

ERRATUM

**2nd EUROPEAN CONGRESS OF
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**PART I. - Improved abstracts or
changed lists of authors**

ORAL PRESENTATIONS:

**223. HUMAN IMPACT ON STABILIZED
POPULATIONS OF THE HYBRID NARCISSUS
PEREZLARAE (AMARYLLIDACEAE) IN THE
VALENCIA COMMUNITY (SPAIN)**

Marques, Isabel, Museu Nacional de História Natural, Jardim Botânico da Universidade de Lisboa, Portugal; **Draper, David**, Departamento Biología Vegetal, Escuela Universitaria de Ingeniería Técnica Agrícola, Universidad Politécnica de Madrid, Spain

Plant hybridization is one of the most controversial aspects in plant conservation. Several kinds of habitat change can increase the probability and rate of hybridization and therefore it has become a subject of recent attention. However, recognition of the historical role of hybridization as an evolutionary process can cause a re-evaluation of conservation policies. *Narcissus perezlarae* is a natural hybrid originated between *N. cavanillesii* and *N. obsoletus*, both narrow endemic in the Iberian Peninsula. Both species coexist in south Iberian where the hybrid is frequent in sympatric populations. However, recent studies supports that several isolated hybrid populations in Valencian Community are stabilized. *N. perezlarae* is isolated reproductively from the progenitors and can produce viable seeds either by autogamous or xenogamous fertilizations in these populations. However, a major concern to the survival of these populations is their occurrence in a highly touristic area. Based on a 6-year monitoring study, we have evaluated the demographic status of these populations and its reproductive fitness. In addition, we have assessed the vulnerability of *N. perezlarae* populations based on their proximity to network roads. A predictive model was developed to identify available areas for *N. perezlarae* in Valencian Community if future translocation action is needed.

**464. CONSERVING GRASSLAND BIODIVERSITY
BY RESTORATION: LOW-DIVERSITY SEED
MIXTURES, WEED CONTROL, RAPID CHANGES,
AND LANDSCAPE EFFECTS**

Péter, Tórk; Vida, Enikő; Valkó, Orsolya; Deák, Balázs; Lengyel, Szabolcs; Tóthmérész, Béla

In a large-scale restoration project we studied the effect of sowing low diversity seed mixtures (containing 2-3 competitive grass species) on the vegetation regeneration on croplands previously used as alfalfa fields. In 10 restored fields (4 with alkali and 6 with loess seed mixture), in each field in 4 permanent plots the species covers were recorded between 2006 and 2008. In every year 10 phytomass samples were also collected before mowing near to the plots. We asked four questions: (i) Will weedy species flourish in the early period of secondary succession? (ii) Can weeds be suppressed by sowing competitive native grasses? (iii) Can succession towards the target native grasslands be accelerated by sowing compared to set-aside old-field succession? Our results suggest that sowing seeds of competitive grass species is an effective tool to eliminate weed domination. In a few years

a perennial grasses dominated vegetation have developed, which prevent the establishment of weed species. The developed dense perennial grass cover and the accumulated litter both hamper the immigration of grassland specialists characteristic to reference grasslands. In restoration of species rich grasslands and also in the facilitation of immigration of specialist further management practices are needed (grazing, mowing and/or hay-transport).

POSTER PRESENTATIONS:

**103. THE CONFORMITY OF IRAN'S PROTECTED
AREAS WITH IUCN CATEGORIZATION SYSTEM**

Cheraghi, M., Islamic Azad University - Hamedan Branch, Iran, **Lorestani, B.**, Islamic Azad University - Hamedan Branch, Iran, **Yoosefi, N.**, Islamic Azad University - Hamedan Branch, Iran, **Khorasani, N.**, Faculty of Natural Resources University of Tehran, Iran

Iran is a country with an extensive territory of rare and diverse nature. The Environmental Conservation Organization of Iran has managed to control and safeguard the diversity of its own ecosystems as well as the heredity of its botanical and animal resources while samples of the richest natural regions have been chosen to serve as the four groups of national park, natural monument, wildlife refuge and protected area. The categories of Iranian national park, natural monument and wildlife refuge all tend to conform with the II, III and IV IUCN categories of the international categorization system successively. Indeed, the real status of the IV category (the protected areas) in Iran is obscured compared with IUCN category system; therefore, the protected area of Maracan was selected as a case study. As soon as the ecological and socio-economical resources which led to the supplement of the resources base map (scale: 1:50000) were identified the mapping and zoning processes founded on an analytical system resulted in the grasp of the environmental unit. At the final stage, the zoning model was ascertained.

