

International Zoological Congress of “Grigore Antipa” Museum

CZGA



International Zoological Congress
of "Grigore Antipa" Museum

**16 - 19 November 2016
Bucharest - Romania**

Book of Abstracts

Edited by:

**Luis Ovidiu Popa, Costică Adam, Gabriel Chișamera,
Elena Iorgu, Dumitru Murariu, Oana Paula Popa**

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Studies and recovery of the natural history museum patrimony

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CZGA 2016 PROGRAMME

WEDNESDAY, THE 16th OF NOVEMBER 2016

08:30-12:00

Registration

09:00-09:10

Luis Ovidiu POPA – Welcome and Greetings

Invited speakers

09:10-09:55

Marina MALYUTINA – Biodiversity and distribution of the deep-sea isopod family Munnopsidae – state of the art

09:55-10:40

Nesrine AKKARI – Innovative approaches, interactive tools and modern imaging: pushing boundaries in myriapod taxonomy

10:40-11:10

Coffee break

Taxonomy. Faunistics. Zoogeography

Chair: Marina MALYUTINA (Vladivostok, Russia)

11:10-11:25

Victor SURUGIU – On the presence of the European medicinal leech *Hirudo medicinalis* Linnaeus, 1758 (Annelida: Hirudinea) in Romania

11:25-11:40

Oana Paula POPA, Victor SURUGIU, Mihaela Isabela VADANA, Luis Ovidiu POPA – Genetic variability of the Mediterranean medicinal leech (*Hirudo verbana* Carena, 1820) in Romania

11:40-11:55

Nabila YASRI-CHEBOUBI, Rabiaa BOUISRI-NACEF, Abdelkader LOUNACI – Diversity, distribution and zoogeography of Plecoptera and Ephemeroptera of a Mediterranean hydrographic network, the Mazafran (Northern Algeria)

11:55-12:10

Ionuț Ștefan IORGU – The hunt for peculiar Plump Bush-crickets in the largest European volcanic caldera (Insecta: Orthoptera: Tettigoniidae)

12:10-12:25

Irinel Eugen POPESCU – First record of *Torymus lapsanae* (Hoffmeyer, 1930) (Hymenoptera: Torymidae) and confirmation of the presence of *Stinoplus lapsanae* Graham, 1969 (Hymenoptera: Pteromalidae) from galls of *Timaspis lapsanae* (Perris, 1873) (Hymenoptera: Cynipidae) in stems of *Lapsana communis* L. (Asteraceae) in Romania

12:25-12.40

Irinel Eugen POPESCU, Irina Neta GOSTIN – First record in Romania of the genus *Antrocephalus* Kirby, 1883 with *Antrocephalus hypsopygiae* Masi, 1928 (Hymenoptera: Chalcidoidea: Chalcididae) and notes on its morphology

12:40-12.55

Ioan TĂUȘAN, Albena LAPEVA-GJONOVA – New data on the ant fauna (Hymenoptera: Formicidae) of Romania

12:55-14:00

Lunch Break

Invited speakers

14:00-14:45

Lajos RÓZSA, Péter APARI, Viktor MÜLLER – The facultative roles of the microbiome: essential mutualists, lethal pathogens, and decomposers

Taxonomy. Faunistics. Zoogeography

Chair: Marina MALYUTINA (Vladivostok, Russia)

14:45-15:00

Alexandru IFTIME, Oana IFTIME – New herpetological records from Ialomița County (Romania)

15:00-15:15

Tigran HAYRAPETYAN, George PAPOV, Astghik GHAZARYAN, Iwona RUCZYNSKA, Joanna STOJAK, Jan Marek WOJCIK – Genetic diversity of Altai vole *Microtus arvalis* “*obscurus*” in Armenia

15:15-15:30

Astghik GHAZARYAN, Kamila PLIS, Sylwia CZARNOMSKA, Tomasz BOROWIK, Magdalena NIEDZIAŁKOWSKA, Innokentiy M. OKHLOPKOV, Tigran HAYRAPETYAN, Mamikon KASABIAN, Natia KOPALIANI, Zurab GURIELIDZE, Bogumila JEĐRZEJEWSKA – Phylogenetic position of the Caucasian wolves (*Canis lupus*) compared to the European and Siberian populations of the species

Phylogenetics, Evolution and Systematics

Chair: Luis Ovidiu POPA (Bucharest, Romania)

15:30-15:45

Anna JAKUBOWSKA, Tomasz POSTAWA – Sexual dimorphism in bat wings – the effect of parental care or sex-specific accumulation of resources

15:45-16:00

Kamila PLIS, Magdalena NIEDZIAŁKOWSKA, Bogumila JEĐRZEJEWSKA – Roe deer in Europe – phylogeography and hybridization of *Capreolus capreolus* and *C. pygargus*

16:00-18:00

Coffee, Tea and Posters

18:30-19:30

Official Opening of the “Wildlife Romania” Photo Exhibition – at the “Grigore Antipa” National Museum of Natural History

THURSDAY, THE 17th OF NOVEMBER 2016

08:30-09:00

Registration

Invited speakers

09:00-09:45

Erkki LEPPÄKOSKI – Three inland seas under stress – alien species as agents of change

09:45-10:30

Zeev ARAD – Eco-physiological research and wetland conservation: insights from Pelican and Cormorant studies in Israel

10:30-11:00

Coffee break

Ecology

Chair: Abraham bij de VAATE (Lelystad, The Netherlands)

11:00-11:15

Ioan SÎRBU, Ana Maria BENEDEK – Environmental gradient analysis and temporal changes of Unionidae (Mollusca, Bivalvia) communities in Romania

11:15-11:30

Mircea VARVARA – Diversity, abundance and dominance of the epigeic arthropods from three biocoenoses of the Măgura Forest, Bacău County, 1978

11:30-11:45

Minodora MANU, Dan POLIZĂ, Marilena ONETE – Comparative analysis of the phoretic mite communities (Acari: Mesostigmata) associated with *Ips typographus* from natural and planted Norway spruce stands – Romania

11:45-12:00

Zbyšek ŠUSTEK – Differences in tolerance of individual Carabid species in West Carpathian Norway spruce forests to windstorms and subsequent management of destroyed stands

12:00-12:15

Nacer TARAI, Ali MIHI – Impact of climate change on the evolution of the pine processionary moth, *Thaumetopoea pityocampa* (Lepidoptera: Notodontidae) at Aures, Algeria

12:15-12:30

Pierre-André EYER, Serge ARON – Social hybridogenesis: the unorthodox mating system of the *Cataglyphis* desert ants

12:30-12:45

Ștefan-Adrian STRUNGARU, Cristian Nicolae CIOBANU, Gabriel PLĂVAN, Mircea NICOARĂ – Trace elements bioconcentration to higher rank fish predator is questionable! Case of study: Biocircuits and toxicokinetics of Cd, Cu and Se in fish fauna from Stâncea-Costești Lake, Romania

12:45-13:00

Alexandru STRUGARIU, Iulian GHERGHEL, Tiberiu Constantin SAHLEAN, Paul C. DINCĂ, Raluca MELENCIUC, Ștefan R. ZAMFIRESCU – Maintenance of colour polymorphism in vipers from warmer environments: does habitat use play a role?

13:00-14:00

Lunch Break

Invited speakers

14:00-14:45

Dan COGĂLNICEANU, Paul SZEKELY, Diana SZEKELY – Biodiversity of Ecuador – a study case focused on amphibians

Ecology

Chair: Abraham bij de VAATE (Lelystad, The Netherlands)

14:45-15:00

Lucian FASOLĂ-MĂTĂSARU, Lucian SFÎCĂ, Pavel ICHIM, Emanuel Ștefan BALTAG, Dumitru COJOCARU – Habitat and weather influence on the breeding success of White stork (*Ciconia ciconia*) population from Moldova (Romania)

15:00-15:15

Kamilia FARHI, Farid MEZERDI, Mohamed BELHAMRA – Drinking behavior of the black bellied sandgrouse *Pterocles orientalis* in the south east of Algeria

15:15-15:30

Ana Maria BENEDEK, Ioan SÎRBU – Influence of habitat and land use on small mammal communities in a mosaic landscape of Central Romania

15:30-15:45

Grzegorz KŁYS, Dominika OLSZEWSKA, Bronisław W. WOŁOSZYN – Hibernation, aestivation or torpor – how bats are spending winter time?

15:45-16:00

Dragoș Ștefan MĂNTOIU, Kseniia KRAVCHENKO, Linn Sophia LEHNERT, Stephanie KRAMER-SCHADT, Anton VLASHCHENKO, Ionuț-Cornel MIREA, Cătălin-Răzvan STANCIU, Răzvan POPESCU-MIRCENI, Răzvan ZAHARIA, Gabriel Bogdan CHIȘAMERA, Oana Mirela CHACHULA, Marius C. NISTORESCU, Oana T. MOLDOVAN, Christian C. VOIGT – Bat migration in the western Black Sea area: stable isotopes analysis ($\delta^2\text{H}_f$), ultrasound monitoring and wind turbine mortality events

16:00-16:15

Edoardo VERNIER, Bronislaw W. WOŁOSZYN – Role and structure of Venetian villas as important factor to support the presence of bats (Mammalia: Chiroptera) and as preferential habitat for rare bat species in NE Italy

16:15-18:00

Coffee, Tea and Posters

FRIDAY, THE 18th OF NOVEMBER 2016

08:30-09:00

Registration

Invited speakers

09:00-09:45

Zoltán CSIKI-SAVA, Ștefan VASILE – The Island of Dwarfs – a Mesozoic (latest Cretaceous) Lilliput and its strange inhabitants

09:45-10:30

Marius STOICA, Andrei BRICEAG – The recent evolution of Black Sea highlighted by ostracods

10:30-11:00

Coffee break

Palaeontology

Chair: Luis Ovidiu POPA (Bucharest, Romania)

11:00-11:15

Konstantin PROTODYAKONOV, Ivan PONOMAREV, Nurguyana VASILYEVA, Eugene SVINOBOEV, Kirill NIKULIN, Alexey BOCHUROV, Kyuing I. PARK, Semyon GRIGORIEV – Paleontological research in the middle basin of the Yana River (Northeastern Russia)

Biodiversity Conservation

Chair: Marius SKOLKA (Constanța, Romania)

11:15-11:30

Simona MIHĂILESCU, Gabriel Bogdan CHIȘAMERA, Ioana COBZARU, Tiberiu Constantin SAHLEAN, Viorel-Dumitru GAVRIL, Dumitru MURARIU – Transition from state acceding to the EU on EU member state. Romania's first reporting under the Habitats Directive (92/43/EEC) and the Birds Directive (79/409/EEC)

11:30-11:45

Rajeev PASUPULETI – New distributional records of *Radiatula lima* (Simpson, 1900) and *Lamellidens daccaensis* (Preston, 1912), freshwater bivalves from India

11:45-12:00

Elena Iulia IORGU, Ionuț Ștefan IORGU, Mihaela Isabela VADANA, Ana-Maria KRAPAL, Alexandra Florina POPA, Oana Paula POPA, Luis Ovidiu POPA – Preliminary data on the genetic diversity of *Isophya camptoxypha* in the Carpathians

12:00-12:15

Andreea DUDU, Sergiu Emil GEORGESCU, Marilena MAEREANU, Marieta COSTACHE – New approaches in sturgeon conservation and aquaculture by using genetic and biochemical markers

12:15-12:30

Maurycy IGNACZAK, Tomasz POSTAWA – Protection of the Szachownica Cave (Central Poland) as an example of rescue a valuable bat wintering shelter

12:30-12:45

Victoria NISTREANU, Sergiu ANDREEV, Alina LARION, Vlad POSTOLACHI, Vlad CALDARI – Comparative analysis of bat communities (Mammalia: Chiroptera) hibernating in stone quarries from Bychok and Saharna of Nistru Valley, Republic of Moldova

12:45-13:00

Bronislaw W. WOŁOSZYN, Dumitru MURARIU – Ecological aspects of bat hibernacula protection in cave and cave-like shelters

13:00-14:00

Lunch Break

Invited speaker

14:00-14:45

Carsten NOWAK, Anne JARAUSCH, Mareike BRIX, Silviu CHIRIAC, Andrea CORRADINI, Csaba DOMOKOS, Christiane FROSCH, Andrea GAZZOLA, Zsolt HEGYELI, Violeta MUNOZ-FUENTES, Ioan-Mihai POP, Teodora SIN, Annika TIESMEYER – Genetic approaches in wildlife monitoring – examples from wolves, bears and wildcats in Romania and Germany

Biodiversity Conservation

Chair: Marius SKOLKA (Constanța, Romania)

14:45-15:00

Oana Paula POPA, Gabriel Bogdan CHIȘAMERA, Larisa Bianca COJOCARU, Cătălin-Răzvan STANCIU, Luis Ovidiu POPA – Preliminary insights into the phylogeography of Marbled Polecat (*Vormela peregusna*)

15:00-15:15

George BOUROȘ, Dan Traian IONESCU, Călin HODOR – Observation of Eurasian otter's diel activity using camera trapping in Central-eastern Romania

15:15-15:30

Ruben IOSIF, Ioan-Mihai POP, Silviu CHIRIAC, Viorel POPESCU – Seasonal habitat selection in relation with food-resource availability for brown bears in the Romanian Carpathians

15:30-15:45

Ioan-Mihai POP, Viorel POPESCU, Ruben IOSIF, Silviu CHIRIAC, Radu SANDU, Brett FURNAS – Combining sign surveys and home range data to estimate brown bear density in the Romanian Carpathians

Studies and recovery of the natural history museum patrimony

Chair: Luis Ovidiu POPA (Bucharest, Romania)

15:45-16:00

Liviu-Răzvan PRIPON – The organismal aspect of the natural history museum collection

16:00-17:30

Coffee, Tea and Posters

18:00-19:00

Visit of the permanent exhibition of “Grigore Antipa” National Museum of Natural History

19:00-22:00

Gala Dinner

SATURDAY, THE 19th OF NOVEMBER 2016

Whole day excursion to Pelișor Castle, Sinaia, Prahova Valley

Poster Presentations

Taxonomy. Faunistics. Zoogeography

P 001.

Ioana-Cristina CONSTANTINESCU, Ioana COBZARU, Nicoleta Adriana GEAMANA, D. Khlur B. MUKHIM, Costică ADAM – Two new species of feather mites (Acarina: Psoroptidia) from the Blue-throated Blue Flycatcher, *Cyornis rubeculoides* (Passeriformes: Muscicapidae)

P 002.

Andrei GIURGINCA, Vladimir ŠUSTR, Karel TAJOVSKÝ, Tomáš ZIKMUND – Micro-CT study of the mouthparts of *Mesoniscus graniger* (Crustacea, Oniscidea): first data

P 003.

Andrei GIURGINCA, Ștefan Cătălin BABA – Oniscidea, Diplopoda and Chilopoda from Pădurea Călugărească (South-Eastern Romania)

P 004.

Ionuț POPA, Vladimir ŠUSTR, Andrei GIURGINCA – New records of springtails (Hexapoda: Collembola) in Romania (Mehedinti Mountains, SW Carpathians)

P 005.

Daniel Kazimir KURZELUK – Lectotype designation for the species *Tillus pallidipennis* Bielz, 1850 (Coleoptera: Cleroidea: Cleridae)

P 006.

Alexandra Florina POPA, Elena Iulia IORGU, Oana Paula POPA, Ana-Maria KRAPAL, Christian COZMA, Marieta COSTACHE, Luis Ovidiu POPA – Genetic variability of *Lucanus cervus* (Linnaeus, 1758) in Europe

P 007.

Emilian PRICOP, Nicolae CRĂCIUN – A new record of a species belonging to *Prestwichia* Lubb. (Hymenoptera: Trichogrammatidae) from Romania, with notes on other aquatic Hymenoptera

P 008.

Cristina CALEFARIU – Taxonomical criteria used in the identification of the bee species (Hymenoptera: Apoidea)

P 009.

Constantin CORDUNEANU, Ovidiu-Alin POPOVICI, Cătălin BALAN – The first record of *Xylomoia graminea* (Graeser, 1889) (Lepidoptera: Noctuidae) in Romania

P 010.

Raluca-Cristina ANDREI, Victor CRISTEA, Lorena DEDIU, Mirela CREȚU, Alexandru-Cristian BANDI – Some morphometric aspects of Russian sturgeon juveniles fed with different ratio

P 011.

Valentina Elena MORARU, Elena BUHACIUC, Dragoș Ștefan MĂNTOIU, Viorel-Dumitru GAVRIL, Răzvan POPESCU-MIRCENI, Alexandru STRUGARIU – The spur-thighed tortoise (*Testudo graeca iberica*) in Romania: new locality records suggest a more optimistic situation

P 012.

Florinel Dănuț DRĂGAN – The first breeding bird atlas of Bucharest (Romania): results from the first year of fieldwork

P 013.

Angela PETRESCU, Gabriel Bogdan CHIȘAMERA, Elena FĂLCUȚĂ, Florian-Liviu PRIOTEASA – The density and diversity of the avian community in the urban area Văcărești Lake (Bucharest, Romania)

P 014.

Gabriel BĂNICĂ, Daniyar MEMEDEMİN – New data concerning the distribution of the Red-footed Falcon (*Falco vespertinus* Linnaeus, 1766) in South Dobrogea (Constanța County, Romania) in 2016

P 015.

Hassiba BERRAI, Cherifa CHAOUIA, Katia DJENNAS, Boualem RAHMOUNI, Salaheddine DOUMANDJI – Morphometry of the European starling (*Sturnus vulgaris* Linnaeus, 1758) captured in the eastern part of the Mitija

P 016.

Oana Mirela CHACHULA, Cătălin-Răzvan STANCIU, Gabriel Bogdan CHIȘAMERA, Daniyar MEMEDEMİN, Georgiana MĂRGINEAN, Dragoș Ștefan MĂNTOIU – Data on the bat colonies and population of forest species (Mammalia: Chiroptera) present in Canaraua Fetii, Constanța County, Romania

P 017.

Georgiana MĂRGINEAN, Ionuț CREȚU, Oana Mirela CHACHULA – Colțul Surpat Cave – an important hibernacula of Piatra Craiului National Park, Făgăraș Mountains, Romania

P 018.

Ioan COROIU, Oana Mirela CHACHULA, Georgiana POPESCU, Sergiu ANDREEV – New reports of the Serotine Bat (*Eptesicus serotinus* Schreber, 1774) in nursery colonies from church attics in Romania and Republic of Moldova

P 019.

Nedko NEDYALKOV, Yordan KOSHEV, Ivaylo RAYKOV – Current status and distribution of *Apodemus agrarius* (Mammalia: Rodentia) in Bulgaria

Phylogenetics, Evolution and Systematics

P 020.

Liubov FRISMAN, Irina SHEREMETYEVA, Irina KARTAVTSEVA, Marina PAVLENKO, Alexey BOGDANOV – New data on genetic differentiation of allopatric lineages of Striped field mouse (*Apodemus agrarius*): study based on fragment analysis of 5 microsatellite markers

Palaeontology

P 021.

Piotr SKRZYCKI, Florian WITZMANN, Roksana SKRZYCKA, Bronisław W. WOŁOSZYN – Fossil fishes from the Polish Triassic in the 19th century collection of the Museum für Naturkunde in Berlin

P 022.

Marius-Alexandru CIOCĂNĂU, Alexandru PETCULESCU, Marius ROBU, Ionuț-Cornel MIREA, Marius KENESZ, Maria Rodica GURAU, Doina DANES, Silviu CONSTANTIN, Vlad CODREA – Detection and quantification of ancient DNA from cave bears *Ursus spelaeus* samples excavated at the Muierilor Cave (Romania)

P 023.

Ionuț-Cornel MIREA, Marius ROBU, Alexandru PETCULESCU, Marius KENESZ, Luchiana FAUR, Răzvan ARGHIR, Silviu CONSTANTIN, Vlad CODREA – The spatial orientation analysis of *Ursus spelaeus* bones from Muierilor and Urșilor caves (Romania)

P 024.

Maciej SYKUT, Sławomira PAWEŁCZYK, Natalia PIOTROWSKA, Krzysztof STEFANIAK, Karolina DOAN, Anna STANKOVIĆ, Bogumila JĘDRZEJEWSKA, Magdalena NIEDZIAŁKOWSKA – Patterns of habitat use and diet of modern and ancient red deer (*Cervus elaphus*) in Europe and Asia

P 025.

Alexandru PETCULESCU, Ionuț-Cornel MIREA, Marius ROBU, Marius KENESZ, Luchiana FAUR, Răzvan ARGHIR, Silviu CONSTANTIN, Vlad CODREA – Paleoclimatic reconstructions on the basis of rodent associations from caves during Upper Pleistocene

Ecology

P 026.

Ana Maria GERALDES, Rajeev PASUPULETI – Zooplankton: a valuable environmental indicator tool in reservoir ecology management?

P 027.

Ana Maria GERALDES, Pedro SILVA-SANTOS, Rajeev PASUPULETI – Zooplankton community structure in a deep reservoir: seasonal trends and structuring variables

P 028.

Manuela Diana SAMARGIU, Laura ALEXANDROV, Daciana SAVA – Composition of benthic biocoenosis from Sinoe lagoon – Danube Delta

P 029.

Nadia BOURAGBA, Ahmed BRAGUE, Sabrina AMRAOUI – Dung beetles, keystone species of ecosystem functioning. An ecological role in Algerian steppes

P 030.

Maria-Alexandra POPA, Andreea E. RĂDUCAN, Alina I. COMĂNECI, Corina E. JUDE, Sergiu C. TOROK, Ioan TĂUȘAN – Butterfly assemblages (Lepidoptera: Rhopalocera) from Copșa Mică (Transylvania, Romania)

P 031.

Marius SKOLKA – Changes in entomofauna – the case of two lycenid species – *Leptotes pirithous* and *Lampides boeticus*

P 032.

Nafissa SOUDANI, Med Kamel BENSALAH, Hakim DROUAI – Impact of climatic conditions on the spatial distribution of the adults of the date moth *Ectomyelois ceratoniae* Zeller, 1839 in region of Tolga

P 033.

Dorel URECHE, Teodora Ramona PINTILIEASA, Camelia URECHE – Research regarding the ichthyofauna in the upper basin of Siret River, Romania

P 034.

Ira-Adeline SIMIONOV, Victor CRISTEA, Gabriel PLĂVAN, Mircea NICOARĂ, Ștefan-Adrian STRUNGARU – A study on essential and nonessential elements in the Black Sea turbot, along the Romanian Coastal Area

P 035.

Paul C. DINCĂ, Alexandru STRUGARIU, Iulian GHERGHEL, Cosmina M. DRANGA, Ștefan R. ZAMFIRESCU – Habitat selection of the steppe-runner (*Eremias arguta*) at its westernmost range limit, in Romania

P 036.

Tiberiu Constantin SAHLEAN, Alexandru STRUGARIU, Ștefan R. ZAMFIRESCU, Iulian GHERGHEL – Data regarding habitat selection in the Caspian whipsnake (*Dolichophis caspius* Gmelin, 1789) towards the north-western limit of its distribution range (Romania)

P 037.

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INVITED SPEAKERS

Innovative approaches, interactive tools and modern imaging: pushing boundaries in myriapod taxonomy

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Key words: micro-CT, 3D models of zoological types, cybertypes.

Taxonomic descriptions depend, more than any other discipline, upon illustrations. From the earliest taxonomic treatments, species descriptions have nearly always been accompanied by varied kinds of visual representations, which are vital to convey information about the morphology and character states, described to distinguish taxa. We have done a few attempts to enhance taxonomic descriptions such as presenting rotational SEM images and a modern way to visualise identification keys. Recently we also described a new millipede species using high-resolution X-ray microtomography (micro-CT) as a substantive adjunct to traditional morphological examination. 3D models of the holotype and paratype specimens were presented to discuss the potential of this non-destructive technique in documenting new species of millipedes and other organisms. The micro-CT data have been uploaded to an open repository to serve as the first actual millipede ‘cybertypes’ to be published. As a supplement to the biological material, a cybertype adds value to the physical collections and facilitates sharing of primary biodiversity data, reducing the reliance on handling of specimens to allow a new species to be included in more research efforts. At present we also use micro-CT to extract morphological characters from a Dominican amber fossil of an unidentified millipede.

The examples I will present demonstrate how the practice of taxonomic science need no longer be seen as quaint and old fashioned, but as a discipline that reflects the ways that knowledge is produced, shared, and used in our modern era. New endeavours and current technologies will certainly continue to play important roles in that, and the spirit of sharing data will make it only go forward.

Eco-physiological research and wetland conservation: insights from Pelican and Cormorant studies in Israel

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Key words: Nature preservation, wetlands, eco-physiology, fish eating birds.

The deterioration of wetlands resulting from global climate change, development, and habitat fractionation render long-distance migrating birds face difficulties in finding proper sites for rest and re-fueling. In Israel, which is a bottleneck for some 600 million migrating birds, the drainage of the Hula Lake resulted in serious conflicts with intensive fisheries and agriculture. Implementation of various deterrence methods, including killing, failed to solve these conflicts. We have offered the concept that only the understanding of the biology of the organism in question may give us the tools (indications) for a proper management that will solve such conflicts while helping the preservation of natural assets such as wetlands.

We demonstrate this in solutions reached in the case studies of pelicans and cormorants. We have studied their physiological condition, food preference, energy demands and ecological constraints. As a result, we were able to offer differential management and implement our suggested solutions with the full cooperation of the fishermen and the nature preservation authorities. We have shown that such solutions are economically helpful for fishermen and enable the preservation of the wetland habitat.

Biodiversity of Ecuador – a study case focused on amphibians

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Key words: biodiversity, Neotropics, inventory, biogeography, conservation.

Amphibian species diversity is highest in the Neotropics, which hold almost half of currently known species. This high diversity is almost entirely endemic, with 96% occurring only in the Neotropics. Our knowledge on this group is at best mediocre; nearly one-quarter of all known species were described during the last decade.

Ecuador is a biodiversity hotspot that holds an incredibly high ecosystem and species diversity. While Romania is only slightly smaller in size than Ecuador (84%), species diversity represents only 3.3% for amphibians, 4.8% for reptiles, 23% for birds and 35% for mammals. The complex geological, geomorphological, hydrological and climate conditions create a mosaic of distinct ecosystems types, divided in three major regions: Coastal, Andes and Oriental (Amazonia). The amphibian fauna of Ecuador, with over 576 known species, is the third most diverse in the world after Brazil and Colombia, and the first in terms of species density; at least 90 new species to science were described from this country during the last decade only. Almost one third of the anuran species from Ecuador belong to the genus *Pristimantis*. The direct-developing frog genus *Pristimantis* is by far the most speciose among terrestrial vertebrates with more than 473 species within the genus. During the last decade 121 new species of *Pristimantis* were described, 30% of which from Ecuador.

A comparison of herpetological studies in Neotropical and temperate regions emphasizes differences in priorities and approaches. While in temperate regions, with low species diversity, research is mostly hypothesis-driven, research in the Neotropics has to be mostly exploratory and descriptive, focused on taxonomy and conservation.

For example, Reserva Buenaventura, situated in El Oro Province, southwestern Ecuador, is a hotspot of biodiversity. The reserve has been intensively studied over the last 15 years, with two checklists published in 2013 and 2015. This provided the baseline information required for estimating the completeness of the species inventory, a study done over a three years period (2014-2016). The study showed that the species inventory is still incomplete, due to high endemism and localized distribution of species, but also pointed out the limited reliability of past reports, especially those not backed up by preserved specimens in collections.

The Island of Dwarfs – a Mesozoic (latest Cretaceous) Lilliput and its strange inhabitants

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Key words: Maastrichtian, Transylvania, ‘Hațeg Island’, palaeofauna, dinosaurs, mammals.

In 2015, we’ve celebrated the centenary of the first published synthesis concerning a peculiar fossil vertebrate assemblage, discovered in uppermost Cretaceous (about 72 to 66 millions of years ago) sedimentary deposits from the Hațeg Basin area, in the southwestern Carpathians (Nopcsa, 1915). The palaeobiological peculiarities of this assemblage, composed of dinosaurs, turtles and crocodyliforms, peculiarities such as low biodiversity, presence of several out-of-time, relictual taxa, and especially the overall small body size of many of the species present, were explained as a consequence of its confined, insular habitat. This was a revolutionary insight of Nopcsa, at a time when the biological distinctiveness and informativeness of isolated, island habitats – and especially of those from the deep past – was only beginning to be fathomed. For decades, Nopcsa’s hypothesis of a peculiar island dinosaur fauna remained a footnote in palaeontology notebooks, even viewed as being somewhat controversial on regional geological setting or paleontological grounds.

After a century of discoveries (especially within the last 40 years), our knowledge about the ‘Hațeg Island’ fauna expanded considerably. A large number of new taxa were added to the faunal list, shattering the picture of a low-diversity assemblage as was originally proposed. Nonetheless, advances in understanding the regional geotectonic setting, as well as the employment of new investigation methods (stable isotope geochemistry, osteohistology, cladistic analysis, evolutionary palaeobiogeography) have provided further support to the idea of a unique insular ecosystem evolving under a complex circumstance of events involving long-term isolation, periodic faunal exchanges and local evolutionary radiations. We will review here the currently available data that emphasizes the uniqueness of this ancient island fauna, and its potential contributions to better understanding biotic evolution on islands.

References:

NOPCSA, F., 1915 – Die Dinosaurier der Siebenbürgischen Landesteile Ungarns. Mitteilungen aus dem Jahrbuche der königlich Ungarischen Geologischen Reichsanstalt, 23: 1-24.

Three inland seas under stress – alien species as agents of change

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Key words: bioinvasions, zoogeography, brackish water, gradients, ecosystem services.

The (semi-)enclosed, brackish-water seas of Europe, *i.e.*, the Black (including the Sea of Azov), Caspian and Baltic Seas, are of special interest to invasion biology. They inhabit extreme marginal marine ecosystems in which horizontal and vertical gradients provide both native and non-native species of different origin an extended repertoire of hospitable abiotic conditions within 0 to > 20 psu salinity range.

These seas can be regarded as “brackish-water islands”, locked in by landmasses, and isolated from other brackish-water bodies by physical (ocean and land) barriers. Much of their present structural and functional diversity is of foreign origin, due to the continuous introduction of alien species by ships and other vectors. As many as 130 nonindigenous species (NIS) have been recorded in the Baltic and more than 170 in the Black Sea.

