported, one in fresh waters, *Orconectes limosus* (spiny-cheek crayfish), and five species at the Romanian Black Sea shore, *Callinectes sapidus* (blue crab), *Rhitropanopeus harrisii* (Harris mud crab), *Eriocheir sinensis* (Chinese mitten crab), *Hemigrapsus sanguineus* (Japanese shore crab), *Dyspanopeus sayi* (Say mud crab) and *Palaemon macrodactylus* (Asian prawn).

In this study we used comparatively two approaches to identify decapod species in the Romanian fauna. First, we analyzed the morphological features of the samples to identify the corresponding species. After that, we used a molecular approach for species identification, by sequencing the 5' fragment of the cytochrome c oxidase subunit I gene from the mitochondrial DNA, then comparing the obtained DNA sequences with reference sequences in GenBank. We used samples from two native astacid species, *A. torrentium* (collected from Nera basin, Beiu) and *A. astacus* (Banat Mountains) and three alien decapod species, *O. limosus* (Moldova Veche), *C. sapidus* (Mangalia, Black Sea shore), *R. harrisii* (Sinoe Lake). In all examined specimens full concordance between the morphological and molecular species identification methods was observed.

This is the first time in Romania when molecular and morphological data meet for the purpose of a better identification of crustacean decapods which could facilitate monitoring the distribution and protection of crayfish species in the Romanian fauna.

RECENT DATA REGARDING THE ASIAN LADYBUG *HARMONIA AXYRIDIS* PALLAS, 1773 (COLEOPTERA – COCCINELLIDAE) IN ROMANIA

MARIUS SKOLKA, CRISTINA PREDA

Ovidius University of Constanța, Faculty of Natural and Agricultural Sciences, 1 Universității Alley, Building B, 900470 Constanța, Romania; e-mails: mskolka@gmail.com; cristina.preda@stiintele-naturii.ro

Key words: *Harmonia axyridis*, Dobroudja, Romania.

The Asian ladybug *Harmonia axyridis* Pallas 1773 (Coleoptera: Coccinelidae) is one of the most rapidly expanding invasive species of insects. Originated in the eastern part of Eurasia (from Altai Mountains to Pacific coast), Harmonia axyridis was introduced as a biocontrol agent in the eastern part of United States in the early 1900 and in Western Europe between 1982 and 1997 (Brown et al., 2008; Jucker et al., 2009).

Recently the species was discovered in Romania, in the central and northern part of the country (Hunedoara and Maramureş counties, in 2008 and 2009) (Ruicănescu & Alexandru, 2008). By 2010, H. axyridis traveled across the country, single individuals being observed in the coastal area and then south of the Carpathians. This autumn, hundreds of individuals were noticed in several locations in northern Dobroudja. The abundance increased in the city of Constanța also suggesting that *Harmonia axyridis* is rapidly spreading in Eastern Europe. It is very likely that in the next few years this species will become one of the most common lady beetles in Romania.

References:

BROWN, P. M. J., T. ADRIAENS, H. BATHON, J. CUPPEN, A. GOLDARAZENA, T. HAGG, M. KENIS, B. E. M. KLAUSNITZER, I. KOVAR, J. M. LOOMANS, M. E. N. MAJERUS, O. NEDVED, J. PEDERSEN, W. RABITSCH, H. E. ROY, V. TERNOIS, I. A. ZAKHAROV, D. B. ROY, 2008 - *Harmonia axyridis* in Europe: spread and distribution of a non-native coccinelid. BioControl, 53: 5-21.

JUCKER, C., S. BARBAGALLO, P.-F. ROVERSI, M. COLOMBO (eds), 2009 - Insetti esotici e tutela ambientale, morfologia, biologia, controllo e gestione, Velastudio SRL. 416 pp.

RUICĂNESCU, A., C. ALEXANDRU, 2009 - Buburuza asiatică *Harmonia axyridis* Pallas, 1773 (Coleoptera: Coccinellidae) – specie invazivă în România. Pp. 155-158. *In*: L. Rakosy, L. Momeu (eds), Neobiota din România. Presa Universitară Clujeană. 212 pp. (in Romanian)

EARLY STAGES OF THE INVASION PROCESS OF *METCALFA PRUINOSA* SAY, 1830 (HOMOPTERA: FULGOROIDEA) ALONG THE ROMANIAN COASTAL AREA

CRISTINA PREDA, MARIUS SKOLKA

Ovidius University of Constanța, Faculty of Natural and Agricultural Sciences, , 1 Universității Alley, Building B, 900470 Constanța, Romania; e-mails: cristina.preda@stiintele-naturii.ro; mskolka@gmail.com

Key words: *Metcalfa pruinosa*, invasion, Black Sea Coast.

Metcalfa pruinosa Say, 1830 (Homoptera: Fulgoroidea), a Nearctic species, was introduced to Europe in the late seventies, in some areas of northern Italy (Jucker et al., 2009). The planthopper spread from Italy covering most of Europe in the following years. In 2009, this species was mentioned for the first time in Romania in some locations of the Black Sea coastal area, mainly in Constanța city. Further observations performed in 2010 revealed that *Metcalfa pruinosa* was present on the entire Romanian coast south of Constanța city.

The planthopper seems to prefer forest plantations near urban settlements and bushes in parks. *Metcalfa pruinosa* was observed in some cases in very large populations, with larval stages developing on both native and introduced species of plants. Data from literature suggests that *M. pruinosa* has a wide range of host plants. So far we have identified more than 80 different species of herbs, bushes and trees with larval communities of *Metcalfa pruinosa*. The rapid increase in abundance and host plants suggests that we are dealing with an invasive process in progress.

References:

JUCKER, C., S. BARBAGALLO, P.-F. ROVERSI, M. COLOMBO (eds), 2009 - Insetti esotici e tutela ambientale, morfologia, biologia, controllo e gestione, Velastudio SRL. 416 pp.

DATA ON THE ECOLOGY OF *CAMERARIA OHRIDELLA* DESCHKA ET DIMIĆ, 1986 (LEPIDOPTERA: GRACILLARIIDAE) IN CONSTANȚA COUNTY

CRISTINA PREDA, MARIUS SKOLKA

Ovidius University of Constanța, Faculty of Natural and Agricultural Sciences, 1 Universității Alley, Building B, 900470 Constanța, Romania; e-mails: cristina.preda@stiintele-naturii.ro; mskolka@gmail.com

Key words: *Cameraria ohridella*, impact, urban areas.

The horse chestnut leaf-miner *Cameraria ohridella* Deschka et Dimić, 1986 (Lepidoptera: Gracillariidae) is an invasive species with a particular impact in urban ecosystems since its primary host plant *Aesculus hippocastanum* L. is a widely used ornamental tree (Perju et al., 2004). Since its arrival in the south-eastern part of Romania around 2000, this species has developed each year large populations that contributed to the defoliation of horse chestnut trees in summer.

We started in 2009 a monitoring study aiming to asses the impact of the leaf-miner in Constanța area. We selected two categories of observation sites (urban green areas and sites located along main avenues) consisting of 10 horse chestnuts per site and estimated the impact by attributing scores from 0 (no infestation) to 4 (highly infested). We also collected leaves and analyzed the structure of the leaf miner larval stages. Our results confirmed that direct observation is a rapid and efficient way of estimating the impact of the leaf miner and that litter is an important source of further infestation.

References:

PERJU, T., I. OLTEAN, I. OPREAN, M. ECOBICI, 2004 - The pests of horse chestnut tree – *Aesculus hippocastanum* L. in Romania. Journal of Central Europeean Agriculture, 5 (4): 331-336.

OCCURENCE OF SELECTED GRAM-NEGATIVE BACTERIA IN BATS FAECES

DOMINIKA MIKA-OLSZEWSKA[1,2], BRONISŁAW W. WOŁOSZYN[3], ALEKSANDRA SMYŁŁA[2]

[1]International Doctoral Studies in Natural Sciences at the Polish Academy of Sciences in Cracow, Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Sławkowska Street 17, 31–016 Kraków, Poland
[2]Institute of Chemistry, Environmental Protection and Biotechnology, Jan Długosz University al Armii Krajowej 13/15, 42-200 Częstochowa, Poland; e-mail: kyriake.mika@gmail.com
[3]Chiropterological Information Center, Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Sławkowska Street 17, 31–016 Kraków, Poland, e-mail: woloszbr@isez.pan.krakow.pl

Key words: bats, bacteria, isolated, seasonal changes.

Researches are related to the occurrence of selected gram-negative rods in bats faeces from which faecal samples isolated dominant gram-negative bacteria of the family Enterobacteriaceae. Isolated strains of bacteria to the kind of determined on the basis of biochemical test, indicating that the bacteria belonging to the genus, for example *E. coli*, *Klebsiella* or the *Salmonella* (tested with serum). It was found variations in the composition of intestinal microflora depending on the species of bats, as well as seasonal changes in the quantitative bacterial.

EUSTRONGYLIDOSIS IN REPTILES: AN EMERGING DISEASE IN EUROPE

ANDREI DANIEL MIHALCA[1], MICHAL SLOBODA[2], ISTVAN FALKA[3], IOAN GHIRA[4], DAVID MODRY[2, 5]

[1]Department of Parasitology and Parasitic Diseases, Faculty of Veterinary Medicine, University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Calea Mănăştur 3-5, Cluj-Napoca 400372, Romania; e-mail: amihalca@usamvcluj.ro
[2]Department of Parasitology, Faculty of Veterinary Medicine, University of Veterinary and Pharmaceutical Sciences Brno, Palacke´ho 1-3, 61242 Brno, Czech Republic
[3]Direcția Apelor Mureş, Str. Koteles Samuel 33, 540057 Târgu Mureş, Romania
[4]Department of Zoology, Babes Bolyai University, Mihail Kogălniceanu 1, 400084 Cluj-Napoca, Romania
[5]Institute of Parasitology, Biology Centre of the Academy of Sciences of the Czech Republic, Branisovska 31, 37005 Ceske Budejovice, Czech Republic

Key words: *Eustrongylides*. Histria, *Natrix tessellata*, emerging disease.

Nematodes of the genus *Eustrongylides* parasitize the proventriculus of piscivorous birds. The life cycle is heteroxenous, larval stages develop in fish and aquatic invertebrates; however, infections of other poikilothermic hosts were described. *Eustrongylides* larvae infection is known to occur in free ranging reptiles, mainly in fish eating snakes. The condition was considered to appear sporadically, and found in the past in North America and Europe. The present paper, reports on an epidemic of eustrongylidosis in a free ranging population of dice snakes (*Natrix tessellata*) from the Danube Delta Biosphere Reserve. Epidemiological and pathological features are shown. 85.29% of examined snakes were infected by fourth stage larvae of *Eustrongylides excisus*. The main sources of infection were gobies. Aspects of the predator–prey relationship between dice snake, *Natrix tessellata* and gobiid fish infected with *Eustrongylides excisus* were studied in Lake Sinoe, Romania. The hypothesis of the altered motility in infected fish leading to increased depredation by snakes was tested by comparing gobiids collected from dice snakes with gobiids caught via electrofishing. Significantly higher abundance of *E. excisus* larvae in fish caught by snakes was reported. These findings suggest limited influence of the presence of *E. excisus* larvae in studied gobiids regarding their susceptibility to predation by dice snakes. Pathological changes associated with the infection were weak condition of some snakes, paralysis and death. Histology revealed parasitic granulomas in several internal organs (liver, esophagus, stomach, intestine) and subcutaneous connective tissue. Eustrongylides infection in other homeothermic and poikilothermic hosts is discussed. Zoonotic importance and effect of water pollution on the emergence of the disease are commented.

EXTERNAL PARASITES ON SMALL MAMMALS FROM TRANSYLVANIA, ROMANIA

ANA MARIA BENEDEK[1], ANAMARIA GURZĂU[2], IOAN SÎRBU[1]

[1]Lucian Blaga University of Sibiu, Department of Ecology and Environmental Protection, 3-5 Dr. I. Rațiu St., 550012 Sibiu, Romania; e-mails: benedek_ana@yahoo.com, meosirbu@yahoo.com
[2]"Transilvania" University, Department of Engineering and Management in Tourism, 49 Castelului St., 500036, Braşov, Romania; e-mail: anagurzau@yahoo.co.uk

Key words: mites, ticks, fleas, lice, host preferences, co-occurrence.

Most papers dealing with external parasites on rodents from Romania are based on studies from lowland areas, especially the Danube Delta and Dobrogea. Information on parasites from woodlands and mountain areas are scarce. The data published up to the present on rodents ectoparasites from Romania are mainly faunistical, few mentions are made on the ecology of parasites, on their spatial distribution and temporal dynamics. Also, very few data on Ixodidae (ticks) and Trombiculidae hosted by rodents are available from Romania.

Data on infestation with ectoparasites were collected from rodents trapped between 2005-2010 in Transylvania. Different types of habitats (woodland, riverbanks, meadows, wetlands, agricultural fields) were researched in 10 areas located at different altitudes, between 50 and 2000 m a.s.l. 9 species of rodents were encountered, all of them hosting parasites. All five groups of ectoparasites known from Romanian rodents were identified on the captured specimens: mites, ticks, fleas, lice, and beetles. Mites, and among them *Trombicula autumnalis*, followed by fleas, have the highest prevalence. The general infestation ratios of the prevailing species do not differ significantly from the total value. However there are significant differences between the infestation ratios with various parasite groups of the small mammal species. Parasite groups were not found to be host specificity, except the beetle *Leptinus testaceus*, which was found only on *Apodemus flavicollis*, in mountain woodlands. There is a dynamics of the parasite infestation, both seasonal and spatial, mountain areas having a different pattern of parasite occurrence than lower areas. In mountain habitats most small mammals are infested with parasites belonging to only one group, while in open lowland habitats most of the captured animals were infested with parasites belonging to several groups, up to four.