**658. STRUCTURE AND SEASONAL DYNAMICS
OF COLLEMBOLA COMMUNITIES INHABITING
SOIL AND ROCKY "FLORAS" FROM PRAHOVA
AND DOFTANA VALLEYS (ROMANIA)**

Fiera, Cristina, Institute of Biology, Romanian Academy, Romania

Flora developed on rocks and stones represent a large range of habitats isolated from surrounding soil and differ in environmental conditions have their own humus horizon. Our research was conducted from May to October 2008 in three rocky habitats from hill areas of the Romanian Subcarpathians: Brebu Gorges (N45°12'31.1"lat.; E 25°44'23.5"lat.) and Breaza Gorges (N 45°10'38.5"; E 25°41'14.2"), situated on Doftana Valley are represented by shrublands with *Hippophæ rhamnoides*; the third area- a mixed beech forest on Posada Gorges (45°17'43.5"lat.; E 25°35'40.9" lat.) from Prahova Valley contains species which are adapted to live on stones. The aims of the present study were: a) to study the structure and b) seasonal abundance dynamics of *Collembola* communities and c) to establish if there are some differences between springtails from true saxicolous mosses, which colonize exposed rock habitats and group of soil *Collembola* inhabits vegetation developed primarily on the soil surface, which also colonize mineral and organic deposits on rocks. Seasonal abundance dynamics of springtails fauna seemed to be regulated by moisture, the highest values of numerical abundance was noted on October in Breaza Gorges (35 600 ind./m²). The results showed that springtails communities structure differed distinctly between the above mentioned two groups.

674. VOLUNTEERS FOR NATURE CONSERVATION: "WILDWATCHER" ON-LINE BIODIVERSITY MONITORING PROGRAM

Váczai, Olivér, State Secretariat for Nature and Environment Protection, Ministry of Environment and Water, Hungary; **Bakó, Botond**, Ministry of Environment and Water, Hungary; **Vozár, Kinga**, Ministry of Environment and Water, Hungary; **Varga, Ildikó**, Ministry of Environment and Water, Hungary; **Bata, Ágnes**, Ministry of Environment and Water, Hungary; **Szekerés, Rozália Érdiné**

They live around us but which areas are colonized? Spreading or even collapsing? In danger or endanger? We are searching for answers to questions like these in case of common plant and animal species by the help of a program called 'WildWatcher'. WildWatcher – a new program of the Hungarian Biodiversity Monitoring System (HBMS) – is an interactive online monitoring tool based on the work of volunteers. Components of the program are carefully selected for easy identification and wide distribution. For example hedgehog (*Erinaceus concolor*), mole (*Talpa europea*), salamander (*Salamandra salamandra*) are perfect targets from this point of view. The aims of WildWatcher are not only the data collection for selected species but to involve people to a wildlife monitoring program. Home pages of this program containing user guide for identification, photos and background information about targeted species. On-line data sheets are easy to use, GoogleMap based localization helps to find observation points. Data management as the part of Nature Conservation Information System (NCIS) ensures clarified data by expert validation procedure. As the first experiences on squirrel monitoring show the methods applied are well suited for volunteer involvement. Feedback of results to data suppliers is extremely important to motivate volunteers.

757. RARE ROTIFER SPECIES OF THE NATURE CONSERVATION AREA IN THE KISKÖRE RESERVOIR SYSTEM

Toth, Adrienn, Hungarian Danube Research Station of the Institute of Ecology and Botany of the Hungarian Academy of Sciences, Hungary; **Lőrincz, Tamás**, Ministry of Environment and Water, Hungary; **Zsuga, Katalin**, Szent István University, Department of Tropical and Subtropical Agriculture, Hungary

During focused research in the nature conservation areas can be found several rare taxa between rotifers as well. Wetlands and lakes with the macrophyte associations can provide various habitat for the microscopic community so the diversity is high in the littoral region. Even so few studies have focused on the community structure in macrophyte dominated systems. The study was undertaken in the Kisköre Reservoir System. During our study we have found more rare: *Cephalodella globata*, *C. obvia*, *C. remanei*, *C. tenuiseta*, *Cupelopagis vorax*, *Dicranophorus robustus*, *Enicentrum orthodactylum*, *E. wisniewski*, *Metadiaschiza trigona*, *Sinantherina socialis*, *Testudinella caeca*, *Trichocerca cylindrica*, *Volga spinifera* and new species to the Hungarian fauna: *Beauchamia crucigera*, *Lecane kulchor*, *Testudinella emarginula*. Discovering these rare taxa from the sampling area appreciably increase the nature conservation's value of the Reservoir System. Accordingly, the protected area of Maracan matches the IV category of IUCN very well because of containing the protected zone, recovery zone, special utility and the zone of the other uses. At the end, the paper is suggestive of the IV category management to protected area of Maracan.