Species introductions into each of the seas have been longitudinal rather than latitudinal. Ongoing americanisation is one of the most important processes that contribute to the *xenodiversity* of these sibling seas. In addition to invaders originating in North American, Ponto-Caspian species are common in the Baltic and its sheltered, low-salinity coastal lagoons and gulfs. Range extensions of them have been facilitated by the interconnection of river basins through man-made canals. Further movement to higher latitudes of species as the result of global warming is expected.

Not only a great number of NIS but, with them, also several novel ecological functions and ecosystem services have been introduced into the seas. From the biogeographical point of view, these seas play an important role in the process of global NIS transfers. They act as recipient, transit, and donor areas for NIS, e.g., predatory cladocerans and zebra mussels to the North American Great Lakes. Consequently, the seas are involved in the process of homogenisation of the aquatic fauna and flora, which takes place in the Northern hemisphere.

Biodiversity and distribution of the deep-sea isopod family Munnopsidae – state of the art

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Key words: Isopoda, Munnopsidae, deep-sea expeditions, new records, distribution, taxonomy.

Munnopsidae Lilljeborg, 1864, the largest cosmopolitan family of the deep sea swimming Asellota, consists of 9 subfamilies, about 40 genera, 400 described and > 200 undescribed species. Asellota is an ancient isopod suborder, amazingly radiated in deep-sea, but during evolution only Munnopsidae developed the ability to swim with paddle-like posterior three pairs legs. The swimming ability is an advantage for the deep-sea life: Munnopsidae is one of the most dominant taxa of deep sea benthos in terms of species richness. The family shows a great cluster of morphotypes and life forms occurring at different layers of bottom sediments; some are holopelagic.

Munnopsidae was the most abundant and diverse benthic invertebrates family collected during all recent deep-sea expeditions: ANDEEP in the Atlantic sector of the Southern ocean, DIVA in Southern Atlantic, IceAge in Iceland area and the German-Russian expeditions in the northwestern Pacific (NWP): KuramBio-I (2012) and KuramBio-II (2016) to the Kuril-Kamchatka Trench (KKT), and SokhoBio (2015) to the Kurile Basin of the Sea of Okhotsk. During these expeditions the same type of epibenthic sledge and standardized sample treatments have been used. Among 19 sampled isopod families in the KKT area 51% of individuals and 41% of species belonged to the Munnopsidae. From 100 munnopsids species of 28 genera and 8 subfamilies > 80% are new to science. A half of all collected genera and the subfamily Lipomerinae are firstly recorded for the NWP. A list of Munnopsidae species known for the NWP (after 9 expeditions of the famous Russian RV *Vityaz* in the last century) was extended from 34 to 147. The dominant subfamily is Eurycopinae (29%) followed by Ilyarachninae (16%). A half of all 28 genera are represented by one species. Most species are rare, occurring with low abundance at one or few stations, while ~70% of all collected munnopsids belong to 10 most numerous species from 5 genera. The analysis of the Bray-Curtis similarity shows a low similarity between stations. The different numbers and compositions of species at the close stations reflects the high number of rare species and low number of common species. It confirms that the majority of deep-sea species occur patchily. Similarities and differences in the composition of munnopsids and some morphologically similar species of all studied areas have been found. As a result of the taxonomical work during the last years, 7 new genera (*Storhyngurella*, *Vanhoeffenura*, *Sursumura*, *Rectisura*, *Dubinectes*, *Gurjanopsis*, and *Microcope*) and 45 new species have been described. The subfamilies Storhyngurinae, Acanthocopinae, Eurycopinae and Ilyarachninae were revised and redefined. While the data on many known species was updated, most of the new species and genera are waiting for description. The phylogenetic system of the family is

not well understood yet, some genera are still *incertae sedis* and during our study some species with unclear systematic position have been found. Thus, *Gurjanopsis* Malyutina & Brandt, 2007, large holopelagic isopods is an intermediate between *Munneurycope* and Bathyopsurinae. Two species were known from Arctic and Antarctic; a new species, found in the Okhotsk Sea is the first record for Pacific. *Microcope* Malyutina, 2008, an intermediate between subfamilies Eurycopinae, Lipomerinae, Betamorphinae and Syneurycopinae, was described for two Antarctic and three Pacific species. Such widespread but disjunctive distribution of small benthic animals with limited dispersal capability can indicate an old age of the taxon. The planned genetic studies of the key species of the collected munnopsids can shed light on the relations into the family.

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Genetic approaches in wildlife monitoring – examples from wolves, bears and wildcats in Romania and Germany

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Key words: non-invasive genetics, genetic monitoring, wolf genetics, wildlife forensics, hybridization, hair trapping.

Modern molecular genetic methods have revolutionized wildlife research and monitoring within past years. High-resolution marker systems such as microsatellites and SNP-genotyping technology in combination with the use of non-invasively collected environmental samples allow to count individuals, assess population connectivity, reconstruct family structures and obtain robust estimates of population size. In this respect, we present current research examples of genetic monitoring activities in Germany and Romania.

A large scale German-wide census of the European wildcat using hair trapping and genetic detection in 16 reference plots across the country allowed for a regional and total estimation of wildcat numbers, and to obtain solid data on regional isolation and hybridization with domestic cats. The hair trapping method has been recently applied to the Carpathians and the Transylvanian Plateau, providing first insights on regional population densities and hybridization rates.

Environmental DNA samples play a crucial role in science-based wolf monitoring programmes worldwide. We introduce the German wolf monitoring system, which strongly relies on genetic pack reconstruction. An ongoing project uses a similar approach to assess wolf pack structures and densities in the Eastern Carpathians, as well as a first hybridization assessment between wolves and dogs in the region.

Finally, we present some data on the genetic structure of Brown bears in south-eastern Europe, including examples of DNA-assisted forensic analyses, which help to solve wildlife crimes.

In summary, we find that human action impacts the genetic structure of wildlife in both regions, Romania and Germany. Interestingly, the grade of human-caused

disturbance on wildlife gene pools seems rather higher than lower in the Romanian Carpathians compared to Germany, where human impact on ecosystems is generally considered to be more intense. We argue that only large-scale scientific monitoring programmes assisted by high-quality non-invasive genetic analyses will allow for robust estimates of population status for many wildlife species.

The facultative roles of the microbiome: essential mutualists, lethal pathogens, and decomposers

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Key words: mutualism, opportunistic pathogens, microbiome mutiny, sepsis, decomposers.

Humans harbor a ca 1.5 kg mass of bacteria and fungi, called the microbiome (or microbiota). It is known to provide mutualistic services ensuring the host's long and healthy life, although these services are costly for the microbes in terms of energy and nutrient needs. However, this is still adaptive for the mutualist microbes because they benefit from a long-lasting period of transmission possibilities, even if low intensity of host exploitation does not permits intensive multiplication. We argue that this makes sense only until the host's survival chances are not seriously challenged by advanced age or disease. We hypothesize that microorganisms of the human or animal microbiome are capable (1) to evaluate the survival chances (age, health) of the host individual, (2) to exhibit a coordinated phenotypic switch to a high virulence (called a "microbiome mutiny") in old or seriously ill people in order (3) to optimize their immediate transmission. This proposed virulence shift might contribute to the death of old host individuals (and humans, in particular) even in the absence of apparent disease.

We also show that septic shock (one of the leading causes of human mortality) can be interpreted as a particular manifestation of "mutiny". In this case, formerly mutualist members of the microbiome turn into lethal pathogens (inducing sepsis in old or seriously ill host) in order to monopolize its future carcass and utilize it as decomposer organisms. Contrary to classic ecology textbook statements about decomposer organisms, the carcasses of large and complex bodied host organisms tend to be decomposed by members of their formerly mutualist microbiome rather than by soil-dwelling decomposers.

This implies a formerly unsuspected, surprisingly high level of phenotypic plasticity of the microbes inhabiting us and other large-bodied animals.

The recent evolution of Black Sea highlighted by ostracods

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Key words: fossil ostracod species, palaeoenvironments reconstruction, late Pleistocene – present Holocene.

In the last decades, numerous research programs targeted the recent evolution of the Black Sea with emphasis on its reaction during and after the last glacial period. During several cruises numerous gravity and piston cores that provided sedimentological and paleontological samples were collected. To complete the obtained information, shallow seismic acquisition, geochemical analyzes and isotopic dating were used.

Ostracods represent excellent proxies, suitable for reconstructing palaeoenvironments. Theirs distribution is highly dependent on water conditions, mainly salinity but also depth, substrate, water chemistry, nutrient availability and temperature. As a main tool, we use ostracods to exemplify how to reconstruct the recent evolution of the Black Sea, from Late Pleistocene – Holocene – Present.

The uppermost 1-1.5 m from the investigated cores contain sediments rich in ostracod shells belonging to species that lives nowadays in the Black Sea. Most of species belong to marine-brackish genera like *Callistocythere*, *Hiltermannicythere*, *Palmoconcha*, *Loxoconcha*, *Cytheroma*, *Cytherois*, *Sclerochilus*, *Carinocythereis*, and *Xestoleberis*. The majority of these taxa entered the Black Sea basin after the reconnection with the Mediterranean, around 7500 years ago. In the underlying level, the ostracod fauna differs well from the previously one being represented mainly by fresh to low-brackish Ponto-Caspian taxa of *Candona*, *Leptocythere*, *Amnicythere*, and *Loxoconcha* genera. Some species show high affinities with sub-Arctic species, suggesting a migration pattern from the NE European lakes through Caspian Sea into the Black Sea during the last glacial period when the connection with the Mediterranean was interrupted due to the sea-level drop.

The transformation of the Black Sea from a fresh water lake (Neoeuxinian Lake), during the last glacial maximum into a saltwater sea, is highlighted by the replacement of the fresh-brackish ostracod taxa with a brackish-marine one. The post-glacial warming is also recorded in ostracod faunal composition just before the invasion of Mediterranean salt water into the Black Sea through the Bosphorus Strait.

ORAL PRESENTATIONS

On the presence of the European medicinal leech *Hirudo medicinalis* Linnaeus, 1758 (Annelida: Hirudinea) in Romania

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Key words: *Hirudo medicinalis*, *Hirudo verbana*, Romania, distribution, conservation status.

Medicinal leeches are characterized by great external colouration variability. Most of the taxonomists have considered these different colouration forms as varieties of one and same species *Hirudo medicinalis* Linnaeus, 1758. Only recently it has been demonstrated, on morphological and molecular bases, that in Europe there are present four distinct species of medicinal leeches with parapatric distribution: the European medicinal leech *Hirudo medicinalis*, the Mediterranean medicinal leech *Hirudo verbana* Carena, 1820, the Persian or Georgian medicinal leech *Hirudo orientalis* Utevsky & Trontelj, 2005, and the North-African “dragon” or “trout leech” *Hirudo troctina* Johnson, 1816. Moreover, it has been shown that the medicinal leeches currently marketed and used in medical practice as *H. medicinalis* in Western Europe and USA, imported from Turkey or the south-eastern Europe, belong to *H. verbana*. Recent researches conducted in Romania and a monitoring carried out in 2014–2015 revealed only the presence of specimens belonging to *H. verbana*. However, on the 3rd of July 2016 several individuals with a pigmentation pattern typical for *Hirudo medicinalis* were collected from a small peat bog in the “Mestecănișul de la Reci” natural reserve. The individuals are characterized by two sharply delimited pairs of longitudinal red stripes interrupted by metamerically arranged black, drop-like markings on generally olive-green to brown dorsal background and by irregularly distributed black spots on yellow to light greenish ventral side. They are believed to represent here a boreal-continental relict population. Thus, in Romania are present two species of medicinal leeches: the common *H. verbana* and a much rarer *H. medicinalis*. Habitat preferences and protected status of medicinal leeches in Romania are discussed. *H. medicinalis* is the most endangered leech in Romania and is presently classified in the Red List of the IUCN in NT category (“near threatened”). Such situation is a result of wetland habitats degradation and loss, as well as of extensive over-collecting for medical purposes. Thus, further studies are necessary for planning an effective conservation strategy for this very rare species.

Genetic variability of the Mediterranean medicinal leech (*Hirudo verbana* Carena, 1820) in Romania

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Key words: Population structure, COI haplotypes, molecular markers.

Medicinal leeches (*Hirudo* spp.) are among the best studied invertebrate species due to their use in traditional medicine and as model organisms in biological and physiological research. Until recently, all reports of medicinal leeches in Romania were ascribed to *H. medicinalis* Linnaeus, 1758. However, recent researches have revealed that most of the populations actually belong to *Hirudo verbana* Carena, 1820. *H. verbana* is one of the four medicinal leech species known to occur in Europe (Utevski et al., 2010).

The present study is the first molecular characterisation of the Romanian populations of the medicinal leech *H. verbana* with mitochondrial markers. Sixty-one specimens of 15 populations were studied for the mitochondrial COI gene. Available GenBank sequences were also added to our study. All Romanian specimens belong to ten COI haplotypes, three of them being previously known from Serbia, Ukraine and Turkey, while seven new haplotypes are herein reported. All Romanian samples cluster within the previously reported Eastern Haplogroup (Trontelj and Utevski, 2012) known to occur from Serbia to North Caucasus, Turkey and Uzbekistan. The same authors also reported a Western Haplogroup, occurring from Balkans to Italy. Our study contributes toward a refined understanding of the geographical distribution of these two *H. verbana* clades.

References:

- UTEVSKY, S., M. ZAGMAJSTER, A. ATEMASOV, O. ZINENKO, O. UTEVSKA, A. UTEVSKY, P. TRONTELJ, 2010 – Distribution and status of medicinal leeches (genus *Hirudo*) in the western Palaearctic: anthropogenic, ecological, or historical effects? *Aquatic Conservation*, 20: 198–210.
- TRONTELJ, P., S. Y. UTEVSKY, 2012. – Phylogeny and phylogeography of medicinal leeches (genus *Hirudo*): fast dispersal and shallow genetic structure. *Molecular Phylogenetics and Evolution*, 63(2): 475–485.

Diversity, distribution and zoogeography of Plecoptera and Ephemeroptera of a Mediterranean hydrographic network, the Mazafran (Northern Algeria)

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Key words: Plecoptera, Ephemeroptera, Algeria, taxonomy, faunistic, zoogeography.

The hydrographic network of Mazafran (northern Algeria), characterized by its temporary character, is explored from the point of view of the spatial distribution and zoogeography of benthic macroinvertebrates. 12 lotic sites were prospected between 20 and 400 m altitude and 20 species collected (7 Plecoptera and 13 Ephemeroptera).

The species richness of the different stations shows an altitudinal gradient with a maximum diversity in areas of low mountain and piedmont areas which constitute the most heterogeneous zones. On the contrary, the low diversity can be attributed to a high temperature of water; at a low speed and the influence of anthropogenic disturbances.

Two factor analysis were performed : a Principal Component Analysis for mesological variables and Correspondence Analysis for wildlife. The nuclei of affinity between species and / or stations were detected by the method of dynamic cluster. Three zones were defined, and their stands. The distribution of harvested wildlife seems determined by the longitudinal variation of different parameters of the medium.

On the zoogeographical plan, the stand identified is originally from Palearctic largely met in the sub-Mediterranean region. Among these, there are endemics of Maghreb (5 species), species-west Mediterranean (3), Circum-Mediterranean (3), extensive Maghreb (1) and European species in broad geographic distribution (5).

The hunt for peculiar Plump Bush-crickets in the largest European volcanic caldera (Insecta: Orthoptera: Tettigoniidae)

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Key words: *Isophya*, new species, Carpathians, Călimani, volcano.

One of the youngest orographic structure within the Carpathians, Călimani Mountains are located in the northern part of Călimani–Gurghiu–Harghita volcanic chain, the longest area (160 km) of the Carpathian volcanic range. Several peaks from 1700 m to 2100 m high border the largest and most complex inactive volcanic caldera in Europe.

The slowly moving brachypterous bush–crickets from genus *Isophya* form the largest group of endemic orthopteran species within the Carpathians. With a high morphological uniformity, the *Isophya* species are often difficult to identify, being one of the most problematic group of European Orthoptera. Yet, there is a simple, ready at hand solution for correctly identifying the Plump Bush–crickets: the male calling song oscillographic analysis.

Possessing similar morphological and acoustic features, the “*Isophya camptoxypha*” species–group represents one of the most interesting subjects for studying speciation driven by climate changes in high mountains. This group includes several bush–crickets endemic to the Eastern Carpathians: *Isophya ciucasi* Iorgu & Iorgu, 2010; *I. sicula* Orci, Szövényi & Nagy, 2010; *I. dochia* Iorgu, 2012 and *I. nagy* Szövényi, Puskás & Orci, 2012, the last one recently described from the southern part of the Călimani caldera. With the occasion of visiting for the first time Călimani Mountains in June 2012 and later in the summer of 2015 and 2016, we collected many specimens by visual examination of the subalpine vegetation (*Rubus*, *Veratrum*, *Vaccinium* etc.). These insects will be described as new species to science.

This work was supported by a grant of the Romanian National Authority for Scientific Research and Innovation, CNCS – UEFISCDI, project number PN–II–RU–TE–2014–4–2093.

First record of *Torymus lapsanae* (Hoffmeyer, 1930) (Hymenoptera: Torymidae) and confirmation of the presence of *Stinoplus lapsanae* Graham, 1969 (Hymenoptera: Pteromalidae) from galls of *Timaspis lampsanae* (Perris, 1873) (Hymenoptera: Cynipidae) in stems of *Lapsana communis* L. (Asteraceae) in Romania

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Key words: *Lapsana communis*, *Timaspis lampsanae*, *Torymus lapsanae*, *Stinoplus lapsanae*, trophic relations, distribution, Romania.

Timaspis (*Phanacis*) *lampsanae* develops galls in stems of *Lapsana communis*, the only known host. *T. lampsanae* is an European species recorded from France (Dauphin, 2012), Germany (Melika, 2006), Spain (Nieves-Aldrey, 2001), Great Britain (Redfern & Shirley, 2011), Hungary (Melika, 2006), Poland (Melika, 2006), Romania (Ionescu, 1957, 1973) and Ukraine (Melika, 2006). It's considered rare in France (Askew, 2011; Dauphin, 2012) and Great Britain (Redfern & Shirley, 2011). In the Iberian Peninsula it was found in two localities from Sierra de Guadarrama (Nieves-Aldrey, 2001) and in Ukraine, it was reared in vicinities of Uzhgorod (Melika 2006). In Romania, it was recorded from Muntenia (Cernica) and Transylvania (Șibot) (Ionescu, 1957, 1973). We recorded it for the first time from Moldavia (Bârnova forest near Iasi), where we collected many galls of *T. lampsanae* in May 2016 and obtained many specimens of *T. lampsanae* in June 2016.

Torymus lapsanae was described by E. B. Hoffmeyer from material obtained from *T. lampsanae* in France by Dr. Joseph-Etienne Giraud (Hoffmeyer, 1930). Graham & Gijswijt (1998) mention this species just from France but Noyes (2016) list it also from Hungary, Sweden, Ukraine and Iran (Hesami et al., 2008). We reared two females in the 20th of June 2016 and one male in the 5th of July 2016 from galls collected in the 10th of May 2016 from Bârnova, this being the first mention of *T. lapsanae* in Romania.

Stinoplus lapsanae was described by Graham after females obtained from *T. lampsanae* in 1877, in Laboulbène (France) by Dr. Joseph-Etienne Giraud (Askew, 2011; Graham, 1969). Distribution area includes also Spain (El Escorial) (Gómez et al. 2006, Askew 2011) and Germany (Askew, 2011; Noyes, 2016). For Romania, Askew made this remark: “a female swept at Siriu, Romania (R. R. Askew) is probably *S. lapsanae*” (Askew, 2011). We reared three females in the 20th of June 2016 from galls collected in the 10th of May 2016 from Bârnova, this being the confirmation of the presence of *S. lapsanae* in Romania.

References:

- ASKEW, R. R., 2011 – European *Stinoplus* Thomson, 1878 (Hym., Pteromalidae), with descriptions of four new species. *Entomologist's Monthly Magazine*, 147:3-18.
- DAUPHIN, P., 2012 – Guide de galles de France et d'Europe. Éditions Belin, 240 pp.
- GÓMEZ, J. F., M. H. NIEVES, A. M. G. TORRES, R. R. ASKEW, J. L. NIEVES-ALDREY, 2006 – Los Chalcidoidea (Hymenoptera) asociados con agallas de Cinípidos (Hymenoptera, Cynipidae) en la Comunidad de Madrid. *Graellsia*, 62 (número extraordinario): 293-331.

- GRAHAM, M. W. R. DE V., 1969– The Pteromalidae of north-western Europe (Hymenoptera: Chalcidoidea). Bulletin of the British Museum (Natural History) (Entomology), Suppl. 16: 908 pp.
- GRAHAM, M. W. R. DE VERE, M. J. GIJSWIJT, 1998 – Revision of the European species of *Torymus* Dalman (s. lat.) (Hymenoptera: Torymidae). National Museum of Natural History, Leiden (The Netherlands), Zoologische Verhandelingen, 317: 1-202
- HESAMI, S., M. R. BEHZADI, E. EBRAHIMI, S. S. MIRESMAILI, M. DOGANLAR, 2008 – Report of *Torymuslapsanae* (Hymenoptera: Torymidae), a parasitoid of *Diplolepisrosae* (Hym.: Cynipidae) from Iran. Journal of Entomological Society of Iran, 27(2), Suppl.:17-18.
- HOFFMEYER, E. B., 1930 – Callomomides nouveaux ou rares dans la collections du Dr. J. Giraud (Hym., Chalc.). Annales de la Société Entomologique de France, 99: 23-28.
- IONESCU, M. A., 1957 – Cynipinae. Fauna RPR, vol. 9 (11). Ed. Academiei R. P. R., 246 pp.
- IONESCU, M. A., 1973 – Biologia galelor – Monografie cecidologică. Ed. Academiei R. S. R., 178 pp.
- MELIKA, G., 2006 – Gall Wasps of Ukraine. Vestnik Zoologii, Suppl. 21, vol. 1-2, Schmalhausen Institute of Zoology, Kiev, 644 pp.
- NIEVES-ALDREY, J. L., 2001 – Hymenoptera, Cynipidae. In: Ramos, M. A. et al. (ed.) – Fauna Iberica, vol. 16. Museo Nacional de Ciencias Naturales, CSIC, Madrid, 636 pp.
- NOYES, J. S., 2016 – Universal Chalcidoidea Database. World Wide Web electronic publication. <http://www.nhm.ac.uk/chalcidoids>.
- REDFERN, M., P. SHIRLEY, 2011 – British Plant Galls (Second Edition). Field Studies Council, Occasional Publication 125, 432 pp.

**First record in Romania of the genus *Antrocephalus* Kirby, 1883
with *Antrocephalus hypsopygiae* Masi, 1928 (Hymenoptera:
Chalcidoidea: Chalcididae) and notes on its morphology**

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Key words: *Antrocephalus hypsopygiae*, Chalcidoidea, Chalcididae, distribution, morphology, Romania.

Chalcididae Latreille, 1817 family currently includes approximate ninety genera with more than one thousand and five hundred species placed in five subfamilies: Chalcidinae, Dirhininae, Epitraninae, Haltichellinae and Smicromorphinae (Noyes, 2016). In Romania, nine genera with thirty-two species were recorded (Andriescu 1988).

Antrocephalus genus is included in the Haltichellinae subfamily, with one hundred twenty-six species (Noyes, 2016), most of them being distributed in the tropical region, just few species being recorded from western Palearctic (Bouček, 1952). *Antrocephalus hypsopygiae* was described after two females obtained in Tejen (Turkmenistan) in the 22nd of July 1927 from *Hypsopygia costalis* (Fabricius) (Lepidoptera: Pyralidae) (Masi, 1928), this being the only known host, until now. Known distribution of *Antrocephalus hypsopygiae* includes Spain, France, Croatia, Cyprus, Russia, Morocco, Turkmenistan and Iran (Noyes, 2016).

We found *Antrocephalus* genus with *Antrocephalus hypsopygiae* for the first time in Romania in the south eastern part of the country at Sfântu Gheorghe and Periprava (Tulcea County), Vadu (Constanța County) and Călugăreni (Giurgiu County).

Using a DSLR camera we present macro photographs with living specimens of *Antrocephalus hypsopygiae* and using a stereomicroscope the morphology of ovarian eggs. Using Scanning Electron Microscopy (SEM) we present in detail the morphology of *Antrocephalus hypsopygiae* including the morphology of ovarian eggs, head, antenna, mouthparts, mesosoma, metasoma, legs, wings, ovipositor and genital armature.

References:

- ANDRIESCU, I., 1988 – The family Chalcididae in Rumania, a faunistic, biogeographical and economic study. In: Gupta, V. K. (Ed.) – Advances in Parasitic Hymenoptera Research: Proceedings of the II Conference on the Taxonomy and Biology of Parasitic Hymenoptera held at the University of Florida, Gainesville, pp. 259-263.
- BOUCEK, Z., 1952 – The first revision of the European species of the family Chalcididae (Hymenoptera). Sborník Entomologického Oddelení Národního Musea v Praze, 27, Suppl. 1: 1-108.
- MASI, L., 1928 – Si due nuovi *Antrocephalus* del Turkestan (Hymen. Chalcididae). Bollettino della Società Entomologica Italiana, 60: 10-15
- NOYES, J. S., 2016 – Universal Chalcidoidea Database. World Wide Web electronic publication. <http://www.nhm.ac.uk/chalcidoids>.

New data on the ant fauna (Hymenoptera: Formicidae) of Romania

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Key words: *Camponotus sp.*, *Bothriomyrmex sp.*, faunistics, check-list, Dobrogea.

Despite intensive myrmecological studies undertaken in the last decades, the Romanian ant fauna is still understudied. Altogether 112 ant species are known up to date (Tăușan & Pıntilioaie, 2016). Herein, new faunistical insights are given from a field campaign carried out in May 2016 in Northern Dobrogea.

Camponotus lateralis (Olivier, 1792) is known from few locations in Romania, except Dobrogea. We collected workers from Măcin Mountains. *C. lateralis* is an arboreal species that inhabits warm, xerotherm areas; nests are mostly built in dead wood.

Similar to *C. lateralis*, *Bothriomyrmex corsicus* Santschi, 1923 is known only from several locations in Romania. First record for Dobrogea is given. The species occurs in xerothermous grassland, often in karst regions.

The most important faunistic contribution is represented by the first record of *Camponotus samius* Forel, 1889 for the Romanian ant fauna. Workers were collected from Consulul Hill and Priopcea. The species nests under stones and in the soil and occurs in wooded habitats. The new finding adds to the list of Romania's ant fauna that comprises 113 ant species until now. However, this number is expected to be much higher due to Romania's geographical position and diversity of habitats.

References:

TĂUȘAN, I., A. PINTILIOAIE, 2016 – First Record of the Dacetine Ant *Strumigenys argiola* (Emery, 1869) (Hymenoptera: Formicidae) from Romania. *Travaux du Muséum National d'Histoire Naturelle “Grigore Antipa”*, 58 (1-2): 47-49.

New herpetological records from Ialomița County (Romania)

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Key words: Ialomița County, amphibians, reptiles, records, confirmation.

The Ialomița County is less investigated from a herpetological point of view than most of Romania (see, e.g., Cogălniceanu et al., 2013a,b) – probably the least investigated area of this size in the country.

Our results include new records for 17 species of amphibians and reptiles and two amphibian hybrid forms. Among these we can mention significant range enlargements for *Triturus dobrogicus*, *Pelobates syriacus* and *Dolichophis caspius* in the plain of the Ialomița River; one record for *Bombina variegata* – a rare presence in the Romanian Plain; and 62 localities for the three frog species of the *Pelophylax* complex.

We note that many amphibians use the irrigation ditches and canals. Although these are not in agricultural use anymore, they still drain and collect enough water to ensure successful reproduction for numerous amphibians, protected species included (e.g. *Triturus dobrogicus*).

We also note the wide distribution of a wetland/riparian herpetofaunal assemblage, in both natural and artificial wetlands, and irrigation works. Despite the prevalent anthropic modification of landscape (agricultural monocultures occupy most of the county) and other types of human impact the herpetofauna is still rich and diverse and many populations appear vigorous.

References

COGĂLNICEANU, D., P. SZÉKELY, C. SAMOILĂ, R. IOSIF, M. TUDOR, R. PLĂIAȘU, F. STĂNESCU, L. ROZYLOWICZ, 2013. Diversity and distribution of amphibians in Romania. *ZooKeys*, 296: 35-57.

COGĂLNICEANU, D., L. ROZYLOWICZ, P. SZÉKELY, C. SAMOILĂ, F. STĂNESCU, M. TUDOR, D. SZÉKELY, R. IOSIF, 2013. Diversity and distribution of reptiles in Romania. *ZooKeys*, 341: 49-76.

Genetic diversity of Altai vole *Microtus arvalis* “obscurus” in Armenia

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Key words: Common vole, haplotype, mtDNA, sensu lato.

Microtus arvalis sensu lato is widely distributed species in Eurasia. *M. arvalis s.l.* is a big group of voles which are different karyologically, morphologically and genetically. Previous studies showed that *M. arvalis s. str.* is characterized by high genetic variability in area of its distribution. At least two forms of *M. arvalis s. str.* are known: *M. arvalis* “arvalis” (Common vole) and *M. arvalis* “obscurus” (Altai vole). The “arvalis” form occurs in the European part of Eurasia, and the “obscurus” form is known from Crimea, European part of Russia on West, the Caucasus and Lesser Caucasus on South and Russia, Mongolia on the East. It is known that the “obscurus” form also occurs in Armenia. According to published data only one individual from Sisian in Armenia was analyzed for mtDNA.

In this paper, we present preliminary results of our studies about *Microtus arvalis* “obscurus”. Over 60 samples from Armenia were analyzed for variation of cytochrome b gene of mitochondrial DNA. Our results revealed high genetic diversity of studied voles. 21 haplotypes were found. Affiliation to “obscurus” form was approved.

Our mtDNA sequencing data were compared with sequences from Ukraine, Russia, Turkey, Georgia, Armenia and Kazakhstan available from GenBank.

Phylogenetic position of the Caucasian wolves (*Canis lupus*) compared to the European and Siberian populations of the species

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Key words: mtDNA, haplotype diversity, Armenia, Georgia, Yakutia.