TICK SPECIES (ACARI: IXODOIDEA) DISTRIBUTION, SEASONALITY, AND HOST PREFERENCES IN ROMANIA

ELENA CLAUDIA COIPAN[1], ALEXANDRU FILIP VLADIMIRESCU[1], VALERIA PURCĂREA-CIULACU[1], GABRIELA NICOLESCU[1], OCTAVIAN CIOLPAN[2], IRINA TEODORESCU[2]

[1]"Cantacuzino" National Institute of Research-Development for Microbiology and Immunology, 103 Splaiul Independenței Blvd., 050096, Bucharest, Romania; e-mail: elenaclaudiarv@yahoo.co.uk
[2]University of Bucharest, Faculty of Biology, 91-95 Splaiul Independenței Blvd., 050095, Bucharest, Romania

Key words: Ixodidae, Argasidae, distribution, tick hosts, tick seasonality, Romania.

By integrating the literature data, dating back as far as 1890, with those derived from personal investigations conducted between 2004 and 2008, the authors present the distribution of the 27 tick species (25 belonging to Ixodidae family and 2 belonging to Argasidae family) identified up to now in Romania, as well as some aspects regarding their abundance, seasonality, and host preferences. Altogether 1439 tick records (of which 256, covering 25 counties, belong to the authors themselves) were georeferenced using EpiMap (an ArcView®-compatible GIS) from CDC's EpiInfo™ software package (v. 3.5.1), on a level 4 administrative shapefile (communes level). Regarding the distribution patterns, we can ascertain that most of the ticks are present throughout the country, while just few are restricted to the southern part, and these include *Hyalomma* species (which are known to have an areal situated to the warmer, Southern part of Europe), *Haemaphysalis parva* and *Ixodes simplex*, while *Rhipicephalus annulatus*, *Rh. rossicus* and *Argas persicus* are only present in the North-Eastern part of the country. The resultant distribution maps and the data on seasonality and host preferences may prove to be a useful reference system for subsequent studies on different tick species' distribution, ecology and biology, as well as a predictive tool for human and veterinary medicine, bearing in mind the vectorial role that ticks play in some dangerous diseases for man and livestock.

CHEWING LICE (PHTHIRAPTERA: AMBLYCERA, ISCHNOCERA) FROM WILD BIRDS OF THE DANUBE DELTA BIOSPHERE RESERVE (ROMANIA). TAXONOMICAL AND PARASITOLOGICAL DATA

COSTICĂ ADAM[1], GABRIEL CHIŞAMERA[1], VIOREL POCORA[2]

[1]"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mails: cadam@antipa.ro; gabriel_chisamera@antipa.ro
[2]"Al. I. Cuza" University, Iaşi, Bd. Carol I, 20A, 700505, Romania, e-mail: vyo2406@yahoo.com

Key words: chewing lice, birds, prevalence, new host-parasite association, new records, the Danube Delta, Romania.

We present the results of our studies on the chewing louse fauna of wild birds from the Danube Delta Biosphere Reserve, developed in 2010. The controlled birds were captured with mist nets during the pre-breeding and post-breeding migration (April and September), and during the breeding season (July). The birds were caught in 9 sites placed in the marine area (offshore bar) of the reserve, as follows: Letea Forest (Hasmacul Ivancesco); salted marshes between Letea and C. A. Rosetti; C. A. Rosetti (near the village, in tamarisk); Letea (on the Sidor channel – at 300 m far from Merhei Lake); Letea (in reed, near the village); Letea (Întinsura Perva, near the village); Sfântu Gheorghe (the dam near the village, from the channel which links it with Sulina); Sfântu Gheorghe (the dam towards the sea, near the village).

A total number of 401 birds from 9 orders, 27 families and 50 species, with different ages (168 adults, 197 juveniles and 36 of an unknown age) were examined. We found chewing lice on 92 individuals (38 adults, 38 juveniles and 16 of an unknown age), from 6 orders, 18 families and 26 bird species. The total prevalence of the chewing lice was of 22.94 (n=401). The rest of 309 controlled birds (130 adults, 159 juveniles and 20 of an unknown age), from 8 orders, 24 families and 41 bird species, were not infested with ectoparasites of this group. In the case of Podicipediformes, Falconiformes and Coraciiformes orders, the prevalence of the chewing louse infestation was zero (meaning that none of the controlled birds were infested with chewing lice). From the other bird orders, the lowest value of the prevalence occurred in Passeriformes, more precisely, in the representatives of the following families (between brackets it is the number of the infested birds with chewing lice / the number of the controlled birds): Remizidae (0/7), Muscicapidae (0/3), Hirundinidae (0/2), Certhiidae (0/2), Aegithalidae (0/2), Troglodytidae (0/1), Motacillidae (1/40), Emberizidae (1/16) and Sylviidae (13/160).

We have remarked a great difference in the total prevalence of chewing lice in pre-breeding and post-breeding periods. Therefore, the prevalence of the chewing louse infestation was of 40.91 (n=66) within pre-breeding period and of 22.83 (n=254) within post-breeding period.

From the 44 chewing louse species identified in the studied material, four are new reports for the Romanian parasitological fauna, namely: *Actornithophilus stictus* (Kellogg & Paine, 1911) (from *Gallinago gallinago*); *Brueelia corydalla* Timmermann, 1950 (from *Anthus pratensis*); *Penenirmus visendus* (Złotorzycka, 1964) (from *Panurus biarmicus*); *Philopterus fortunatus* (Złotorzycka, 1964) (from *Fringilla coelebs*). Also, we report, for the first time in the parasitological fauna of Romania, a chewing louse species – bird species association, namely: *Menacanthus curuccae* (Schrank, 1776) on *Acrocephalus schoenobaenus*.

This study was partially funded by Project PNCDI II – PD no 121/2010 from The National University Research Council (subordinated to the Romanian Ministry of Education, Research, Youth and Sports).

PRELIMINARY STUDY OF FAIRY FLIES DIVERSITY (HYMENOPTERA: CHALCIDOIDEA: MYMARIDAE) IN MOLDOVA (ROMANIA)

EMILIAN PRICOP

"Alexandru Ioan Cuza" University, Bd. Carol I 20a, 700505 Iaşi, Romania; e-mail: pricopemilian@yahoo.com

Key words: Mymaridae diversity, fauna, Moldova (Romania).

In this paper we present the specific diversity of the Mymaridae fauna, all species identified so far in the territory of the historical province Moldova are given in relation to their diversity throughout Romania. The paper contains also a species list, species identified in Romania, past contributions and personal contributions to the study.

From 61 species identified in Romania, a total of 28 species were collected, identified and published in and from Moldova, by Dr. E. Pricop between 2008-2010. 13 species were mentioned for the first time in Romania: *Alaptus pallidornis*, *Anagrus breviphragma*, *Anagrus similis*, *Anaphes aries*, *Anaphes leptoceras*, *Erythmelus lygivorus*, *Erythmelus rex*, *Erythmelus soykai*, *Gonatocerus ovicenatus*, *Ooctonus flaviventris*, *Ooctonus hemipterus*, *Ooctonus isotomus*, *Ooctonus notatus* (Pricop, 2008; 2009 a, b; 2010).

We would like to thank to Prof Dr. Ovidiu Gabriel IANCU for the financial support - Research project POSDRU/88/1.5/S/47646 co-funded by the European Social Fund through the Sectorial Operational Programme - Human Resources and Development 2007-2013.

References:

PRICOP, E., 2008 - Mymarid wasps (Hymenoptera, Chalcidoidea, Mymaridae) new to Romanian Fauna. Analele Ştiinţifice ale Universităţii „Al. I. Cuza" Iaşi, Seria Biologie animală, 54: 35-48.

PRICOP, E., 2009 a - Preliminary studies of the Mymaridae (Hym., Chalcidoidea) from Neamţ county, Romania, species distribution, vascular flora/vegetation, an ecological approach. AES Bioflux, 1 (1): 13-29.

PRICOP, E., 2009 b - A faunistic review of the Romanian Mymaridae and Mymarommatidae (Hymenoptera, Chalcidoidea and Mymarommatoidea). Univ. „Al. I. Cuza" Iaşi, Faculty of Biology, The Third National Conference „Entomofagii şi rolul lor în păstrarea echilibrului natural", Agigea-Constanţa, June, 2008. Analele Ştiinţifice ale Universităţii „Al. I. Cuza" Iaşi, Seria Biologie animală, Supliment: 121-128.

PRICOP, E., 2010 (2009) - Mymarid wasps (Hymenoptera, Chalcidoidea, Fam. Mymaridae) associated with Medicago sativa L. (first note). Studii şi Cercetări, University of Bacău, Romania, 17: 80-86.

THE NEED FOR SETTING SOUND NATIONAL PRIORITIES IN CONSERVATION WITHIN THE EUROPEAN UNION

DAN COGĂLNICEANU[1], DOREL RUŞTI[2], GINA-CARMEN COGĂLNICEANU[3]

[1]University Ovidius Constanța, Faculty of Natural Sciences, Aleea Universității, nr. 1, corp B, Constanța 900470; e-mail: dcogalniceanu@univ-ovidius.ro
[2]"Romanian Waters" National Administration Attributions, Administrația Someş-Tisa Branch, Bistrița-Năsăud Water Management System, 420029 Bistrița, 9 Avram Iancu St., Bistrița-Năsăud, Romania
[3]Institute of Biology, Romanian Academy, Splaiul Independenței 294, Bucharest, Romania

Keywords: conservation, priority species, Natura 2000, Red List, national conservation responsibility.

With human pressure increasing and protected areas established more quickly than our capacity to manage them has grown, the task of sound priority settings is crucial for conservationists. Within the European Union there is an overlap in priority settings, with different species included in the annexes of the Birds and Habitat Directives, the Bern Convention and the various Red Lists. There is a strong bias in taxonomic coverage of the priority species within EU caused by (i) the number of specialists for each group (taxonomist effect), (ii) larger animals and superior plants attracting more attention (size and attractiveness effect). Virtually no smaller invertebrates are protected and a smaller proportion of inferior plants. We argue for the need of establishing sound national priorities, based on the specific conditions in each country and not on the uncritical taking over of regional priorities.

EUROPEAN ZOOS AND BIODIVERSITY CONSERVATION

ANGELA R. GLATSTON

Royal Rotterdam Zoological and Botanical Gardens, Conservation Department, Blijdorplaan 8, 3041 JG Rotterdam, The Netherlands; e-mail: a.glatston@rotterdamzoo.nl

Key words: zoos, conservation, EAZA, carnivores, Europe.

In the past, people rarely thought of zoos as conservation organizations. However, times have changed and, with them, the mission of the modern zoological garden. The mission of the European Association of Zoos and Aquariums (EAZA) includes wildlife conservation. This conservation ethic is not just confined to zoo associations, it is also in the remit of many individual zoos. A number of EAZA members are involved in conservation projects at both practically and financially; the on-line database of zoo conservation projects currently lists more than 800 projects supported by European zoos alone. However the major conservation activity of most of the EAZA membership is the annual conservation campaign. These were initiated in 2000/2001 with the Bushmeat Campaign and have continued and grown ever since. This presentation focuses on the most recent of these, the European Carnivore Campaign; a two-year drive aimed at raising public awareness of carnivores living in Europe and their importance to European biodiversity as well as raising funds to support their conservation.

More than 160 zoos in over 30 countries participated in the campaign and, to date, more than ∈300,000 has been raised in support of carnivore conservation programmes. We are currently supporting ten projects around Europe all of which have an awareness component. Awareness is essential to biodiversity conservation and the participating zoos have organised many interesting and imaginative events to this end. To reach more people the campaign committee also launched a dedicated website providing information about the carnivores living in their country and the problems they face.

Zoos are visited by millions of Europeans annually and have the potential to communicate important conservation messages. As such they offer an important resource to conservation organizations everywhere as they can help in winning the hearts and minds of ordinary people.

PRELIMINARY DATA ON THE ISOLATED *TESTUDO GRAECA* POPULATION FROM THE ENCLOSED AREA OF THE "CETATEA HISTRIA" MUSEUM COMPLEX, THE DANUBE DELTA BIOSPHERE RESERVE, ROMANIA

GABRIEL BUICĂ

"Ovidius" University of Constanța, Natural Sciences and Agricultural Sciences Faculty, Aleea Universității no. 1, Building B, 900470 Constanța, Romania; e-mail: gabrielbuica@gmail.com

Key words: isolated population, *Testudo graeca*, population structure, conservation strategy.

This preliminary study was done during May-October 2010, on the *Testudo graeca* population from the enclosed area of the "Cetatea Histria" Museum Complex, with an area of 22 ha and a perimeter of 2 km, situated in the Danube Delta Biosphere Reservation. The study area is fenced thus preventing potential predators, domestic animals or tourists from entering. The existing population of *T. graeca* inside the Complex is well isolated, without any population exchange and is, probably, the only population in the northern tip of the Saele Sand bank.

The area of the complex was covered by 24 transects with an average length of 400 m and a combined length of 10 km and repeated seven times, between 9:00 and 14:00 hrs. The location of the tortoises along transects was recorded with a handheld GPS. The animals were sexed, measured, weighed and temporary marked with a marker. Animals were also photographed on both the plastron and carapace for in detail measurements and later analyses.