PART II. - New abstracts

SYMPOSIA:

EXPLORING FARMERS' CULTURAL RESISTANCE TO VOLUNTARY AGRI-ENVIRONMENTAL SCHEMES

Burton, Rob, Centre for the Study of Agriculture, Food and Environment, New Zealand

Studies throughout Europe over the last 15 years have suggested that voluntary agri-environmental programs often engender very little change in conventional farmers' attitudes towards agriculture. To investigate possible cultural reasons for this, this research employed a conceptual framework based on Bourdieu's theory of capital to explore how conventional farming activities and conservation activities generate cultural capital. Results from qualitative case studies in Hessen (Germany) and Aberdeenshire (Scotland) suggest that voluntary agri-environmental work returns little cultural capital to farmers as, by prescribing management practices and designating specific areas for agri-environmental work, such schemes fail to allow farmers to develop or demonstrate skills. Demonstration of 'skill' in farming is a cultural currency which helps farmers obtain recognition as a 'good farmer' and thereby social status, social capital, assistance from others, and so on. The results suggest that entrepreneurial production-target based agri-environmental schemes may be more effective in changing farmers' attitudes and behaviour in the long-term.

INVASIVE SPECIES DO NOT ASK FOR GREEN CARDS: HOW CAN BIOLOGICAL INVASIONS BE REGULATED BY EUROPEAN CONSERVATION LEGISLATION AND POLICY?

Klingenstein, Frank, German Federal Agency for Nature Conservation, Germany

Invasive alien species (IAS) are regarded as one of the major drivers of biodiversity loss. Figures of their impact e.g. on protected areas in Europe and Germany will be presented, major European legislation and ongoing political activities dealing with IAS will be analysed concerning their coverage of the problem and options for action (prevention, early detection & rapid measures, control) and their specific problems of implementation will be demonstrated by German experiences. It will be recommended to focus more on new arrivals than on already wide spread species and instruments needed will be highlighted.

THE RELENTLESS TIDE OF INTRODUCED ALIEN SPECIES INTO THE WADDEN SEA

Reise, Karsten, Alfred Wegener Institute for Polar and Marine Research, List, Germany

In contrast to most inland nature reserves, coastal waters are readily accessible to human vectors of species introductions, in particular transoceanic shipping and trade with life oysters for culturing. The Danish, German and Dutch Wadden Sea has been developed into a well managed trilateral conservation area, and the Dutch and German parts are on the Unesco list of World Heritage Sites since 2009. On the other hand, invasions of alien species continue to irreversibly change the coastal biota. Most successful are universal invaders which modify habitats and respond positively to a recent trend of climatic warming. Prospects of controlling or even eliminating such invaders are dim, and mechanical removal would violate targets of nature conservation. Minimizing the influx of ever more alien species would require the ratification of

international conventions on ballast water treatment and on use of alien species in aquaculture. Implementation is not yet in sight, and the public awareness of the consequences of biological globalisation in coastal waters needs to be strongly improved.

ORAL PRESENTATIONS:

IS THE HISTORICAL WAR AGAINST WILDLIFE OVER IN SOUTHERN EUROPE?

Martínez-Abraín, Alejandro, Mediterranean Institute of Advanced Studies, Spanish Superior Council of Research, University of the Balearic Islands, Spain; **Crespo, Jorge**, Generalitat Valenciana, Spain; **Jiménez, Juan**, Generalitat Valenciana, Spain; **Gómez, Juan Antonio**, Generalitat Valenciana, Spain; **Oro, Daniel**, Spanish Superior Council of Research, Spain

Most southern European regions have experienced a rapid economical change during the last decades, moving from a historical economy based on agriculture to a society based on industry. We test whether causes of admission of birds admitted to a large southern European rehabilitation centre, during a 14 year period reflect these socio-economical changes. Specifically, we estimated the trends in the number of birds admitted to the centre by shooting over the number of birds admitted due to impacts caused by infrastructures. Trends were estimated by means of the slope of a linear regression of the log-transformed S/I ratio over time, which provided the finite population growth rate and its 95% CIs. We conclude that the overall trend in the S/I ratio, as well as the trends for all 3 bird groups considered, were negative, and indicated a ca. 10% annual reduction in the number of birds admitted by shooting in relation to those admitted by infrastructure-related injuries. Importantly we show that despite the direct historical war against wildlife seems to be coming to an end in southern Europe, impact to wildlife continues in an indirect way, as collateral damages caused by our post-industrial way of life.