Grey wolf (*Canis lupus*) evolved in central Asia and then expanded and colonized the whole Northern Hemisphere. We analysed a fragment of mitochondrial DNA (223 bp) of 119 wolf samples from Eastern Siberia (Yakutia, n=70) and the Caucasus Mts. (Armenia, n= 33, Georgia, n=16). Data were compared with over 80 wolf haplotypes from Europe, Asia, and North America available in GenBank. Among our samples, we found 17 mtDNA haplotypes (Yakutia – 9; Caucasus – 8); ten of them belonged to haplogroup 1, and seven to haplogroup 2. Both populations had high haplotype and nucleotide diversity (Yakutia: $Hd = 0.817$, $\pi = 0.014$; Caucasus: $Hd = 0.794$, $\pi = 0.021$). The Caucasian wolves shared mtDNA haplotypes with both the west Asian (Turkey, Iran, Saudi Arabia) and the European (mostly the Balkan region) wolves. Six out of 9 haplotypes found in Yakutia have not been previously described. Two were earlier reported from north-eastern Europe, and one from Alaska, Canada and Japan. This suggests that area of Eastern Siberia is an important place for our understanding of evolutionary history of wolves and the origin of American and European populations of the species. The studied wolf populations differed in frequencies of haplotypes belonging to haplogroups 1 and 2. Haplogroup 1 dominated in Georgia (100% of samples), and Yakutia (63%), whereas haplogroup 2 dominated among Armenian wolves (67%).

Sexual dimorphism in bat wings – the effect of parental care or sex-specific accumulation of resources

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Key words: bats, sexual dimorphism, litter mass, body mass, accumulation of resources.

Sexual dimorphism is found in many vertebrate groups and may be the result of different evolutionary mechanisms. One of the manifestations of sexual dimorphism is the difference in body size between male and female (Sexual Size Dimorphism = SSD) (Ribeiro et al., 2015). In the vast majority of mammals, males are larger than females (Blanckenhorn, 2005). Exception is the bats, in which females are often larger than males (Stevens et al., 2013). These differences pertain primarily to weight but also to the size of skull or size and shape of the wings. It is assumed that the difference in size between the sexes may be result of sexual selection, reproductive success, maternal care, or the result of the availability of resources (Williams & Findley, 1979).

We tested the differences in the morphological components of the wings (the length of a third, fourth, fifth finger and the length of the forearm) and wing parameters (tip index, aspect ratio, area index) between males and females of 10 European bat species: *Rhinolophus ferrumequinum*, *R. hipposideros*, *Myotis blythii*, *M. daubentonii*, *M. myotis*, *M. mystacinus*, *M. nattererii*, *Pipistrellus pipistrellus*, *Plecotus auritus* and *Miniopterus schreibersii*, and checked whether the sexual dimorphism of the species may be the result of i) sex-specific differences in the accumulation of resources, ii) differences in weight newborns, litter and the length of gestation.

The most differentiating feature of wing morphology between the sexes is the length of the forearm, while the most differentiating parameter of wing shape is area index. SSD variation of particular wing sizes is explained by the life parameters with varying degrees, with the most differentiated sex-specific body mass differences.

References:

- BLANCKENHORN, W. U., 2005 – Behavioral Causes and Consequences of Sexual Size Dimorphism. *Ethology*, 111: 977-1016
- RIBEIRO, R. D., J. E. McCORMACK, H. G. ALVAREZ, L. CARRASCO, G. F. GREYER, P. MENA-OLMEDO, R. SEDANO, T. B. SMITH, J. KARUBIAN, 2015 – Loss of sexual dimorphism is associated with loss of lekking behavior in the green manakin *Xenopipo holochora*. *Journal of Avian Biology*, 46: 307-314
- STEVENS, R. D., M. E. JOHNSON, E. S. McCULLOCH, 2013 – Absolute and Relative Secondary-Sexual Dimorphism in Wing Morphology: A Multivariate Test of the „Big Mother” Hypothesis. *Acta Chiropterologica*, 15: 163-170
- WILLIAMS D. F., J. S. FINDLEY, 1979 – Sexual Size Dimorphism in Vespertilionid Bats. *The American Midland Naturalist*, 102: 113-126.

Roe deer in Europe – phylogeography and hybridization of *Capreolus capreolus* and *C. pygargus*

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Key words: mtDNA, hybridization, mtDNA haplotype, European roe deer, Siberian roe deer.

Phylogenetic studies on European roe deer *Capreolus capreolus* have so far covered southern, western and south-eastern parts of Europe. Three major mtDNA lineages (western, central and eastern) were recognized (Lorenzini et al. 2014; Randi et al. 2004). They probably originated from three different glacial refugia located in south-western and south-eastern Europe. However, studies on phylogeography of roe deer in the northern, central and eastern parts of the continent are very scarce.

In our study, we analyzed over 900 samples collected in the central-eastern part of the species ranges: from northern Scandinavia to the Balkans and from western Poland to eastern regions of the European part of Russia. In total, we found 174 haplotypes among samples analyzed. Most of mtDNA haplotypes (155) belonged to European roe deer, and they mainly clustered with the central lineage of the species. Additionally, the presence of 19 mtDNA haplotypes of Siberian roe deer *Capreolus pygargus* was discovered, among European roe deer population. They were found in Poland, Belarus, Lithuania, Estonia, Russia, Ukraine, Slovakia, Romania and Hungary. Within the studied area, the level of hybridization reached 27%. Proportions of “Siberian” haplotypes in populations were decreasing from North-East to South-West.

References:

- LORENZINI R., L. GAROFALO, X. QUIN, I. VOLOSHINA, S. LOVARI, 2014 – Global phylogeography of the genus *Capreolus* (Artiodactyla: Cervidae), a Palaearctic meso-mammal. *Zoological Journal of the Linnean Society*, 170: 209-221.
- RANDI E., P. C. ALVES, S. MILOŠEWIĆ-ZLATANOVIĆ, A. SFOUGARIS, N. MUCCI, 2004 – Phylogeography of roe deer (*Capreolus capreolus*) populations: the effects of historical genetic subdivisions and recent nonequilibrium dynamics, 13: 3071-3083.

Paleontological research in the middle basin of the Yana River (Northeastern Russia)

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Key words: the basin of Yana river, mammoth fauna, location.

The Yana river basin and the surrounding areas are one of the most promising regions in Northeastern Eurasia for findings not only skeletal remains, but also well-preserved carcasses of mammoths, woolly rhinoceros and other representatives of extinct animals of Pleistocene – Holocene complexes (Lazarev, 2008). Good preservation of the soft tissues of animals is provided by permafrost, which in Yakutia has almost universal development. So, for the last 15 years, in the basin of the Yana River, about 50% of all unique remains of extinction animals of the Ice Age were found.

In July 2016, in the first part of a multidisciplinary expedition, «Bilim 2016», in the middle basin of the Yana River in the territory of the Verkhoyansky district of Yakutia, our team conducted paleontological studies in 3 localities which support mammoth fauna:

1. «**Batagaika**» site. This location is situated in the vicinity of the village of the same name Batagai in the upper river, which flows into the Yana and is a large pit subsidence oval. The most sensational finds at this location in 2009 were an incomplete carcass of a Holocene horse (4,450 years old) and cub bison mummy (8200 years), as well as an ancient mummy collared lemming of more than 50,000 years old, in 2012 (Novgorodov et al., 2013). Here, we have found 46 bone remains of 4 major representatives of the mammoth fauna, including *Mammuthus primigenius*, *Bison priscus*, *Equus lenensis*, *Rangifer tarandus*, *Saiga tatarica*, *Canis lupus*. From the finds from the soft tissues should be noted first and second phalanx, metacarpal bone and astragal of bison.
2. «**Ulakhan Sullar**» site. This location lies on the right bank of the Adycha River, 8 km below the village Betenkes and is open to 60-65 meters above the floodplain terraces IV, which opened deposits from the Upper Pliocene to Upper Pleistocene (Lazarev et al., 1987). At this location we found 11 bone remains of animals of the mammoth fauna. Analysis of osteological materials revealed that the remains belong to *Bison priscus*, *Equus sp.*, *Cervus elaphus*.

3. **«Bulgutah» River.** New location of the mammoth fauna is located in the lower reaches of the Adycha River, about 10 km from the location “Ulakhan Sullar”. It is a small river, where we have found 44 bones of bison, ancient horse and reindeer.

References:

- LAZAREV, P. A., 2008 – Large mammals of the antropogene of Yakutia / P.A. Lazarev. – Novosibirsk: Nauka, Special Volume 160: 90.
- LAZAREV, P. A., A. I. TOMSKAYA, 1987 – Mammals and biostratigraphy of the late Cenozoic North Yakutia. Yakutsk, 272 pp.
- NOVGORODOV, G. P., S. E. GRIGORIEV, M. Y. CHEPRASOV, 2013 – Prospective location of the mammoth fauna in the river basin Yana. International Journal of applied and fundamental research, 8-2: 255-259.

Environmental gradient analysis and temporal changes of Unionidae (Mollusca, Bivalvia) communities in Romania

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Key words: freshwater bivalves, communities ecology, ordination analysis, statistical models, human impact.

Freshwaters are among the most imperilled habitats worldwide and the naiads (Unionidae) are recognized as one of the most important and endangered part of the communities they shelter. Understanding the changes of the Unionidae communities' structure and their responses to environmental variables are issues insufficiently studied and understood. We evaluated naiad communities selected along geographical and ecological gradients in Romania, and measured several environmental factors at each sampling location. Using constrained ordination analysis (RDA), we learned that the most significant variables, explaining the variance in species composition, were flow, human impact and elevation, and the most explicative factorial variable level are the lower Danube habitats, which shelter the richest naiad assemblages. The species form three pairs distinguished by dissimilar ecological demands and positions in the ordination space. Different preferences and slightly differentiated adaptations and ecological niches may explain their abilities to inhabit a wide range of suitable habitats and to form, and function within, diverse communities. Their diversity decreases significantly with increases in altitude and human impact. By comparing some communities with those of two decades ago, a contrasting image emerges. In some rivers where the former heavy pollution has been reduced, the naiads are recovering. However, the mean diversity of the compared communities is statistically lower at present, indicating that at least in some areas the ecological state of the freshwater systems is slightly worsening. Thus, the naiad communities are shaped by a complex of variables: category of habitat, anthropogenic pressure and different geographical and ecological factors. This heterogenous and multifactorial explicative system is important not only for understanding the driving factors that shape Unionidae assemblages, but also for conservation and management purposes.

Diversity, abundance and dominance of the epigeic arthropods from three biocoenoses of the Măgura Forest, Bacău County, 1978

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Key words: Diversity, abundance, dominance, beach forest, mixed forest, forest weeds.

The paper is a statistic synthesis of the original collecting data on the epigeic arthropods from three biocoenoses: beach forest, mixed forest and forest weeds from the Măgura Forest, 1978.

The material was collected in 1978, using 12 pitfalls in each habitat, with preservative liquid, formalin solution 4 %, protected against rainfalls.

In total, 7720 individuals of arthropods were collected, of which 3981 (51.57 %) from beach forest, 1485 (19.24 %), mixed forest, and 2254 (29.20 %) forest weeds.

In the beach forest, four classes of arthropods were collected, insects are eudominant (3558 individuals, 89.37%) with five orders, of which coleopterans 3268 (91.85%), eight coleopteran families, family Carabidae 2870 (87.82 %) with 22 species. *Abax parallelopipedus*, with 441 specimens represents 15.37%, and *Aptinus bombardae*, with 1408, 49.06 %.

In the mixed forest four classes were also collected, out of which insects 1141 (76.60 %) of five orders, coleopterans 902 (78.77 %), seven coleopteran families, Carabidae 534 (59.20%), and 16 species, *Pterostichus melas*, 191 (35.77 %).

In forest weeds, there were insects 1847 (81.94 %), of 12 orders, coleopterans 1043 (56.47%), 11 families of Coleoptera, Carabidae, 624 (59.83 %) with 11 species, *Pterostichus melas* 260 (41.67%).

The presence of taxons in all biocoenoses is as follows: four classes – Crustacea (Isopoda), Arachnida, Miriapoda, Insecta; four insect orders – Coleoptera, Hymenoptera, Neuroptera, Diptera; six coleopteran families – Carabidae, Scarabaeidae, Silphidae, Staphylinidae, Elateridae, Curculionidae; 10 species of Carabidae – *Carabus coriaceus*, *C.violaceus*, *C. cancellatus*, *C. convexus*, *C. arcensis*, *C. excellens*, *Abax parallelopipedus*, *A. carinatus*, *Pterostichus melas*, *Harpalus aeneus*).

Comparative analysis of the phoretic mite communities (Acari: Mesostigmata) associated with *Ips typographus* from natural and planted Norway spruce stands – Romania

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Key words: beetles, mites, natural, planted, phoresy, spruce.

Mite phoresy performed by *Ips typographus*, the most harmful pests of Norway spruce stands, was the most studied interaction within the group, in Europe. In this study, a comparative analysis of the phoretic mites communities (Acari: Mesostigmata) associated with *Ips typographus* from six natural and six planted Norway spruce stands (from Țarcu Mountains and Poiana Ruscă Mountains – Romania), was made.

1421 individuals of *Ips typographus* were captured; 42.08% had been colonized by mites. In the natural spruce stands, 666 individuals of beetle were identified, with a mean of 111 ± 28.08 individuals per site. 41.44 % had been colonized by mites. The mean number of *Ips typographus* per site that contained mites was 46 ± 14.11 . In the planted forests, 755 individual bark beetles were found (mean number of 125.83 ± 36.71 per site); 42.64% were colonized by mites, with a mean value of 53.66 ± 21.82 per site.

Seven mites species were identified: *Pleuronectocelaeno austriaca*, *Proctolaelaps fiseri*, *Vulgarogamasus oudemansi*, *Dendrolaelaps quadrisetus*, *Trichouropoda polytricha*, *Trichouropoda orszaghi* and *Uroobovella ipidis*. In the natural forests, six Mesostigmata species were identified, with a total abundance of 811 individuals (mean per site 135 ± 47.23). In the planted stands, the number of investigated mites was similar but the numerical abundance was higher, by 1033 individuals (mean per site 172.16 ± 65.45). When the mean number of mites per colonized bark beetles was taken into account, the value is higher in natural forest (0.74 ± 0.40), compared to the planted forests (0.35 ± 0.12).

The comparative analysis showed that there are significant differences in the species composition of the populations and their dominance classes, but no significant differences in species diversity and numerical abundance.

This study was carried out within the framework of the projects: RO1567-IBB01/2016 from the Institute of Biology Bucharest, Romanian Academy.

Differences in tolerance of individual Carabid species in West Carpathian Norway spruce forests to windstorms and subsequent management of destroyed stands

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Key words: Carabids, species tolerance, Norway spruce forests, West Carpathians, windstorms, ecosystem restoration.

The nine-year research carried out in 2007-2016 showed that the Carabid assemblages reacted on the extensive damaging of Norway spruce forest on southern slopes of High Tatras caused by the windstorm on the 19th of November 2004 in three ways. In the sites, where the timber was left *in situ*, the species composition remained almost intact and only abundance and frequency of species was reduced. In the sites, from which the timber was extracted, only more tolerant forests species survived and but they were even able to increase their abundance in comparison with the intact sites. In the sites, which were additionally damaged by fire by turn of July and August 2005, also invasion of non-forest species was recorded. However, within five years the assemblages in the burned sites fully converged to those in other sites with extracted timber.

Independently on the damaging degree and succession stage all assemblages were subjected to periodic fluctuations of number of species and individuals that followed with about 1-2-year delay after occurrence of longer dry or humid seasons. In addition the more termophilous forest species (*Carabus hortensis*, *Carabus nemoralis* and *Carabus coriaceus*) started to occupy some places with extracted timber.

Within these processes the species *Carabus linei*, *Carabus auronitens*, *Cychrus caraboides*, *Pterostichus burmeisteri*, *Pterostichus unctulatus* and *Trechus striatulus* appeared as most sensitive or even intolerant. In contrast, *Carabus violaceus*, *Carabus glabratus* and *Molops piceus* were highly tolerant. A medium tolerance was observed in *Pterostichus foveolatus*.

Impact of climate change on the evolution of the pine processionary moth, *Thaumetopoea pityocampa* (Lepidoptera: Notodontidae) at the Aures, Algeria

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Key words: pine processionary moth, male, forest, Mezbel, temperature, precipitation, altitude.

The pine processionary moth, *Thaumetopoea pityocampa* is a phytophagous insect reported in the region of Aures, Southern Algeria. This latter extends between parallels 34°45' and 35°30'N and longitude 5°45' and 7°E of the international meridian. During the last five years a study was conducted at five stations in the forest of Mezbel, to determine the effect of climatic factors, temperature and precipitation. Mean total precipitation for the year's most humid months exceed 70 mm on axis oriented E-W, then fade in the center with 50 mm and finally decrease to the south with 20 mm. The population dynamics is related to the differences between the summit north and south and the other between the east and west either precipitation or thermal. Sex pheromone traps were installed according to the direction, south, east, west, north, during the period of the flight of males. The number of pine processionary moth males captured is important at a mean temperature higher than 20°C, and the relationship between the accumulated weekly precipitations is negative. The relation between altitude and the number of male moths captured was also analyzed.

Social hybridogenesis: the unorthodox mating system of the *Cataglyphis* desert ants

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Key words: ants, genetic lineages, hybridization, clonal reproduction, genetic caste determination, phylogeography.

Increased genetic variability among offspring is a major advantage of sexual reproduction and; despite a few rare exceptions, the vast majority of animals reproduce sexually. Some species have, however, evolved alternative modes of reproduction by shifting from classical bisexuality to unorthodox reproductive systems to benefit from both sexual and asexual reproductions, like conditional parthenogenesis, gynogenesis, or hybridogenesis. Ant species of the *Cataglyphis altisquamis* group are characterized by a hybridogenetic mode of reproduction. Two distinct genetic lineages co-occur in each population and queens mate with males originating from the alternative lineage than their own. Queens use sexual reproduction to produce an inter-lineage hybrid worker force, but they use asexual reproduction (parthenogenesis) for the production reproductive offspring. Thus, sterile workers systematically arise from the hybridization of two genetic lineages, whereas the sexual forms belong all to the queen lineage. As a consequence, queens maintain genetic diversity in the workers force using sexual reproduction, while they perpetuate their full genomes across generation by never transmitting their mates' alleles to the reproductive castes. As a result, the two lineages remain genetically separated despite constant hybridization.

Using several genetic markers, we examined how hybridogenetic mode of reproduction shapes pattern of genetic distribution in natural populations of 3 species belonging to the *Cataglyphis altisquamis*.

Trace elements bioconcentration to higher rank fish predator is questionable!

Case of study: Biocircuits and toxicokinetics of Cd, Cu and Se in fish fauna from Stânca-Costești Lake, Romania

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Key words: toxicokinetics, food webs, fish fauna, Stânca-Costești Lake, copper, cadmium, selenium.

The heavy metals are not biodegradable in environment (Mendil et al., 2005) and this makes them very stable in tracking the biotransfer, biocircuits and toxicokinetics in different organisms. They must have a natural circuit without anthropogenic pollutions sources in order to track the elements routes in food webs. The samples were collected from the reservoir Stânca-Costești located on the middle course of the Prut River, Romania. Its length is approximately equal with 100 km between the Rădăuți Prut and Stânca, on the Romanian side. From the lake, species which occupy different predatory levels in the food webs were studied. This study was focused on tissue mapping of metals, biocircuit and toxicokinetics (Cd, Cu and Se) for the species: *Aspius aspius* (L.1758), *Abramis brama* (L.1758), *Stizostedion lucioperca* (L.1758), *Hypophthalmichthys nobilis* (R.1845), *Alburnus alburnus* (L.1758), *Perca fluviatilis* (L.1758), *Scardinius erythrophthalmus* (L.1758), *Vimba vimba* (L.1758). The metals were measured using the GF-HR-CS-AAS method with the contrAA600 (Analytik Jena, Germany) apparatus and the Environmental Forensics techniques. The main organs that were studied for each species were: muscle, skin, bones, digestive tract and gonads. This allowed to quantify the interactions between each fish specie. Through this technique, we were able to prove new ecological aspects of the predatory fish species based on trace element circuits.

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References:

MENDIL D, Ö. D ULUÖZLÜ, E. HASDEMİR, M. TÜZEN, H. SARI, M. SUIÇMEZ, 2005 – Determination of trace metal levels in seven fish species in lakes in Toka Turkey. *Food Chemistry* 90:175-179.

Maintenance of colour polymorphism in vipers from warmer environments: does habitat use play a role?

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Key words: resource use, melanism, activity patterns, thermoregulation, *Vipera nikolskii*, reptiles.

Animal colorations represent adaptations to different biotic or abiotic environmental factors and play crucial roles in predator avoidance (via crypsis, aposematism, or mimicry), inter – and intraspecific communication and sexual selection. In ectothermic animals, coloration may also be important for thermoregulation. Color polymorphism (i.e. the occurrence of two or more phenotypic morphs in the same population) is present along numerous animal lineages, and melanism is probably the most studied type. In several Eurasian viper species of the genus *Vipera*, populations greatly vary with regards to the frequency of melanistic individuals, and the maintenance of polymorphism have been attributed to either adaptive or non-adaptive processes. Current theory would predict that melanistic vipers should be more frequent in colder environments (normally higher latitudes or altitudes), and this is mostly confirmed for the Asp Viper (*Vipera aspis*). For Adders (*Vipera berus* complex) however, the pattern is not as broadly supported.

Here we tested the hypothesis that differential habitat use and activity patterns could explain the maintenance of color polymorphism in a viper population from warmer environment. In accordance with the thermal melanism hypothesis, we would expect melanistic vipers to predominantly use less open habitats and/or be more active at cooler temperatures, as they should be thermoregulatory superior to patterned (zigzag) individuals. Overall, our results show a weak support for the differential habitat use hypothesis, with only one habitat characteristic (microhabitat exposure) being significantly associated with morph, but only for females. However, observational data does suggest that activity patterns do differ, with melanistic vipers being especially active during overcast and rainy periods, although no differences were observed between basking site temperatures. Other adaptive as well as non-adaptive hypotheses require testing before we can gain a deeper understanding of maintenance of melanism in vipers from warmer environments.

Habitat and weather influence on the breeding success of White stork (*Ciconia ciconia*) population from Moldova (Romania)

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Key words: habitat selectivity, rainfall influence, monitoring, breeding parameters.

White stork (*Ciconia ciconia*) was a common bird species across Europe but in the Western part it records a steep decline in the 20th century. In Eastern Europe White stork is a common species and in the last decades shifted the nest support to some more artificial ones (electric poles, chimneys, roofs). For Romania it is a widespread species which builds the nest almost only in the area of human settlements. However, the breeding ecology of this species is poorly known in this region. Up to now there were several monitoring programmes at regional or national levels but most of them were based on citizen science which made the data to be limited in analysis.

In 2016 we conducted a new survey for White stork population from Moldova Region, investigating sections of the main river basins in the region and collecting data on habitat, breeding success and weather parameters. We identified that White stork selects human settlements as nesting areas but for feeding, it selects water bodies (Manley’s selectivity index, $w_1 = 7.35$), wetlands ($w_1 = 2.12$) and agricultural fields with a complex cultivation patterns ($w_1 = 1.52$). The species breeding success during 2016 was negatively influenced by elevation (General Linear Model analysis, $t_{\text{value}} = -2.913$, $P = 0.004$) and in certain situations by local hail events. Although in some localities from the Suceava River Basin, at over 400 m altitude, we found an increasing number of occupied nests compared to the previous studies .

The number of chicks per nest was lower ($JZm = 2.25$) then the previous monitoring programme. Also, the number of unoccupied nests was very high ($uH = 35.92\%$) this year. This low reproductive success can be connected with weather variables, food availability, disturbance or even with fluctuations in population levels.

Drinking behavior of the black bellied sandgrouse *Pterocles orientalis* in the south east of Algeria

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Key words: black bellied sandgrouse, drinking behavior, salinity, heavy metals, south east of Algeria.

The black bellied sandgrouse (*Pterocles orientalis* L., 1758) appears to be one of the most adapted species to extreme conditions of arid regions. However, implementing actions to promote in situ conservation based on an understanding of the behavioural ecology of the black bellied sandgrouse populations concerned and the biological and ecological processes involved.

In this study conducted in the south east of Algeria between the year 2014 and 2015, we sampled water from 20 watering sites of the black bellied sandgrouse, and we conducted water tests on the following parameters: the hydrogen potential pH, conductivity (EC) and the rate of: potassium (K), sodium (Na), copper (Cu) and zinc (Zn).

The results show that the variation in pH is between 6.17 and 7.61 with an average of 7.19 ± 0.3 ($n = 20$), while the EC varies between 0.18 and 24.2 mS / cm with an average of 3.73 ± 6.89 mS / cm. Our results show that the concentrations of potassium varies between 1.27 and 93.92 ppm, with an average of 18.61 ± 24.22 ppm, while the changes in sodium concentrations is between 0.13 and 3799.73 ppm, with an average of 668.72 ± 1023.06 ppm . the concentrations of copper vary between 0.12 and 0.24 ppm, with an average of 0.19 ± 0.03 ppm, while the variations in concentrations of zinc is between 0.86 and 1.68 ppm, with an average of 1.31 ± 0.21 ppm. the black bellied sandgrouse uses readily available water, whether fresh or brackish.

Influence of habitat and land use on small mammal communities in a mosaic landscape of Central Romania

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Key words: multivariate analysis, habitat selection, species composition, species richness.

Central Romania (southern Transylvania) is characterised by a heterogenous landscape. The villagers own small plots which they cultivate with different crops, partly still using traditional methods. Semi-natural habitats are represented by pastures, hayfields and woodlands connected by riparian forests. This study focused on the relationships between small mammal community indices and habitat characteristics. We set 107 lines of 35 live traps in all the habitat types found in Hârtibaciu Plateau in August-September 2010 and June-September 2011. For each habitat we recorded vegetation cover and height, land use, altitude, distance to forest and other habitat and landscape parameters. Our objectives were to establish (1) the factors that shape small mammal assemblages in the rural mosaic landscape in southern Transylvania, (2) how do small mammals respond to the environment factors, (3) the seasonal changes in species composition in dependence to the environmental variables and (4) the effects of agricultural land use on the studied communities. In the research area the high landscape heterogeneity is associated with high small mammal diversity. Species composition is shaped mainly by the vegetation characteristics, and especially by tree cover, herbal cover and herbal height.

Along the vegetation gradient there is a high species turnover. *Microtus arvalis* prevails in open habitats, decreasing in ratio as the vegetation height increases, being replaced by *Apodemus agrarius* and *A. sylvaticus*. *A. flavicollis* is the dominant species in forests, its abundance decreasing with the tree cover and the distance to forests. From summer to autumn abundance increases and the species composition changes significantly, being dependent on the herbal cover. Land fallowing is associated with an increase in rodent abundance and diversity, favouring especially *A. agrarius* and *Microtus subterraneus*. Fallows and unused lands with high vegetation shelter the most abundant and diverse assemblages, while pastures have the lowest abundance of small mammals.

Hibernation, aestivation or torpor – how bats are spending winter time?

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Key words: bats, hibernation, aestivation.

Fluctuations in the temperature and in the humidity cause the physiological stress. A consequence of those fluctuations the drop in the body temperature and activation of the mechanism of lethargy can occur.

Lethargy can be divided into subcategories: a hibernation, an aestivation and a shorter periods of lethargy called: a torpor and a stupor.

Hibernation is a state of a long-term lethargy, which occurs as a response to the low temperature and the shortage of food during winter.

Aestivation is a numbness caused by the lack of food and water during hot weather and drought. Aestivation is then similar to hibernation, but occurs in the summer time. These processes have the same adaptive meaning. Animals equipped with the abilities to hibernate or estivate can survive in extreme environmental conditions.

Loss of energy in the body are offset by stored fats, which ensure the state of energy balance. The animal's body during the numbness has the ability to achieve thermal equilibrium in a fairly wide range of physical parameters of the changing environment. The animals control their temperature to keep it slightly higher than the ambient temperature and still optimal for the body.

Radiation, evaporation, convection and conduction are the ways to optimize the bat's body temperature when entering the hibernation or aestivation states.

Bat migration in the western Black Sea area: stable isotopes analysis ($\delta^2\text{H}_r$), ultrasound monitoring and wind turbine mortality events

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Key words: stable isotopes, bats, ultrasound monitoring, wind farms, migration, Black Sea.

This study aims to identify bat migration patterns in the western Black Sea area, via a stable isotope approach, in relation to the wind turbine impact. Fur was collected from bat carcasses originating from wind farms in Dobrogea, Romania and from living individuals captured at Canaraua Fetii and Babadag regions. The stable isotope ($\delta^2\text{H}_r$) analysis was performed at the Leibniz Institute for Zoo and Wildlife Research, Berlin. Samples were flushed at least 1 hour with chemically pure helium in the autosampler (Zero Blank; Costech AT INC) from the elemental analyser (HT Elementaranalysator HEKAtech GmbH). The workflow continued using a Delta V Advantage isotope ratio mass spectrometer (ThermoFisher Scientific), connected via an interface (Finnigan Conflo III, ThermoFischer Scientific) with the elemental analyser. Isoscape models were used in order to identify breeding origins of migratory bats. Results were correlated with a 4 year ultrasound monitoring program from the Babadag wind facility, statistics provided from bat mortality events at wind farms in Dobrogea, roost monitoring, banding data and ultrasound transects both on land, the Danube River and the Black Sea. The sea transects were conducted during the autumn migration period (2016, Anabat SD2 detector), navigating from ROSCI0311 Canionul Viteaz to Vadu Beach. The stable isotope data revealed that approximately 80% of bats originated from maternity areas in the European part of Russia, northern Ukraine and Belarus. Bats migrate within the Dobrogea wind farm catchment area, but also offshore (*Nyctalus noctula*, *Nyctalus leisleri* and *Pipistrellus kuhlii*). Results are of value for a cumulative impact assessment on bat fatalities at wind facilities in Dobrogea, offering a framework for an integrated mitigation program. This can reduce the magnitude of the impact, similar to the Babadag wind facility program, which has

shown significant decrease in bat mortality after a two year treatment (increasing blade cut in speed).

Role and structure of Venetian villas as important factor to support the presence of bats (Mammalia: Chiroptera) and as preferential habitat for rare bat species in NE Italy

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Key words: Bats, Venetian Villas, *Myotis emarginatus*, *Myotis daubentonii*, *Nyctalus lasiopterus*, N.E.Italy.

In the country landscapes of N. E. Italy, a large number of Venetian villas were built in the last three centuries of the Venice Republic. The structure of a typical Venetian villa presents buildings, but also great parks or only few relict very old trees with hollows, that may represent important roosts for bats. Also, ice-houses may provide roosts for bats.