We inventoried 31 individuals of *T. graeca,* 21 females, six males and four juveniles. The sex ratio was 3.5 and juvenile age, estimated by counting the number of rings on at least three carapace scutes was between three and seven years, while for adults varied from 10 to over 14. The average sighting rate was four tortoises for one cover of transects in a day, with a minimum of three to a maximum of 16 tortoises. The recapture rate was extremely low, with only one tortoise recaptured after seven days at 300 m from the initial capture location.

The unbalanced sex ratio and the very low recapture rate may be explained by the low detectability due to abundant vegetation and numerous pits.

THE RELATION BETWEEN THE BIRDS' DIVERSITY AND THE HABITATS HETEROGENEITY IN WETLANDS

CONSTANTIN ION, CIPRIAN MÂNZU, ADRIAN URSU,
EMANUEL BALTAG, ALINA IGNAT

"Al. I. Cuza" University, Iaşi, Faculty of Biology, Department of Biology, Bd. Carol I, 20A, 700505, Romania; e-mail: costin_zoo@yahoo.com

Key words: birds diversity, habitats heterogeneity, the Middle Prut Basin.

In a pilot study, between 2009-2010, the avifauna form six wetlands of the Middle Prut Basin was monitorized during the phenological periods. It was evaluated the birds' dynamics and their ecological preference for some kinds of habitats necessary for establish association between the ornithofauna diversity and the heterogeneity degree of habitats. For these purposes we applied the Chi-square test for association between the presence of the birds' species and the habitats types and the correspondence analysis between birds' diversity and the heterogeneity degree of wetlands ecosystems. It was observed that there isn't always a significance statistical link between the qualitative and quantitative presence of the birds' species and the proper habitats for its as it is mentioned in specialized literature. The correspondence analysis between the birds' diversity and the heterogeneity degree of the wetlands revealed that the biggest diversity exists in those wetlands with a moderate heterogeneity degree of habitats, bigger than those from the aquatic ecosystems where the habitats mosaic is more diversified. The study wants to evidentiate that the birds' conservation must be sustained more, in a future, by habitat studies.

GIS AND ANALYTICAL TOOLS FOR COMPLETING THE NETWORK OF SPECIAL PROTECTED AREAS (SPA) FOR THE CONSERVATION OF ROMANIA'S FOREST BIRDS

ATTILA D. SÁNDOR, CRISTIAN DOMŞA

"Babeş-Bolyai" University, Faculty of Biology-Geology, Str. Clinicilor 5-7, Cluj, RO-340004, Romania; e-mails: adsandor@gmail.com, cristidomsa@yahoo.com

Key words: Natura 2000, GIS, forest birds, SPA, analytical methods, designation.

The Birds Directive provides legal framework for the protection, management and control of naturally occurring wild birds within the European Union (EU). One of its key provisions is the establishment of an internationally coordinated network of protected areas as figures in Article 4. This article requires Member States to identify and classify the most suitable territories in size and number for rare or vulnerable species listed in Annex I. These sites are known throughout the Member States as special protection areas (SPAs). The Directive envisages that the designation of SPAs by all Member States will result in a European network of protected sites, providing secure future ('favourable conservation status') to species listed in Annex 1 of the Directive. Romania joined EU in 2007 and fulfilled its obligations regarding the Bird Directive through the designation of 108 SPA-s.

Here, we evaluate whether SPAs network is enough to preserve forest specialist species, on the basis of a thorough analysis of habitat preferences and the presence of suitable forested habitats inside the Romanian SPA network. A GAP analysis is performed to conduct a revision of current SPAs. Our results suggest that the current network of SPAs becomes insufficient to protect these species. We propose a new SPAs network according to the potential suitable habitat for forest species, taken into account the needs and possibilities. Given the trade-off between financial investment and the conservation of biodiversity, we propose to maximize the surface of potential habitat included in the protected network minimizing the surface of the region that would be necessary to protect, thus avoiding an unnecessary expense and otherwise unrealistic results.

VOLUNTEERING AMONG VULTURES – GOOD PRACTICE FOR A CONSERVATION PROJECT

DIANA ION

"Grigore Antipa" National Museum of Natural History, Department of Public Relations, Cultural Marketing and Educational Programs, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mail: dianai@antipa.ro

Key words: sustainable concept, volunteer network, conservation effort.

Associação Transumância e Natureza (ATN) is a non-profitable entity that was created in 2000, in Figueira de Castelo Rodrigo, Portugal. This NGO, involved in environmental conservation, has initiated a number of projects focused on Riba-Coa Valley, an area that was in the past the setting of large scale traditional agricultural works. Due to the tendency of agricultural abandonment, the lack of cereal crops and extensive grazing have produced a loss of open steppe-like habitats, resulting in a decline in biodiversity, especially a reduction of the abundance of agro-dependent species.

The environment projects implemented in this area by ATN focused on the rehabilitation of vulnerable species, conservation of cliff-breeders, environmental awareness and a strong network of volunteers. Being involved in their projects since 2007, I have experienced the success of ATN's conservation activities, as a volunteer. This paper is not designed to be a presentation of ATN's accomplishments, but a study of it's concept and it's ability to draw advantages from the volunteer network, in order to implement the correct set of conservation measures for the designated area. The effort of scientifical study and conservation measures for an area will never be worthwhile without the involvement of local entities, environmental awareness and a strong and sustainable concept of the project.

MUSEUM OF NATURAL HISTORY: FROM LINNAEAN COLLECTIONS TO CENTRES OF RESEARCH AND REVEALING THE EVOLUTION AND PRIMORDIAL IMPORTANCE OF BIODIVERSITY TO HUMAN SOCIETY

IRINEL E. POPESCU[1], ANA DAVIDEANU[2], GRIGORE DAVIDEANU[2]

[1]Department of Zoology and Ecology, Faculty of Biology, "Al. I. Cuza" University, Bd. Carol I no 11, 700506 Iaşi, Romania; e-mail: irinellus@yahoo.com
[2]Museum of Natural History of "Al. I. Cuza" University, Bd. Independenței no 16, 700100 Iaşi, Romania; e-mails: anamuzeu@yahoo.com, grigore@uaic.ro

Key words: Natural history museum, role of natural history museums in society –historic and present view.

The museums of natural history are now to a crossroad of their existence. They appear in the eighteen century as progressive cultural and scientific institutions at that time where they present the living world in a static way, the way of collections following the linnaean view on nature. The idea of the evolution of the living beings complicates the possibilities of museums to communicate with the society just by a static presentation of collections that remains like a "garden of God", a garden of creation and not of evolution, the dynamism of the evolution being more difficult to present and to communicate to the society. This moment was the first when the museums of natural history remain a step behind the front line of the knowing the biodiversity by all aspects and not just by the cataloguing the living forms by seeking the order in the living world.

Museums of natural history are in danger to remain museums of themselves. The collections must remain the essence of a museum but the institution must become a living one in the contact with human society. A museum of natural history must present to society the biodiversity by all aspects, as a natural dynamic process of permanent transformation. The museums must become learning institutions, they must have educational activities that help the society to understand the biodiversity and the impact of humanity on it, to help to conserve in a sustainable way the biodiversity as a primordial resource for the future times. Museums must communicate with society by all media channel, from direct communication to radio, television and internet. Also museum of natural history must become centers of researching of biodiversity. They must have an essential role in the inventory process of the species, many of them disappearing second by second without being known.

CULTURAL IMPORTANCE OF ISOLATION AS A TENDENCY OF THE MUSEUM PIECES FROM PUBLIC COLLECTIONS

LIVIU-RĂZVAN PRIPON

"Babeş-Bolyai" University, Faculty of Biology and Geology, Gheorghe Bilaşcu Str., no. 44, Cluj Napoca, 400015, Romania; e-mail: liviu.pripon@gmail.com

Key words: Cultural, isolation, museum pieces, public collection.

The museum can transform biological pieces, can heighten, by isolating, biological aspects, can encourage one to look at them as an artifact and in that sense like works of art, making them objects of visual interest (Alpres, 1991).

We analyze in this study a different perspective in management of museum pieces concerning the cultural purpose of the collections. We show that isolation alongside the dioramas is one of the ways in exploitation of biological material as a cultural heritage.

Compared to dioramas isolated museum pieces show a higher phenomenological content due to the strong relation between object and nomenclature.

We give a concrete example of exhibition according to the principles we assume for the isolation process.

In the end we compare the directions in organizing public collection and we evaluate which one has the most importance in natural comprehension. We concluded that isolated pieces are most suitable as a priority for the synthetic knowledge and are highly recommended for a non-artificial knowledge.

References:

ALPRES, S., 1991 – The Museum as a Way of Seeing, Exhibiting Cultures – Smithsonian Institution: 25-32.

CERAMBYCIDS AND CHRYSOMELIDS SPECIES (COLEOPTERA: CHRYSOMELOIDEA) RECENTLY ENTERED IN THE PATRIMONY OF “GRIGORE ANTIPA” NATIONAL MUSEUM OF NATURAL HISTORY (BUCHAREST). IGOR CEIANU COLLECTION

RODICA SERAFIM[1], SANDA MAICAN[2]

[1]“Grigore Antipa” National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mail: serafim@antipa.ro
[2]Institute of Biology Bucharest, Department of Ecology, Taxonomy and Nature Conservation, Independenței Street 296, Romania; e-mail: sanda.maican@ibiol.ro

Key words: Chrysomeloidea, Cerambycidae, Chrysomelidae, “Grigore Antipa” museum, Igor Ceianu collection.

In 2010 the heritage of „Grigore Antipa” museum was enriched with Igor Ceianu insect collection, donated by his daughter, Cornelia Ceianu. D. Eng. Igor Ceianu (1925-2000) was one of the greatest Romanian specialists in the field of plant protection. The material comprises about 18,000 specimens, of which about 950 cerambycids and 2,300 chrysomelids.

The Cerambycidae family is represented by species from the subfamilies Cerambycinae, Lamiinae, Lepturinae, Necydalinae, Prioninae, Spondylidinae, and the Chrysomelidae one by species from the subfamilies Donaciinae, Zeugophorinae, Criocerinae, Clythrinae, Chryptocephalinae, Eumolpinae, Chrysomelinae, Galerucinae and Alticinae.

In the collection there are preserved some Carpathian endemic species, such as: *Pseudogaurotina excellens* (Cerambycidae), *Cryptocephalus carpathicus*, *Chrysolina weisei* and *Asiorestia transsilvanica* (Chrysomelidae).

Among the rare species in the Romanian fauna, we mention: *Pronocera angusta*, *Poecilium pusillum*, *P. rufipes*, *Semanotus russicus*, *Deilus fugax*, *Trichoferus pallidus*, *Glaphyra umbellatarum*, *Callimus angulatus*, *Callimoxys gracilis*, *Rhamnusium bicolor*, *Nivellia sanguinosa*, *Cornumutila lineata*, *Pedostrangalia revestita*, *P. pubescens* (Cerambycidae) and *Cheilotoma musciformis*, *Cryptocephalus bohemius*, *Chrysolina fimbrialis* (from Chrysomelidae).

THE COLLECTION OF EXOTIC FISHES EXHIBITED IN "GRIGORE ANTIPA" NATIONAL MUSEUM OF NATURAL HISTORY, BUCHAREST (ROMANIA)

GEORGE-ŞTEFAN NĂZĂREANU

"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mail: george_nazareanu@antipa.ro

Key words: fish, fishes, collection, catalog, foreign fauna, heritage, Romanian treasure, holotypes, IUCN, protection.

The fishes collections were present in the museum since it was founded on November the 3rd, 1834. Remarkable expansions of the museum's fishes collections occurred in the directorship of Grigore Antipa, Mihai Băcescu and actual directorship of Dumitru Murariu.

At the beginning, all the museum's fishes specimens were included into a general collection, but over the years, as the collection expanded (the museum currently containing over 20,000 fishes specimens), it has been divided into several collections such as "Romanian fauna", "Exotic fauna", "Bănărescu-Nalbant" collections. Most of the collections items are properly preserved in special storage rooms and only a small part of the exhibits are available to the public.

Since before 1948 fishes were exhibited in a general collection, the main part of interest of this paper is between 1948 – 2008, the paper also containing the catalog of the species and specimens exhibited in this period.

The collection of exotic fishes exhibited in "Grigore Antipa" National Museum of Natural History between 1948 – 2008, had contained over the years 277 species (320 exhibitions, naturalized or wet preparations), classified in 2 superclasses, 5 classes, 45 orders, 144 families, and 242 genres.

This collection is one of high value, containing many species that are currently rare or very rare, 64 of them having IUCN protection status. The collection also contains 12 specimens (two of them being holotypes) classified in the Romanian legal category "Treasure" by the classification orders no. 2281/16.06.2004 and 2346/02.08.2004.

POSTER PRESENTATIONS

VARIABILITY IN *CEPAEA HORTENSIS* POPULATIONS AT THE EASTERN LIMITS OF ITS RANGE IN ROMANIA

VOICHIȚA GHEOCA

”Lucian Blaga” University, Faculty of Sciences, Department of Ecology and Environment Protection, Dr. I Rațiu Str, 5-7, 550012 , Sibiu, Romania; e-mail: vgheoca@yahoo.com

Key words: *Cepaea hortensis*, range, variability.