BARRIER EFFECT OF THE EGNATIA HIGHWAY UPON BROWN BEAR (*URSUS ARCTOS*) SUB-POPULATION IN NE PINDOS RANGE - GREECE

Giannakopoulos, Alexios, University of Aegean, Mytilini, Greece; **Akriotis, Triantafyllos**, University of Aegean, Mytilini, Greece; **Mertzanhs, Yorgos**, N.G.O "CALLISTO", Thessaloniki, Greece; **Riegler Susanne**, N.G.O "CALLISTO", Thessaloniki, Greece; **Riegler, Armin**, N.G.O "CALLISTO", Thessaloniki, Greece; **Godes Constantinos**, Tragos, Athannasios, N.G.O "CALLISTO", Thessaloniki, Greece; **Tsaknakhs, Iannis**, N.G.O "CALLISTO", Thessaloniki, Greece; **Pilidis, Charilaos**, N.G.O "CALLISTO", Thessaloniki, Greece & University of Bristol, United Kingdom; **Iliopoulos, Yorgos**, N.G.O "CALLISTO", Thessaloniki, Greece

Telemetry is used to investigate brown bear spatial behaviour versus permeability of the 37km (under construction) Egnatia highway stretch of which ~44% is mitigated by 8.85 km of tunnels, 11 viaducts, 8 wildlife underpasses and one green bridge. The highway cuts through the NE Pindos brown bear sub-population estimated at 45 ind.(min). From spring 2007 to autumn 2008, monitoring of spatial behaviour of (18) radio-tagged bears (fixes ranging from 370 to 6,674 - total=20,900), points out correlations between brown bears movements versus highway mitigation structures location and disturbance impact related to construction noise levels and traffic load of the already operational part. Data show avoidance of sectors adjacent to highway by 3 out of 5 female bears, whereas on a 24h basis, males show higher levels of nocturnal activity (average 55.4% of total radiolocations). Total distances covered within the overall individual MCP home ranges (n=9), show that in (6) cases they are significantly lower (from 0% to 38.6% of total) along the immediate vicinity of the highway.

Bears seem to become more inactive when construction noise levels exceed 47dB. Highway crossings ranging from 0 to 100 appear to focus over more natural overpasses (tunnels). High risk plain crossings, dictate severe improvement of low standards fencing for minimization of traffic accident risks.

SPEED PRESENTATIONS:

BIODIVERSITY AND CONSERVATION OF AMPHIBIANS AND REPTILES IN CROATIA

Jelić, Dušan, State Institute for Nature Protection, Croatia; **Kuljerić, Marija**, Croatian Herpetological Society HYLA, Croatia; **Janev-Hutinec, Biljana**, Public Institution »Maksimir«, Croatia; **Mekinić, Stjepan**, Croatian Herpetological Society HYLA, Croatia; **Basta, Jelena**, Croatian Herpetological Society HYLA, Croatia; **Koren, Toni**, Croatian Herpetological Society HYLA, Croatia; **Burić, Ivona**, Croatian Herpetological Society HYLA, Croatia

Among 61 species of Amphibians and Reptiles inhabiting Croatia, all species except introduced *Trachemys scripta*, are protected by the Nature protection Act of the Republic of Croatia. In the Red book of Amphibians and Reptiles of Croatia there are 19 species and 8 subspecies in categories: CR (3), EN (3), VU (2), NT (11) and DD (8). The most threatened areas with high biodiversity and rates of endemism "hotspots" are Adriatic islands and Dalmatia. In this work we present new data and critical review of IUCN regional category for *Natrix tessellata*, *Ablepharus kitaibelii* and *Dolichophis caspius* that are currently in the data deficient category. *Salamandra atra* was previously not in Red book of Amphibians and Reptiles of Croatia but due to the new data we suggest it should be given data deficient category. Also for the first time the threatened species richness and areas or occurrence are calculated and presented.

POSTER PRESENTATIONS:

FIRST ACTION PLAN FOR TRANSPORTATION INFRASTRUCTURE AND HABITAT FRAGMENTATION IN GREECE.