In the last 20 years, a series of researches in Venetian villas and parks gave interesting results on bat fauna. Two important cases, that received long-term researches in two villas in Riviera del Brenta, are presented here:

In Villa Belvedere, in an historical romantic park in the municipality of Mirano (Venezia), an underground system formed by an artificial cave associated with the ice-house provides roost for the first known colony of *Myotis emarginatus* of the region Veneto. Other species recorded in the artificial cave were: *Rhinolophus ferrumequinum*, *Plecotus auritus*, *Eptesicus serotinus*, *Pipistrellus nathusii*.

In Villa Brusoni-Scalella (municipality of Dolo; Venezia), in an historical romantic park, the ice-house of the artificial hill provides roost for a summer colony of *Myotis daubentonii*, the second known for the Region Veneto. Other species recorded in the ice-house was: *Plecotus auritus*; in the park were recorded: *Pipistrellus kuhlii*, *Hypsugo savii*, *Eptesicus serotinus*, *Myotis daubentonii*, *Nyctalus lasiopterus*.

Some parks of Venetian villas may be very important for rare bat forest species, as *Nyctalus lasiopterus*, recorded only in two different parks of the region Veneto (with similar habitats) in the last twenty years.

In the last years 32 different selected parks of Venetian villas were monitored and studied; the regional Institute for Venetian villas has listed about 4000 villas, several with the original historical park annexed. We calculate a possible number of at least 200 sites of Venetian villas important for bat presence (colony, number of species, rare species) in N. E. Italy, particularly in the region Veneto.

Transition from state acceding to the EU on EU member state. Romania's first reporting under the Habitats Directive (92/43/EEC) and the Birds Directive (79/409/EEC)

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Key words: CORINE Programme, Habitat Directive, Bird Directive, Emerald Network Pilot Project, Natura 2000 Network.

The **CORINE Programme** was established in 1985 by the European Commission to create a harmonized geographical information system on the state of the environment in the European Union. Between 1990 – 2006, the CORINE Programme has been the establishment of a computerized inventory on the land cover and designated sites of importance for species and habitats included in programme. The CORINE Programme has two components: CORINE Biotopes and CORINE Land Cover. This programme transformed CORINE into an operational system within the European Environment Agency. After 1990, the scope of the Biotopes database was to extended and to include countries of Central and Eastern Europe, and members of EFTA.

Between 1994-1997 (1998), for the CORINE Biotopes in Romania Project, the Institute of Biology Bucharest – Romanian Academy was the national coordinator. As a result of the studies by CORINE Biotopes Program, there were identified 783 habitat types (13 coastal, 89 freshwater, 196 grasslands, 206 forests, 54 bogs, mires and fens, 90 rocky and sand, and 135 agricultural land) distributed in the whole country into the 261 areas. At the same time, the natural and semi-natural ecosystems cover 47% of the country's area.

During the accession period 1999 – 2006, in Romania, **Emerald Network Pilot Project** was developed. In 2000, the Council of Europe invited Romania to start the Emerald Network pilot project. This started in December 2000 when the legal framework of the Emerald Network and criteria for selection of ASCIs (7 sites) were established.

Starting with 2007, it was designated **Natura 2000 Network**. The national report includes the information about the presence of species and habitats into the Sites of Community Interest (SCI) in Romania (Order no. 2387/2011).

For reporting certain articles, **Habitats Directive** (Articles: 6, 12, 16 and 17) requires Member States to report on the conservation status of habitats and species, on compensation measures taken for projects having a negative impact on Natura 2000 sites or on derogations they may have applied to the strict protection measures. First Romanian Report was in 2013. National Summary for Article 17

includes the evaluations for 85 type of habitats listed in Annex I and for species: 162 – Annex II, 174 – Annex IV, and 35 – Annex V. The reports were done for the presence of species and habitats according to their distribution on the biogeographic regions: 168 for habitats and 575 for species, in total 743 reports.

The **Birds Directive** aims to protect all of the 500 wild bird species naturally occurring in the European Union. All Member States have to submit reports on the status and trend in bird populations (Article 12) as well as on derogations (Article 9) they may apply to the directive's obligations. First Romanian Report was submitted to the European Commission in 2014 and includes the evaluations of 361 bird species.

For both directives, the total number of reports included in the national reports was 1104.

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New distributional records of *Radiatula lima* (Simpson, 1900) and *Lamellidens daccaensis* (Preston, 1912), freshwater bivalves from India

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Key words: *Radiatula lima*, *Lamellidens daccaensis*, freshwater mussels, India.

Freshwater bivalves are considered important for their unique life cycles, vulnerable status and filter feeding mechanism. The need to understand their diversity is directly related to their conservation, valuable roles in the ecosystems and also in an evolutionary context. Therefore, the current two new records of the extended distribution of *Radiatula lima* (Simpson, 1900) and *Lamellidens daccaensis* (Preston, 1912) will contribute to the freshwater mussel biodiversity research in India. The former species was collected from River Krishna, Nagarjuna Sagar, Telangana State, South Indian region. The latter from River Godavari, Nashik, Maharashtra state, Western Ghats region. These are the first records from the respective regions. *L. daccaensis* is an interesting finding from the Western Ghats, as the region is one of the world's biodiversity hotspots and recognized as UNESCO world heritage site. The present report on *L. daccaensis* counters its disjunct distribution and is no more to be considered a rare freshwater mussel species in India. On the other hand, this article re-describes the morphological characters of *R. lima* and provides an account on its taxonomic history. It also gives an account on conchological variations observed in the shell form with growth in *R. lima*, which was featured in the literature as an important criterion for this species.

Preliminary data on the genetic diversity of *Isophya camptoxypha* in the Carpathians

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Key words: Alpine species, phylogeography, low-dispersal ability, mitochondrial markers.

The Curve-tailed Plump Bush-cricket, *Isophya camptoxypha* (Fieber, 1853), is a species with a Central European distribution, in the Carpathians and Eastern Alps, being reported from: Romania, Slovakia, Ukraine, Poland, Hungary and Austria. The habitat preferences of this species comprise subalpine mesophytic meadows, dominated by dicotyledonous broadleaf plants.

Morphologically, the species belongs to a larger group called “*Isophya pyrenaica*”, which comprises 16 bush-cricket species (Warchałowska-Śliwa et al., 2008). Due to the morphological similarities inside the group, the best way to identify *I. camptoxypha* is by analyzing the male song patterns (which are species-specific) and the male-female duets (Heller et al., 2004).

In this study we analyzed the genetic diversity of *I. camptoxypha* using two mitochondrial gene fragments: cytochrome C oxidase subunit I (COI) and 16s ribosomal gene (16s). Eighty-three specimens, which were recorded and identified by morphology and song pattern, from 37 populations across the Carpathians have been analysed. Different phylogenetic reconstruction methods resulted in similar tree topologies with *Isophya modesta* as outgroup. A haplotype network was also constructed and overimposed on the geographical distribution of the samples, which revealed two major clades with sympatric lineages within the populations of *I. camptoxypha* in the Carpathians. Our data suggest that the two clades have been isolated from each other for a long period of time and during interglacial periods multiple colonization events may have happened from several refugia. We also identified an additional haplotype lineage in the Koszeg Mountains, close to the Austrian border.

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References

- HELLER, K.-G., K. M. ORCI, G. GREIN, S. INGRISCH, 2004 – The *Isophya* species of Central and Western Europe (Orthoptera: Tettigonioidae: Phaneropteridae). Tijdschrift voor Entomologie 147: 237–258.
- WARCZAŁOWSKA-ŚLIWA, E., D. P. CHOBANOV, B. GRZYWACZ, A. MARYAŃSKA-NADACHOWSKA, 2008 – Taxonomy of the genus *Isophya* (Orthoptera, Phaneropteridae, Barbitistinae): comparison of karyological and morphological data. Folia biologica (Kraków) 56(3–411): 227–241.

New approaches in sturgeon conservation and aquaculture by using genetic and biochemical markers

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Key words: sturgeons, molecular markers, *ex-situ* conservation, aquaculture.

The overexploitation and the poaching of the wild sturgeons, together with other factors (pollution, destruction of habitats) have influenced sturgeons in such a way that, at the present stage, the majority of the species are at the extinction limit. Four sturgeon species are still found in the Lower Danube: *Acipenser gueldenstaedtii* (Russian sturgeon), *A. stellatus* (stellate sturgeon), *A. ruthenus* (sterlet sturgeon) and *Huso huso* (beluga sturgeon). Also, in Romanian fish farms, beside these valuable species in terms of producing high quality caviar or meat, exotic species, such as the Siberian sturgeon (*A. baerii*), and different interspecific hybrids with significant commercial importance are nowadays reared. The fragile status of the wild populations together with the high economic value of the sturgeons have imposed the development of strategies for conservation and efficient rearing in aquaculture.

The progress in the field of sturgeon genetics has led to the development of molecular markers with great utility in population genetics, conservation biology and aquaculture. Our studies based on mitochondrial (*cyt b*, *co I* and control region) and nuclear markers (microsatellites) analysis were directed to species and hybrids identification, the evaluation of the genetic diversity and structure of wild populations and the assessment of the significant units for conservation. The analysis of sturgeon stocks from aquaculture aimed at the genetic variability inference, the early sex identification based on molecular markers (*ar*, *dmrt1*, *sox9*, *wt1*, *foxl2*, *cyp17a1*, *star*, *lh* and *igf1*) investigation and the biochemical and molecular study of the effects induced by different stress factors.

In the previous mentioned topics the analysis of the genetic and biochemical markers proven to have a great utility and potential to support both the *ex-situ* conservation of the wild populations and the efficient rearing of the sturgeons in aquaculture.

Protection of the Szachownica Cave (Central Poland) as an example of rescue a valuable bat wintering shelter

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Key words: bats, hibernation, microclimate, protection, Szachownica cave.

The Szachownica cave (Kraków-Wieluń Upland, Poland) is an underground system, with a very diverse microclimate and a huge number of crevices providing a hideout for many species of bats (Hejduk and Radzicki, 1996). Since the cessation of limestone mining (over 50 years), number of wintering bats increased from 300 to more than 2,900 ex. from 11 species present. Among wintering species, *M. nattereri*, *B. barbastellus*, *M. myotis* and *P. auritus* are the most numerous (Lesiński et al. 2011). The cave and its surroundings is also a place of the largest bat swarming site in Poland.

In recent years, there has been gradual worsening by the frost destruction, which leads to the possibility of the desintegration of major part of the cave, including locations of wintering mainly *B. barbastellus* and *P. auritus*. To prevent damage of the cave the mining methods were used. Since the mining methods can i) restrict access to bats shelter, and ii) change microclimate, because of it we conducted complex monitoring for both: bats fauna and microclimate changes before, during and after work (currently). Monitoring of the number of bats was carried out twice during the winter: at the end of January and in March. Temperature and humidity (thermohygrometers ibutton) was taken in 9 points in the cave, and 1 outside (interval 2 h) into three periods: before cave protection (2009/10), during the safety work (2014/15), and after the completed work (2015/16).

Securing the cave i) did not result in the significant changes in microclimate, while it limited penetration of water (and also frost damage), ii) did not change species composition, or species-specific trends in the amount of bats hibernating in the cave. However, to fully assess the impact of changes, monitoring of bat fauna and microclimate will be continued by next several years. Conservation works on a territory the Szachownica cave were financed from project LIFE12 NAT/PL/000012.

References:

- HEJDUK J., G. RADZICKI 1996 – Changes in numbers of bats hibernating in the „Szachownica” cave (during season 1993/94 and 1994/95). Pp. 41–55 *In*: B. W. Wołoszyn, The actual problems of bat protection in Poland, Publication of Chiropterological Information Center, ISEZ PAN Kraków, 1 – 224 pp.
- LESIŃSKI, G., M. IGNACZAK, M. KOWALSKI, 2011 – Increasing bat abundance in a major winter roost in central Poland over 30 years. *Mammalia*, 75: 163-167.

Comparative analysis of bat communities (Mammalia: Chiroptera) hibernating in stone quarries from Bychok and Saharna of Nistru Valley, Republic of Moldova

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Key words: bats, hibernation, stone quarries, Bychok, Saharna, structure, diversity.

The studies were performed in abandoned stone quarries near villages Bychok and Saharna of the Republic of Moldova, in the winter of 2013-2014. The ceiling consists of multiple cracking, remained after extraction activities and has a height of between 1.5 and 3 m. The bats were studied directly by visual observations. On the whole, 638 individuals of 9 species (*Rhinolophus hipposideros*, *Myotis blythi*, *M. daubentonii*, *M. dasycneme*, *M. mystacinus*, *Plecotus auritus*, *P. austriacus*, *Barbastella barbastellus*, *Eptesicus serotinus*) were registered: in Bychok – 313 individuals of 6 species, in Saharna – 325 individuals of 9 species. Daubenton's bat was the most abundant, that constituted more than half of the total number, while at Saharna the Serotine bat dominated with almost half of the whole community. Most of the individuals were found in cracks solitarily, except the Serotine bat that was found solitary as well as in small groups, ranging from 2 to 10 individuals. The species diversity was higher and species distribution was more even in winter period than at the end of hibernation. It must be mentioned the presence of *B. barbastellus* species with approximately 2% in each study period in Saharna mines. It is a very rare, endangered species of our fauna and the Saharna site represent the only known hibernation place of this species in R. Moldova. The stone quarries near Bychok and Saharna represent the most important underground roosts for bats in Moldova, where hundreds of individuals of more than 9 species hibernate.

Ecological aspects of bat hibernacula protection in cave and cave-like shelters

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Key words: bats, hibernation, protection of winter refuge, synanthropization.

Bats are small, endotherm mammals. They have high metabolic rates and high food intakes. But food supply for bats is usually in temperate regions seasonally. For this reasons such animals like bats and other small mammals, need to chose adequate strategy to survive during the period when the food is scarce.

Among some mammal survival strategies there are: switch to an alternative and more plentiful food supply; store food in times of plenty; migrate to a place where is food; hibernation. Majority of bats from the temperate zones of the world chose the last one. We can name such survival strategy as “**escape in time**” in contrast to the strategical survival of the migratory bird species as “**escape in space**”.

For hibernate bats it is very important to found a safety and ecologically adequate hibernaculum. Before they begun to use of men-made shelters, bats used two main natural types of roosts: caves and trees. The caves are more important because provide permanent roosts which can be used by many generations of bats.

Bats can use underground shelter depending on environment conditions and its geographical position. During hibernation, bats are exposed to potentially many disturbances. Extensive disturbance may be dangerous for bats and may limits their chance to survive over the winter time. For this reason, protection of hibernacula and also summer shelters of breeding colonies of bats need protection.

A characteristic feature of cave climate is the predominance of three elements: temperature and relative humidity of air and absence of light. The aforementioned climate factors show a distinct gradient inside the cave.

In addition to the above-described three main elements of climate there are some others: atmospheric pressure; speed and direction of air flow; percentage air composition; heat radiation.

A moderate flow of air accelerates biological cooling of bats and facilitates entry into hibernation

Protection of bats should be address first and foremost to the winter shelters. To do this, a certain number of caves and “cave-like” shelters need to be selected, which present places of the largest winter colony habitats and protect those places as best as possible. The method of protection for shelters should be developed for each site individually, in such a way that it is not difficult for bats to enter and fly out, prevent attacks of the predators, prevent intrusion into the interior by unauthorized people and preclude significant changes to the microclimate of the refuge.

Preliminary insights into the phylogeography of Marbled Polecats (*Vormela peregusna*)

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Key words: haplotype network, genetic distances, subspecies, protected species.

The marbled polecat is a medium sized mustelid belonging to the monotypic genus *Vormela* and described by Gldenstdt, in 1770. *V. peregusna* is a largely distributed species in Europe and Asia with a complicated and poorly studied infraspecific taxonomy (Abramov et al., 2016). Across its distribution range, six subspecies are generally accepted (*V. p. peregusna*, *V. p. euxina*, *V. p. negans*, *V. p. pallidor*, *V. p. alpherakyi*, *V. p. syriaca*). The species is listed as vulnerable (VU) in IUCN Red List due to the loss of natural steppe and desert habitats which were converted in cultivated farmland.

The marble polecat is the least studied species of the Mustelidae from a molecular point of view. Genetic analysis of marble polecat populations were performed only with mitochondrial *Cythochrome b gene* on a small number of samples, due to the elusive nature of the species (Roznov et al., 2006; Roznov et al., 2008; Ibis & Tez, 2014). We analysed six Romanian specimens combined with data from GenBank to offer a preliminary insight into the phylogeography of marbled polecats using a Cytb gene fragment.

The ML analysis revealed 9 haplotypes closely related and rather localized geographically. A single haplotype has been identified in the Romanian samples. This phylogeographic pattern usually indicates a low gene flow in recent time and a more abundant one in the past, which might be correlated with the mentioned habitat loss in marble polecat.

References:

- ABRAMOV, A.V., A. KRANZ, T. MARAN, 2016 – *Vormela peregusna*. The IUCN Red List of Threatened Species 2016. <http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T29680A45203971.en>. Downloaded on 31 October 2016
- ROZHNOV, V.V., I.G. MESCHERSKY, A.V. ABRAMOV, 2008 – Geographical variation of the marbled polecat *Vormela peregusna* (Carnivora: Mustelidae): Molecular genetic study. Doklady Biological Sciences, 418(1): 138 – 141.
- ROZHNOV, V.V., I.G. MESCHERSKY, M. V. KHOLODOVA, 2006 – Molecular genetic study of marbled polecat (*Vormela peregusna*, Carnivora: Mustelidae). Doklady Biological Sciences, 407(4): 567 – 570.
- IBIȘ, O., T. COȘKUN, 2014 – Phylogenetic Status and Genetic Diversity of the Turkish Marbled Polecat, *Vormela peregusna*, (Mustelidae: Carnivora: Mammalia) inferred from the Mitochondrial Cythochrome b Gene. Vertebrate Zoology, 64 (2): 285-294.

Observation of Eurasian otter's diel activity using camera trapping in Central-eastern Romania

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Key words: *Lutra lutra*, nocturnal, activity patterns, non-intrusive monitoring, camera traps.

Which is the diel activity of otters, are they nocturnal animals, or active in daytime? It might be both of them, even if individuals of the same species, in some regions, are definitely more diurnal than nocturnal. Why are they nocturnal? This nocturnal behaviour has little to do with people's disturbance, as it is often thought; however otter's nocturnal behaviour is primarily related to the availability of prey and fish behaviour.

Salmonids and many other freshwater fish are often inactive during night, waiting still on the bottom of the water and it is presumed to be more vulnerable to otter's predation then.

The diel activity of the Eurasian otter along its habitat was studied from March 2011 to April 2016 over 1356 days & nights of camera trapping. The camera traps have recorded a total of 222 otter visits at all 10 monitoring sites. Otters, passing through the monitoring sites, were strongly nocturnal and displayed a trimodal diel activity pattern, one occurring just before dawn (between 04:00 and 06:30 h), the second one occurring just after dusk (between 18:30 and 22:00 h) and the third one occurring in the middle of the night (between 00:30 and 01:30). Otters have been also active during the Civil Twilight (7.2 %), more active during the dusk (5 %) than during the dawn (2.3 %).

Seasonally the Eurasian otters were more active during winter (39.6 %) and progressively less active in spring (31.5 %) summer (9 %) or autumn (19.8 %).

Seasonal habitat selection in relation with food-resource availability for brown bears in the Romanian Carpathians

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Key words: GPS tracking data, home range, compositional analysis, habitat prioritization, brown bear, Romanian Carpathians.

Romanian Carpathians shelter the largest brown bear (*Ursus arctos*) population in Europe but its future is not certain. Bears must cope with habitat losses due to deforestation while criticism appeared on current hunting management, possible over-estimated quotas questioning the long-term viability of this population. Yet nothing is known about local particularities in bears habitat selection, home range size and movement ecology, mandatory information for conservation strategies of large carnivores worldwide. Using GPS tracking data, we estimated home range sizes and investigated seasonal habitat selection at population and home range scales. We derived seasons according to bear's food-resource availability and used compositional and factorial analysis of selection ratios in 'adehabitatHS' to rank the habitats. Average home range size \pm SE has the following seasonal variation: Winter $\sigma^2=133.9\pm 38.1$ and $\phi^2=67.1\pm 60.1$; Low-feeding and reproduction season $\sigma^2=368.1\pm 186.5$ and $\phi^2=196.3\pm 153.9$; Wild berries season $\sigma^2=245.0\pm 123.4$ and $\phi^2=288.2\pm 66.5$; Intense-feeding season $\sigma^2=767.6\pm 234.6$ and $\phi^2=342.1\pm 122.7$ km². At population scale bears commonly select mixed and coniferous forests in Winter and Low-feeding and reproduction seasons, mixed forest and transitional woods and shrubs of the subalpine zone during the Wild berries season, and mixed and deciduous forests during the Intense-feeding season. Similar selection patterns are revealed for home-range scale, except for the Intense-feeding season when deciduous forests and agricultural lands have higher ranks. Factorial analysis reveals rather different selection behaviors between bears at both population and home range scales, except for the Intense-feeding season when females tend to be less generalist than males. We clearly demonstrate forests categories are the most selected, followed by transitional woods and shrubs and to a lesser extent agricultural lands, especially in summer and autumn for their abundant food resources. The highlighted seasonal differences in range sizes and habitat selection will help in prioritizing habitat conservation for brown bears in the Romanian Carpathians.

Combining sign surveys and home range data to estimate brown bear density in the Romanian Carpathians

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Key words: transects, abundance, density, occupancy models, brown bear, Romanian Carpathians.

One of the prerequisites for sustainable wildlife management is accurately estimating population density. The Romanian Carpathians harbor the largest brown bear (*Ursus arctos*) population in Europe, yet current management relies on estimates of density from track surveys that lack statistical oversight and ignore uncertainty. Here, we investigate an alternative approach to estimate brown bear density using sign surveys along transects, using a novel integration of occupancy models and home range methods. We performed repeated surveys along 2-km segments of forest roads during three distinct seasons: spring 2011, fall-winter 2011, and spring 2012, within three game management units and a Natura 2000 site. We estimated the abundance along transects using N-mixture models using the number of unique tracks observed per survey occasion. We combined these abundances with core home range estimates (12.1 ± 3.3 km² based on telemetry data from 17 bears for 1-month periods overlapping our surveys windows) to obtain brown bear densities. Our analyses yielded average brown bear densities (and 95% confidence intervals) for the three seasons of: 6.3 (3.4 – 9.2), 6.1 (3.2 – 9.0), and 6.8 (3.8 – 9.8) individuals/100 km². Across game management units, mean densities ranged between 4.1 and 8.1 individuals/100 km². Although our method incorporates multiple sources of uncertainty (e.g., effective sampling area, track counts), it can be used as a temporary approach to monitor brown bears until implementing DNA capture-recapture methods is regionally feasible.

The organismal aspect of the natural history museum collection

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Key words: culture morphology, collection management, museum viability.

According to culture morphology, we can approach the museum collections as living organisms. A living organism has besides its structure, specific functions which have their counterparts in the organization and operation of collections. Historical studies of collections revealed patterns in their genesis and development similar to living organism's metabolism. We propose here a descriptive structure of collections similar to the organization of a biological organism. Besides the fundamental importance of such study, its advantage is to reflect on the perception of natural history curators, in the same way they reflect on biological objects of study (organism or group of organisms in which they are specialized), in order to address collections as a direct object of interest. This can lead to an increased awareness of the collections by the curators and therefore a more sustainable management. Although exhibition issues are discussed extensively in the management plan of museums, collections do not receive close attention at all; on the contrary, the general view of modern museology is to regard them as something expendable. Our aim is to move the focus and the stake, in terms of discussion about the museum viability, on the collection itself.

POSTER PRESENTATIONS

**Two new species of feather mites (Acarina: Psoroptidia)
from the Blue-throated Blue Flycatcher, *Cyornis
rubeculoides* (Passeriformes: Muscicapidae)**

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Key words: feather mites, taxonomy, new species, India.

Feather mites (Acariformes: Analgoidea and Pterolichoidea) are mutualistic symbionts that can be commonly found on birds. The diversity of feather mites in India is poorly known, data on species recorded in this country are scattered among various taxonomic works. The studied acarological material was collected in October 2014 by authors, in a scientific expedition organized in Kharkhana (Jaintia Hills District, Meghalaya, Northeast India).

We present here the description of two new species of feather mites collected in this expedition from the Blue-throated Blue Flycatcher *Cyornis rubeculoides* (Passeriformes: Muscicapidae). The two new species of feather mites are: ***Trouessartia* sp. nov.** (Trouessartiidae) and ***Proterothrix* sp. nov.** (Proctophyllodidae: Pterodectinae).

The feather mite genus *Trouessartia* Canestrini, 1899 comprises 112 species associated predominantly with birds from the order Passeriformes. Both sexes of ***Trouessartia* sp. nov.** differ from the closest species, *T. rubecula* Jablonska, 1968 by having setae *si*, *c2* lanceolate and setae *c3*, *sRIII* with acute apex. In males of the new species, the adanal apodemes have the hook-like retroverse apophysis and the internal margins of terminal lamellae have a shallow invagination at level of setae *h3*.

The genus *Proterothrix* Gaud, 1968 (Proctophyllodidae: Pterodectinae) includes 28 species of which 26 were arranged in three species groups: *megacaula* (3 species), *schizothyra* (4 species) and *wolffi* (19 species). The new species of the genus ***Proterothrix* sp. nov.** belongs to the *wolffi* species group by having almost closed coxal fields III in males and parallel-sided terminal cleft in females. Both sexes of ***Proterothrix* sp. nov.** differ from the closest species, *P. cyornis* Mironov and Tolstenkov, 2013, mainly by the ornamentation of dorsal shields: it is absent on the prodorsal shield and poorly expressed on the hysteronotal shield. In males of the new species, the supranal concavity is triangular and the genital arch has a pair of small ovoid sclerites at its tips.

Micro-CT study of the mouthparts of *Mesoniscus graniger* (Crustacea, Oniscidea): first data

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Key words: *Mesoniscus graniger*, mouthparts, micro-CT.

The mouthparts, labrum, maxillipeds, maxillae, maxillules, paragnaths and especially the mandibles, play very important role in the taxonomy and systematics of the Crustacea in general, and of the Oniscidea in particular.

However, the classic studies, although supported by modern methods such as SEM, are destructive and in most cases, do not allow us to infer with precision the real morpho-functional relationships between the various components of the mouthparts.

For this reason, in order to more precisely understand the anatomic connections between the partial morphological structures of the mouthpart complex of the isopod *Mesoniscus graniger*, the troglophilic representative of the suborder Oniscidea, we have used a state-of-the-art method, the micro-CT scanning because X-ray computed microtomography (micro-CT) produces high resolution quantitative 3D imaging of such a small biological sample. The CT images were obtained using an industrial system GE phoenix v|tome|x L 240 (General Electric, USA) equipped with a 180 kV/20W maximum power X-ray nanofocus tube, with achievable resolution < 1 µm and built-in computer cluster and software packages for fast, high-quality CT reconstruction. Data analysis was made using 3D visualization software Volume Graphics Studio Max 2.2.

The sample preparation used in this study represents an advantage over SEM microscopy: it is fast, cheap, non-destructive and re-usable for further investigation. As such, it allows us to save valuable and irreplaceable specimens from destruction during preparation or measurement. Thus, it is possible to study the structural details of precious type specimens/holotypes.

Oniscidea, Diplopoda and Chilopoda from Pădurea Călugărească (South-Eastern Romania)

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Key words: South-Eastern Romanian Plain, Oniscidea, Diplopoda, Chilopoda.

Although at present, we have quite a good knowledge concerning Oniscidea, Diplopoda and Chilopoda of Romania, there are still less investigated regions like the eastern part of the Romanian Plain. Our work is the first attempt to investigate the invertebrate fauna from a site located in a less known region of the Romanian Plain.

Pădurea Călugărească (44°32'53"N; 27°19'33"E) covers approx. 13 km² and is situated in the Ialomița Plain (the south-eastern part of the Romanian Plain) close to the city of Slobozia. It is composed of three types of habitats: 1. mixed Danubian-Pontic forests with *Quercus*, *Fraxinus* and *Ulmus*; 2. Danubian-Pontic forests of *Populus alba* and *Rubus cescius* and 3. *Robinia pseudoacacia* monoculture.

The material was collected using a qualitative approach between July 2015-March 2016. In this time interval we can record the presence of 33 species of from the three groups.

There are 7 families of Oniscidea: Ligiidae (*Ligidium hypnorum*), Platyarthridae (*Platyarthrus attanassovi*), Agnaridae (*Protracheoniscus* sp.), Trachelipodidae (*Porcellium* sp., *Trachelipus arcuatus* and *Trachelipus difficilis*), Cylisticidae (*Cylisticus brachyurus* and *Cylisticus transsilvanicus*), Porcellionidae (*Porcellionides myrmecophilus* and *Porcellio scaber*) and Armadillidiidae (*Armadillidium vulgare*).

Only 4 families of Diplopoda are recorded: Lophoproctidae (*Lophoproctus lucidus*), Polyxenidae (*Propolyxenus trivittatus*), Polydesmidae (*Brachydesmus superus* and *Polydesmus complanatus*) and Julidae (*Cylindroiulus boleti* and *Xestoiulus laeticollis*).

Species belonging to 6 families of Chilopoda, were collected: Lithobiidae (*Lithobius aeruginosus aeruginosus*, *L. burzenlandicus euxinicus*, *L. crassipes*, *L. forficatus*, *L. melanops*, *L. nigripalpis*, *L. parietum*), Cryptopidae (*Cryptops anomalans*), Dignathodontidae (*Henia illyrica*), Geophilidae (*Clinopodes flavidus*, *Geophilus flavus*, *Stenotaenia linearis*), Linotaenidae (*Strigamia crassipes*) and Schendylidae (*Schendyla tyrolensis* and *Schendyla mediterranea*).

Using only qualitative collecting methods, we provide some data that emphasize the importance of plains in supporting the biodiversity of soil-dwelling organisms and show the potential of this regions in Romania for further, more complex studies.

New records of springtails (Hexapoda: Collembola) in Romania (Mehedinți Mountains, SW Carpathians)

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Key words: Collembola, new records, Romania.

The authors present four species of Collembola (*Pachyotoma recta* (Stach, 1930), *Megalothorax incertus* Börner, 1903, *Pygmarrhopalites infrasecundarius* (Loksa & Rubio, 1966) Vargovitsh, 2009 and *Pygmarrhopalites longicornis* (Cassagnau & Delamare Deboutteville, 1953) Vargovitsh, 2009) which are reported as new for the Romanian fauna. Notes on the taxonomic status, morphology and distribution of the species are given.