Cepaea hortensis, is one of the smallest species of *Cepaea* genus, common in western and central Europe, including Great Britain, South Scandinavia, Germany, Austria, Poland, Slovakia and West Hungary. The only report on the presence of the species in Romania was made in 1918, when the species was mentioned at Băile Felix, near Oradea. No presence of this species in this area or in any other part of Romania has been confirmed ever since.

Several *C. hortensis* populations have been found in more gardens and parks from Sibiu since 1999. The presence of *C. hortensis* in Sibiu is probably explained by introduction on purpose, dating back to the beginning of the 20th century; its evolution in a new location (Dreieichenstrasse 7) being observed by M. von Kimakowicz, as it was proven in the series belonging to his collection.

The variability at the morphological and genetic levels was analysed in five *C. hortensis* populations from Sibiu. The shell polymorphism was considered and the genetic polymorphism was analysed using DS-PCR, which combines the specificity of the microsatellites with the amplification of the RAPD markers.

The populations identified in Sibiu are very variable with regard to the morph's frequency, and none of them presents the whole polymorphism that characterises this highly variable species. Some populations present both banded and non-banded forms; the latter can be either brown, pink or yellow, while other populations with only non-banded morphs are always brown.

The study of genetic variability in *Cepaea hortensis*, using DS - PCR, proved a high degree of polymorphism sustained by the phenotypic variability. But the two aspects of variability are just partially overlapping.

FIRST RECORD OF *DISCOURELLA RADNAENSIS* (ACARINA: ANACTINOTRICHIDA: UROPODINA) FROM SERBIA

IOANA-CRISTINA CONSTANTINESCU

Argeş County Museum, Armand Călinescu Street, no. 44, Piteşti, 110047 Argeş, Romania; e-mail: cristinactinescu@yahoo.com

Key words: Uropodina, *Discourella radnaensis*, first record, Serbia.

Discourella radnaensis species was described by Willmann in Slovenia, Radna city in 1941, the holotype being female. Since then the species has not been collected, probably because Uropodina faunal studies in the Balkans were very few.

Acarologic material was collected in Serbia, Djerdap National Park, Mount Veliki Strbac (768 m altitude). Samples were collected from litter of mixed deciduous forest with beech (*Fagus orientalis*), dogwood (*Cornus mas*), lote tree (*Celtis australis*), maple (*Acer monospessulanum*) and hornbeam (*Carpinus betulus*), and the bark of the decomposing trunk of deciduous tree. For the first time in addition to a female individual protonymphs and deutonymphs were collected.

The paper made a new description of the female of the species, and pre-adult specimens.

Discourella radnaensis species is thus recorded for the first time in the fauna of Yugoslavia, and pre-adult stages (protonymphs and deutonymphs) are described for the first time in literature.

NEW SPECIES AND NEW RECORDS OF OPPIIDS (ACARI: ORIBATIDA: OPPIIDAE) FROM ROMANIA

OTILIA IVAN, NECULAI ALEXANDRU VASILIU

Institute of Biological Research, Lascăr Catargi str., no. 47, 700107 Iaşi, Romania; e-mail: otilia.ivan@ymail.com

Key words: Oppiidae, new species, new records, Romanian fauna.

The family Oppiidae Grandjean, 1951 is a large group of oribatid mites, which comprises over 1,000 species, 166 genera and subgenera, 13 subfamilies (Subias, 2004), most of them described in the last 3-4 decades. These mites populate most of terrestrial habitats, often reaching high densities. In Romanian fauna more than 75 species of Oppiidae have been recorded, 18 of which being described as new species (Vasiliu, Ivan & Vasiliu, 1993; Ivan & Vasiliu, 1997).

Two new species, namely *Graptoppia (Graptoppia) baloghi* and *Berniniella (Berniniella) piretica* are described hereby. The first one is distinctive from the related species mainly by the presence of ta seta and the morphology of prodorsum. The second species is individualized especially by the shape of sensillus and of the prodorsal costulae, also by its short notogastral setae (Subias & Balogh, 1989; Ivan & Vasiliu, 1997).

In addition, two other species recorded for the first time in Romanian fauna are redescribed, with some complementary details on the investigated material. *Ramusella (Insculptoppiella) alejnicovae* (Krivolutsky et Gatilova, 1974) is a Central and Southern Palaearctic element (Subias, 2004) and it was found in the soil of solaria at Dumbrava (Neamț county); not only this species, but also *Insculptoppiella* subgenus are new records in Romania. Another species included in this paper is *Lauroppia iranica* Akrami et Subias, 2008, described from Iran and later identified by authors in a collection from Cheia (Constanța county).

References:

IVAN, O., N. VASILIU, 1997 - New species of the family Oppiidae Grandjean, 1954 (Acari, Oribatida). Travaux du Muséun National d'Histoire Naturelle "Grigore Antipa", 39: 7-29.

SUBIAS, L. S., 2004 - Listado sistemático, sinonímico y biogeográfico de los ácaros oribátidos (Acariformes, Oribatida) del mundo (1758-2002). Graellsia, 60: 3-305.

SUBIAS, L. S., P. BALOGH, 1989 - Identification keys to the genera of Oppiidae Grandjean, 1951 (Acari: Oribatei). Acta Zool. Hung., 35 (3-4): 355-412.

VASILIU, N., O. IVAN, M. VASILIU, 1993 - Conspectul faunistic al oribatidelor (Acarina, Oribatida) din România. Anuarul Muzeului Național al Bucovinei, Suceava, fasc. Şt. nat., 12: 3-82. (in Romanian)

FAUNISTIC RESEARCHES ON GAMASID MITES (ACARI: GAMASINA) FROM SOME HAYFIELD PROTECTED AREA FROM MOLDAVIA (ROMANIA)

ADINA CĂLUGĂR

Institute of Biological Research, Lascăr Catargi str., no. 47, 700107 Iaşi, Romania; e-mail: cadina_2004@yahoo.com

Key words: mites, *Gamasina,* natural grasslands reserves, communities, Moldavia.

The paper discusses the results referring to the mites belonging to Gamasina suborder Leach, 1815 from a series of natural grasslands reserves from Eastern Romania. The gamasid mites' fauna from these grassland reserves has not been studied until now. The researches were carried out in five protected areas, three of them placed in the Central Moldavian Plateau (Rupturile Tanacu Slope, Glodeni Hayfield, Burcel Hill) and rest in the Suceava Plateau (Ponoare Secular Hayfield and Calafindeşti Secular Hayfield). By the features of the flora, the meadows taken into study belong to two categories, being with a xerophilous character (Rupturile Tanacu Slope, Glodeni Hayfield, Burcel Hill) and a mesophilous one (Ponoare Secular Hayfield and Calafindeşti Secular Hayfield). A comparative analysis between these stations indicates for the mesic ecosystems a higher number of species and higher densities then in xeric ones. The faunistic material from selected ecosystems totalized 43 species, 21 genera and 11 families. During the investigations one new genus (*Evimirus*) and two new species – *Evimirus convergens* Berlese, 1913 and *Rhodacarus furmanae* Shcherbak, 1975 has been discovered in the Romanian fauna. The qualitative and quantitative features of the gamasid mites communities depend to a considerable extent on the biopedoclimatic conditions. The autecological peculiarities and the geographical distribution of the gamasid species were also analyzed.

CONSIDERATION ON THE BENTHIC INVERTEBRATE FAUNA FROM THE DOAMNEI RIVER (ROMANIA)

ALINA–MIHAELA VLĂDUȚU

University of Piteşti, Faculty of Science, Department of Biology – Horticulture, Târgu din Vale no. 1, 110040 Piteşti, Romania; e-mails: alina_vladutu@yahoo.com, alina.vladutu@upit.ro

Key words: Doamnei River, benthic invertebrate, mayflies.

Situated in the Meridional Carpathians, in Argeş County, the Doamnei River has its springs in the Făgăraş Mountains, being formed by the union of two mountain streams, Valea Rea and Zârna, and flows into the Argeş River, near Piteşti. A left tributary of the Argeş River, with a length of 109.1 km, this is a typical mountain river especially for its morphodynamic characteristics.

In the period August 2008 – April 2009, zoobenthic samples were taken periodically in August, October and April. On each sampling site, the benthos samples were taken using a Surber–sampler, which covered a surface of 0.16 m^2 (mesh-size: 200 µm). The stones were washed in the stream and brushed.

The paper presents data referring to the comparative structure of the benthic invertebrate fauna of the Doamnei River in four sampling site, in the sector Cernat – Dârmăneşti. In all sampling stations are constantly present the main elements specific to unpolluted mountain waters: amphipods, ephemeropterans, plecopterans, trichopterans, simuliids, chironomids, most of them being dominant groups. On the basis of relative abundance, the dominancy of the invertebrate groups is highlighted. In particular, the community structure of the mayflies larvae is analyzed, group constantly dominant in all studied sites, being presented the list of the taxa, ecological spectrum, relative abundance, frequency and other ecological characteristics of the mayflies fauna.

DATA ABOUT TRUE BUGS (INSECTA: HEMIPTERA: HETEROPTERA) COLLECTED FROM MEDITERRANEAN EXPEDITIONS [Results of “Focida” 2006, “Punia” 2006, “Atlas” 2007 and “Bolkar” 2009 Expeditions]

CECILIA ŞERBAN

Natural Sciences Museum Complex of Galaţi, Romania; e-mail: cecilia@cmsngl.ro

Key words: Insecta, Heteroptera, western Turkey, Tunisia, Maroc, distribution.

The paper presents a list of 390 Heteroptera specimens, collected during the expeditions carried out in some Mediterranean countries, part of a science project, "Romanian Contributions on the Mediterranean fauna", research led by the “Grigore Antipa” National Museum of Natural History, Bucharest, in collaboration with an NGO, Oceanic Club Oceanographical Society of Exploration and Protection of the Marine Environment of Constanta.

In this study we present the Heteroptera collected during four expeditions, in three countries: Turkey (*Focida*, in 2006 and *Bolkar*, in 2009), Tunisia (*Punia*, in 2006) and Morocco (*Atlas*, in 2007). In all these countries, 71 Heteroptera species were identified and grouped in 13 families (Stichel, 1957-1962; Aukema & Rieger, 1995, 1996, 1998, 2001, 2006; Wagner, 1966). In Turkey, 25 species have been identified, 27 species in Tunisia, and for Morocco, 40 species. The paper also presents some distribution data for 71 species.

In a previous study, we presented the results of *Focida* and *Taurus* expeditions in Turkey, where it shows a list of 74 species of Heteroptera, framed in 12 families. The list of Heteroptera species collected in Turkey has been expanded to 79.

Heteroptera specimens collected in Turkey, Tunisa and Morocco represents a valuable contribution for the exotic Heteroptera collections that belongs to the “Grigore Antipa” National Museum of Natural History, Bucharest.

References:

AUKEMA, B., C. RIEGER, 1995 - Catalogue of the Heteroptera of the Palearctic Region 1. Published by the Netherlands Entomological Society, 222 pp.

AUKEMA, B., C. RIEGER 1996 - Catalogue of the Heteroptera of the Palearctic Region 2. Published by the Netherlands Entomological Society, 361 pp.

AUKEMA, B., C. RIEGER 1998 - Catalogue of the Heteroptera of the Palearctic Region 3. Published by the Netherlands Entomological Society, 350 pp.

AUKEMA, B., C. RIEGER 2001 - Catalogue of the Heteroptera of the Palearctic Region 4. Published by the Netherlands Entomological Society, 346 pp.

AUKEMA, B., C. RIEGER 2006 - Catalogue of the Heteroptera of the Palearctic Region, Pentatomomorpha II, 5. Published by the Netherlands Entomological Society, 550 pp.

STICHEL, W., 1957-1962 – Illustratrierte Bestimmungstabellen der Wanzen, II. Europa (Hemiptera-Heteroptera Europae), volumen 4. Berlin-Hermsdorf, Martin-Luther Strabe, 39: 498-505.

WAGNER, E., 1966 - Wanzen oder Heteropteren I. Pentatomorpha. Die Tierwelt Deutschlands, Jena, 55: 1-179.

DIVERSITY OF NOCTURNAL LEPIDOPTEROFAUNA (LEPIDOPTERA-HETEROCERA) IN AN URBAN ECOSYSTEM - THE BOTANICAL GARDEN GALAȚI

MIHAELA CRISTESCU

Natural Sciences Museum Complex Galați, Regiment 11 Siret Street, no. 6 A, 800 340 Galați, Romania; e-mail: miih100@yahoo.com

Key words: nocturnal Lepidoptera, urban ecosystem, Botanical Garden Galați.

Urbanisation is considered to be one of the biggest threats to biodiversity. As urban development increases, green space is often reduced and fragmented. In the context of increasing urbanization, the remnant green spaces or the new ones have the main role in maintaining the biodiversity in an urban area (Wood & Pullin, 2002). The Botanical Garden Galați is an anthropogenic habitat, relatively young. It's beginnings are placed in 1994-1995 when the first trees were cultivated here (Cristescu, 2007-2008). The Lepidoptera species from the surrounding areas (privat or public gardens, parks, the Danube Meadow, the Siret Meadow, green spaces from the city) found here sources of food and favourable conditions for reproduction.

The present study have been made in a period of 5 years: 2004, 2005, 2008, 2009 and 2010. The increasing plant diversity, and also, the developing of the vegetation every year is correleted with the increasing diversity of the nocturnal lepidopterofauna and with the stabilization of the populations effective of the species.

The biological material was captured with light traps, that had been operated 3 days a week, from dusk till dawn, from March until October, every year.

The purpose of this paper is to bring new data regarding the nocturnal lepidoptera of an urban ecosystem, and to underline that an urban and anthropogenic habitat can be of relatively high conservation value.