Aravidis, Ilias, Development Society of Prefecture of Thessaloniki, Greece; **Giannakopoulos, Alexios**, University of Aegean, Mytilini, Greece; **Iliopoulos, Yorgos**, N.G.O "CALLISTO", Thessaloniki, Greece; **Korakis, Yorgos**, Democritus University of Thrace, Greece; **Machairas, Yannis**, N.G.O "CALLISTO", Thessaloniki, Greece; **Mertzanis, Yorgos**, N.G.O "CALLISTO", Thessaloniki, Greece; **Nikolakaki, Pantoula**, Region of Central Macedonia, Thessaloniki, Greece; **Selinidis, Kyriakos**, N.G.O "CALLISTO", Thessaloniki, Greece; **Tsiokanos, Kostas**, N.G.O "CALLISTO", Thessaloniki, Greece; **Zisoupolou, Theodora**, N.G.O "CALLISTO", Thessaloniki, Greece

Over the last 15 years, planning and construction of new transportation infrastructure throughout Greece have increased markedly and so have the areas planned to be or already occupied by highways thus affecting natural habitats. For many fauna species, the main impact of roads is related to increased disturbance, mortality, habitat and population disruption. Avoidance of suitable habitats in close proximity to roads occur for brown bears (*Ursus arctos*) and wolves (*Canis lupus*) (McLellan and Shackleton 1988, Mace et al. 1996, Mech et al. 1988). For some mammal species, roads act also as a considerable barrier to dispersal (Mader 1984). Roads can have a significant effect in fragmenting wildlife habitats and populations and lead them to local extinction (Fahrig and Merriam 1994). In Greece, lack of global environmental policy urged the need for the elaboration of a comprehensive Action Plan focusing on the habitat fragmentation impact of

(6) transportation axes and their associated network upon (6) mammal species, all IBA's, (1) amphibian species and reptiles taxa. This Action Plan is the first official attempt at a national scale for establishing a frame of concrete rules, guidelines, standards and practices in order to minimize habitat fragmentation impact associated to transportation infrastructure.

ASSESSING HABITAT CONNECTIVITY BETWEEN RIVER BASINS. WHICH PATCHES AND PATHS BETTER CONTRIBUTE TO OTTER MOVEMENTS?

Carranza, Maria Laura, Università del Molise, Italy; **Loy, Anna**, Università del Molise, Italy; **D'Allesandro, Evelina**, Università del Molise, Italy; **Saura, Santiago**, Universidad Politécnica de Madrid, Spain

A graph theory approach for the assessment of connectivity between river basins is proposed and tested within the otters' (*Lutra lutra*) range in Italy. The otter is a semiaquatic species and one of the most endangered mammals in Italy. Recent local surveys indicate that the otter is recovering its original distribution range after the strong decline of the '90. Therefore identification of corridors throughout which the species could potentially expand constitutes a priority for its conservation. The proposed connectivity assessment approach summarizes the role of suitable areas (graph nodes) and minimum cost paths (graph links) for maintaining or improving landscape connectivity between river basins. In order to identify the graph nodes and links we used a two classes fine scale Habitat Suitability map and a multiple minimum cost paths scheme of the Italian catchments where the species actually occurs and where it is likely to expand in the short-medium term. We used the probability of connectivity index (PC) that integrates habitat suitability concept with dispersal probabilities between habitat patches. We identified those habitats and pathways that most contribute to the overall connectivity and evaluate the effectiveness and potential improvement of actual landscape for maintaining and expanding the distribution range of otters.

HOME-RANGE AND DIET OF THE BEE-EATER (MEROPS APIASTER) AS KEY FACTORS IN THE CONFLICT WITH THE BEEKEEPERS (APICULTURE) IN MEDITERRANEAN AREAS

Corbacho, Casimiro, University of Extremadura, Spain; **Costillo, Emilio**, University of Extremadura, Spain; **Abad, Jose María**, University of Extremadura, Spain; **Morán, Ricardo**, University of Extremadura, Spain