In 2015, the Collembola fauna of Romania was represented by 423 species (Popa et al., 2015). Therefore, the number of collembolan species from Romania has been increased to 427 species.

Pachyotoma recta (Stach, 1930) is a species with an European distribution, being recorded from mountain regions, mostly from wet mosses on rocks, often near streams and waterfalls (Potapov, 2001). In Romania, it was collected from the entrance area of the Lazului Cave (Mehedinți Mountains).

Pygmarrhopalites infrasecundarius (Loksa & Rubio, 1966) Vargovitsh, 2009 has been described and recorded up till now only from Hungary, in the litter of a Ceraso-Quercetum plant association (Bretfeld, 1999). In Romania, it was collected from the litter of a deciduous forest near the entrance area of the Lazului Cave (Mehedinți Mountains).

Pygmarrhopalites longicornis (Cassagnau & Delamare Deboutteville, 1953) Vargovitsh, 2009) is recorded only from caves in France and Austria (Bretfeld, 1999). In Romania, it was collected from a gour surface in the Cloșani Cave (Mehedinți Mountains).

References:

- BRETFELD, G., 1999 – Synopses on Palaearctic Collembola: Symphyleona. – Abhandlungen und Berichte des Naturkundemuseums Görlitz 71(1): 1–318.
- POPA, I., I. NAE, A. GIURGINCA, L. DOROBĂȚI, 2015 – New records of Collembola and Araneae species for the Romanian fauna (Leaota Massif, Southern Carpathians). Poster presentation, The Eighth Annual Zoological Congress of „Grigore Antipa” Museum.
- POTAPOV, M., 2001 – Verzeichnis der Apterygogena Ungarns. Annales historico-naturales Musei nationalis hungarici, 26, 269–312.

**Lectotype designation for the species *Tillus pallidipennis*
Bielz, 1850 (Coleoptera: Cleroidea: Cleridae)**

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Key words: Cleridae, *Tillus pallidipennis*, lectotype designation.

After examining the Cleridae material held in the collections of the Natural Sciences Museum of the Brukenthal Museal Complex in Sibiu, in the collection of the Transylvannian Society for the Study of Nature, a single specimen of *Tillus pallidipennis* bearing a “Cotypus” (sintype) label was discovered. There is no positive evidence concerning the existence of another specimens of the type-series of this species in other collections, at least in the ones of the Hungarian Museum of Natural Sciences from Budapest (Otto Merkl, *pers. comm.*) or of the Natural Sciences Museum from Wien, in which some specimens of the type-series could exist. According to the general provisions of the last edition of the International Code of Zoological Nomenclature and under the particular provisions of the Article 74.1 of the abovementioned Code (“Designation of a lectotype”) the named specimen is hereby designated as lectotype for the species *Tillus pallidipennis* Bielz, 1850.

Genetic variability of *Lucanus cervus* (Linnaeus, 1758) in Europe

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Key words: variability, *Lucanus cervus*, COI haplotypes, Romania, phylogeography.

The conservation of dead-wood-associated fauna is particularly challenging in the context of the steady degradation of the European temperate forest ecosystems. The saproxylic beetles are among the most threatened species of this group and for many of them there are not enough data about the distribution, biology and ecology to be used for long term effective conservation measures.

Lucanus cervus (Linnaeus, 1758) is one of the best known coleopteran species, with an European distribution and protected under national and European legislation. This species is listed on Annex II of the European Habitats Directive 92/43/EEC, being thus emblematic for conservation of saproxylic fauna (Thomaes, 2008).

In the present study, we investigate the genetic diversity of some Romanian populations of *L. cervus* in relation to other European populations, using a fragment of cytochrome C oxidase subunit I mitochondrial gene (COI). We analyzed a total of 73 sequences, 41 available in GenBank and 32 obtained from individuals of *L. cervus* from 14 sampling points in Romania.

Different phylogenetic analyses were employed to investigate the relationship between the observed haplotypes. The obtained trees exhibited very similar topology, with the haplotypes widely distributed across the geographic range of the species. The median-joining haplotype network resulted in a star-like topology, with a common ancestral-like haplotype at the center and derivatives connected by branches. The star-like shaped pattern could be the result of a potential bottleneck in recent evolutionary history followed by an expansion of the species.

It is important to investigate the genetic diversity of *Lucanus cervus* in order to identify potential evolutionary significant units (ESU) and potential conservation units. In the last 40 years, the species suffered a recent decline in most populations of its range, as reported from different European countries (Bulgaria, Greece, Baltic states, Portugal, Spain, Italy, Germany) where the species seems to occur now in distinct ‘hotspots’. Such distribution may be critical to the survival of the species if the distances between hotspots exceed dispersal distances, this fact increasing the risk of local extinction (Harvey et al, 2011).

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References:

HARVEY, D.J., A. C. GANGE, C. J. HAWES, M. RINK, 2011 – Bionomics and distribution of the stag beetle, *Lucanus cervus* (L.) across Europe. *Insect Conservation and Diversity*, 4: 23–38.

THOMAES, A., T. KERVYN, D. MAES, 2008 – Applying species distribution modelling for the conservation of the threatened saproxylic Stag Beetle (*Lucanus cervus*). *Biological Conservation*, 141: 1400–1410.

**A new record of a species belonging to *Prestwichia* Lubb.
(Hymenoptera: Trichogrammatidae) from Romania,
with notes on other aquatic Hymenoptera**

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Key words: *Prestwichia multiciliata* Lin, aquatic parasitoids, new species record, Romania.

All the representatives of the Trichogrammatidae are very small egg parasitoids, their hosts belong to Lepidoptera, Coleoptera, Odonata, etc. In Romania, there are few studies regarding the Trichogrammatidae. We have to fill that void with new data. In a recent study, Pricop & Moglan (2014) presented *Megaphragma* aff. *mymaripenne* as the smallest adult belonging to Hymenoptera recorded from Romania.

Prestwichia multiciliata Lin, 1993, an aquatic parasitoid, is newly recorded from Romania, this record being probably the westernmost point of this species distribution. In a late study, *P. multiciliata* was recorded mainly from Eastern Palaearctic. Beside *P. multiciliata* we have also collected *Prestwichia aquatica* Lubb. from Moldova Province-Romania. For proper species identification, we have used an identification key from V. Fursov (1995). In the identification process, we have compared the specimens of *Prestwichia aquatica* with the ones of *P. multiciliata*, both are certainly two different species. Our specimens do not key to *P. solitaria* Rusch., the other species recorded from Europe. *P. multiciliata* was probably overlooked, not introduced. All the specimens have been collected with the sweep-net from semi-natural and natural wetland vegetations (from hydrophytic plants) and conserved in alcohol. We also collected other aquatic Hymenoptera belonging to Chalcidoidea: *Anagrus* spp., *Anaphes* sp. and *Polynema* sp.

References:

- FURSOV, V. N., 1995 – A review of Chalcidoidea (Hymenoptera) parasitizing the eggs of aquatic insects in Europe. – Bulletin of Irish Biogeographical Society, Dublin, 1995, № 18(1), pp.2-12.
PRICOP, E., I. MOGLAN, 2014 – *Megaphragma* Timberlake (Hymenoptera: Trichogrammatidae), a newly recorded genus from Romania, with notes on morphology and taxonomy. ABAH Bioflux 6(2):189-194.

Taxonomical criteria used in the identification of the bee species (Hymenoptera: Apoidea)

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Key words: Hymenoptera, Apoidea, taxonomical criteria.

Due to the intensive studies made especially within the last decades of the 20th century, extremely valuable data on the apoid taxonomy were gathered, which clarified several aspects less known, but, at the same time, imposed some revisions and reconsiderations in different taxonomical levels. The matter of the apoid taxonomy is still controversial, this field remaining opened to new studies.

This paper is a synthesis of the main features of the external morphology (forewing veins, tegument sculpture and pilosity, head morphology, leg conformation) and those of genitalia, used in the identification of bee species. Variation of these morphological features was the base of numerous classifications proposed along time for the 6 bee families, known for the time being: Colletidae, Andrenidae, Halictidae, Melittidae, Megachilidae and Apidae.

From Kirby (1802, cited by Michener, 2000) to the present, two informal bee groups distinguished, according to the length of their mouth parts: bees with a short tongue which characterizes by short labial palpi and not necessary flat, a short galea and a short truncated, cut or pointed glossa (families Colletidae, Andrenidae and Halictidae); by contrast, the bees with a long tongue have the first two segments of the labial palpi elongated and flattened (families Megachilidae and Apidae). Systematic position of Melittidae remains uncertain, the recent papers belonging to Alexander and Michener (1995) asserting that they form either a siste-group of all bees with a long tongue, or a paraphyletic group from which the bees with a long tongue evolved.

References:

- ALEXANDER, B.A., CH. D. MICHENER, 1995 – Phylogenetic studies of the families of short-tongued bees (Hymenoptera: Apoidea). University of Kansas Science Bulletin 55 (11): 377-424.
MICHENER, CH.D., 2000 – The Bees of the world. University of Kansas Natural History Museum and Department of Entomology. The John Hopkins University Press Baltimore and London, 913 pp.

The first record of *Xylomoia graminea* (Graeser, 1889) (Lepidoptera: Noctuidae) in Romania

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Key words: *Xylomoia graminea*, Lepidoptera, Noctuidae, first record, distribution, Romania.

In this paper, new data concerning the distribution and occurrence of the tramp species *Xylomoia graminea* (Graeser, 1889) are given. The previous data found this species as characteristic for two zoogeographical regions: Palaearctic and Sino-Japanese. In the Palaearctic region, until now, *Xylomoia graminea* was found in North of China, Russian Far East, Southern European part of Russia (near Rostov-on-Don), Ukraine, Lithuania and Poland (Bury & Zajda, 2012). Regarding the Sino-Japanese region, this species is mentioned in the previous data from Japan and Korea. This species was captured for the first time in Europe in 1981 in the South of Russia. Since then, it seems that this species had a westward expansion, being found in Poland (1989, 1992, 2012), Ukraine (in 1993) and Lithuania (in 2011).

We captured one male which belonged to this species, in Orășeni Vale (Botoșani; Romania) on 17-18 June, 2016. This specimen was captured using a light trap, being attracted to 160 W mercury vapor lamps. The trap was set in a low land (160 m), wet forest with *Salix* sp. and *Populus* sp. The previous data concerning the biology of this species indicated a preference for moist or wet habitats. The site from Romania where we found this species, accomplishes these requirements. It seems that *Xylomoia graminea* prefers similar habitats with *Arytrura musculus* (Ménétriés 1859), a constant presence in the site Orășeni Vale.

Xylomoia graminea is a new record for Romania's fauna. The text is accompanied with pictures of specimen and male genitalia.

References:

BURY, J., W. ZAJDA, 2012 – Distribution of *Xylomoia graminea* (Graeser, 1889) (Lepidoptera: Noctuidae) in Poland. *Fragmenta Faunistica* 55 (2): 139-145.

Some morphometric aspects of Russian sturgeon juveniles fed with different ratio

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Key words: Russian sturgeon, morphological characters, body indices, growth.

Acipenser gueldenstaedtii has a large distribution, occurring in the Caspian Sea, Black Sea and the Sea of Azov. However, the construction of dams on all their paths has significantly reduced the spawning area. Nowadays, sturgeon stocks are extremely low and the specie is critically endangered that's why it is vital to increase the sturgeon production in aquaculture, not only to reduce the pressure on the wild stocks because of the overfishing, but also to ensure the population survival and to help re-stocking programmes.

The present study was attained to describe a selection of morphometric characteristics of Russian sturgeon juveniles (*Acipenser gueldenstaedtii*) reared in a recirculating aquaculture system and fed with different ratio: 1% body weight (BW), 1.5% BW, 2% BW and ad libitum feeding. The morphometric characterisation analysis through biometry is the most used technique in the study of systematic fish groups.

The following 18 measurements were identified for each fish: total length (TL), standard length (SL), fork length (FL), maximum body depth (last depth of caudal penducle, H); preanal distance (AD), predorsal distance (PD), length of head (C), preorbital distance (length of snout, LS), length of pectoral fin (LPF), interorbital distance (skull width, ID), maximum width of head (MH), width of mouth (WM), width of snout at base of barbels (WSB). The obtained results showed significant differences between all morphometric measurements ($p < 0.05$) for all the experimental variants.

The spur-thighed tortoise (*Testudo graeca iberica*) in Romania: new locality records suggest a more optimistic situation

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Key words: Reptiles, species distribution, *Testudo graeca*, anthropic habitats.

The spur-thighed tortoise, *Testudo graeca* Linnaeus, 1758 is an endangered species with a wide, but highly fragmented range. In Romania, it occurs only in Dobrogea (south-eastern part of the country). Several publications indicated its overall decreasing population trend. The aim of this study, based on three years of field research, was to improve the knowledge of the species' distribution in Romania. We conducted field surveys between March 2012 and May 2015, covering most of continental Romanian Dobrogea (i.e. without the Danube Delta *per se*). Diurnal surveys of line transects and active searches were conducted to map the species' distribution throughout the continental Dobrogea. We produced an updated distribution map of the species, using both our records as well as the previously published ones from the literature. Our database currently comprises 162 localities, of which 103 lie within Constanța County (CT) and 59 are in Tulcea County (TL). From the grand total, 71 (43.8%) represent new localities: 46 from CT and 25 from TL. The majority of our new records are from Central Dobrogea, an area traditionally believed to be generally unsuitable for herpetofauna due to extended agriculture. Our results highlight the necessity for further surveys, particularly in such 'unsuitable' areas, as many of them could still harbor populations of conservation priority species.

The first breeding bird atlas of Bucharest (Romania): results from the first year of fieldwork

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Key words: birds, atlas, distribution, Bucharest.

The breeding bird atlases are providing data in general for analyzing species distribution and size and following the long-term changes in their populations, but also they are powerful tools for planning species conservation strategies. Our atlas has three main objectives: to identify the breeding species and to establish their distribution; to evaluate the abundance and their breeding status; and to analyze the changes in the composition and distribution of species by annual evaluation.

The study area, Bucharest city, was divided into 1x1 km squares resulting a total of 251 squares. Observations were made by active timed area search (one hour inside the square, four visits per square). Occasional observations were accepted as well. Data records were collected through mobile application ObsMapp.

In the period March-May 2016, data was collected from 95 squares, summing a total of 2487 observations. Only 28 squares were partially covered according to the active timed area search, due to the small number of participants (7). A total of 84 species were observed, the most abundant ones were *Passer domesticus*, *Columba livia f. domestica*, *Sturnus vulgaris*, *Streptopelia decaocto* and *Apus apus*. Squares with higher percentage of lakes, parks or gardens are richer in species, compared to those with urban structures.

The density and diversity of the avian community in the urban area Văcărești Lake (Bucharest, Romania)

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Key words: Văcărești Lake, avian community, urban area, West Nile virus.

Of the more than 200 species observed in Bucharest, we found 108 species in the Lake Văcărești. There are 46 breeding species and 23 bird species that use the area as a feeding territory. Some species of birds have sporadic nesting depending on conditions arising from year to year. There are 32 species of passage and 7 species of winter visitors. Two roads converge over Bucharest migration route which hosts an intense autumn and spring passage, creating the premises for probable outbreaks of West Nile virus and H5N1 influenza in this strongly anthropized area.

Analyzing the distribution of outbreaks of West Nile virus and influenza H5N1 to migratory routes of birds, including Romania, it was established that, for the West Nile virus, both meningitis cases in humans, as well as high levels of seroprevalence in humans and animals (horses and birds) can be correlated with the spring migration in the areas of S and SE of the country. Analyzing the composition of Lake Văcărești avifauna we have established two groups of birds that are potential carriers and that could introduce the West Nile virus.

From previous studies, once placed in urban areas, the West Nile virus could find very favorable conditions for amplification in mosquito-bird cycles (*Culex pipiens*, the main mosquito encountered in urban environment and Passeriformes, etc.). The synanthropic species biology indicate that they can be a particularly effective reservoir for the West Nile virus, given their abundance and their contact through canopy with *Culex pipiens*, a dominant ornithophilic vector. In addition, they have up to three clutches per year, thus providing a segment of the population always responsive, able to maintain and amplify the virus in nature.

This study on avian community around Lake Văcărești was organized within the project: PN-II-PT-PCCA-2013-4-0718 – Complex epidemiological modelling of WNV-borne infections by interdisciplinary correlation using imagistic data acquired by sensor systems and drones (PSURs WN).

New data concerning the distribution of the Red-footed Falcon (*Falco vespertinus* Linnaeus, 1766) in South Dobrogea (Constanța County, Romania) in 2016

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Key words: Red-footed Falcon (*Falco vespertinus*), Distribution, South Dobrogea.

One of the endangered species of birds of prey from Europe is the Red-footed Falcon (*Falco vespertinus*). It is protected by European and Romanian laws (LR IUCN cat. 2012 – Near threatened). For this reason we think that it is important to know the distribution and number of individuals of this species living in this area.

In 2016, we made trips in Constanța County (South Dobrogea – Romania), searching for this species. From May to October we made 25 trips. The main roads where: Constanța – Vama Veche, Constanța – Negru Vodă, Constanța – Ostrov, Constanța – Cernavodă, Constanța – Hârșova, Constanța – Mihai Viteazu, Constanța – Cheia. We found only three locations with nests. They were near localities Sibioara, Vadu and Saraiu. At Saraiu and Sibioara, the nests were found inside of the rook (*Corvus frugilegus*) colonies, in trees. At Vadu, in a small forest, we found a colony formed only of Red-footed Falcons.

In literature, this location is not specified but there are more other places revealed as nesting places of this falcons (Ciochia, 1992, Hagemeyer, Blair, 1997, Munteanu et al., 2002, Petrovici, 2015).

This year, we have found only three nesting places. Is it about a regression of the population?

Further research are necessary to see this bird population dynamics in this area.

References

- CIOCHIA, V. 1992 – Păsările clocitoare din România, Ed. Științifică, București, p. 136-138.
HAGEMEIJER, E.J.M., M. J. BLAIR, 1997 – The EBCC Atlas of European breeding birds (Edit.): Their distribution and abundance. T&D Poyser, London, p. 182-183.
PETROVICI, M., 2015 – Atlas al speciilor de păsări de interes comunitar din România, Ed. Media Print S.A. & Media & Consulting S.R.L., București, p. 158-159.
MUNTEANU, D., A. PAPADOPOL, P. WEBER, 2002 – Atlasul păsărilor clocitoare din România, Ed. S.C. Roprint S.R.L., Cluj Napoca, p. 40.

Morphometry of the European starling (*Sturnus vulgaris* Linnaeus, 1758) captured in the eastern part of Mitija

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Key words : Common Starling, *Sturnus vulgaris*, Eastern Part of Mitija, biometrics.

A biometric study was performed on 50 individuals of starlings. Weighing and measurements were made on the the body's lengths, tail and scale. The measurements were also performed on the length of the skull, beak and mandible. The wing bones of the *Sturnus vulgaris* as the ulna, scapula, radius, humerus bone and the coracoid draw the attention as well as those of the foot.

The average weight of 50 starlings weighed is 73.3 ± 6.7 g. The average wingspan is 37.4 ± 2.1 cm. The average body length is 22.3 ± 1.4 cm, the tail 5.9 ± 0.6 cm, the skull 1.6 ± 0.2 cm, the beak 3.5 ± 0.2 cm, the mandible 3.5 ± 0.2 cm, mandibular gap 1.3 ± 0.2 cm, the tip of the mandible 1.5 ± 0.3 cm. As for the *Sturnus vulgaris* wing bones, the ulna measuring 4.6 ± 0.1 cm, followed by the scapula (3.1 ± 0.2 cm), the radius (3 ± 0.1 cm), the humerus (2.7 ± 0.1 cm), bone coracoid (2.6 ± 0.1 cm) and the carp (1.1 ± 0.1 cm). Regarding the bones of the leg, the tibia measures 3.4 ± 0.1 cm followed by the tarsus (2.9 ± 0.1 cm) and the femur (2.5 ± 0.1 cm).

Data on the bat colonies and population of forest species (Mammalia: Chiroptera) present in Canaraua Fetii, Constanța County, Romania

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Key words: bats, underground shelters, forest species, Canaraua Fetii.

The present paper represents the data collected by the authors over the time period from 2009 to 2016 from Natura 2000 site Canaraua Fetii-Iortmac (ROSCI0172), in Constanța County – Romania. Over the years, a few authors undertook some studies in the artificial and natural underground bat shelters. The area is a karstic area that was surveyed by the “Emil Racoviță” Speleological Institute from 1950 onwards, describing over 15 caves.

During time span of this study the authors have monitored the bats across a variety of seasons and in a variety of the most important bat roosts, including the artificial shelter such as: bridges, tunnels, geological mines and old broken buildings that remained from an old quarry. In 2009 the study revealed for the first time the presence of a nursery colony of 200 bats from the Greater Mouse-eared Bat (*Myotis myotis/blythii*) and Greater Horseshoe Bat (*Rhinolophus ferrumequinum*) located in a tunnel previously used for the wagons that transport geological material. 3 years later this large colony disappeared from this location due to the fact that the tunnel was destroyed. However, it seemed that, although the colony had moved, it was not lost, having apparently moved into a building close by, albeit in a reduced colony size of 70.

Right at the entrance of the old quarry, there is a broken bridge, with cracks that are perfect for the Common Noctule (*Nyctalus noctula*) and Particoloured Bat (*Vespertilio murinus*) to use during the summer time. Another artificial tunnel is the Mine from Canaraua Fetii. Here, the authors could find, in spring and migration time, transition bat colonies with up to 1000 exemplar of Schreiber’s Bent – winged Bat (*Miniopterus schreibersii*). Also, at this location there was a smaller bat colony during nursery time, along with, during hibernation time, species such as *R. ferrumequinum*, Lesser Horseshoe Bat (*Rhinolophus hipposideros*), *M. schreibersii* and Mediterranean Horseshoe Bats reached up to 200 specimens.

In the summer of 2014 at the Cave no 1 from Canaraua Fetei, a nursery colony about 15 females of the Mediterranean Horseshoe Bats was seen. Unfortunately this colony is endangered from local tourism following the construction of a monastery in the natural protected area opposite to the cave entrance. The second cave monitored by the authors is situated close to the Bulgarian border, and it is the Big Cave from Canaraua Fetei (Peștera Mare din Canaraua Fetei, Peștera de sub graniță) (Giurgiu et al, 2012). Here the main colony is a nursery mix colony formed of the species *Myotis myotis/blythii*, Geoffroy's Bat (*M. emarginatus*) and *Rhinolophus sp.* with up to 300 specimens. During hibernation time, there are single individuals of *R. hipposideros* up to 2 copies. This is the first time the authors have recorded this species in the area. The cave was also noted as a good place for swarming.

Using the ultrasonic bat detectors the presence of new species was confirmed, which was added to the species list found in the area: Mehely's Horseshoe Bat (*R. mehelyi*), Mediterranean Horseshoe (*R. euryale*), Daubenton's Myotis (*M. daubentonii*), Pond Myotis (*M. dasycneme*), *N. noctula*, Lesser Noctule (*N. leisleri*), Nathusius' Pipistrelle (*Pipistrellus nathusii*), Common Pipistrelle (*P. pipistrellus*), Kuhl's pipistrelle (*P. khulii*), Savi's Pipistrelle Bat (*Hypsugo savii*), *Vespertilio murinus*, Serotine bat (*Eptesicus serotinus*).

References:

GIURGIU, I., A. SAMOIL, C. LAZĂR, C. MEGUTETE, R. HUCULECI, C. REUSS, 2012 – Peșterile din Canaraua Fetei. Natura România. 35. www.românia-natura.ro. 33pp. Accessed at 31.10.2016.

Colțul Surpat Cave – an important hibernacula of Piatra Craiului National Park, Făgăraș Mountains, Romania

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Key words: hibernacula, biodiversity, dynamics, chiroptera, cave.

Colțul Surpat Cave (also known as Ursului Cave from Sătic village) is the longest cave of the Piatra Craiului National Park. It is located in the Dâmbovița Valley, one of the Small Gorges of Dâmbovița, Iezer – Arșița Mountains. It is 540 m long, with a 35 m vertical range and it has the absolute altitude of 780 m. The cave has the status of a natural monument, is opened to tourists and visitors and does not hosts maternity colonies. During 2013-2016 inventory surveys, the authors found the following species: *Myotis blythii*, *M. myotis*, *M. emarginatus*, *M. daubentonii*, *Miniopterus schreibersii*, *Rhinolophus ferrumequinum*, *R. hipposideros*, (autumn, winter). In summer the authors noticed the presence of occasional small number of specimens of *M. myotis* and *R. hipposideros*.

The focus of this study followed the dynamics of bats compared to the situation presented by different authors over time (Dumitrescu et al, 1962-1963; Gheorghiu & Murariu, 2006). On 20.08.2014 the authors noticed a single individual of *M. myotis*, and a week later, 4 individuals of *R. hipposideros* and 14 *M. schreibersii*. In the same period, but 58 years ago (08.28.1956) Dumitrescu et al (1962-1963) identified only the species of *M. myotis* from skeletal remains. From the authors observations, the bats begin returning in the cave in late August to mid-Septembers. During mating periods, the cave was frequented by the species *M. emarginatus*, *M. myotis* / *blythii*, *M. daubentonii*, *R. hipposideros* and *R. ferrumequinum*. The highest number of *M. myotis* and *M. blythii* specimens was observed at the end of the winters of 2013 and 2014 (114 and 162 copies), decreasing their number in the following winters to maximum 62 individuals. In addition to this, the authors noticed an increasing number of individuals in the case of *R. ferrumequinum* colony, from 192 copies in the winter of 2012, to 304 copies in the winter of 2015. Contrary to appearances, the growth horseshoe colony does not influence the forming groups of the two species of *Myotis*, these having enough space for roost in the same hall.

Future monitoring will determine whether the reduction of the two species are normal fluctuations, since there were no mortality to explain the reduction in their number; the shelter's microclimate is relatively stable (approx. 8 ° C; 84% U). Colțul Surpat Cave is the most important settlement known to date, in the Piatra

Craiului National Park, which houses a colony of about 300 *M. myotis* / *blythii* and 165 *R. ferrumequinum*.

References:

- DUMITRESCU, M., J. TANASACHI, T. ORGHIDAN, 1962-1963 – Răspândirea chiropterelor în R.P. Română. Travaux de l'Institut de Spéologie "Émile Racovitza", Bucureşti, XXXIV: 509-575.
- GHEORGHIU, V., D. MURARIU, 2006 – Bats (Mamalia: Chiroptera) of Piatra Craiului National Park – Romania (with protection and conservation measures). in: O. Pop & M. Vergeheţ (eds.): Researches in Piatra Craiului National Park, 3: 193-221.

New reports of the Serotine Bat (*Eptesicus serotinus* Schreber, 1774) in nursery colonies from church attics in Romania and Republic of Moldova

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Key words: bats, church atticks, new reports.

The specialists' interest in finding new bat colonies in church attics or other anthropic shelters has increased in recent years. A perfect collaboration within this kind of conditions could be between the restorers, conservation scientists and biologists. During the rehabilitation architectural projects, usually there is an increase chance of finding bats in the attics well located through the beams.

On these occasions, biological expertise is needed because the bats are considered biodegradation agents and most of the beneficiaries would like to take the best-case scenario of relocating the bat colonies. Many cases are known where a variety of primitive methods are used to kill them, as a solution for getting rid of these biodegradable agents. For example, in the summer of 2015, at the church in Suseni village, Runcu locality, Gorj County, SW Romania, a nursery colony of about 12 females of the Serotine Bat (*Eptesicus serotinus*) was discovered. Another location, close by Suseni (Runcu church), was known in the past for the presence of other bat species as Greater Horseshoe Bat (*Rhinolophus ferrumequinum*), Blasius's Horseshoe Bat (*R. blasii*) and Geoffroy's Bat (*Myotis emarginatus*), which have disappeared today (Bazilescu, 2014). The second nursery colony of the same species, *Eptesicus serotinus* was found in the attic of the Rogozu Monastery, Buzău County, East Romania, at the 25th of June 2016, with 15 females with babies of about 4 weeks old.

In Republic of Moldova another two cases are known where bats were found in the atticks of churches: first, in Cotiujeni village, Briceni County, where 60 specimens were counted and the second is in Boldureşti village, Nisporeni County, where 136 specimens were counted, in early 2000. Regretfully, this population has decreased to 50.

This species is known to prefer exclusively buildings as roosts for this period of their biological cycle, but these are the first cases to be reported for the Republic of Moldova territory.

References:

BAZILESCU, E., 2014 – Contribuții la cunoașterea chiropterelor din Oltenia. Antheo Press. Craiova. 154 pp.

Current status and distribution of *Apodemus agrarius* (Mammalia: Rodentia) in Bulgaria

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Key words: field mouse, distribution, natural expansion, Bulgaria.

Recently, a natural expansion of the field mouse (*Apodemus agrarius*) has been reported in many countries in Central Europe, which provoked our interest to analyze the species status in Bulgaria. In the middle of the 20th century the species was found as quite rare in North Bulgaria, restricted along the Danube River. The current study is based on field research conducted from 2010 to 2016 in various parts of Bulgaria. We used different kind of traps (pitfalls, snap traps, Sherman and Longworth traps) – a total of 8809 small mammals were captured, and data from owl's pellets (*Tyto alba*, *Athene noctua*, *Bubo bubo*, *Asio otus*, *Stryx aluco*) – about 30 000 identified prey items. Furthermore, we summarized all known data (altogether 138 records from publications, museum specimens and personal reports) about this species distribution in Bulgaria.

The field mouse was found to inhabit different types of habitats at altitudes from the sea level up to 1240 m a.s.l. in the Balkan Mountains. In North Bulgaria, the species was recorded as quite common in cereal fields, alfalfa, and even on sandy dunes along the Black Sea coast. In South Bulgaria, it was an intrazonal species found along river banks, canals, rise fields, forests along rivers, small water reservoirs and lakes. There was a big difference in numbers of the field mouse in small mammal communities between North and South Bulgaria. In North Bulgaria, the species accounted to 14.9 % of a total number of 6951 specimens of small mammals recorded, while in South Bulgaria, it accounted to 1.07 % of a total number of 1858 specimens recorded. The changes in status and distribution dynamics of the field mouse are discussed.

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New data on genetic differentiation of allopatric lineages of Striped field mouse (*Apodemus agrarius*): study based on fragment analysis of 5 microsatellite markers

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Key words: striped field mouse, population, genetic differentiation, microsatellites.