References:

CRISTESCU, M., 2007-2008 - Contributions to the Knowlegdge of the Nocturnal Macrolepidoptera from The Botanical Garden Galați (nota 1). Complexul Muzeal de Ştiinţele Naturii „Ion Borcea" Bacău. Studii şi comunicări, 22: 65-71.

WOOD, B. C., A. S. PULLIN, 2002 - Persistence of species in a fragmented urban landscape: the importance of dispersal ability and habitat availability for grassland butterflies. Biodiversity and Conservation, Kluwer Academic Publishers, 11 (8): 1451-1468.

HISTOLOGICAL AND HISTOCHEMICAL CHARACTERIZATION OF CAUDAL FIN REGENERATION IN *CARASSIUS AURATUS GIBELIO*

SIMONA STAVRI, NICOLAE CRĂCIUN, OTILIA ZĂRNESCU

Faculty of Biology, University of Bucharest, Splaiul Independenţei no. 91-95, 76201 Bucharest 5, Romania; e-mails: simona_stavri@yahoo.com; otilia.zarnescu@bio.unibuc.ro

Key words: caudal fin, epimorphic regeneration, lepidotrichia, actinotrichia, blastema, alkaline phosphatase.

The caudal fin of teleosts consists of two structural units known as lepidotrichia and actinotrichia (Bockelmann & Bechara, 2007). The lepidotrichia, mineralized rays (Witten & Huysseune, 2007), originate in the base of the fin, extend distally and branch dichotomically towards the margin of the fin (Bockelmann & Bechara, 2007) and the actinotrichia, row of rigid, unmineralized elastoidin fibrils (Laforest et al., 1998), which support the border of the fin, are surrounded by connective tissue containing nerves, blood vessels, fibroblasts and by a multistratified epidermis (Bockelmann & Bechara, 2007).

Teleost fishes can regenerate their fins by epimorphic regeneration, a process which was lost in the vertebrate evolution (Katogi et al., 2004), and is divided into three stages: wound healing, blastema formation, and regenerative outgrowth (Wills et al., 2008).

Histological investigations have shown that the regenerative process in the caudal fin of *Carassius auratus gibelio* begins immediately after amputation and initially involves the skin cells that migrate to cover the wound and form an apical epidermal cap at 24 hours after amputation. Two days after amputation, a blastema, composed of a homogeneous mass of cells began to form below the apical epidermal cap. Four days after amputation scleroblasts begin synthesis of extracellular matrix. Six days after amputation the blastema cells were packed at the distal area and detached proximally; blood vessels and colagen fibers could be observed at the more proximal blastemal region. Eight days after amputation mineralized process was observed in the lepidotrichia fin rays. Histochemical staining showed that regenerated fins exhibited an intense staining of alkaline phosphatase in the epidermis between 24 hours - 5 days after amputation. At 8 days after amputation only epidermal basal layer and blastema were positive for alkaline phosphatase.

References:

BOCKELMANN, P. K., I. J. BECHARA, 2007 - Histochemical and ultrastructural analysis of the action of naproxen on tail fin regeneration in carp (*Cyprinus carpio*). Brazilian Journal of Morphological Sciences, 24: 17-24.

KATOGI, R., Y. NAKATANI, T. SHIN-I, Y. KOHARA, K. INOHAYA, A. KUDO, 2004 - Large-scale analysis of the genes involved in fin regeneration and blastema formation in the medaka, *Oryzias latipes*. Mechanisms of Development, 121: 861-872.

LAFOREST, L., C. W. BROWN, G. POLEO, J. GERAUDIE, M. TADA, M. EKKER, M. A. AKIMENKO, 1998 - Involvement of the sonic hedgehog, patched 1 and bmp2 genes in patterning of the zebrafish dermal fin rays. Development, 125: 4175-4184.

WILLS, A. A., A. R. KIDD III, A. LEPILINA, K. D. POSS, 2008 - Fgfs control homeostatic regeneration in adult zebrafish fins. Development, 135: 3063-3070.

WITTEN, P. E., A. HUYSSEUNE, 2007 - Mechanisms of chondrogenesis and osteogenesis in fins. Pp. 79-92. *In*: Hall BK (ed.) Fins into Limbs: Evolution, Development, and Transformation. The University of Chicago Press, Chicago.

NEW DATA REGARDING THE DISTRIBUTION OF *PIPISTRELLUS KUHLII* (CHIROPTERA) IN EASTERN ROMANIA

IRINA POCORA, VIOREL POCORA

"Al. I. Cuza" University, Bd. Carol I, 20A, 700505 Iaşi, Romania; e-mails: irinaif23@yahoo.com, vyo2406@yahoo.com

Key words: *Pipistrellus kuhlii*, distribution, habitat**.**

Pipistrellus kuhlii is a west-Palearctic and afrotropical species, apparently with tropical origin. The species is known to extend its range in Europe during the last years (Sachanowicz et al., 2006). In Romania, *Pipistrellus kuhlii* was mainly met in Moldova (Ifrim & Valenciuc, 2006) and in the southern part of the country (Dragu et al., 2007). It's an anthropophile species associated with the humid habitats. We identified it inside localities (IS), hunting insects at the light pillars (Sulina - TL), along the roads, in humid habitats (The Natural Park Lunca Inferioară a Prutului - GL) and in the Danube Delta. We met the species from the sea level up to ~ 600 m altitude. The authors present morphometric data at 11 individuals, as well as data on the biology and ecology of the species.

References:

DRAGU, A., I. MUNTEANU, V. OLTEANU, 2007 **-** First record of *Pipistrellus kuhlii* Kuhl, 1817 (*Chiroptera: Vespertilionidae*) from Dobrogea (Romania). Arch. Biol. Sci., Belgrade, 59: 243-247.

IFRIM, I., N. VALENCIUC, 2006 - *Pipistrellus kuhlii*, Kuhl 1819, a new reported species for the Chiropteran fauna of Moldavia (România). Travaux du Muséum National d'Histoire Naturelle "Grigore Antipa", 49: 359-363.

SACHANOWICZ, K., A. WOWER, A. T. BASHTA, 2006 - Further range extension of *Pipistrellus kuhlii* (Kuhl, 1817) in central and eastern Europe. Acta Chiropterologica, 8 (2): 543-548.

BATS DIVERSITY IN VARIOUS TYPES OF HIBERNACULA FROM DOBROGEA, ROMANIA

OANA CHACHULA[1], GABRIEL CHIŞAMERA[2], LOTUS ELENA MEŞTER[3]

[1]National Museum of Romanian History, Center of Research and Scientifc Investigation, Calea Victoriei 12, Bucharest 5, Romania; e-mail: oana_chachula@yahoo.com
[2]"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mail: gabriel_chisamera@antipa.ro
[3]University of Bucharest, Faculty of Biology, Splaiul Independenței 91-95, 76201, Bucharest 5, Romania

Key words: Dobrogea, bats, hibernacula, zoogeography.

We present a preliminary study about the bat presence in winter shelters from Dobrogea territory. Our observations were made during winter 2009. We describe 3 new hibernaculas for the bats from Dobrogea. One of it is located in the north of Tulcea city, named Terente's Cave, sheltering a reduce population of Rhinolophidae. The second one is the Cave from Cişmeluța, in Şipote village. This one was presented in 1996 as a summer shelter for Dobrogea, but the new observations show it as an important hibernacula for the area, especially, through the specific composition of the present bats. The third shelter is the Tunnel from Hagieni Reservation, well-known in literature as a nursery colonies shelter and investigated for a long time by several researchers. We visited this site during three winters (2004, 2006 and 2009), recording wintering presence of approximately 100 bats individuals. In this paper, we give data on the size of bats' wintering colonies from each shelter, specific composition of populations, presenting some aspects on these caves' ecology, too.

NEW CONTRIBUTION TO THE DISTRIBUTION OF SYRIAN BATS [Results of "Sabkha 2010" Expedition]

VICTOR GHEORGHIU[1], CĂTĂLIN STANCIU[2], RĂZVAN ZAHARIA[2], DUMITRU MURARIU[3], GABRIEL CHIŞAMERA[3]

[1]"Emil Racoviță" Speological Institute, Calea 13 Septembrie no. 13, 050711 Bucharest, District 5, P.O. Box 5 – 42, Romania; e-mail: victorgheorghiu@hotmail.com
[2]"Ovidius" University of Constanța, Faculty of Natural and Agricultural Sciences, Department of Biology – Ecology, Biodiversity Research Laboratory; e-mail: stanciucatalinbio@gmail.com; razvanz@gmail.com
[3]"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mails: dmurariu@antipa.ro; gabriel_chisamera@antipa.ro

Key words: bats, Syria, Mehely's horshoe bat, *Rhinolophus mehely*.

Comments on the distribution of three bat species are made based on data gathered between 21st of April and 20th of May 2010 during "Sabkha" Expedition in Syria, organized by "Oceanic Club" Constanța together with "Grigore Antipa" National Museum of Natural History and "Emil Racoviță" Speological Institute.

We mention a new record point for Mehely's horshoe bat - *Rhinolophus mehely* (Matschie, 1901), and report the record of other three species in the same location.

Our new record point for *Rhynolophus mehelyi* in Syria, namely "Krak des Chevaliers" the Syrian crusader castle (GPS coordinates: N34°45'23"/E037°28'41", 695 meters altitude) increase the distribution area of species increasing at seven the total records. The new record point is based on one alcohol preserved specimen collected on and deposited in GANMNH collection with inventory number MAM 9825, which was found dead on 14 of May 2010, during the Museum expedition "Sabkha 2010".

In Syria the Mehely's horshoe bat inhabits two different regions, the middle flow of the Syrian Euprates part of the semi-desertic region of Syria and the zone situated between the Mediterranean woodland and the Syrian Desert (Benda et al. 2006).

Although for Syria Mehely's horshoe bat is considered a medium-frequent bat, including our record, there are now only seven confirmed records of this species (see Benda et al. (2006) and Shehab et al. (2006) for the rest of record points).

References:

BENDA, P., M. ANDRREAS, D. KOCK, R. LUČAN, P. MUNCLINGER, P. NOVÁ, J. OBUCH, K. OCHMAN, A. REITER, M. UHRIN, D. WEINFURTOVÁ, 2006 – Bats (Mammalia: Chiroptera of the Eastern Mediterranean. Part 4. Bats fauna of Syria: distribution, systematics, ecology. Acta Societatis Zoologicae Bohemicae, 70 (1-4):1-329.

SHEHAB, A., A. KARATAŞ, Z. AMR, I. MAMKHAIR, M. SÖZEN, 2006 – The Distribution of Bats (Mammalia: Chiroptera) in Syria. Vertebrate Zoology, 57 (1): 103-132.

PRELIMINARY RESULTS OF THE OBSERVATIONS ON MOROCCAN MAMMALS [Results of "Atlas 2007" Expedition]

GABRIEL CHIŞAMERA[1], DUMITRU MURARIU[1], PETRE BOGDAN MATEI[1], CĂTĂLIN STANCIU[2]

[1]"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mails: gabriel_chisamera@antipa.ro; dmurariu@antipa.ro; bogdan_matei@antipa.ro
[2]"Ovidius" University of Constanța, Faculty of Natural and Agricultural Sciences, Department of Biology – Ecology, Biodiversity Research Laboratory; e-mail: stanciucatalinbio@gmail.com

Key words: mammals, Morocco, *Leptailurus serval*.

We present the result of the observations on mammals during the "Atlas" expedition in Morocco developed between 11th of April – 05th of May 2007. Small mammals were collected using snap traps, and also collected about 30 owl pellets containing skulls and other bones of rodents. For the identification, most of them were prepared as skins and skulls but also specimens alcohol preserved were analysed. Also we added some field observations and notes on the presence of some large mammals as *Macaca sylvanus* and *Leptailurus serval*.

We analyzed 80 mammal specimens, collected from 12 stations and different habitats. Among analyzed species there are: insectivorous as *Erinaceus algirus* and *Crocidura whitakeri*; rodents, mainly jerboas (*Meriones* and *Gerbillus*) but also *Rattus norvegicus, Mus spretus, Eliomys melanurus* and *Atlantoxerus getulus*; one bat species *Pipistrellus kuhlii*; and one specimen of *Elephatulus rozeti*.

Among the results of our observations, the record of one specimen of *Leptailurus serval* in Adrar Zgouggar on N12 route between Icht and Oua-Belli, is a remarkable observation. The animal was observed on 19th of April 2007 during the day at the shadow of a road bridge in a semi-desert area. This new record is very important as there were only seven previous observations of this species in Morocco (see Aulagnier & Thevenot (1986) and Cuzin (2003) for details).

References:

AULAGNIER, S., M. THEVENOT, 1986 – Catalogues des mammifères sauvages du Maroc. Travaux de l'Institute Scientifique Série Zoologie, Rabat, 41: 164 pp.

CUZIN, F., 2003 – Les grands mammifères du Maroc Méridional (Haut Atlas, Anti Atlas et Sahara): Distribution, écologie et conservation. Thèse de Doctorat. Laboratoire de biogéographie et écologie de Vertébrés EPHE, Université Montpelier, Montpelier, II. 349 pp.

WEST NILE VIRUS IN ROMANIA

GABRIELA NICOLESCU[1], ALEXANDRU FILIP VLADIMIRESCU[1], VALERIA PURCĂREA-CIULACU[1], LIVIU PRIOTEASA[1], ELENA FĂLCUȚĂ[1], ELENA CLAUDIA COIPAN[1], CONSTANȚA BORONEANȚ[3], ALEXANDRU I. PETRIŞOR[4], GABRIELA DUMITRESCU[2], DIANA POPESCU[2], LUCIA IONESCU[2], SIMONA BICHERU[2], AURORA ALEXSE[1]

[1]"Cantacuzino" National Institute of Research-Development for Microbiology and Immunology, Bucharest, Romania; e-mail: gabrielamarianicolescu@yahoo.co.uk
[2]Army Centre of Medical Research
[3]National Meteorological Administration, Bucharest, Romania
[4]"Ion Mincu" University of Architecture and Urbanism, Bucharest, Romania

Key words: West Nile virus, mosquito vectors, vertebrate hosts, Romania.

The circulation of West Nile virus (WNV) takes place in cycles between mosquitoes and birds as main hosts, and the mammals including humans as tangential hosts. The WNV circulation was documented in Romania beginning with the '50s by serological investigations on healthy humans and domestic animals and the confirmation of this virus as etiological agent of sporadic and epidemic human neurological infections. An outbreak of more than 800 human cases of WNV neurological infections (mainly meningo-encephalitis) appeared in South Romania in 1996. This was the European signal of the increase of WNV circulation especially because of the global environmental changes including climatic ones. The WNV neurological infections continued to appear yearly after the outbreak in Romania on more extended areas. The multidisciplinary investigation using entomological, immunological, virology and molecular biology techniques have been performed in 2001 – 2009 on large territories in Romania on the main elements of the transmission cycles of WNV involving mosquito vectors, domestic and wild birds and horses in natural and anthropic ecosystems and their variations in correlation with changing environmental factors. The virus was detected in females of *Culex pipiens*, *Coquillettidia richiardii, Ochlerotatus caspius* and *Anopheles maculipennis* s.l. species. Males of *Cx. pipiens* and also over wintering females of this species have been positive for the virus. Besides of isolation from *Culex pipiens* in Bucharest during the epidemic in 1996 the WNV have been isolated from this species in 2002 and 2007 in Bucharest and in 2009 in 1 Decembrie locality. It has been demonstrated the intensive and permanent circulation of WNV on extended territories in the country and the permanent risk of its transmission to humans. The risk areas have been mapped. The permanent surveillance of WNV endemic circulation and the implementation of integrated mosquito control programmes in the key areas at risk in Romania are adequate decisions for public health.

THE DIVERSITY OF THE ORTHOPTERA COMUNITIES IN HYGROPHILOUS GRASSLANDS AND MARSHLANDS IN SOUTHERN AND EASTERN ROMANIA

ELENA IULIA IORGU, IONUȚ ŞTEFAN IORGU

"Grigore Antipa" National Museum of Natural History, Kiseleff Street, no. 1, 011341 Bucharest 1, Romania; e-mails: elenap@antipa.ro, nusi81@yahoo.com

Key words: Orthoptera communities, hygrophilous grasslands, synecological analysis, diversity indices.

The Orthoptera comunities were investigated in five hygrophilous grasslands and marshlands from Southern and Eastern Romania: Comana (Giurgiu county), Cernica (Ilfov county), Letea (Tulcea county), Paşcani (Iaşi county) and Găineşti (Suceava county) between 2007 and 2010. The characteristic species found here are: *Chorthippus parallelus* (Zetterstedt, 1821), *Conocephalus fuscus* (Fabricius, 1793), *Conocephalus dorsalis* (Latreille, 1804), *Ruspolia nitidula* (Scopoli, 1786), *Pteronemobius heydenii* (Fischer, 1853), *Paracinema tricolor* (Thunberg, 1815), *Mecostethus parapleurus* (Hagenbach, 1822), *Metrioptera roeselii* (Hagenbach, 1822), *Tetrix subulata* (Linnaeus, 1758) etc. The sampling took place every year, from May until September, at constant intervals. For each investigated ecosystem we performed a synecological analysis and the relative abundance, dominance, constance and the ecological significance indexes were calculated, together with the Shannon-Wiener, Evenness and Margalef indexes.

ECOLOGICAL STUDIES ON THE ORTHOPTERA (INSECTA) POPULATIONS FROM THE DANUBE DELTA BIOSPHERE RESERVE: THE SALINE SOILS FROM HISTRIA

LAURA MARIANA POPA[1], IONUȚ ŞTEFAN IORGU[2], ELENA IULIA IORGU[2]

[1]"Ferdinand" School, Constanța, Unirii Street, no. 22, 900524, Romania; e-mail: improvismar@yahoo.com
[2]"Grigore Antipa" National Museum of Natural History, Kiseleff Street, no. 1, 011341 Bucharest 1, Romania; e-mails: nusi81@yahoo.com; elenap@antipa.ro

Key words: Orthoptera, diversity, sinecological analysis, Histria.

In this paper, the authors present the results of their research on the Orthoptera from the Histria saline soils, located in Razelm - Sinoe Lake Complex from the Danube Delta Biosphere Reserve. Samples were taken during 6 years, between 2004 - 2009. The collecting of material began, each year, in April and was regularly taken at intervals of about three weeks, until October. In terms of diversity, the situation is relatively similar in all 6 years: from a total number of 39 species reported in this area, most of them were caught in 2006 (37 species) and the fewest in 2009 (32 species). The total relative abundance at Histria shows that the species *Chorthippus brunneus* (Thunberg, 1815), *Chorthippus loratus* (Fischer Waldheim, 1846) and *Calliptamus barbarus* (Costa, 1836) form the ortopterocenosis basis, with the average numerical abundance exceeding 10%. Another species that form stable populations is *Epacromius coerulipes* (Ivanov, 1887) and together with *Aiolopus thalassinus* (Fabricius, 1781) they represent the indicator species for this habitat. The species *Chorthippus brunneus* and *Chorthippus loratus* are highly adaptable to various conditions of environmental factors and present stable populations in the analysed ecosystem, especially at the end of summer and in autumn. Some of the rarest species encountered in the Histria saline soils are: *Arachnocephalus vestitus* Costa, 1855, *Saga campbelli* Uvarov, 1921 and *Phaneroptera nana* Fieber, 1853.

THE ROLE OF NECROPHAGOUS INSECT SPECIES IN DECOMPOSITION OF ORGANIC MATTER (ROMANIA)

LAVINIA PAUL

Faculty of Biology, Doctoral School of Ecology, Str. Splaiul Independenței no. 91-95, 050097 Bucharest, Romania; e-mail: lavix_paul@yahoo.com

Key words: decomposition, necrophagous insects, life cycle of species, organic matter, experiments.

Insecta Class contains a big number of species and it has a remarkable ecological plasticity, such as the insects constitute an important factor in human and nature economy. Necrophagous insects are truly scavenging-agents, due to the fact that by the consuming of dead plants and animals facilitates the acces at this resources of principal decomposers, mushrooms and fungus, for the realisation of degradation process.

The research made along 2009 and 2010 regarding the life cycle and the A.D.H. (Accumulated Degree Hours) estimation of necrophagous species such as *Lucilia caesar* (Diptera), *Sarcophaga carnaria* (Diptera), *Saprinus* sp. (Coleoptera), *Dermestes maculatus* (Coleoptera) same as observations regarding parasite insects of these species like *Brachymeria fonscolombei* (Hymenoptera), Fam. Formicidae are presented. The life cycle of these species was developed on pig corpse (*Sus scrofa,*), in urban area, and they where monitorised every day until the end of the development cycle. Concrete the necrophagous species fulfill the decomposition process of the organic matter with the free of biogenic mineral elements, also after death form a source of organic matter for the decomposers.

From these research results the identification of necrophagous insects and of successive faunistic associations also the results from these experiments shows that the life cycle of necrophagous insects, the composition of successive faunistic associations and the decomposition of organic matter are influenced by abiotic and biotic factors.

WILD BIRDS AND WEST NILE VIRUS IN ROMANIA

VALERIA PURCĂREA-CIULACU[1], AURORA ALEXSE[1], DIANA POPESCU[2], GABRIELA DUMITRESCU[2], JANOS BOTOND KISS[3], MIHAI MARINOV[3], GABRIEL CHIŞAMERA[4], ALEXANDRU I. PETRIŞOR[5], GABRIELA NICOLESCU[1]

[1]"Cantacuzino" National Institute of Research-Development for Microbiology and Immunology, Bucharest, Romania; e-mail: valeria_purcareaciulacu@yahoo.com
[2]Army Centre of Medical Research
[3]Danube Delta National Institute, Tulcea, Romania
[4]"Grigore Antipa" National Museum of Natural History, Bucharest, Romania
[5]"Ion Mincu" University of Architecture and Urbanism, Bucharest, Romania

Key words: West Nile virus, wild birds, Romania.

The circulation of West Nile flavivirus (WNV) takes place in cycles between mosquitoes and wild and domestic birds as main vertebrate hosts. The wild birds have been investigated in 2005 – 2008 for their involvement in WNV transmission and amplification both in natural and anthropic environment in 39 rural and urban localities of 7 districts and urban Bucharest. The presence of the IgG antibodies has been investigated on 3376 sera from 43 different species of wild birds by epitope-blocking ELISA for the detection of serum antibodies to WNV in multiple avian species. The general seroprevalence mean value was 15.2 %. The presence of the antibodies to WNV in several species of migratory birds captured in the Danube Delta or in other places in Romania suggests their possible involvement in the occasional introduction of WNV strains from Africa into Romania. The presence of antibodies to this virus was also detected in wild resident birds both in natural and anthropic ecosystems, this being a proof of the permanent maintenance and amplification of West Nile virus in local enzootic cycles with the involvement of wild resident birds. The synanthropic birds (crows, pigeons, doves, sparrows) seems to have an important role in the introduction and circulation of virus in anthropic areas. Many of these birds (especially crows and pigeons) have daily movements between localities and their surroundings because climatic conditions and feeding needs. The investigation of wild birds showed their involvement in WNV enzootic circulations both in natural and anthropic environment.

PRELIMINARY RESULTS OF BIRD RINGING CAMPAIGNS FROM LETEA GRIND (THE DANUBE DELTA, ROMANIA) IN 2008-2010 PERRIOD

VIOREL POCORA[1], GABRIEL CHIŞAMERA[2], COSTICĂ ADAM[2]

[1]"Al. I. Cuza" University of Iaşi, Romania, Faculty of Biology, Blvd. Carol I no.11, 700506; e-mail: vyo2406@yahoo.com
[2]"Grigore Antipa" National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mails: gabriel_chisamera@antipa.ro; cadam@antipa.ro

Key words: ringing, birds, migration, Letea grind, the Danube Delta.

The bird ringing campaigns from Letea grind (the Danube Delta, Romania) were developed during April 2008 – September 2010 period. The mist nets were installed in 3 different types of habitats: reed areas mainly for passerines, salts and floodable areas with low water level for waders and forestry habitats.

A total of 1257 birds were caught and 1130 of them were ringed, the rest of 127 being released unmarked. Of this total we recorded 53 recapture. The highest level of captures belonged to *Parus caeruleus* with 163 specimens, followed by *Parus major* with 115 specimens and *Acrocephalus scirpaceus* with 114 specimens. The domination of *Parus caeruleus* can be explained by the fact that it is an ubiquist species, which can be met in forestry habitats as well as in humid reed areas.

The highest number of birds was caught in the humid reed areas (45.72%), followed by the forestry habitats with 44.95% and the humid opened habitats with 9.31% of the total of captured birds. From birds diversity point of view of the biggest diversity was met in the humid areas (40 species) followed by forestry habitats with 35 species and the salty areas with 15 species.

The 53 birds that were recaptured belong to 12 species. Most of them belong to *Parus caeruleus* with 20 recaptures, *Parus major* with 10 recaptures and *Phoenicurus phoenicurus* with 7 recaptures. The longest period from the ringing to the recapturing was recorded at an individual of *Parus caeruleus*, being of 708 days.

LITTLE CRAKE (*PORZANA PARVA*) JUVENILES BEHAVIOUR AND INTERACTION WITH THE OTHER BIRD SPECIES IN THE POST-BREEDING SEASON

ALEXANDRU-NICOLAE STERMIN, LIVIU-RĂZVAN PRIPON

"Babeş-Bolyai" University, Faculty of Biology and Geology, Gheorghe Bilaşcu Str., no. 44, Cluj Napoca, 400015, Romania; e-mail: sandu.stermin@yahoo.com

Key words: Little Crake, Sedge Warbler, juveniles, aggressive behaviour, interaction.

Little Crake is a species inhabiting emergent vegetation in wetlands (Cramp & Simmons, 1980). Rails and Crakes are territorial during the breeding season and nest alone (Jenkins, 1999; Ciach, 2007). They are intolerant and other species are driven away (Ciach, 2007). It is possible that birds of the genus *Porzana* are also territorial during the autumn migration, although the degree of reciprocal intolerance is moderate (Ciach, 2007).

Little Crake juveniles' behavior, registered in august 2010 at Câmpeneşti ponds, is illustrated in this study. We choose to evaluate crakes activity in a 50 square meters area, along one month, both in morning and afternoon, marking the presence, abundance, behavior and time spent of each rails species. We show here that the studied area is used mostly by *Porzana parva* for feeding but also by other Rallidae species such as moorhens, coots or water rails for other activities.

We found out that frequently, *Porzana parva* juveniles foraging next to other bird species (Rallidae, Sylviidae, Ardeidae). From all bird species, there is an active relationship between *Porzana parva* and *Acrocephalus shoenobaenus*. In 50% of cases observed together, *A. schoenobaenus* provoke *P. parva* and in 16% the other way.