The Striped field mouse inhabits a wide geographical area from central Europe to the Pacific coast of Asia. The species range is subdivided into two allopatric lineages (European-Siberian – Kazakh versus Russian Far Eastern-Chinese-Korean) with disjunction in Transbaikalia. Here we analyzed variation of 5 microsatellite markers in the data set of 230 individuals to investigate the genetic differentiation of continental and island isolates. The Striped field mice of the western lineage from 14 geographic locations were combined in two samples: “European Russia” and “Western Siberia + Kazakhstan.” Animals of the eastern lineage were caught in four continental populations from the south of the Russian Far East as well as on two islands of the Peter the Great Bay (Sea of Japan). With the fragment analysis we used following microsatellite markers GTTDS8, GATAE10A, CAA2A, GTTF9A and GSADT7 (Makova et al., 1998).

GTTDS8 locus was monomorphic in all the samples except one population of the southern Primorye where the second allele was found. GATAE10A, CAA2A, GTTF9A and GSADT7S loci were highly polymorphic. Allelic diversity in the western lineage was lower than in the eastern one. Perhaps this is due to the much longer period of *A. agrarius* inhabiting in the Eastern Palearctic than in Siberia and Europe. It was found higher affinity of continental populations within each of the lineages and somewhat greater genetic differentiation between these lineages.

The numbers of alleles in the continental populations were higher than in the island ones. The island populations differ more significantly both from each other and from the mainland western and eastern ones.

References:

MAKOVA, K. D., J. C. PATTON, E. Y. KRYSANOV, R. K. CHESSER, R. J. BAKER – Microsatellite markers in wood mouse and striped field mouse (genus *Apodemus*) // Mol Ecol. 1998. №7. Issue 2. P. 247–255.

Fossil fishes from the Polish Triassic in the 19th century collection of the Museum für Naturkunde in Berlin

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Key words: Triassic, actinopterygians, coelacanth, diponans.

In the 19th century, paleontology was of big interest and became already a scientific discipline. Searching for fossils has been mainly conducted across Europe and North America. More than 150 years ago numerous mostly isolated findings of fossil reptiles, amphibians and fishes were discovered in south-western Poland. Located there, Polish Triassic outcrops revealed some secrets of the world from before 250-200 Mya to the pioneers of central European vertebrate paleontology like Heinrich Eck, Hermann von Meyer and Ferdinand Roemer who found and described numerous fossil vertebrates from that area. Parts of their collections still exist today in the close proximity to the places of their discovery in two museum facilities: in the Geological Museum of the Wrocław University and in the Department of Paleozoology, Zoological Institute, Wrocław University. Some of the specimens have been inevitably lost during the 2nd World War when Wrocław was ruined. Some of them were luckily only thought to be lost. As findings travelled with the researchers, also the set of fossil fishes from the Triassic of south-western Poland were deposited and remained safe in the Museum für Naturkunde in Berlin. Numerous specimens, mostly teeth, scales and isolated bones, belonging to Actinopterygii (ray-finned fishes), Actinistia (coelacanth) and Dipnoi (lungfishes) are restudied here and brought back to the attention of modern researchers.

Detection and quantification of ancient DNA from cave bear *Ursus spelaeus* samples excavated at the Muierilor Cave (Romania)

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Key words: aDNA, ancient DNA, *Ursus spelaeus*, Muierilor Cave, Southern Carpathians, Romania.

During the paleontological excavation process, that was conducted in Muierilor Cave, (Galbenului Valley, Southern Carpathians), several samples were selected for ancient DNA (aDNA) extraction. The AMS ¹⁴C ages from the Muierilor paleontological excavation indicate *ca.* 30 – 43 ky BP. The selection criteria for samples were as follows: target species: *Ursus spelaeus*, sample of choice adult: canine teeth. The canines were cleaned and placed under a UV lamp for 30 minutes. A horizontal section was performed through the cervical root of the canines, revealing the pulp chamber with minimum damage to the morphology of the samples. The bone powder was hydrated with 100μl RNA Later. DNA extraction was performed using QL Aampcador Pathogen Mini Kit. The evaluation and quantification of aDNA was performed using Qbit dsDNA HS Assay kit. There were no similar DNA sequences processed in the laboratory prior to this extraction (to reduce the risk of cross contamination). Only negative control (RNase-free water Qiagen) was used in all reactions to reduce the occurrence of false positive results. After DNA quantification we selected the samples with the highest concentration of aDNA.

DNA was successfully amplified from all selected samples using the following set of primers: CB 2558(3R), CB 2620(3F), CB2670a(1F), CB2671d(2R), CB2718a(2F), CB2719(1R). We were able to reconstruct 285bp of DNA hypervariable region I for all selected samples. The results show the importance of DNA qualitative and quantitative evaluation prior to amplification.

The spatial orientation analysis of *Ursus spelaeus* bones from Muierilor and Urşilor caves (Romania)

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Key words: spatial orientation, kernel density analysis, Muierilor and Urşilor Caves, Late Pleistocene, Romania.

Muierilor and Urşilor Caves are two representative paleontological sites of Europe as they bear significant MIS3 cave deposits including fossil remains, sediments and speleothems. Over the last few years, we have conducted a number of paleontological excavation campaigns on both caves aimed at understanding the taphonomic processes that occurred during the last 60 ka. New data concerning the bone assemblage was obtained during the paleontological excavations (ca. 9m²) in the scientific reserves from both caves. Spatial distribution analyses were therefore carried out aiming to identify the processes and the factors responsible for the accumulation of cave bear bone deposit. The analyses were performed on the long bones (humeri, ulnae, tibiae and femora) extracted from the excavation.

The fossil bones were recorded, photographed and surveyed on the excavation grid and a 10 × 10 cm subgrid. The orientation of 684 long bones was measured (291 bones for Muierilor Cave and 393 bones for Urşilor Cave) to test for the inferred fluvial transport. The bone surveying was conducted using high-resolution pictures and measuring the azimuth with a compass. AMS radiocarbon dating was performed on 24 fossil bone samples (13 samples for Muierilor and 11 samples for Urşilor) to establish a chronological framework. The results of the spatial analyses indicate an NW-SE polarity for the analyzed bones, suggesting a fluvial transportation for Muierilor bone deposit and a random pattern with multiple orientations for Urşilor excavation (indicating a primary thanatocoenosis). The results of this preliminary research suggest reworking processes for the fossil bones from Muierilor excavation and an *in situ* accumulation for Urşilor bone deposit.

Patterns of habitat use and diet of modern and ancient red deer (*Cervus elaphus*) in Europe and Asia

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Key words: stable isotopes, red deer, *Cervus elaphus*, habitat, diet, carbon, nitrogen.

Red deer is an ubiquitous species with great ecological plasticity that can live in different environments and climatic conditions. The main aim of the study is to recognize the habitat selectivity of red deer in Eurasia since Late Pleistocene. Analysis of stable isotopes of carbon (¹³C) and nitrogen (¹⁵N) contained in bone collagen allows to reconstruct their habitat and dietary preferences. The first step of the study is to analyse the content of the isotopes in tissues of contemporary European red deer inhabiting various habitats from open and mixed areas to dense forests. Our preliminary results showed differences in level of carbon stable isotope (¹³C) in bones of deer living in open habitats and dense forests. We also observed high diversity in nitrogen (¹⁵N) level in bones of deer from dense forests. In further studies we want to compare obtained results of contemporary populations with the content of stable isotopes in bones of red deer found in the fossil materials (dated with AMS radiocarbon method). The final result of this study will be reconstruction of paleoenvironments and paleodiets of past populations of red deer in comparison with the phylogeography of the species and data on climate and environmental changes in Eurasia from Late Pleistocene until today.

Paleoclimatic reconstructions on the basis of rodent associations from caves during Upper Pleistocene

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Key words: rodents, paleoclimatic reconstruction, Central Dobrogea, Southern Carpathians, Upper Pleistocene, Romania.

Rodents are valuable taxons of the fossil fauna from the Pleistocene epoch in Europe. Given their chronological value, the small mammals (rodents, insectivores) play an important role in drawing up the biochronostratigrafic scheme of the continental deposits. Due to its specific features, small mammal paleontology can provide relevant information on the chronology of certain geological and climatic phenomena, establishing correlations with other sites situated at great distances from each other. The local evolution of various species can be integrated into a broader site network from different regions. Associated with other methods like pollen and isotopic analyses, the study of rodents are very useful tools for the reconstruction of the paleoclimate and paleoenvironment. Paleontological studies in karstic deposits have been carried out since 1956 in Dobrogea and in the Southern Carpathians and are ongoing until today, providing rich small mammal associations with many species found outside their present areas of dispersion. Karst and cave deposits from Central Dobrogea and the Southern Carpathians supply abundant remains of small mammals from middle Pleistocene to Holocene. To obtain a paleo-environment reconstruction during Upper Pleistocene, we have used ten different sites, especially caves and rockshelters, from the eastern side of Romania (Dobrogea) and from the Southern Carpathians, with continuous of the mammalian faunal associations. We have studied fossil fauna discovered in several caves from Dobrogea (eastern Romania – La Adam Cave and Gura Dobrogei Cave) and some ongoing research from Southern Carpathians (Muierilor Cave and Oase Cave). Our research, based on a systematic survey on fossil fauna, revealed a direct relation between faunal and climatic events.

Zooplankton: a valuable environmental indicator tool in reservoir ecology management?

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Key words: seasonal water level fluctuations, zooplankton community, environmental indicator, shallow reservoir.

The trends in zooplankton community were assessed in response to variations in the trophic state and water quality, occurring in a shallow reservoir subjected to seasonal water level fluctuations. Concomitantly, various ratios were calculated: (1) the ratio of crustacean abundance to rotifer abundance (NCrust/NRot); (2) the ratio of large (>10 µg) cladoceran abundance to total cladoceran group abundance (NLarge-Clad/NClad); (3) The trophic state indices of rotifer abundance. The reservoir's hydrological cycle was characterized by three regimes. The maximum level phase lasted from January to the beginning of June, the emptying phase existed between mid-June to the beginning of September and the minimum level phase lasted from mid-September to the beginning of the first autumn/winter rain events. The highest values of total phosphorus, soluble reactive phosphorus, nitrate, and 'chlorophyll a' were found during the minimum level phase. Rotifera was the most abundant taxa, except in summer and in autumn where Cladocera and Copepoda were dominant. Redundancy analysis (RDA) revealed a strong contribution of temperature, chlorophyll a, soluble reactive phosphorus and total phosphorus to the observed significant associations between the zooplankton assemblage and environmental variables. The ordination space defined by the first two RDA axes accounted for 84.2% of species–environment relations and represented 25.4% of the variation in species data. The ratio NCrust/NRot showed the higher role of rotifers in the zooplankton community in the low level phase; the ratio NLargeClad/NClad showed a decreasing trend in the abundance of large-sized cladocerans for the same mentioned period. Therefore, these indices seem suitable to be used in reservoir management as rapid tools to evaluate the effects of environmental disturbances to reservoir ecological integrity.

Zooplankton community structure in a deep reservoir: seasonal trends and structuring variables

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Key words: zooplankton community, seasonal trends, deep reservoir, environmental variables.

This research aimed at monitoring and characterizing the zooplankton community of Aguieira reservoir (40.33 N; 8.19 W). Aguieira trophic state, nutrient concentration (the highest amounts were observed in summer) and ultimately water quality can be explained by the internal disturbance induced by the intense water level fluctuations. This indeed leads to an increase in suspended particulate material in the water column. Besides, the exposure of littoral sediments to cycles of drying and wetting also increases nutrient availability, preventing macrophytes establishment. These phenomena with the input of allochthonous nutrients originated from human activities in the catchment area lead to the increase of phytoplankton biomass (mainly Cyanobacteria) during summer. When Cyanobacteria were dominating the phytoplankton assemblage, zooplankton community was clearly dominated by the rotifer, *Keratella cochlearis* and by the caldoceran, *Chydorus sphaericus*. In the absence of Cyanobacteria, *Copidodiaptomus numidicus* and *Daphnia longispina* subsisted as the most representative species. Canonical correspondence analysis (CCA) identified two main environmental gradients that shape zooplankton community: one being temporal mainly related to temperature, and the other, a trophic gradient associated to chlorophyll a concentration, water transparency, nitrates and nitrites. Variance partitioning using CCA revealed that the largest portion (45%) of the total variation explained (70%) was attributed to the interaction between lake and environmental variables.

Composition of benthic biocoenosis from Sinoe lagoon – Danube Delta

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Key words: Black Sea, the Danube Delta, Sinoe, coastal lagoon, benthic communities, zoobenthos.

After the Marine Biogeographically Seminar from Brindisi in 2010, where representatives of Romania participated, the biological monitoring studies took into account the European Commission guidelines on selection of specific marine Natura 2000 sites.

In recent years, on occasion of the project “*Servicii pentru Monitorizarea stării de conservare a speciilor marine și habitatelor costiere și marine de interes comunitar din România*, POS Mediu, IBB, București”, a series of researches were done in the Romanian Black sea coastal lagoons – Sinoe, Zătonu Mic, Zătonu Mare and Musura Bay (Zaharia & Samargiu, 2013).

The biodiversity of the coastal ecosystems, mainly as Natura 2000 protected areas network was analyzed, in order to obtain diverse data regarding biological composition and dynamic of pelagic and benthic associations in correlation with chemical and physical observations.

The present study refers to data regarding zoobenthic communities from Sinoe lagoon, from the Danube Delta, which is part of the ROSCI0065 and is included in the habitats lists, coded as coastal lagoon *1150.

Analyzing qualitative composition of zoobenthic communities it is highlighted the mixture of the freshwater species with the marine ones, especially in the sites located near Periboina mouth (Müller & Godeanu, 1995).

The paper will present some synecological indices, (α Diversity, Average Density – Davg, Constancy – F%, Dominance – D%, W_D %), based on quantitative samples collected from five sites, on mobile substrata, during two years of observations (Godeanu, 2002).

Aspects of tanatocoenosis composition and characteristics of riparian vegetation are discussed, too.

Data regarding some physical and chemical parameters of the water are presented.

The possible threats and human impact on the lagoon biocoenosis will be highlighted in the paper (Gâstescu & Grigoraș, 2014).

References:

- GĂȘTESCU, P., I. GRIGORAȘ, 2014. “Morphological Changes on the Danube Delta Biosphere Reserve Coast, Actual Synthesis.” *Rom. Journ. Geogr.* 58 (2): 135-144.
- GODEANU, S. P., 2002. *The Illustrated Identification “Manual of Romanian Flora and Fauna.” Continental Waters 2: 692 pp.*
- MÜLLER, G. J., S. P. GODEANU, 1995. “The Illustrated Identification Manual of Romanian Flora and Fauna.” *Marine Environment 1: 383 pp.*

ZAHARIA, TANIA, MANUELA SAMARGIU, 2013. *Synthetic Guide of Monitoring Marine Species and Coastal and Marine Habitats of Community Interest in Romania*. Bucuresti: Boldaş Publishing House: 149 pp.

Dung beetles, keystone species of ecosystem functioning. An ecological role in Algerian steppes

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Key words: steppic area, sand dune, guilds, Scarabaeoidea, seasonal abundanc.

El-Mesrane, an arid area that was the object of research projects for many years on rangeland management to restore degraded lands and improve soils, including the sand dune fixation. the pilote project has been very effective by planting species such as *Tamarix articulata*, *Atriplex canescens* and *Opuntia ficus*. This is a new successful ecosystem in a steppic area that is threatened by desertification and where the livestock sector has evolved rapidly and dramatically.

However the studies conducted by Forestry Research Institute, have proven a remarquable biological activity (BRAGUE/BOURAGBA, 2006), in particular for Scarabaeoidea; dung beetles, whose activity contributing to soil enrichment. This study was undertaken during 2009-2010 at El-Mesrane station.

The monthly standard method (dung baited pitfall traps) was used. 2428 individuals representing 38 species, or 24.6% of Scarabaeoideae present in Algeria, represent a great diversity. Species richness and abundance are quite important during the fall and winter seasons. DECORANA analysis demonstrates that the dune ecosystem is characterized by abundant species such as *Onthophagus nebulosus*, *Aphodius melanosticus*. Spieces are connected ecologically and arranged in three guilds ; the guild of the tunnellers dominated by their biomass, while residents, although more frequent, have a lower biomass. In the dune ecosystem, the dung beetles are sensitive to climatic conditions and they are exposed to strong competition.

This study found that the dune is more propitious to the installation of Scarabaeoidea.

Butterfly assemblages (Lepidoptera: Rhopalocera) from Copșa Mică (Transylvania, Romania)

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Key words: *Lycaena dispar*, *Maculinea alcon*, heavy metal pollution.

Copșa Mică is located in Sibiu County (Southern Transylvania), at the confluence of the Târnava Mare and Visa rivers. The area was famous for the intensive heavy metal pollution driven by two factories: Carbosin (closed in 1993) and Sometra (closed only in 2009).

Butterflies are considered valuable bioindicators because they can reveal habitat changes (e.g. grassland degradation), climate change, heavy metal pollution and CO₂ emissions.

Field sampling took place between May and October 2015 (6 sites) and 2016 (8 sites) from Copșa Mică pollution source towards Micăsasa, alongside the Târnava Mare River. Butterflies were collected applying the transect method. Altogether, we identified 32 diurnal butterfly species, belonging to four families: Hesperidae, Pieridae, Lycaenidae and Nymphalidae. The species number indicates a rather impoverished system despite intensive sampling carried out in two consecutive years.

However, is worth mentioning the presence of Natura 2000 species *Lycaena dispar* and the protected *Maculinea alcon*. The most abundance species were *Coenonympha pamphilus* (Linnaeus, 1758), *Melanargia galathea* (Linnaeus, 1758), *Maniola jurtina* (Linnaeus, 1758) and *Polyommatus icarus* (Rottemburg, 1775). Moreover, species such as *Minois dryas* Scopoli, 1763 and *Coenonympha glycerion* Borkhausen, 1788 were recorded on the sites. Their presence indicate an extensive use of meadows.

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Changes in entomofauna – the case of two lycaenid species – *Leptotes pirithous* and *Lampides boeticus*

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Key words: Mediterranean species, climate changes, Dobrogea.

Leptotes (Syntarucus) pirithous and *Lampides boeticus* are two widespread species in the Mediterranean area, which, not long time ago, could occur accidentally in Central and Eastern Europe, too. In Dobrogea, these species were mentioned since 1866, in the north and south of the region; after 1990, both species were mentioned from the littoral area (Rakosy & Szekely, 1996). In the last 20 years, as a direct consequence of global climate change, these species have become increasingly common and more widespread, being mentioned relatively frequently during the summer in the south-eastern part of Romania (Dincă et al, 2009; Rakosy, 2013).

Observations on one of these species – *Leptotes pirithous* – were performed in the Macin Mountains National Park, in 2008, noting that basically that year a local population was present in the forest area of the national park. Since 2014, we observed regularly in the area of the Ovidius University campus, in ruderal vegetation the species *Leptotes pirithous*, in isolate specimens, all over the summer seasons. Butterflies frequented mainly flowers of *Melilothus albus* and alfalfa – *Medicago sativa*. In the summer of 2016, both species have been observed in numerous specimens, from July until mid-October. In total, three successive generations were observed in the mentioned interval.

References:

- DINCĂ, V., S. CUVELIER, Y. L. SZÉKELY, R. VILA., 2009 – New data on the Rhopalocera (Lepidoptera) of Dobrogea (south-eastern Romania) Phegea 37 (1): 1-21.
RAKOSY, L., 2013 – Fluturii diurni din România, cunoastere, protecție, conservare. Ed. Mega, Cluj Napoca.
RAKOSY, L., L. SZEKELY, 1996 – Die Macrolepidopteren der Suddobrudscha (Sudostrumaniens), *Entomologica Romanica* 1: 17-62.

Impact of climatic conditions on the spatial distribution of the adults of the date moth *Ectomyelois ceratoniae* Zeller, 1839 in region of Tolga

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Key words: *Ectomyelois ceratoniae*, Tolga, trap pherom, temperature, rainfall, infestation rate.

Dates are subject to attacks of several pests, among the most formidable currently being *Ectomyelois ceratoniae* whatever damage date palm pool begin in the palm field and continue in stocks. Export standards are stricter for this pest, which puts the commercialization of dates nationally and internationally facing the deterioration of fruit quality.

The climate is responsible for fluctuations of Lepidoptera population densities, and insects are particularly sensitive to its variation. Temperature and rainfall are among the abiotic parameters that most influence on the distribution and abundance of species.

This study initiated the spatial distribution of the moth in natura in 2013 and 2014, under the influence of the change in temperature and rainfall during the phenological stages of dates, in order to provide the increases or decreases of population and understanding the environmental influences on fluctuations in population numbers, to weaken the attacks caused by the date moth.

The methods used are trapping adult catches and recording of temperatures and rainfall in the palm groves of Magtoufa and Foughala, both certified “organic” in Tolga region South – Est Algeria.

The results reveal, on fields, three generations of moths thrive on dates, strong peaks flights adult butterflies in October; mature stage “Tmar” lasts until reaping the fruits in November. At the stock varieties infestation rate Deglet Nour variable and important.

Research regarding the ichthyofauna in the upper basin of Siret River, Romania

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Key words: ichthyofauna, fish communities, fish zones, Siret River.

The study was carried out in the upper basin of the Siret, in the section Candesti – Dumbrava (from the point placed downstream Siret town to the point placed upstream Pascani town), on the main course of the river and on some of its tributaries during 2012 and 2014. The aim of the study was to assess the actual state of fish communities in the upper basin of the Siret River, and also to highlight significant changes in fish communities. The biological material was sampled by electrofishing from 37 sampling sites (15 in 2012 and 22 in 2014). Over the study period, 27 fish species were found (23 in 2012 and 27 in 2014) plus *Eudontomyzon danfordi*. Two of the 27 fish species are non-native species: *Pseudorasbora parva* and *Perccottus glenii*.

Regarding the biodiversity, the analyze of the biological material revealed that in 2012 the number of species in sampling sites ranged between 4 (Siret, Lespezi village side) and 16 species (Siret, 2 km upstream Dolhasca village), while in 2014 the number of species in sampling sites ranged between 3 (Somuzu Mare, Huși town) and 19 species (Siret, 1 km upstream Dolhasca village).

Pseudorasbora parva was found in 16 sampling sites (5, in 2012 and 11, in 2014), while the new non-native species *Perccottus glenii* was found in 7 sampling sites (1, in 2012 and 6, in 2014).

In an overview on the fish fauna in this section of the basin of the Siret River, we consider that the fish communities appear quite different, the species richness in sampling sites proving that the environmental conditions are still favorable and stable.

A study on essential and nonessential elements in the Black Sea turbot, along the Romanian Coastal Area

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Key words: Black Sea, turbot, heavy metals, arsenic, lead, cadmium.

The technological development of the industry generates both higher productivity and environmental issues. Heavy metals impose a constant threat to the natural environment, but mostly to the aquatic one. Therefore, in the Eastern part of Europe, the Black Sea region is very important due to its high fish stocks. The Black Sea turbot (*Scophthalmus maeoticus*, Pallas, 1814) is one of the most important demersal and valuable fish species for all riverine countries (Popescu, 2010). The aim of this study was to assess the concentration of various elements in muscle tissue, stomach, stomach content, intestine, intestine content, liver, gonads, fins, gills and spline of turbot catches. The following elements were analyzed: Pb, Cd, As, Sn, Ni, Mn, Cr, Cu, Fe, Zn, Ca, Mg, K, Na. Fish caught were recorded in four different sectors of the Romanian Black Sea coast, Constanta area. The method used in order to determine the above mentioned heavy metals concentration was GF-HR-CS-AAS. Significant statistical differences were recored between the fish caught in different analysed sectors. As well, differences between heavy metals concentrations in analyzed internal organs were statistically significant. As a conclusion, it must be pointed out that the heavy metals concentrations in fish muscle tissues did not exceed the maximum concentration limit established through the EU legislation.

References:

POPESCU, I., 2010 – Fisheries in the Black Sea, Directorate-General for internal policies, Policy Department B: Structural and Cohesion Policies, Fisheries, European Parliament.

Habitat selection of the steppe-runner (*Eremias arguta*) at its westernmost range limit, in Romania

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Key words: *Eremias arguta* deserti, Vadu beach, endangered.

In species with large distributions, populations that inhabit the extremities of that range usually exhibit less plasticity to changes in the habitat. Either from the lack of gene-flow, high competition or low adaptability for physical changes that occur in the habitat, border population are highly susceptible to extinction. The steppe runner (*Eremias arguta* (Pallas 1773)) is one of the most widespread species of the *Eremias* genus, inhabiting steppe habitats, sandy coastal areas, sparsely vegetated river plains, and stone walls bordering partially cultivated land from Eastern Europe to Central Asia. Worldwide *Eremias arguta* is classified as Near Threatened (NT) by The IUCN Red List of Threatened Species, in Romania being considered an endangered species. We aimed to assess the importance of landscape features and investigate habitat selection of steppe-runner individuals.

The current study was carried out in one of the population from the western limit of the species distribution range, the costal sand deposits from Vadu beach (Tulcea County, Romania). We collected ecological data from 51 steppe runner individual, from late spring until mid-summer, testing for associations between the presence of individuals and certain habitat variables using different multivariate statistics. The study presents several implication for the conservation of the species, particularly in this population whose habitat is under ever growing pressure due to rapid increase in tourism in the area.

**Data regarding habitat selection in the Caspian whipsnake
(*Dolichophis caspius* Gmelin, 1789) towards the north-
western limit of its distribution range (Romania)**

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Key words: *Dolichophis caspius*, Caspian whipsnake, habitat selection, ecology, reptile, snake.

Knowledge regarding the ecology of species forms the baseline for our understanding regarding life on earth and the foundation for action plans, management activities and the conservation of rare and endangered species, but the same information is generally lacking for European colubrid species, while in Romania there is yet a systematic study to be published.

Ecological data (i.e. habitat, microhabitat, weather, aspect, potential refugia, substrate) were collected for each individual (n = 69) captured from the species' whole distribution range in Romania. Individuals were categorized (adult males, adult females, immatures) based on coloration and by using probes.

Habitats favored by the Caspian whipsnake in Romania include steppe grasslands, rocky outcrops and forest outskirts. Individuals were found primarily on soil or rocks, but they can use a large variety of substrates, such as concrete, dry leaves, grass or reed. The most frequent refugia found in the immediate vicinity were animal burrows and natural rock cavities. Most of the Caspian whipsnake individuals were identified in habitats with a southern aspect (south, south-east and south-west).

Bio-ecology of birds in the Bejaïa region of north-eastern Algeria

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Key words: Birds, Tazmalt, Sidi Aich, IPA method, squared plans methods, Algeria.

The avifaunal study in the Bejaia region in different olive groves, helped emphasize the avifauna quality in these orchards. Indeed, the analysis of the total wealth shows that Sidi Aïch station is best represented comparing to the Tazmalt station, with a total wealth of respectively 33 and 30 species. The study of the centesimal frequency and consistency have shown that the most abundant species in Sidi Aich station is *Serinus serinus* with 16.9%, while in the Tazmalt station, the most abundant species are *Passer domesticus* × *Passer hispaniolensis* with 18.9%.

For consistency, there are the accidental species that are best represented with 15 species in Sidi Aich station and 14 species in Tazmalt station. These are: *Acanthis cannabina*, *Emberiza calandra*, *Parus ater*, *Hippolais pallida* and *Motacilla alba* for the Sidi Aich station, and *Turdus merula*, *Phylloscopus collybita*, *Carduelis carduelis*, *Motacilla alba*, *Sylvia melanocephala* and *Alectoris barbara* for Tazmalt station.

The I.P.A. method allowed to have an idea of the abundance of the species in these stations. The squared plans method is used, for its precision. Through this method, we obtained avian densities on 10 ha.

From the correspondence factorial analysis, 7 different groups appear in the Sidi Aich station. The largest group contains sedentary species like *Passer domesticus*, *Passer hispaniolensis*, *Sylvia atricapilla*, *Pycnonotus barbatus*, *Serinus serinus* and *Turdus merula*.

The Corncrake (Aves) distribution and density in Eastern Romania

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Key words: farmland bird, breeding ecology, low-intensify agriculture.

The human influences on habitat structure had determined animals to adapt to anthropic areas (agricultural crops, cities, industrial facilities), by changing their breeding, migration and wintering strategies. However, in the last years the intensification of agriculture by practicing the homogeneous crops and mechanization of mowing, is directly correlated with reducing of farmland biodiversity. This steep decline is more visible in Western European countries where the agricultural intensification had known a huge development during last century. In Romania, the low-intensified agriculture is more widespread.

During 2016 breeding season, we focused our study on Corncrake (*Crex crex*), a strictly dependent species on farmland habitats. This species depends also on land management and her conservation involve many other species which use similar habitats.

Our study is based on a monitoring programme conducted in the 2016 breeding season, which covers eastern Romania, the area between valleys of Siret River and Prut River, a place where subsistence farming is still practicing on a large scale. For this study we conducted 15 transects containing 307 monitoring points (between 20 – 24 for each transect). These observation points were distributed on the entire study area. We modeled the distribution for this species, using R statistical software and TRIMmaps package. The density was calculated using Distance Sampling technique. Also, we analysed some geomorphological factors, such as altitude, slope gradient, distance to the nearest village or stream, to see if Corncrake presence is influenced by these variables.

Winter diet of urban and suburban roosting Long-eared owls (*Asio otus*) in Bucharest (Romania)

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Key words: winter diet, Long-Eared Owls, urban and suburban roosting, Bucharest, Romania.

Asio otus is one of the most common nocturnal birds of prey in Romania. Diet composition of Long-eared owl from rural areas is well known from its wintering places. It nestles in Bucharest and it is also wintering here in a few locations. The food of the Long-eared owl is less studied in Romania during winter in urban areas.

Diet variation of the Long-eared owl, *Asio otus*, was investigated on the basis of 258 pellets collected in winter season 2006/2007 from three sites and two urban areas from Bucharest: Tineretului Park and Politehnica Park and also a suburban area, Cornetu Forest (Ilfov County).

In the studied pelets of these three areas, we had found 23 species: 7 mammals and 16 birds. In the Tineretului Park, 142 preys belonging to 6 species of mammals and 14 species of birds were found. In this case, microtids represents 42% of hunted prey and murids 28%. In this park the proportion of the birds of prey could reach 30% because in this particular area we have observed a mosaic of optimal habitats for winter visitors and sedentary birds.

In the Polytechnica Park, common vole, *Microtus arvalis*, is the most common species, 83.47%, while the birds have a low proportion, only 6.55%, represented only by sedentary species: *Passer domesticus* (sparrows), *Coccothraustes coccothraustes* (Hawfinch) and *Carduelis carduelis* (European goldfinch), all remaining in Bucharest during the winter.