Concerning *P. parva* juveniles, in most of the cases when observed simultaneously they gather close to 20-50 cm apart. Evaluating the period of day in which we registered *P. parva* presence in the open areas, we concluded that its diurnal activity shows two spikes: one at 8 am o'clock and other at 6 pm o'clock.

References:

CIACH, M., 2007 - Interference Competition between Rails and Crakes (Rallidae) during Foraging in the Post-Breeding Season. Turk. J. Zool., 31: 161-163.

CRAMP, S., K. E. L. SIMMSONS (eds), 1980 - The Birds of Western Palearctic. Vol. 2. Oxford University Press. London.

JENKINS, R. K. B., 1999 - The breeding biology of the Water Rail *Rallus aquaticus* in the Britain and Ireland. Bird Study, 46: 305-308.

OSTEOMETRIC STUDY IN *BOS TAURUS* SAMPLES ASSOCIATED WITH PREHISTORIC COMMUNITIES OF CUCUTENI CULTURE

MARIANA POPOVICI, LUMINIȚA BEJENARU, ROMEO CAVALERIU, FLORENTINA OLENIUC

“Al. I. Cuza” University, Faculty of Biology, 22A Carol I Bvd., 700506 Iaşi, Romania; e-mail: sorexmin@yahoo.com

Key words: cattle, osteometry, zooarchaeology, Cucuteni Culture.

The domestication process is caused mainly, if not completely, by changes in selection, or the differential survival and reproductive success of particular animals, with respect to selection in nature, and one can oppose artificial selection in a broad sense, i.e. selection as occurring in the human econiche, to selection in the wild or natural selection. Implicit in the foregoing circumscription of animal domestication is the fact that all domestic animals have a monophyletic origin. They all have only one wild ancestor, but in the domestication process domesticates may acquire markedly different traits (Gautier, 2002). Based on this idea, the main purpose of this work is to compare the populations of cattle (*Bos taurus*) from the Neolithic period - Cucuteni Culture A level with the population of cattle from Cucuteni Culture B level. The osteologic material comes from archaeological sites dating from mentioned period. We also present details insight into eighteen anatomical elements: their variability and relation between their various parts. The coefficients obtained from the correlation of osteometric measurements and morphological data were high in general ($r > 0.7$). Regression of morphological variables on osteometric measurements was statistically significant; thereby regression formulas could contribute to predict the visible morphology in zooarchaeological studies.

References:

GAUTIER, A., 2002 - The evidence for the earliest livestock in North Africa. Or adventures with large bovids, ovicaprids, dogs and pigs. Pp. 195-207. *In*: F. A. Hassan (ed.), Droughts, food and Culture. Ecological Change and Food Security in Africa 's Later Prehistory. New York: Kluwer Academic/Plenum Publishers.

THE TREMATODE *CLINOSTOMUM COMPLANATUM* (PLATYHELMINTHES: DIGENEA) IDENTIFIED AT THE PERCH FROM THE SMALL RESERVOIRS ALONG THE PREAJBA VALLEY RIVER

IONELIA CLAUDIA GOGA[1], DOINA CODREANU-BĂLCESCU[2]

[1]Oltenia Museum, Natural Sciences, Str. Popa Şapcă nr. 8, RO-200422, Craiova, Romania; e-mail: ioneliagoga@yahoo.com
[2]Institute of Biology of Romanian Academy, Str. Splaiul Independenței nr. 246, Bucharest, Romania; e-mail: doina_cb@yahoo.co.uk

Key words: the Preajba Valley, trematode, *Clinostomum complanatum*, *Perca fluviatilis*, metacercaria.

In 2010, we made some field trips in the area of the small basins located along the Preajba Valley River, a small tributary of the Jiu River; here, we took samples that provided the ichthyologic material necessary for parasitological studies. We identified 12 fish species belonging to two orders and four families. The parasite was identified at only one species. The sampled material was parasitologically examined in the parasitology laboratory belonging to the S.V.D. Dolj, in order to identify the ecto-and endoparasites (Vulpe, 2007). Fish were examined macroscopically, noticing the spots where cysts are fixed. There were extracted the metacercariae from the cysts by means of two dissection needles; afterwards, they were passed through a Petri dish with water. The settling of the parasite in the native preparation microscope slide-lamella with formol 4% allowed its examination with the optic microscope. The digenean *Clinostomum complanatum* (Rudolphi, 1819) was identified at perch (*Perca fluviatilis* Linnaeus, 1758), the metacercariae being enrolled inside some white-yellowish cysts disseminated in the head muscles, superior angle and internal face of the operculum, gill arches and lamellas. The digenean worms use raptor fish as an intermediary host (complementary host); the cercariae that reach their body through the ingested gastropods lose their tail and form cysts transforming themselves into metacercariae. From the pathology point of view, calm fish infested with metacercariae may be ingested by raptor fish species, in the present case, the perch, and the infection may develop at dermal level, gill filament cartilage or connective tissue, as well as muscles (body wall) or it may affect the internal organs (Roman, 1955). When determining the digenean, we took into consideration certain taxonomic characters, such as dimensions and form of the suckers, position of the ventral sucker as compared to the oral one, morphology of the digestive tube (Munteanu & Bogatu, 2008). In order to reduce as much as possible the infestation of fish populations, specialized literature recommends as prophylactic measures limiting the multiplication of bivalve molluscs, which are intermediary hosts for the parasite; periodical disinfection of the basins, as well as preventing the penetration of wild fish species, which carry parasites, inside piscicultural basins.

References:
MUNTEANU, G., D. BOGATU, 2008 - Tratat de ihtiopatologie. Edit. Excelsior Art, Timişoara: 418-442. (in Romanian)
ROMAN, E., 1955 - Cercetări asupra parazitofaunei peştilor din Dunăre: 21-37. (in Romanian)
VULPE, V., 2007 - Paraziţi şi parazitoze ale peştilor dulcicoli. Edit. Stef, Iaşi, 228 pp. (in Romanian)

THE DISTRIBUTION OF COMMUNITY CONSERVATIVE FISH SPECIES FROM NATURAL PROTECTED AREA ROSCI0229 SIRIU

LUIZA FLOREA[1], FLORIAN BODESCU[2]

[1]"Dunărea de Jos" University of Galați, Faculty of Food Science and Engineering, Department of Aquaculture and Environment, 47, Domnească Street, Galați, RO 800008, Romania; e-mail: luizafloreagl@yahoo.com
[2]Multidimension, Research and Development Department, 3-5, Intr. Tg. Frumos, 040722, Bucharest, Romania; e-mail: fbo@multidimension.ro

Key words: Siriu, protected fish species, distribution maps.

In the natural protected area ROSCI0229 SIRIU, part of European network Natura 2000, according to Site Standard Sheet approved of by Ord. 1964/13.12.2007, 3 community conservative fish species were found, which beside another 3 species of mammals, 2 species of amphibians and reptiles, 4 species of plants and 12 types of community conservative habitats are the objectives of future Management Plan of this area. The three fish species are: *Gobio uranoscopus frici* Vladykov, 1925 (Danubian longbarbel gudgeon), *Barbus meridionalis petenyi* Heckel, 1847 (Danubian rheophilic barb) and *Cottus gobio* Linné, 1758 (bullhead) (Tatole & Bănărescu, 2007).

After the prospective monitoring unrolled in the summer of 2010, 2 species from all the 3 community conservative fish species were found. From a total number of 193 fish individuals collected, 49 fish individuals of *Barbus meridionalis petenyi* and 37 fish individuals of *Cottus gobio* were recorded. In the three monitored rivers (Buzău River, Siriu River, and Crasna River) *Barbus meridionalis petenyi* was present in two of them and *Cottus gobio* was presented in all of them. In all those 14 sampling sites *Barbus meridionalis petenyi* was present in 8 of them and *Cottus gobio* was present in 10 of them. The sampling sites were described after morphological characteristics (altitude, ground slope, river width, river depth, dominates substrate types, riparian and aquatic vegetation) and hydrological characteristics (water speed, river flow). The data recorded in the field were used to design the distribution maps of community conservative fish species.

References:

TATOLE, V., P. BĂNĂRESCU, 2007 - Fishways opportunity in Romania. Travaux du Muséum National d'Histoire Naturelle "Grigore Antipa", 50: 495-504.

FISH COMMUNITY PROSPECTIVE MONITORING FROM NATURAL PROTECTED AREA ROSCI0229 SIRIU

LUIZA FLOREA[1], FLORIAN BODESCU[2]

[1]"Dunărea de Jos" University of Galați, Faculty of Food Science and Engineering, Department of Aquaculture and Environment, 47, Domnească Street, Galați, RO 800008, Romania; e-mail: luizafloreagl@yahoo.com
[2]Multidimension, Research and development department, 3-5, Intr. Tg. Frumos, 040722, Buccharest, Romania; e-mail: fbo@multidimension.ro

Key words: Siriu, fish associations, abundance, biodiversity index.

The Community Importance Site ROSCI0229 Siriu from Buzău county, framed as part of ecoregion 10 – Carpathian Mounts (Ilies, 1978), was surmised of fish community prospective monitoring with the aim of stocktaking and mapping the community conservative fish species. In the three monitored rivers (Upper Buzău River, Crasna River and Siriu River), which presented the morphological and hydrological parameters specific to the river type named RO01 (www.rowater.ro), there were identified 10 fish species whereby 2 fish species are for community conservative interests. In the specialized papers (Bănărescu, 1964; Dimulescu, 1998), the investigated rivers were described as mostly belonging to the trout zone and in a few parts to European grayling zone.

The collection of fish was made by electrofishing, according to standard operational procedure (Davideanu, 2005), in the summer of 2010, in 14 sampling sites. On the whole, in the 24 sampling sites, a total number of 193 fish individuals were collected, recording a total weight of 12428 g. In order to establish the importance of each species in the structure of fish associations, for each fish species several analytical indices were calculated (absolute abundance, constancy, dominance) together with synthetical ones (the index of ecological significance). The index of ecological significance (W) provides data concerning the status of every species within the fish associations belonging to the three rivers. The biodiversity index calculated for each sampling sites and then for each river is commented upon regarding the natural habitat characteristics (ground slope, water speed, substrate types) and human impacts identified in Siriu area.

References:

BĂNĂRESCU, P., 1964 - Pisces-Osteichthyes. *In*: Fauna R.P.R., 13: 1-959. Edit. Academiei, București. (in Romanian)

DAVIDEANU, G., 2005 - TR-18 Procedura Operațională Standard pentru prelevarea faunei piscicole. WAFDIP, EuropeAid/114902/D/SV/RO, 38 pp. (in Romanian)

DIMULESCU, N., 1998 - Managementul pescăresc al râurilor din Bazinul Hidrografic Buzău. Teză de doctorat, Universitatea Dunărea de Jos din Galați, 238 pp. (in Romanian)

www.rowater.ro/dabuzau/SCAR/ - Planul de Management al spațiului hidrografic Buzău-Ialomița, cap. 3, page 21. (in Romanian)

SPECIES DIVERSITY OF AMPHIBIANS AND REPTILES IN THE SPECIAL PROTECTED AREA "PONOR", NORTHWESTERN BULGARIA

GEORGI POPGEORGIEV[1], NIKOLAY TZANKOV[2], YURII V. KORNILEV[3], BORISLAV NAUMOV[4], ANDREI STOJANOV[2]

[1]Regional Museum of Natural History – Plovdiv, Bulgaria; e-mail: georgi.popgeorgiev@gmail.com
[2]National Museum of Natural History – Sofia, Bulgaria
[3]Bulgarian Herpetological Society
[4]Institute for Biodiversity and Ecological Research

Key words: NATURA 2000, herpetofauna, Amphibia, Reptilia, distribution, Bulgaria.

We present the distribution of amphibians and reptiles in the Special Protected Area (SPA) "Ponor", part of the NATURA 2000 network in Bulgaria. The study area encompasses 120 squares from a 2×2 km UTM grid. Between 1998 and 2008, we observed 24 species; two amphibian' and four reptile species were not previously recorded for the area.

Ichthiosaura alpestris was the least common amphibian in the SPA (number of squares in which species was detected from the total, A = 0.83%) and *Bombina variegata* (A = 29.17%), *Salamandra salamandra* (A = 17.50%), and *Lissotriton vulgaris* (A = 13.33%) were the most common. *Vipera berus* (A = 0.83%), *Natrix tessellata* (A = 2.50 %), and *Ablepharus kitaibelii* (A = 3.33%) were the least common reptiles. *Podarcis muralis* and *Lacerta viridis* (A = 21.67) were the most common reptiles.

By means of corresporance analysis we reveal two well define species associations. The petrophilous and cold tolerant species are the most distinct. The first complex is affiliated with habitats with high human pressure such as complex cultivation pattern, cultivated monoculture coniferous forests, mineral extraction sites and discontinuous urban fabric (Corine landcover classification). A second complex is related to habitats with lower anthropogenic pressure: broad-leaf forests, transitional woodland-shrub, natural grasslands and mixed forests. Those habitats are of prime importance for nature conservation in the study area. The amphibians and reptiles from the second complex are with fragmented distribution all across the Bulgarian mountains, which further define the conservation importance of this protected area.

Furthermore, we identified 9 Important Herpetological Areas (IHA), using a kernel density estimator method. The IHAs support the creation of stricter protected areas which will serve as stepping stones and will be of major importance for the proper and stable management of the protected area.