Cornetu Forest, a suburban area, those that dominate the trophic spectrum of long-eared owls are the microtids, 51%. By the edge of the forest, its hunting grounds are represented by agro-ecosystems. Therefore, *Mus musculus* occurs in large numbers at a rate of 39.79%. Common vole, *Microtus arvalis*, is a constant species in the three studied areas.

Cave tourism and the impact on bats: microclimatic models of roost selection

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Key words: cave monitoring, temperature, bats, tourism.

Certain bat species rely on karstic environments to perform part of their annual biological cycles. This study shows bat climatic preferences and roost selection in six caves from Romania. Four of these are show-caves (Muierilor, Polovragi, Meziad and Valea Cetăţii), one has restricted human access (Cloşani) and the last has uncontrolled access (Gura Dobrogei). The population sizes have been observed to decrease, maybe due to tourism. Field surveys were carried out from December 2011 to April 2013 in the case of Gura Dobrogei Cave and from February 2015 to May 2016 for the remaining five caves. The bat distribution was recorded via (Samsung Note 3 PDA), laser meter and compass. Non-invasive procedures were used to count and map the bat distribution within the roosts, such as photographic counts of individuals in colonies and ultrasound detection via a Peterson D1000x device. Climatic data were collected using data loggers (Tynitag) and instant measurements. Results were processed within an ArcGIS 10.3 ESRI environment, using spline with barriers interpolation. The error of the generated surfaces varied from 0.21 to 0.85°C. Mean, range and standard deviation were calculated at a pixel level and intersected with the bat distribution. The reference average analysis height was 2 meters. Touristic paths intersected important hibernation areas for bats, mostly in Muierilor and Polovragi caves. Higher hibernation temperatures were preferred by *Rhinolophus euryale* and *R. ferrumequinum* in contrast to *R. hipposideros* and *Myotis myotis/blythii*, which preferred sectors closer to the entrance. Hibernation clustering was observed in species such as *Miniopterus schreibersii*, while *R. hipposideros* did not form colonies. This method can be used to identify suitable hibernation and maternity areas in caves. Touristic management plans can incorporate the results to reduce human-bat interactions during critical periods for the bat colonies.

Estimating the survival rates of northern fur seals (*Callorhinus ursinus*) from Tyuleniy Island and modeling the population number dynamics

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Key words: fur seal, age structure, harvest, estimating survival rate, population dynamics, mathematical modeling.

In the middle of the last century the northern fur seal became the attractive object for population investigations. During 30-years period of existence of the Interim Convention of Conservation of North Pacific Fur Seals a unique set of data on the population dynamics of this species has been accumulated and it became a good base for estimating population parameters and developing various mathematical models of population dynamics. The detailed model of fur seals dynamics (Frisman et al., 1982) and techniques of calculating its parameters were developed. Significantly increased data series by now allows verifying the suitability of constructed model and the techniques of calculating the intrapopulation parameters, taking into account possible changes.

Mathematical modeling, numerical simulations and multivariate statistical technique are used to estimate intrapopulation parameters and to model the population dynamics. Following data set is utilized: number of pups and bulls at the rookery (for 1958 – 2013 yr.), the age composition of animals caught in coastal harvest, as well as the age structure and physiological state of adult females from sea samples (1958 – 1988 yr).

We developed a new method for estimating the juvenile survival rate, since previously used method (Lander, 1975) is not appropriate due to changed hunting strategy. We found structural changes in population dynamics tendency occurred at the end of '80s; and these changes are obvious for the both component of population: males and females. Our investigation shows that juvenile survival rate does not reduce essentially in this population during observation period. So we are still searching for answer on the question – why the population does not recover after considerable hunting reduction? Conducted investigation allows consideration the next issues, such as possible changes in sex proportion with following decrease of females pregnancy rate; evolutionary consequences of harvest, which would appeared in weakness of harem bulls, etc.

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References:

FRISMAN, E. Ya., E. I. SKALETSKAYA, A. E. KUZYN, 1982 – A mathematical model of the population dynamics of a local northern fur seal with seal herd. *Ecological Modelling*, 16: 151-172.

LANDER, R. H., 1975 – Method of determining natural mortality in the northern fur seal (*Callorhinus ursinus*) from known pups and kill by age and sex. J. Fish. Res. Board Can., 32(12): 2447-2452.

Eco-genetic variability in populations of mound-building mouse (*Mus spicilegus* Petenyi) in agricultural biocenosis

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Key words: *Mus spicilegus*, eco-genetic variability, hibernation.

It was established that the spring-summer generations of *Mus spicilegus* are destined to disperse, to maintain high outbreeding and optimal number of population. The latest generation from the summer-autumn are destined to survive during the winter and to continue the reproduction from the spring – summer of next year, after that they perish.

The specific of the species is the construction of mounds with the reserve of food for wintering by participation of last generation individuals with a weight of 8-9 grams. Usually a family of mice spent the winter in mounds, in some cases – two families, when there are two nests and the maximum number of mice increases up to 14 individuals. Cooperation between juvenile individuals indicates the lack of aggressiveness. It was experimentally established that only juveniles are able to climb the stalks and cut the ripe cones for storing it in mounds. During wintering this species is in state of thorpor. Experimentally, this phenomena has been achieved both in young and adult individuals at the temperature of 5° C, with the decrease of the body temperature to 18° C. The juveniles enter the thorpor and leave it faster than adults, when for adults this process is irreversible. Thus, last specimens of adults disappear in the second half of winter, the population becoming completely renewed, and composed of young animals.

Individuals' maturation occurs in late winter-early spring and the copulation take place both between individuals of families within a mound and from different mounds, avoiding inbreeding. The research of genotypic variability of *Mus spicilegus* populations in different phases of the life cycle in Central Moldova demonstrates that the overwintered generation of the species has a more pronounced level of heterogeneity in comparison with the generations from the spring-summer, which also results in a higher adaptive capacity.

***Eurypanopeus depressus* (Decapoda: Panopeidae): a new invasive brachyuran species from European waters**

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Key words: Panopeidae, euryhaline, invasive species, mud crab, Black Sea.

During the past few decades several invasive crustacean species had been recorded from European inland waters, among which mud crab species are on the least interest, majority of studies being concentrated on fish predators.

This study represents the first record of genus *Eurypanopeus* and of the species *depressus* from Europe. The flat mud crab, from Panopeidae Family, represents the fourth European mention of a panopeid species among *Rhithropanopeus harrisi*, *Dyspanopeus sayi* and *Panopeus africanus*.

This species has a large native area, being registered in major coastal states of the North-Western Atlantic Ocean, from Connecticut to Bermuda and South Atlantic Ocean, from Brazil to Argentina. This euryhaline species is tolerant to a high range of temperatures and capable of rapid adaptation to salinity variation from 4.5 ppt to 17-18‰ in the Black Sea.

One male specimen was collected from the Black Sea, Cape Singol, Constantza, Romania, in 2013. For comparison we borrowed some specimens of *Dyspanopeus sayi* from Naturalis, previously collected from neighbouring sites, within 15 km. Most of the morphological characteristics, such as the 3rd maxilliped, the 5th pereopod, pleopod 1 and articles on the pleon indicate that both specimens belonged to the same species, therefore extending the presence of this species in Europe up to 6 years. We present some intraspecific variations that we have observed.

Further research will answer the question if there is an established population of *Eurypanopeus depressus* in the Black Sea and if it can share its habitat with other established panopeid species.

New data on the distribution of the *Scaphoideus titanus* leafhopper in Romanian vineyards

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Key words: grapevine leafhopper, Flavescence dorée phytoplasma vector, Romania.

Scaphoideus titanus Ball 1932 (Hemiptera: Cicadellidae) is a grapevine leafhopper native to North America and invasive in Europe where it spread the pathogen of Flavescence dorée (FD) diseases, one of the most important yellows-type disease of grapevine.

The pervasion of the leafhopper in new vine plantations takes place both naturally and through infested plant material. The presence of *S. titanus* in Romania has been gained a foothold since 2009, in the southern part of the country. From there, its monitoring continued during the next years in different vine-growing regions of the country where symptoms of the grapevine yellows have been observed. In 2016 we investigated the presence of *S. titanus* in vine plantations of 3-6 years old, namely in vineyards from West-Northern and East-Northern parts of Romania, within the framework of the national project ADER 412. The surveyed plantations were generated through the conversion program in viticulture developed since 2011 in the country. The yellow sticky traps of Romanian origin (AtraCERAS) have been used for sampling of the leafhopper.

The trapping data showed that adults and larvae of *S. titanus* were captured in all surveyed vine plantations. The abundance of population was different from a vine plantation to another and from one region to another. The information gathered in this survey can complete the existing data meant to describe and draw the spreading map of the leafhoppers *S. titanus* in the grapevines from Romania and Europe as well. The data also provide tokens and create the necessary conditions for investigation and for detecting the presence of the FD disease which is associated with the insect, given the fact that FD hasn't been confirmed in Romania, yet.

The Asian Tiger mosquito – *Aedes albopictus* (Skuse, 1894) in Constanța and abroad

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Key words: *Aedes albopictus*, new records, Constanta, Dobrogea.

In recent years, *Aedes albopictus* (*Stegomyia albopicta*), known as the Asian Tiger mosquito or forest mosquito, has expanded in the area of Romania. The first alert of this species dates from 2012, when specimens of this species were reported from Bucharest (Prioteasa et al, 2015). After 2014, the species was reported each year in the area, proving an established population. Near our country, the species has been reported also from Bulgaria, Hungary, Serbia and the Russian littoral of the eastern Black Sea. In the summer of 2016, this species was observed in Constanta city area, by the author of this communication and by some citizens who alerted the media. Preliminary data, results merely from data provided by a number of colleagues show that this species appeared certainly in the Constanta area since 2015. In the summer of 2016, it was reported not only from some locations in the city of Constanta but also from several localities in the surroundings – Valu lui Traian, Cumpăna, and even in the southwestern part of Dobrogea, at Ostrov. The presence of this species in anthropogenic habitats in southeastern and western Dobrogea is a logical situation, linked directly to the expansion northward that this species recorded in recent years. Given the medical impact that this species can have on the human population, an analysis of its spread in seaside area is a first order necessity, not only in terms of invasive species but from a medical standpoint.

References:

PRIOTEASA, L. F., E. FALCUTA, C. S. CEIANU., 2015 – Established Population of the Invasive Mosquito Species *Aedes albopictus* in Romania, 2012-14. J. Am. Mosq. Control. Assoc. 31 (2): 177-81. doi: 10.2987/14-6462R.

Invasion of *Gasterosteus aculeatus* Linnaeus, 1758 species in current ecological conditions in Dniester River (territorial limits of Republic of Moldova)

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Key words: fish, aquatic ecosystem, bioinvasion, anthropic factor, biotopic fragmentation.

In conditions of anthropogenic pressure intensification in Dniester River, most of stenobiont indigenous fish species have entered the stage of decline, while others, opportunistic small, on the contrary, have proliferated in excess, and even caused an invasive effect.

For Dniester River (limits of Republic of Moldova) a clear example is criophilous *Gasterosteus aculeatus*. After construction of Novodnestrovsk (1981) hydroelectric plant, the species took advantage of the hypothermal ecosystem downstream the dam. The range of low temperatures installed during vegetative period (9-15°C) gives this species reproductive portioned and early maturity (1 year), a long period for submission clutch and respectively a high population prolificacy. According to ecological index values the species near Naslavcea village becomes a multidominant one $D_5=95,52\%$; euconstant one $C_4=70,00\%$ and characteristics one $W_5=66,74$, demonstrating a structural intake and maximum productive in poor fishing community of this area (7 fish species).

In Dniester River the taxon is represented by 2 reproductive ecological forms: a sedentary one located downstream from Novodnestrovsk Lake to Sorooca town and a semi-migratory one, limited to lower Dniester area.

It was found that, in catches near Naslavcea village, the *Gasterosteus aculeatus* numerous groups form stable associations only with less numerous *Phoxinus phoxinus*. One of the hypotheses which would explain the tolerance to the *Phoxinus phoxinus* (being a species characterized by a pronounced aggressive to other taxons) is their very similar exterior.

A timely idioadaptation of species in present unstable ecological conditions is of course the large trophic spectrum and exclusive nutritive activity. Despite the modest gravimetric size, the species is an active consumer of eggs, larvae and juvenile fish.

To fight the invasion of this dangerous species in Dniester River, the authors of this paper propose conducting restorative fishing with trammel for juveniles during the night, using as concentration stimulus mobile light sources.

The study was performed within the projects 15.817.02.27A and 15.817.02.12F.

Reproductive characteristics of *Gasterosteus aculeatus* Linnaeus, 1758 females in Middle Dniester

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Key words: oocyte, gonads, resorption, gonadosomatic index, spawning.

In middle Dniester, females of *Gasterosteus aculeatus* inhabit with asynchronous development of oocytes and three-time spawning. Ovulation of fourth generation of eggs of the current breeding season does not occur, due to their total resorption. The cause of disturbances in the development of germ cells might be the lack of hydrological conditions, necessary to complete the accumulation of trophic substances. When the water temperature in the river in July increase to 15⁰C in oocytes processes of yolk formation is activated that promotes their maturation in a short time. As a result, egg spawning of the third generation takes place after 18 days after the completion of the second spawning. After each spawning the gonads contain follicular envelope, oocytes in phases of cytoplasm vacuolization and vitellogenesis. The average size of eggs, that have completed the vacuolization of cytoplasm is $452 \pm 12,2$ microns. The oocytes that have passed to the intense vitellogenesis and maturation process, reach in average $723 \pm 12,3$ mkm $1106 \pm 17,44$ mkm, respectively. During the summer months, in the gonads of *Gasterosteus aculeatus* the presence of vitellogenic resorbed oocytes in all three generations was revealed. The resorption process takes place in parallel with the development of eggs, forming the next portion of eggs. Before the next spawning of germ cells the value of the gonadosomatic index was significantly reduced ($P \geq 0,95$), which indicates a decrease in the relative weight of the ovaries and the number of oocytes with yolk, which form the second and third generation of the eggs in the given breeding season. The value of absolute fecundity in *Gasterosteus aculeatus* significantly increases with the length and weight of the fish's body ($P \geq 0,95$), whereas the relative fecundity values significantly decreased with increasing of age of producers.

Molecular Assessment of *Perccottus glenii* invasivity

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Key words: *Perccottus*, mitochondrial, DNA, cytochrome b.

Identifying routes of invasion is a critical management strategy in controlling the spread of fish invasive species. This is challenging however in the absence of direct evidence. Therefore, indirect methodologies are used to infer possible invasion sources and routes, such as genetic and morphological data from populations from invasive ranges and putative source areas.

During 2003 and 2014, 51 *Perccottus glenii* individuals were collected from three locations across the Danube River basin: Silvia channel, Mures River, Romania (2009); Tiszafüred, Hungary, Tisza River (2013) and Siret River, Romania (2014). The collected specimens were stored in 98% ethanol. A small fragment of dorsal muscle tissue was subject to genomic DNA extraction using phenol–chloroform–isoamyl alcohol (25:24:1) extraction protocol. Amplicons of 1150bp for mitochondrial gene cytochrome b (cytb) and 890bp mitochondrial control region were amplified by PCR using a new designed specific primers pair. The PCR products were purified and sequenced with a CEQ8000 Genetic Analysis System (Beckman Coulter).

A cytb gene dataset was build using sequences from 51 Amur Sleepers from Europe combined with another 61 Asian haplotypes sequences. Cytb gene dataset aligned with three outgroup species (*Odontobutis obscura*; *O. potamophila* and *O. platycephala*) was subject to jModelTest v.2, nucleotide substitution model being selected by Bayesian information criteria. The phylogenetic relationships within European and Asian Amur Sleepers were reconstructed using the ML method in PhyML v.3 software, and tested under 1000 bootstraps replications.

The aim of the present study was to assess the native area and the invasivity of European Amur sleepers using two mitochondrial markers. In order to evaluate the invasiveness features, their genetic diversity across the native area in comparison with the genetic diversity within invasive areas were computed.

Methods for monitoring three alien mammal species: the Coypu (*Myocastor coypus*), the Raccoon dog (*Nyctereutes procyonoides*), and the Muskrat (*Ondatra zibethicus*) in Bulgaria

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Key words: invasive alien species, tracks, monitoring, ERTS – grid, database, Bulgaria.

The aims of our study were: to develop methods for monitoring alien mammal species; to test the methodology; and to collect data on three alien species in Bulgaria: the Coypu (*Myocastor coypus*), the Muskrat (*Ondatra zibethicus*) and the Raccoon dog (*Nyctereutes procyonoides*).

The developed methodology for data collection was based on four approaches: (1) traces of life activities; (2) photo traps; (3) examination of data from questionnaires completed by experts and practitioners; and (4) available databases of government agencies and hunting unions. Some preliminary data about the distribution of the species concerned were collected from the available literature and mentioned questionnaires, and the obtained results were analysed. The original data were then drawn on a map of Bulgaria with ERTS grid 20x20 km, every cell of which representing one sampling plot. Two types of sampling plots were chosen – the first one with initial information, while the second one with no information available, but covering potential habitats for the three species. Altogether, 30 sampling plots were selected, with a total area of 12 000 km², which accounts for approximately 10% of the Bulgarian territory. Four transects with a length of 500 m each were sampled in potential habitats near the banks of the water body (river, lake, marsh, etc.). Observer looked for signs of life activities of the alien mammals: footprints, scats, food remains, or attempted to directly see individuals of the species of interest. Local residents, mainly a sample of fishermen and hunters, were questioned about the presence of the species. It is planned to put photo traps in each plot. The methodology is still being tested, but so far given positive results. A database on alien mammals in Bulgaria has been established for the first time.

The study has been funded by the Financial Mechanism of the European Economic Area 2009-2014, BG03 Biodiversity and Ecosystem Services, projects IBBIS, D-33-72/20.07.2015, and ESENIAS-TOOLS, D-33-51/30.06.2015.

Distribution of three alien mammal species: the Coypu (*Myocastor coypus*), the Raccoon dog (*Nyctereutes procyonoides*), and the Muskrat (*Ondatra zibethicus*) in Bulgaria

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Key words: invasive alien species, pathways of introduction, expansion, Bulgaria.

The changes in the distribution of three alien mammal species in Bulgaria have been studied. The data have been summarised from field surveys, available literature, data base of the Executive Forest Agency and Union of Hunters and Anglers in Bulgaria, questionnaires completed by experts, hunters, etc.

The first individuals of the Coypu (*Myocastor coypus*) were released in South Bulgaria near the town of Burgas in 1948. Consequently, the species quickly spread in Thrace within the basins of the rivers Maritsa, Tundzha, etc. The coypus were also kept in South-East Bulgaria at small fur farms or by locals as pets. At present, there are many records of the species in North-East Bulgaria, including the Danube lakes. The pathways of its distribution in this region are not known, the animals possibly came from the Danube Delta or penetrated from South Bulgaria or were released by hunters.

The first specimens of the Muskrat (*Ondatra zibethicus*) were released in Srebarna Lake in North Bulgaria in 1955. Later, the species naturally spread along the Danube River and in the adjacent water bodies. Recently, the species was reported near Yambol in South Bulgaria. The record is based on the remains in the pellets of the Eagle owl (*Bubo bubo*), but the presence of the species in this region is supported by some observations. The appearance of the species in South-East Bulgaria is unclear.

The first observation of the Raccoon dog (*Nyctereutes procyonoides*) was reported from Shabla, North-East Bulgaria, in 1968. Subsequently, the species was reported in the Chaya River, Western Rhodopes, and Pomorie Lake (unconfirmed data). There are a few communications about its occurrence in Thrace, South Bulgaria.

The analysis of the available data shows range expansion of all the three species in Bulgaria. The possible pathways of introduction and expansion of these species in Bulgaria are discussed.

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West Nile virus in Romania – its vectors and hosts

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Key words: West Nile neurological infections, wild and domestic birds, environmental changes, mosquito vectors.

The global and local environmental changes, especially the climatic ones, led to the intensifying of West Nile virus circulation on very large territories in Romania.

The endemic circulation of the virus is maintained by the involvement of wild and domestic birds as main hosts in the bird-mosquito transmission cycles, and it results in the appearance of numerous human neurological infections.

Our serological investigations for several years on the wild birds brought to light the presence of West Nile antibodies in 29 among 42 investigated species in Romanian Plain and Dobrogea. West Nile antibodies were also detected in domestic birds that are involved in virus transmission in anthropic ecosystems, and in horses that indicates the risk of virus transmission to humans in these ecosystems.

The investigation of mosquito vectors underlined the presence of West Nile virus in several mosquito species and especially in *Culex pipiens* as main vector in Romania.

The essential activity for the interruption of the transmission cycles of West Nile virus and prevention of appearance of human cases is the permanent monitoring and control of vectors applying integrated control programmes.

Preliminary literature review on the Romanian multilingual dictionaries of biology and related sciences

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Key words: Romanian multilingual dictionaries, biology.

Multilingual dictionaries are useful tools that allow anyone to find information about terms that are expressed in any language. This dictionary reflects the cultural diversity, vital to the scientific debates. We require multilingual dictionaries/glossaries to better understand the terminology.

There is no updated bibliography/critical study exclusively devoted for this dictionary (with the Romanian language as a component). The multilingual dictionaries are titled in Romanian: “*dicționar multilingv*”, “*poliglot*”, “*plurilingv*”, “*polilingv*”.

We provide a short review and few observations on the Romanian multilingual dictionaries of biology with regards to zoology.

In Romania, more than 50 multilingual dictionaries related to biology have been published since 1847 until present time, but only a few dictionaries are related to zoology. The identified dictionaries were alphabetically, chronologically and thematically systematized. Concerning the Romanian multilingual dictionaries, the produced literature contains a rather small contribution to the field of zoology, the majority of these dictionaries are aiming different fields as: botany, mycology, ecology etc. Some dictionaries have made careers (see botanical dictionary of Váczy C. – 1980, appreciated by specialists). We listed few multilingual dictionaries published by: Munteanu (2001), Petrișor & Apostol (2000), Vlad et al. (2004) etc.

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References:

- MUNTEANU, D., 2001 – Dicționar poliglot al speciilor de păsări din România, Ediția a III-a, Societatea ornitologică română, Cluj-Napoca, 60 p.
PETRIȘOR, A.I., S. E. APOSTOL, 2000 – Dicționar poliglot al păsărilor din România, Dokia, Cluj-Napoca, 114 p.
VLAD, I., V. BĂCILĂ, I. OPREA, 2004 – Dicționar de etologie și fiziologie animală, Universitatea Lucian Blaga, Sibiu, 133 p.

Biodiversity by design in Cișmigiu Garden, Bucharest, Romania

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Key words: biodiversity, conservation, park, historical landscape, Bucharest, Romania.

Greenspace is an important part of the complex urban ecosystems and provides significant ecosystem services. It benefits urban communities environmentally, esthetically, recreationally and economically (Konijnendijk et al. (2012).

Cismigiu Garden of Bucharest is a special public arrangement, created in 1853 by the landscape architect Carl Meyer. It presents a high degree of landscape compositional complexity, taking into consideration geometric and compositional structural studies. At present, it is declared historical monument. But the historical vegetation is in the aging stage and needs an urgent programme of stabilization and maintenance. Restauration model has to match the protection and conservation necessities of a declared monument (El-Shamali, 2010)

The new approach for conservation planning in urban area needs to be more holistic, even for historical sites, addressing to the societal needs of urban community for recreation and nature appreciation, including wildlife (Kemp, 2004).

Birds are a taxonomic group significantly affected by urbanisation and is one of wildlife class that is able to indicate the ecosystem health and vital in many food webs. There are three categories to indicate bird function: ecological, psychological and social. For ecological function, each bird species is able to perform a service either directly or indirectly that gives benefits to the environment and humans. For psychological function, bird chipping and play around are able to give relaxing mood to watchers. For the social function, abundance of bird species is able to give aesthetical values to the area, fun learning experience and bring to the real deal of real estate values (Amar-Singh, 2009; Ong, 2003).

Most bird species in urban parks depend on native plant community due to their selective dietary and nesting needs and are vitally affected by invasion of exotic plant community. This research aims towards understanding the contribution of ornamental plants (native and exotic plants) from Cișmigiu Park as food plants and shelter for avian community birds for human interaction, as a support in the restauration, conservation and management programme of the historic garden.

References:

- AMAR-SINGH, H. S. S., 2009 – A friendship with birds. A Guide to the Identification & Appreciation of Common Birds in the Gardens & Cities of Peninsular Malaysia. Perak, Malaysia. (Ed.) Desktop Systems.
- EL-SHAMALI, S. A., 2010 – Contribuții privind studiul creațiilor din România ale peisagistului Carl Friederich Meyer și punerea acestora în valoare în contemporaneitate (teză de doctorat). București: Universitatea de Științe Agronomice și Medicină Veterinară București (in Romanian).
- KEMP, D. D., 2004 – Exploring environmental issues: An integrated approach. Routledge, London.

KONIJNENDIJK, C. C., M. ANNERSTEDT, A. B. NIELSEN & M. SREETHERAN, 2013 – A report for IFPRA on a systematic review: Benefits of urban parks. Copenhagen & Alnarp.
ONG, T. – 2003 – Birds of FRIM. Forest Research Institute Malaysia Kepong: Ampang Press Snd. Bhd.

Diversity of beetles (Coleoptera) in steppe areas of the Republic of Moldova

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Key words: beetles, Coleoptera, fauna, diversity, steppe, Republic of Moldova.

Steppes in the Republic of Moldova are part of the unique Eurasian Steppe ecosystem being among the largest terrestrial biomes, supporting a rich flora and fauna, and providing invaluable ecosystem services. The northern types of steppes (Balti) are particularly affected by cultivation; dry southern steppes (Bugeac) are significantly transformed as a result of overgrazing, many steppe areas also suffer from soil pollution, depletion, degradation and decreasing of humus level. Insect communities of the Republic of Moldova steppes are understudied, therefore, complex investigation of beetles diversity in steppe areas is required.

Specimen capture was carried out using pitfall traps. Sampling took place every ten days, with a few exceptions due to unforeseeable circumstances. A total number of 560 beetles, belonging to 98 species of 51 genera and 15 families, are considered in this analysis. The largest family proved to be Carabidae, which includes 51 species of 19 genera, followed by Curculionidae, with 9 species of 6 genera. Also, from all collected beetles, ground beetles represented the greatest proportion in terms of number of individuals (366 specimens), followed by darkling beetles with 50 specimens. Weevils were represented by 30 individuals. The most abundant species were *Calathus fuscipes* (Goeze 1777), *Harpalus hospes* Sturm 1818, *Pseudoophonus rufipes* (De Geer 1774), *Ophonus azureus* (Fabricius 1775), *Opatrum sabulosum* (Linnaeus 1761), *Lathrobium brunnipes* (Fabricius 1793), *Harpalus pygmaeus* Dejean 1829 and *Zabrus tenebrioides* (Goeze 1777).

Obtained results will provide information on entire biodiversity richness, condition and the protection necessity promoting the conservation of steppe areas in the Republic of Moldova.

The effects of starving and refeeding on Hsp genes transcription in *Acipenser stellatus* (Pallas, 1771) under aquaculture conditions

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Key words: *Acipenser stellatus*, starving and refeeding diet, stress, Hsp genes.

Acipenser stellatus is a sturgeon species of great economical importance due to its roe used for caviar production. Therefore, it has been massively captured and the wild stocks have been dramatically reduced. Fish farming represents a conservation measure aimed to obtain aquaculture individuals that will be used to satisfy the high demand for caviar. Research in aquaculture field is focused on optimizing the feeding regime. This study aimed to determine if *Acipenser stellatus* can adapt to a starving and refeeding diet by assessing the effects of this diet on stress biomarkers like Heat shock protein genes.

Forty eight individuals were subjected to six feeding programs in aquaculture conditions: a) a control group was fed constantly, b) a control group was starved constantly, c) a group was starved for 7 days, d) a group was starved for 14 days, e) a group was starved for 7 days and refed, f) a group was starved for 14 days and refed. For each individual liver homogenates were obtained and the level of transcription of three Hsp genes (Hsp 70, Hsp 90 α and Hsp 90 β) was assessed by Real-Time PCR method.

The results revealed that the transcription of all Hsp genes was intensified during the starving period in a time dependent manner, while it was down-regulated during refeeding in comparison to the fed control group. This indicates that starvation induces stress in the liver of *A. stellatus*, while refeeding decreases the level of stress. The 7 days starvation and refeeding regime induced mild modifications in Hsp genes transcription compared to 14 days starvation and refeeding, suggesting that this regime is more suitable for aquaculture.

In conclusion, *Acipenser stellatus* possess the ability to adapt to a starving and refeeding regime and a 7 days starvation and refeeding regime is properly tolerated.

Validation method for the expression of genes possibly involved in sexual differentiation in *Acipenser stellatus*

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Key words: stellate sturgeon, sex identification, gene expression, aquaculture.

The sturgeon family consists of economically valuable species, production of caviar being the reason for this high evaluation. Being “living fossils”, sturgeons are also important from the scientific point of view. For the stellate sturgeon (*Acipenser stellatus*, Pallas 1771) we have started an investigation of genes probably involved in sexual differentiation. The need for such an investigation relates to the possibility of separating males from much more valuable females in an early life stage, thus reducing the cost of rearing them together until they can be separated by biopsy or ultrasonography.

We have investigated the following genes, *ar*, *dmrt1*, *sox9*, *wt1*, *foxl2*, *cyp17a1*, *star*, *lh* and *igf*, for possible differences in expression between males and females. The *gapdh*, *rRNA28S* and *β -actin* genes were investigated for the possibility of using them as reference genes in the qPCR protocol. We have validated the markers by direct Sanger sequencing followed by NCBI BLAST and by observing the melt curves from the qPCR experiments. The dataset was tested for type of distribution using the Shapiro–Wilk test implemented in IBM SPSS Software. The reference genes were tested using the following bioinformatics software: NormFinder and geNorm followed t-test for observing possible differences between groups which would indicate if the genes are suitable as reference genes.

The results showed that the majority of dataset groups are normally distributed with some groups having a departure from the Shapiro-Wilk p-value. The reference genes grouping showed that the arithmetic mean between *gapdh* and *β -actin* is the most stable but it does still have significant differences between groups. For statistical analyses we conclude that because of the small sample size and because of the distribution of the dataset the following tests should be used for log-transformed data: unpaired t-test with Sidak – Bonferroni correction, Mann Whitney test and Kolmogorov-Smirnov test.