PROPOSALS FOR ECOLOGICAL EDUCATION IMPROVEMENT IN NATURAL SCIENCE MUSEUMS

ADRIANA CHIOREAN[1], LAURA ALEXANDROV[2]

[1]Natural Science Museum, Aquarium departament, B-dl Elisabeta no 1, Constanța, Romania; e-mail: adrianaacvariu@yahoo.com
[2]"Grigore Antipa" National Research Institute for Marine Development, B-ul Mamaia, Constanța, Romania; e-mail: laurenta05@yahoo.com

Key words: vivaria, ecological education, Natural Science Museum, Constanta, Black Sea, Romania.

With this work, the authors aim at emphasising the very important role played by the Natural Science Museums and especially by Vivaria, in the process of youth education and their becoming aware of the present concerns on environmental protection. The trio awareness, education and involvement makes up the key concept in changing the public approach in general, and the local communities' perspective in particular, in respect to environmental issues dealt with in specific areas. And this could be the first step towards a more healthy nature for all of us and for the next generations altogether.

Besides their acknowledged attraction to the public, this work also highlights the importance of Vivaria as a research and collaboration base for all the institutes in the country.

In this writing, one should also find an inventory of the methods and the most important events employed by the specialist with the Natural Science Museum and the "Grigore Antipa" Institute, in youth education.

GENUS *LUCANUS* SCOPOLII, 1763 (COLEOPTERA: LUCANIDAE) IN THE NATURAL HISTORY MUSEUM COLLECTIONS OF SIBIU (ROMANIA)

IOAN TĂUŞAN, GABRIELA CUZEPAN

Brukenthal National Museum, Natural History Museum, Str. Cetății no. 1, 550166 Sibiu, Romania; e-mails: ionut_tausan2007@yahoo.com, gabrielacuzepan@gmail.com

Key words: stag beetles, *Lucanus*, natural heritage, museum collection.

The present paper consists of data on three *Lucanus* species of the Lucanidae family from the collections of the Natural History Museum from Sibiu. The preserved material is part of several collections: “Dr. Eugen Worell”, “Dr. Karl Petri”, “Rolf Weyrauch”, “Heinrich Hannenheim” and The Transylvania Society for Natural Sciences.

The identified species from the museum collections are: *Lucanus cervus* (Linnaeus, 1758), *Lucanus tetraodon* Thunberg, 1806 and *Lucanus ibericus* Motschulsky, 1845.

Lucanus cervus is registered in the second appendix of the Habitats Directive of the European Union from 1992, which requires that member states set aside Special Areas of Conservation. The species is also registered in the third appendix of the Convention on the Conservation of European Wildlife and Natural Habitats (Berne convention) of 1982 and Schedule 5 of the UK's Wildlife and Countryside Act 1981.

In the museum collections two additional subspecies are present: *Lucanus cervus turcicus* Sturm, 1843 and *Lucanus cervus syriacus* Planet, 1897.

Lucanus ibericus is recorded from countries like Armenia and Turkey. Data on *Lucanus tetraodon* are only from Messina and Calabria region from Italy.

Nomenclature and systematical order are according to those used by Bartolozzi (2010) in “Fauna Europaea”. Distribution map of the collecting sites and biology data for the recorded species are given.

References:

BARTOLOZZI, L., 2010 – Coleoptera, Lucanidae. Fauna Europaea version 1.1, http://www.faunaeur.org

LONGHORN BEETLES (COLEOPTERA: CERAMBYCIDAE) FROM „DR. KARL PETRI" COLLECTION OF THE NATURAL HISTORY MUSEUM OF SIBIU (ROMANIA). PART II: CERAMBYCINAE, NECYDALINAE AND VESPERINAE SUBFAMILIES

IOAN TĂUŞAN[1], CORNELIU BUCŞA[2]

[1]Brukenthal National Museum, Natural History Museum, Str. Cetăţii no. 1, 550166 Sibiu, Romania; e-mail: ionut_tausan2007@yahoo.com
[2]"Lucian Blaga" University of Sibiu, Faculty of Sciences, Department of Ecology and Environmental Protection, Str. Dr. Ion Raţiu no. 5-7, 550012 Sibiu, Romania; e-mail:cornelbucsa@yahoo.com

Key words: longhorn beetles, natural heritage, museum collection.

The present paper consists of data on forty-one Palaearctic Cerambycidae species of the Cerambycinae, Vesperinae and Necydalinae subfamilies from the "Dr. Karl Petri" collection of the Natural History Museum from Sibiu. The "Dr. Karl Petri" collection consists of more then 46.300 insects. The material, a lifetime work, was collected from Transylvania. Karl Petri exchanges with foreign specialists are to be found in his collections. He donated the collection to the museum in 1930. Data on *Cerambyx* species from this collection were recently published (Tăuşan & Bucşa, 2010).

Most specimens originate in Romania. Also interesting species are present in the museum collection. *Aromia moschata ambrosiaca* Steven & Sherman, 1809 occurs in South and South-East Europe, Near East, the Caucasus, Iran, *Brachypteroma ottomanum* Heyden, 1863, occurs in the Balkan Peninsula, Italy, Sicily, Near East (Serafim, 2009). In the studied collection one specimen from Germany is recorded. *Purpuricenus ferrugineus* Fairmaire, 1851 is an endemic species for Iberian Peninsula. *Vesperus luridus* (Rossi, 1794) and *V. strepens* (Fabricius, 1792) occur in Southern Europe (Özdikmen & Turgut, 2009).

Species of European interest like *Rosalia alpina* (Linnaeus, 1758) and *Cerambyx cerdo* Linnaeus, 1758 are also present. Distribution map of the collecting sites for the recorded data is given.

References:

ÖZDIKMEN, H., S. TURGUT, 2009 - A synopsis of turkish Vesperinae Mulsant, 1839 and Prioninae Latreille, 1802 (Coleoptera: Cerambycidae). Munis Entomology & Zoology, 4 (2): 402-423.

SERAFIM, R., 2009 - The catalogue of the palearctic species of Necydalinae and Cerambycinae (Coleoptera: Cerambycidae) from the patrimony of „Grigore Antipa" National Museum of Natural History (Bucureşti) (Part IV). Travaux du Muséum National d'Histoire Naturelle "Grigore Antipa", 52: 263-292.

TĂUŞAN, I., C. BUCŞA, 2010 - Genus *Cerambyx* L., 1758 (Coleoptera: Cerambycidae) in the Natural History Collections of Sibiu (Romania). Brukenthal Acta Musei, 3. (in press)

DATA REGARDING GENUS *PARNASSIUS* LATREILLE, 1804 (LEPIDOPTERA: PAPILIONIDAE) IN THE NATURAL HISTORY MUSEUM COLLECTIONS FROM SIBIU

SERGIU TÖRÖK, GABRIELA CUZEPAN

Brukenthal National Museum, Natural History Museum, Str. Cetății no. 1, 550166 Sibiu, Romania; e-mails: ser.torok@yahoo.com, gabrielacuzepan@gmail.com

Key words: genus *Parnassius*, apollo butterfly, geographic distribution, museum collections.

The aim of this study is to present the genus *Parnassius* Latreille, 1804 preserved at the Natural History Museum Collection from Sibiu.

The study is based on the Lepidoptera Collection from the Natural History Museum from Sibiu. The following collections were studied: Dr. Daniel Czekelius Lepidoptera Collection from Transylvania; Dr. Victor Weindel Lepidoptera Collection from Transylvania; Dr. Eugen Worell Lepidoptera Collection; Heinrich Hann von Hannenheim Lepidoptera Collection; Prof. Rolf Weyrauch Lepidoptera Collection; and Dr. Eckbert Schneider Entomogical Collection.

The material we analyzed is represented by 244 specimens that belong to 2 species: *Parnassius apollo* (Linnaeus, 1758) with 2 subspecies: *Parnassius apollo jaraensis* Kertész, 1922; *Parnassius apollo transylvanicus* Schweitzer, 1912; and *Parnassius mnemosyne* (Linnaeus, 1758) with 2 subspecies: *Parnassius mnemosyne distincta* Bryk & Eisner, 1930; *Parnassius mnemosyne transsylvanica* Schmidt, 1930 in the Natural History Museum Collection of Sibiu. The collecting sites and their conservation status in Romania are presented for each species and subspecies.

The localities from where *Parnassius apollo* was sampled are: Răstolița [Mureş County], Bistrița Bârgăului [Bistrița Năsăud County], Bicaz [Neamț County], Tulgheş [Hargita County], Gheorghieni [Harghita County, Orăştie], Hunedoara County, Borsec [Harghita County], Bucovina Region, Retezat Netiş [Retezat Mts.], Hăşmasu Mare [Hăşmaşu Mare Mts.], Bârgău Mts., Răcătău [Cluj County], Colibitza Lake [Bistrița Năsăud County], Valea Someş Rece [Cluj County], Rarău Mts., Aramei Mt., Zugreni [Bistrița Năsăud County] and also from other locations that weren't noted on the labels found in the collections.

The decline of this species in Romania is confirmed by different authors (Mihuț & Dincă, 2006); this is why this species is included in *The Red Book of Romanian Lepidoptera*, with the protection status: critically endangered (Rákosy, 2003). This butterfly is also included in Annex 3A and Annex 4A of the Habitats Directive (Rákosy, 2005).

References:

RÁKOSY, L., 2003 - Lista roşie pentru fluturii diurni din România (Rote Liste der Tagfalter Rumäniens). Bul. inf. Soc. lepid. Rom, 13 (1-4): 7-18.

RÁKOSY, L., 2005 - U.E. şi legislaţia pentru protecţia lepidopterelor din România. Buletinul de Informare Entomologicã, 16 (3-4): 89-96. (in Romanian)

MIHUŢ, S., V. DINCĂ, 2006 - Important areas for lepidoptera in Romania. Centrul Focal pentru Monitorizarea şi Conservarea Biodiversităţii (CFMCB), Cluj-Napoca, 102 pp. (in Romanian)

RESTORING STAGES OF *CHARCHARODON CHARCHARIAS* (GREAT WHITE SHARK) EXHIBITED IN “GRIGORE ANTIPA” NATIONAL MUSEUM OF NATURAL HISTORY, BUCHAREST (ROMANIA)

RADU-ŞTEFAN PANĂ, GEORGE - ŞTEFAN NĂZĂREANU

“Grigore Antipa” National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mails: raduspana@yahoo.com; george_nazareanu@antipa.ro

Key words: taxidermy, restoring stages, naturalized animal, fish, great white shark, museum heritage.

“Grigore Antipa” National Museum of Natural History closed its gates on January 2009 in order to engage in an ambitious project of modernization of the permanent exhibition. With this occasion, the taxidermists of this Museum got involved in the project, especially by restoring the specimens that were placed in the permanent exhibition. These specimens, of inestimable worth, some indexed as thesaurus, have been the victim of time, although there have been continuous efforts of the staff of the Museum in order to conserve them. That is why the temporary relocation of the specimens became an opportunity to intervene with modern specific techniques of taxidermy on those specimens that posed a problem due to their difficult relocation or way of embed. An example would be the great white shark (*Carcharodon carcharias*), that was in a precarious state, with previous interventions that have overloaded the specimen, that have distorted the natural appearance and colour, by applying a thick layer of plaster reinforced with fabric directly on the skin, improvised eyes from discs of coloured glass that were cracked. The skin was also cracked in some places on account of the temperature differences throughout the course of the years. Restoring this specimen took 3 months, during which time we covered these main steps: the removal of the materials that overloaded the specimen in order to reveal the original skin, the fixing and puttying of the skin, the renewal of missing parts and of those that were deteriorated, and finally laying new paint for the natural look.

RESTORING STAGES OF *MANTA BIROSTRIS* (GIANT MANTA) EXHIBITED IN “GRIGORE ANTIPA” NATIONAL MUSEUM OF NATURAL HISTORY, BUCHAREST (ROMANIA)

RADU-ŞTEFAN PANĂ, GEORGE - ŞTEFAN NĂZĂREANU

“Grigore Antipa” National Museum of Natural History, Şos. Kiseleff no. 1, 011341 Bucharest 1, Romania; e-mails: raduspana@yahoo.com; george_nazareanu@antipa.ro

Key words: taxidermy, restoring stages, naturalized animal, fish, giant manta, museum heritage.

“Grigore Antipa” National Museum of Natural History closed its gates on January 2009 in order to engage in an ambitious project of modernization of the permanent exhibition. With this occasion, the taxidermists of this Museum got involved in the project, especially by restoring the specimens that were placed in the permanent exhibition. These specimens, of inestimable worth, some indexed as thesaurus, have been the victim of time, although there have been continuous efforts of the staff of the Museum in order to conserve them. That is why the temporary relocation of the specimens became an opportunity to intervene with modern specific techniques of taxidermy on those specimens that posed a problem due to their difficult relocation or way of embed. An example would be the manta ray (*Manta birostris*), that was in a precarious state, with previous interventions that were specific for those times but are now considered old, like thick layers of paraffin wax, thermoformed directly on the skin, process that has seriously deteriorated the specimen, due to temperature differences throughout the course of the years, by cracking of the skin and its detachment from the artificial body. Restoring this specimen took 5 months, during which time we covered these main steps: the removal of the thermoformed paraffin wax and the detachment of the skin from its artificial body, building of a new base on the artificial body in order to be able to reapply the skin, fixing of the skin on the artificial body, puttying of the skin, and finally laying new paint for the natural look.

AUTHORS' INDEX

NOTES

NOTES

NOTES

NOTES