The reproductive system characteristics of the carp-crucian hybrids

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Key words: gonads, hybrids of carp-crucian carp, oocyte, carp, crucian carp.

The histological analysis of gonads of the carp-crucian female hybrids (Curcubet et al., 2013) showed that the development of the reproductive system of some of them is like a crucian, while others, like a carp and revealed the different intensities in the development of the oocyte. Also, it was noted the difference in the body weight and the relative weight of the gonads: the “carp-type” hybrid female is equal to 957.0 g and 84.0g, respectively; whose gonads developed as a crucian – 720.0 g and 33.0 g, respectively.

The Gonad-somatic index (GSI) of hybrid “crucian-type” specimen is two times lower than of “carp-type” females.

All researched types of fish have displayed an asynchronous type of oocyte development within the phases of vacuolization and vitellogenesis.

The majority of the carps and carp-crucian female gonads that develop analogously to the crucian are the oocytes of the trophy-plasmatic growth period (D_2 - D_3) and (D_4 - D_6) and the percentage of sex cells in their gonads has a little difference, the same as in the crucian females. But the number of vitellogenesis oocytes in their gonads is almost twice the number of eggs undergoing the vacuolization phase, whereas the crucian shows almost no difference. The ovaries also contain not spawned eggs in the finished phase of vitellogenesis (E) in the process of resorption (III-IV maturity stage of gonads) that also was indicated by other authors (Statova et al., 1982).

In October the GSI of carps reaches 20.05%. In hybrid “carp-type” females this value is a little lower – 10.03%, but still twice the value of the carp-crucian with “crucian-type” oocytes and ovaries, in contrast with the crucian and “crucian-type” hybrids, contain oocytes with all phases of the trophy-plasmatic growth and the majority of which are of the unfinished “E” phase (IV maturity stage of gonads).

All hybrid females have gone through spawning and can be used in production of backcross hybrids.

References:

- CURCUBET G., V. DOMANCIUC, N. FULGA, 2013 – The hybrids carp-crucian as prospective object of freshwater aquaculture. Muzeul Olteniei Craiova. Oltenia Studii și comunicări. Științele Naturii. Craiova. 1 (29): 195-200.
- STATOVA M. P., M. G. TALICHINA, R. A. CALINICI, 1982 – Fiziologo-biohimescaia haracteristica icry carpa v zavodskih usloviah vosproizvodstva. Voprosy ihtiologii. 22 (3): 466-476.

Two new D-loop control region haplotypes identified for Romanian brown trout (*Salmo trutta* Linnaeus, 1758)

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Key words: brown trout, D-loop control region, Romanian haplotypes.

The brown trout has a wide distribution in Romania, but its natural habitat is disrupted by various anthropogenic activities, consequently restocking actions are currently applied, often without prior knowledge of the individuals' genetic structure, in order to balance the fish population structure. Given this context, our study aims to analyse the genetic diversity of several Romanian brown trout populations from six Romanian rivers using the mitochondrial D-loop region.

We used anal fin clips from 147 individuals isolated from six rivers, tributaries of Olt and Timiș Rivers. We extracted the DNA and we used the D-loop specific primers for PCR amplification, followed by Sanger sequencing. The data was analysed by using several Bioinformatics software such as BioEdit, DnaSP, MEGA6, Network and 294 sequences downloaded from the GenBank database.

We observed that the population pair Bistra Mărului and Cârțișoara had the lowest genetic differentiation, while for the pair of populations formed by Bârzava and Ucea we observed a high genetic differentiation. When we compared our sequences to those downloaded from the GenBank we identified two new brown trout haplotypes and the phylogenetic tree showed that the majority of the haplotypes are Danubian in Romanian rivers, but there is one Atlantic non-native haplotype discovered in the Porumbacu River. We believe that the Atlantic haplotype could have been introduced during past restocking activities in the Făgăraș Mountains rivers. The two new haplotypes are related to those already identified in other East-European regions and they could also come from past anthropic restocking in targeted rivers.

Our preliminary study presents the genetic diversity of six brown trout populations from Romanian rivers, along with their haplotype distribution and diversity. In order to assess a more robust genetic analysis of the Romanian brown trout populations, further studies are planned, including microsatellite analysis.

Characterization of certain ecological factors from Cozia massif that impact the dynamics of *Bombina variegata* populations (II)

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Key words: water and soil chemistry, aquatic and terrestrial invertebrate communities, Cozia.

There are presented the results obtained in the 3rd Phase of the Project “Genetic protocol for the estimation of population parameters (effective population size, genetic diversity) for the conservative management of Nature 2000 animal species (SCIGEN)”, developed under the PNII Program, in partnership with the “Grigore Antipa” National Museum of Natural History

New data are presented concerning the characterization of the main ecological factors, both abiotic and biotic, for the six studied *Bombina variegata* populations from Cozia massif (Spinu, Călinești, Valea lui Stan, Lotrișor, Forest road Căciulata, Păușa).

The ecological study targeted:

- The characterization of some aquatic physical and chemical parameters: pH, Aquatic temp. (gr. C), Total Hardness (°d), O₂ (mg/l), NH₄ (mg/l), NO₂ (mg/l), NO₃ (mg/l), PO₄ (mg/l), TDS (mg/l), Conductivity (μs/cm), CBO₅ (mg/l), Chlorides (mg/l), SO₄ (mg/l), Fixed residuum (mg/l), Organic subst.
- The characterization of some chemical soil parameters (pH, P, N, K) of the areas where the Barber traps were placed.
- The UV values.
- The characterization of aquatic and terrestrial invertebrate communities.

The physical-chemical parameter analysis indicates that both water and soil quality keeps within “good quality” range for all six *Bombina variegata* populations.

The terrestrial and aquatic biotic component analysis, based on comparing the taxonomic data obtained by us in the field with the stomach content data given for *Bombina variegata* (as specified in scientific lit.), indicates that the trophic resources satisfy both in quantity and quality (diversity of taxa) the requirements of both sexes and all development stages for all the six studied populations.

Preliminary data on the population genetics of the yellow-bellied toad *Bombina variegata* from the Middle Olt River Valley

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Key words: *Bombina variegata*, habitat fragmentation, microsatellites, genetic variability.

Bombina variegata is a toad species with a mountainous central and western European distribution and its preferred habitat is represented by temporary pools and puddles used for reproduction. The species is easily disturbed by human activities and is affected by fragmentation and habitat destruction, severe declines being documented across its distributional range. Like all Romanian amphibians, the yellow-bellied toad is protected by law; it is, moreover, a Natura 2000 species strictly protected under the European Habitats Directive 92/43/EEC (Annex II).

The genetic variation of 6 populations from the mountainous part of the Middle Olt River Valley in Romania was assessed in 234 individuals of *B. variegata* at seven nuclear microsatellite markers. The population genetic structure and the possible fragmentation of the habitat were assessed using different methods. All the analyzed loci were polymorphic in all populations. Only 1 out of 42 single locus tests showed a significant deviation from Hardy-Weinberg equilibrium ($p < 0.05$) after Bonferroni correction. There were no differences between mean expected heterozygosity (H_e) and mean observed heterozygosity (H_o) across populations. The allelic structure in one population differs significantly from the others. This is most likely due to the landscape features combined with the human settlement present in that valley, which may curtail gene flow between the enclosed *B. variegata* population and other conspecific populations.

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Avifauna of ROSPA0076 Black Sea, risk factors and maritime spatial planning

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Key words: birds, ROSPA0076 Black Sea, risk factors.

Socio-economic development of the Black Sea coastal zone is an indubitable reality, despite conflicting economic evolution in recent years. Within the last years, Constanţa Port activity have had an upward trend; new components of the fishing industry, tourism development areas until recently virgin is a reality, and in recent years the project of protected shoreline by sanding caught outline the entire length of the coast, and the intended intensifying exploration and exploitation of natural gas and oil reserves (Răileanu et al., 2016) are also activities to consider. Given the importance of protected areas to maintain the conservation status of bird populations, all aspects of the human impact were identified. The main areas where it is desirable that human activities to be planned in the future and keep them at a level as low, in order to respect the premises for which ROSPA0076 Black Sea was declared protected area (Schultz-Zehden et al., 2008) were also considered. Data related to the protected bird populations and the observed impact of risk factors were used in the project EASME / EMFF / 2014 / 1.2.1.5 / 2 / SI2.707672 MSP LOT 1 / BLACK SEA / MARSPLAN-BS, in order to develop a maritime spatial planning in the western part of the Black Sea.

References:

- RĂILEANU A., F. ONEA, E. RUSU E., 2016 – Evaluation of the Offshore Wind Energy Potential in the Romanian Coastal Environment of the Black Sea, “Cercetări Marine/Recherches marines”, 46: 5-18.
- SCHULTZ-ZEHDEN A., K. GEE., K. SCIBIOR, 2008 – Handbook on Integrated Maritime Spatial Planning – Experience, Tools & Instruments, Case Studies; S Pro sustainable projects, 100 pp.

Habitat use by birds during spring in natural forests and non-native plantation forests in the Lower Siret Meadow (Eastern Romania)

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Key words: forests, habitat, birds, nesting, migration, Lower Siret Meadow.

The Lower Siret Meadow exhibits forests with changes on the natural structure due to the economic interest, expression which can define the forest management from previous decades. Afforestation programs aimed to experiment introduction of exotic tree species in order to increase wood production and to reduce harvest time intervals. These interventions reflected in the decrease of natural forests areas which may influence the bird presence. Studies of the ecological impact of plantations on birds are scarce, and no studies were found regarding this aspect in the region. Using six different sample surfaces both in native and non-native tree plantations, we investigated how bird presence is influenced by the support capacity offered by both natural or non-native plantations and which vegetation variables are related to our results. We compared the data from the surveyed surfaces to relate birds to the dependance on certain characteristics of the habitats. Our results pointed out that species diversity is higher in natural forests with local tree species and vegetation characteristics like forest canopy density, shrub coverage and herbaceous layer. All of them are interrelated in terms of favorable habitat variables for the avian fauna and should be taken into consideration for the protected area management.

Roads, connecting people, isolating wildlife. A study on road mortality on wildlife in Romania, with the use of mobile Open Data Kit sampling

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Key words: road mortality, mammals, birds, reptiles and amphibians, mobile Open Data Kit.

Every day, all around the world animals are trying to cross man-made obstacles such as roads, but not all of them manage to get to the other side, some of them end up hit by passing cars. Currently, in Romania, animal crossing corridors, or green corridors are not a mandatory practice and the real number of wildlife animals that end up roadkill is not yet estimated.

This study has aimed at gathering data regarding the susceptible species of wildlife that fall victims to road fatality, and the major hotspots in Romania.

We started gathering information regarding location, date and species with the help of mobile Open Data Kit software using mobile phones during the course of the year 2016 from the roads frequented by our team and analyzed the data in order to form a current image regarding this phenomenon.

During the study, we recorded of 224 cases of road fatalities. The most numerous group was that of mammals, with 185 cases, followed by birds, with 33 cases and reptiles and amphibians, with 6 cases. The most abundant species recorded in the study was the red fox (*Vulpes vulpes*), with 87 cases.

Such studies need to be developed, improved and be applied more often in order to show the need of green corridors, and where these structures are most needed.

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Food habits of wolf in Eurasia: a proposal for an open access database

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Key words: wolf, feeding habits, diet, *Canis lupus*, Europe, Asia.

The wolf (*Canis lupus* L., 1758) has one of the widest distributions among terrestrial mammals. Flexible and opportunist, it is well adapted to the different types of habitats, therefore, complex predator-prey interactions occur throughout its entire range. Understanding the extent of these interactions can be achieved through an exhaustive analysis of an adequate number of existing studies on wolves' feeding ecology. Access to those studies is often hindered by, among other factors, language barriers, and overcoming such factors would ensure the premises for knowledge development concerning the wolf's foraging behaviour.

In a recent study, Newsome et al. (2016) described wolf's feeding habits, at a global scale, by analyzing a large dataset collected from the scientific literature. However, an unrepresentative sample of Asia, where the greatest part of the wolf population supposedly lives, was used.

To contribute to their work, we collected additional information and performed a descriptive analysis of a data set composed by 497 wolf diets, from 138 study areas, distributed across Eurasia (Asia, n.countries = 13; Europe, n.countries = 17). A preliminary structure of the database is presented.

The aim of this work is to inspire researchers in participating to data collection, promoting teamwork between Asian and European researchers and emphasising the knowledge concerning the wolf foraging habits in Eurasia.

In the long-term, our goal is to support the decision making factors by creating an open access online database of Wolf's diet and feeding habits.

References:

NEWSOME, T. M., L. BOITANI, G. CHAPRON, P. CIUCCI, C. R. DICKMAN, J. A. DELLINGER, J. V. LÓPEZ-BAO, R.O. PETERSON, C. R. SHORES, J. A. WIRSING, W. J. RIPPLE, 2016 – Food habits of the world's grey wolves. *Mammal Review*. DOI: 10.1111/mam.12067

Modeling the potential distribution of homeotherms using bioclimatic envelopes vs. environmental descriptors: case study on the Common hamster (*Cricetus cricetus* L., 1758)

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Key words: Common hamster, *Cricetus cricetus*, potential distribution model.

Unlike cold-blooded animals, homeotherms have intrinsic characteristics which make them resilient to climatic factors; as such it is expected that the distribution of these animals will show less dependence on climatic conditions, and will also be influenced by environmental descriptors (e.g.: land use, altitude). The model organism is the common hamster (*Cricetus cricetus*): its distribution in Romania has been discussed before but the present knowledge is unsatisfactory and probably influenced by both elevation gradients and land use modifications. Therefore, the aim of the study is to test the explanatory power of bioclimatic variables vs. environmental descriptors and to find a distribution model with good explanatory power for the common hamster.

Distribution records were compiled from the literature, mammal collections of several institutions, as well as personal observations; overall 104 individual occurrences were used. The potential distribution models were developed based on three scenarios: (1) one in which only bioclimatic variables were used, (2) one in which both bioclimatic and environmental variables (altitude and land cover) were used to predict the species' distribution and (3) one where we used only environmental variables. For all scenarios, we enabled jackknife to select variables with a contribution higher than 5% and we allowed the algorithm to run for 1000 iterations or until convergence. The dataset was random divided, 75% for training and 25% for testing the models. A 10% training presence threshold was enabled as well as clamping to reduce erroneous projections. Models were evaluated based on AUC, omission rate and experts' opinion.

AUC values exceeded 0.7 for all models. Omission values for the test data were 0.2 under the climatic only scenario, 0.12 for the climatic + environmental scenario and 0.093 for the environmental only scenario. On visual assessment, the experts agreed that the model developed using both climatic and environmental variables offered the most compelling information regarding the species' niche. The highest contributing variables for the aforementioned scenario were land use (54.2%), altitude (22%) and mean diurnal range (17.8%). Although a rapid and crude modeling exercise, the results lend credibility to the initial hypothesis

that the distribution of homeothermic animals is also influenced by other factors besides the climatic envelope.

The study was partially funded by project no. RO1567-IBB04/2016 from the Institute of Biology Bucharest of Romanian Academy, fundamental project 15.187.0211F of Institute of Zoology, Academy of Sciences of Moldova and within inter-academic exchanges between Romania and Republic of Moldova.

Marine molluscs collected by “Thalassa” Expedition in Mauritania (1971)

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Key words: “Thalassa” Expedition, Atlantic Ocean, Mauritania, marine molluscs.

One of the programmes of a wide collaboration for the research of the World Ocean undertaken by the United Nations through the International Oceanographic Commission has been the research of the East-Tropical Atlantic Ocean. In 1971, within this programme, France organized its third expedition of “Thalassa” vessel, along the coasts of Mauritania. The 1971 Expedition proposed to evaluate the effects of the intensive fishing in the area within the years which passed since the previous expeditions, of 1962 and of 1968. Also, it aimed at studying the deep fauna.

The Romanian participation at the 1971 Expedition was represented by the savant Mihai Băcescu, director of “Grigore Antipa” Museum. That time, “Thalassa” vessel had the most modern research equipment, radar, automatic navigation, echolocation devices, echographs, several types of trawls, all of them automatic, as well as professional refrigeration plant (Băcescu, 1973).

The material, studied by us till now, consists of 455 marine mollusk specimens (290 gastropods, 148 bivalves and 17 scaphopods), belonging to 144 species (73 gastropod species, 36 bivalve species, and 5 scaphopod species) of 47 families (24 gastropod families, 22 bivalve families and 1 scaphopod family), collected from 39 sampling stations. Many specimens are subadult and juvenile.

Among the special specimens, we mention *Limatula thalassae*, bivalve of the Limidae family, described only in 2004, by J. A. Allen. We identified all these specimens within 2015-2016 and now, they are included in the patrimony of “Grigore Antipa” National Museum of Natural History of Bucharest.

References:

- ALLEN, J. A., 2004 – The Recent species of the genera *Limatula* and *Limea* (*Bivalvia*, *Limacea*) present in the Atlantic, with particular reference to those in deep water. *Journal of Natural History* 38: 2591 – 2653.
- BĂCESCU, M. C., 1973 – Acolo unde Sahara dispăre în ocean (Călătorie de explorare a apelor Mauritaniei): 1 – 122., Ed. Ion Creangă, București.

***Platybunus* species diversity in “Dan Dumitrescu”
Opiliones (Arachnida) collection at “Grigore
Antipa” Museum – preliminary data**

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Key words: Opiliones, *Platybunus*, species diversity, “Dan Dumitrescu” collection.

The paper presents preliminary data of the *Platybunus* species diversity in the “Dan Dumitrescu” Opiliones collection at “Grigore Antipa” Museum of Natural History. The inventory of the investigated samples comprises the following species:

1. *Platybunus decui* Avram, 1968 (Latoriței Mt., Puru, 11 VII 1966, ♀ – collection no 41/63),
2. *Platybunus jeporum* Avram, 1968 (Bucegi Mt., Jepi, 7-13 VIII 1960),
3. *Platybunus juvarae* Avram, 1968 (Făgăraș Mt., Avrig Lake, 30 VIII 1964),
4. *Platybunus pallidus* Šilhavý, 1938 (CSSR, Babia Góra, 1960, collection no 612075; Ceahlău Mt., VIII 1960, ♂ – collection no 389/60, ♀ – collection no 390/60),
5. *Platybunus pinetorum* (C. L. Koch, 1839) (Cozia, 8 VI 1972, 20 VIII 1975; Scropoasa Lake – Dobrești, Dâmbovița, 3 X 1978; Cabana Sebeșel, 24-25 VI 1972),
6. *Platybunus bucephalus* (C. L. Koch, 1835) (Parâng Mt., Corneșu Mare, 20-24 VIII 1970, collection no 327/95).

One erroneous species identification has been rectified: *Platybunus silhavyi* n. sp. Dumitrescu (unpublished) (samples: a) Parâng Mt., Corneșu Mare, 20-24 VIII 1970, collection no 327/95; b) Rarău Mt., Codrul Secular Slătioara, 29 VI, 1967, 1 ♂ – paratype, collection no 469; c) Bucegi Mt., Sinaia, 1968, 1 ♂) is identified as *Platybunus bucephalus*.

Some data regarding the intraspecific variability in *Platybunus pallidus* are also given.

Romanian expedition in Indonesian Archipelago – 25 years after: a carcinological review

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Key words: Sulawesi, Bunaken, Pari, crustacea, new taxa, museological collection.

The Romanian expedition in Indonesian Archipelago (February-June 1991), organized by “Grigore Antipa” National Museum of Natural History of Bucharest, was conducted by a team of four prestigious specialists: Dr. Dumitru Murariu (mammalogist), chief of the expedition, Dr. Modest Guțu (carcinologist), Dr. Alexandru Marinescu (hydrobiologist) and Dr. Corneliu Pârnu (entomologist).

The results of this expedition consists in thousands of collected invertebrates and few chordates and vertebrates. Several public lectures and scientific communications had been made. Also, a temporary exhibition was organized.

Almost 10500 crustacean specimens were collected from 65 stations from 5 different points (Bunaken, Pari, Sulawesi and Bali Islands and Makassar Strait). Although there had been numerous publications regarding the scientific results of this expedition, 18 articles – mostly published in the Museum’s journal, two books, and also numerous articles in science magazines, still a large proportion of specimens had not been identified. Eleven groups had been collected: Decapoda, Hoplocarida, Amphipoda, Isopoda, Cumacea, Mysidacea, Tanaidacea, Ostracoda, Branchiura, Cephalocarida and Copepoda; most abundant are Tanaidacea (33%), Mysidacea (14%), Copepoda (14%), Ostracoda (12%) and Cumacea (9.3%). A number of 41 new taxa, 38 species and 3 genera were described from Amphipoda, Isopoda, Cumacea, Mysidacea, and Tanaidacea. From Decapoda, almost 80% of collected samples are still unidentified, with only 6% of the material represented by numerous *Brachyura* and *Anomura* species.

Holotypes are preserved in the Crustacean Collection of “Grigore Antipa” National Museum, paratypes are shared between zoological museums from Bucharest and Bogor, Indonesia.

We present here the most important scientific breakthroughs and the future perspectives of the scientific collection of crustaceans.

Saproxylic beetles (Insecta: Coleoptera) of community interest in the Natural History Museum Collection of Sibiu (Romania)

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Key words: protected saproxylic beetles, museum collections, conservation.

Saproxylics are known as organisms that depend on specific habitats during a part of their life cycle: dead wood, dying wood from standing or fallen trees, on upon wood-inhabiting fungi or the presence of other saproxylic organisms (Speight, 1989). Beetles make up an important share of these saproxylic organisms, many of them are protected species nowadays, due to numerous threats.

The paper presents data regarding several protected saproxylic beetles preserved in the entomological collections of the Natural History Museum from Sibiu. Data from the museum collection are part of the Entomological collections as follow: Transylvanian Society for Natural Science, “Dr. Eugen Worell”, “Dr. Karl Petri”, “Rolf Weyrauch”, “Heinrich Hann von Hannenheim” and “Dr. Eckbert Schneider” collections. In the collection, the following saproxylic beetle species are preserved: *Rhysodes sulcatus* Fabricius, 1787, *Cerambyx cerdo* Linnaeus, 1758, *Rosalia (Rosalia) alpina* (Linnaeus, 1758), *Morimus asper funereus* (Mulsant, 1863), *Cucujus cinnaberinus* (Scopoli, 1763), *Phryganophlius ruficollis* (Fabricius, 1798) and *Lucanus cervus* (Linnaeus, 1758). These beetles are currently protected species, of main conservation interest in most European countries. In Romania, they are protected through Natura 2000 network for protected areas of community interest. In addition, the collections contain specimens labeled as *Osmoderma eremita*. However, recent studies (Audisio et al., 2007, 2009) suggest that in Eastern Europe only *Osmoderma barnabita* Motschulsky, 1845 occurs whereas the *O. eremite* is distributed in the Western part of Europe.

Based on the data retrieved from the collection we can assess the distribution of *Rosalia alpina* and *Morimus asper funereus*. This species was collected in many sites especially from Romania. *Rosalia alpina* was collected especially in the center part of the country in the mountain region. Other sampling sites include the Banat region and the Eastern Carpathians. In the case of *Morimus asper funereus*, a similar pattern was observed. In addition, the species was also sampled in Dobrogea region. Few specimens were collected from outside Romania: Tirol (Austria), Majavica Mountains (Bosnia and Herzegovina) and Germany.

References:

- AUDISIO P., BRUSTEL, G. M. CARPANETO, G. COLETTI, E. MANCINI, E. PIATTELLA, M. TRINZZINO, M. DUTTO, G. ANTONINI, A. DE BIASE, 2007 – Updating the taxonomy and distribution of the European *Osmoderma*, and strategies for their conservation (Coleoptera, Scarabaeidae, Cetoniinae). *In: Fragmenta entomologica*, 39(2), p. 273-290.
- AUDISIO P., H. BRUSTEL, G. M. CARPANETO, G. COLETTI, E. MANCINI, M. TRINZZINO, G. ANTONINI, A. DE BIASE, 2009 – Data on molecular taxonomy and genetic diversification

- of the European Hermit beetles, a species complex of endangered insects (Coleoptera: Scarabaeidae, Cetoniinae, Osmoderma). *In: Journal of Zoological Systematics and Evolutionary Research*, 47(1), p. 88-95.
- SPEIGHT M. C.D., 1989 – Saproxylic invertebrates and their conservation. *In: Nature and Environment Series 46*, Council of Europe, Strasbourg, France, 78 pp.

On the rove beetles (Coleoptera: Staphylinidae) from the Danube Delta Biosphere Reserve in the Coleoptera Collection of “Grigore Antipa” National Museum of Natural History

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Key words: Staphylinidae, Danube Delta Biosphere Reserve, Coleoptera Collection.

The Danube Delta Biosphere Reserve is an area of national and international importance; some of its main ecosystems are: running waters, stagnant waters, wetlands and flooded areas, fluvial and marine levees, the human-modified areas (for agriculture, silviculture, pisciculture).

For this reserve, the rove beetle fauna is very poorly known. Up to the present, in the Coleoptera Collection of the Museum 54 rove beetles species are preserved. Sixteen of them were collected in the 1960s and were published by Negru (1968) and Ieniştea (1968) within the project: *The entomofauna of the Letea Island*. In the study collection, we have found rove beetles specimens which were collected in that period and we have identified other 23 species. After 1970, 32 species of rove beetles were collected. All the rove beetle species come from the following collecting sites: Litcov channel, Chilia Veche, Dunavăţ, Sarinasuf, Uzlina (Murighiol), Enisala (Sarichioi), Chituc levee, Sinoe-Black Sea channel, Popina island (Lake Razelm), Sacalin island, Jurilovca, Letea forest, Letea village, Maliuc (mila 26), Caraorman forest, Periteaşca, *Haşmacul Mare* Natural Reserve, Sulina, Sfântu Gheorghe.

Interesting rove beetle species which are characteristic to the terrestrial ecosystems of the Danube Delta Biosphere Reserve are: *Aleochara tenuicornis* Kr., *Bledius diota* Schiödte., *B. furcatus* (Ol.), *B. gallicus* (Grav.), *B. spectabilis* Kr., *Achenium depressum* (Grav.), *Cryptobium fracticorne* (Payk.), *Lathrobium elongatum* (L.), *L. impressum* Heer, *L. taxi* (Bernh.), *Paederus balcanicus* Koch, *P. schoenherri* (Czwal.), *Tetartopeus rufonitidus* (Rtt.), *Cafius xantholoma* (Grav.), *Gabrius suffragani* Joy, *Philonthus caucasicus* Nordm., *Ph. dimidiatipennis* Er., *Ph. micans* (Grav.).

***Copris hispanus cavolinii* (Coleoptera: Scarabaeidae) in the collection of “Grigore Antipa” National Museum of Natural History**

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Key words: Coleoptera, *Copris hispanus cavolinii*, Romania, records.

Copris hispanus (Linnaeus, 1764) is a species which has a wide distribution. It has two subspecies, *Copris hispanus hispanus* (Linnaeus, 1764) – spread in the Western Mediterranean area (Iberian Peninsula, Italy, France), in North Africa, Afrotropical Region, and *Copris hispanus cavolinii* (Petagna, 1792) known from the North Pontic area, the Balkans and Italy, *Central Asia, Middle East*, (Catalogue of Palaearctic Coleoptera, 2006). *Copris cavolinii* was initially described as species by Petagna (1792), from Italy; most of recent authors considered it a subspecies of *C. hispanus*.

I have studied 277 specimens of *Copris* from the Scarabaeidae Collection (study collection). 274 specimens belong to *Copris lunaris* (Linnaeus), and three specimens belong to *Copris hispanus cavolinii* (Petagna). Two specimens of *Copris h. cavolinii* were collected from Romania: a male from Cheile Dobrogei, Recifii Jurasici Cheia, Constanța County, 13.04.2015, leg. Gabriel Chișamera, and a female from Urziceni, Ialomița County, 28.07.1966, leg. Nicolae Săvulecu. The third specimen is a male, from Italy, Tolfa Mountains, 06.04.1974. The Palearctic Coleoptera collection contains two specimens of the species *Copris hispanus* (Linnaeus), without collecting data (coll. Deszö Kenderessy).

Copris hispanus and *Copris lunaris* can be differentiated thus: *Copris hispanus*: – the anterior margin of the pronotum is bisinuate; the anterior angle of the pronotum is almost rectangular; unitary, shield-like anterior face of the pronotum; the male has a large curved horn on the head, the female a smaller one; *Copris lunaris*: – the anterior margin of the pronotum is not sinuate; the anterior angle of the pronotum is broadly rounded; the anterior face of the pronotum has two clear-cut lateral indentations of the instead of a shield-like pronotum; a pointed horn in the male, a very short, bifide horn in the female.

The two subspecies of *Copris hispanus* (Linnaeus) are differentiated by the carina of the pronotum which is deeply sinuated in *C. h. hispanus* (and not sinuated in *Copris h. cavolinii*) and the presence of the antero-lateral dentations found in *C. h. hispanus* (and absent in *Copris h. cavolinii*).

In conclusion, this rare subspecies is present in the Coleoptera Collection of “Grigore Antipa” National Museum of Natural History. With this occasion we mentioned other two new collecting sites.

New Sphecidae (Hymenoptera) in the collections of “Grigore Antipa” National Museum of Natural History

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Key words: Sphecidae, Grigore Antipa collections, new species.

Sphecidae family (sensu lato) belongs to the Apoidea superfamily placed within Hymenoptera order. Members of Sphecidae (Latreille, 1802) family represent a group of solitary wasps, very diverse ecologically and behaviorally. In the collections of „Grigore Antipa” Museum the family is represented by 208 species (distributed in 37 genus) from a total of 2319 specimens.

Xenia Scobiola Palade had the merit of organizing and developing the Collection of Hymenopterans since 1945, when she came to “Grigore Antipa” Museum. Also, she was implied in the study on the family Sphecidae, evaluating the data given by the collected material or acquired by the publishing of numerous papers of faunistics and systematics. The enriching activity of collections is essential for the diversification and enrichment of museum patrimony, at the same time, offering a perspective of the species distribution and dynamics in time.

The paper presents new sphecid hymenopteran species introduced in the patrimony of “Grigore Antipa” National Museum of Natural History. The material collected from the Romanian territory, within the period 1932 – 2006 consists of: 561 specimens of 44 species, 23 genera, out of them 20 species and 5 genera new for the collection. Thus, the number of the sphecid specimens of the museum collection increased to 228 species, 42 genera, which represents around 10% of the total of the species present in the Collection of hymenopterans of the Romanian fauna.

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