In Mediterranean areas of SW Spain, the apiculture (beekeeping) is an important economic and social resource for rural population. In this context, European Bee-eater (*Merops apiaster*), a common migrating species mainly feeding on insects, is considered as a pest due to the alleged damage to the beehives. In order to resolve the conflict and to determine the predation impact on honeybees *Apis mellifera* by bee-eaters, we studied both the size of foraging area (by radio-tracking of adults) and the diet (by pellets analysis) during the breeding and migration periods, from May to September. Bee-eater, a central place foraging species, search for food on relative small areas (mean: 500 has.; n=21 birds) and nearby distances (mean: 855 m.; n=258 locations) around the colony during the breeding cycle. Diet was based on *Hymenoptera* (bees, ants, wasps, etc.; 71% of items; n=10,572), mainly honey-bees (42%), and Coleoptera (beetles; 22%); the others insects preyed (*Odonata*, *Orthoptera*, *Dermaptera*, *Hemiptera*, etc.) resulted merely incidental. A strong seasonal variation in the diet was recorded, with a high predation pressure on bees (close to beehives) during the migration period and in dry years. Not easy solution appears to have the conflict due to both ecological and human factors.

CONSERVATION OF GOITERED GAZELLE (*GAZELLA SUBGUTTUROSA*) IN TURKEY

Durmus, Mustafa, Middle East Technical University, Turkey; **Cobanoglu, Aziz Emire**, Middle East Technical University, Turkey; **Ozut, Deniz**, Middle East Technical University, Turkey; **Gurler, Sukru**, Harran University, Turkey; **Toprak, Sahin**, Harran University, Turkey; **Kence, Meral**, Middle East Technical University, Turkey

Goitered gazelle (*Gazella subgutturosa*) is one of the threatened ungulates of Turkey. They had lived in large populations and had wider distribution before 1960s. Their size had started to decrease dramatically after 1960s mostly because of human-caused reasons. Hence, the first conservation efforts performed in 1977 by establishing a captive breeding station in Şanlıurfa-Ceylanpınar region. After successful breedings, the second phase of conservation was put into practice by a reintroduction program in 2005. Within this program, 86 gazelle was reintroduced into the 20000 ha. protection area in Şanlıurfa. In 2008, conservation efforts has been intensified and 30 more gazelle was reintroduced to the same area, 7 of which were GPS collared and the rest were tagged with individual identification collars. They are being monitored twice a month to get group composition and behavior data and a general count is started to be performed four times a year using distance sampling methods. We estimated the population size 245 ± 85 (mean \pm SE) individuals based on Distance 5.0 analysis. At the end of the study, we expect to have information about home range size, resource selection, survival, population growth rate of goitered gazelle, and the success of conservation efforts.

MATERNALLY INVESTED CAROTENOIDS COMPENSATE COSTLY ECTOPARASITISM IN THE ENDANGERED HIHI

Ewen, John G., Institute of Zoology, Zoological Society of London, United Kingdom; **Thorogood, Rose**, Department of Zoology, University of Cambridge, United Kingdom; **Brekke, Patricia**, Department of Zoology, University of Cambridge, United Kingdom; **Cassey, Phillip**, Centre for Ornithology, School of Biosciences, Birmingham University, United Kingdom; **Karadas, Filiz**, Department of Animal Science, University of Yüzüncü Yıl, Turkey; **Armstrong, Doug P.**, Wildlife Ecology Group, Institute of Natural Resources, Massey University, New Zealand

Dietary ingested carotenoid biomolecules have been linked to both improved health and immunity in nestling birds. Here we test whether maternally invested egg carotenoids can offset the cost of parasitism in developing nestling hihi (*Notiomystis cincta*) from the blood-sucking mite (*Ornithonyssus bursa*). Our results reveal clear negative effects of parasitism on nestlings, and that maternally derived carotenoids compensate this cost, resulting in growth parameters and ultimate mass achieved being similar to non-parasitized young. Our results offer a first example of a direct positive relationship between enhanced maternal investment of carotenoids and an ability to cope with a specific and costly parasite in young birds. As *O. bursa* infestations reduce population viability in hihi, our findings also highlight the importance of key nutritional resources for endangered bird populations to better cope with common parasite infestations.

IMPORTANT FUNGUS AREAS IN MONTENEGRO – A PRELIMINARY STUDY

Gordana, Kasom, Institute for the Protection of Nature, Montenegro

It is difficult to know where the best sites for fungi are in Montenegro and also how many species of fungi there are and few sites are well recorded. Until now in Montenegro

didn't conduct organised research with the aim of identification of Important Fungus Areas like for example to plants and animals. According to existing data relating to diversity and distribution of fungus in the territory of Montenegro it should be possible to make a preliminary assessment of site importance. Criteria for assessing importance were developed based on the presence of threatened or rare species, richness and the mycological importance of their habitat. These criteria were applied to the nominated sites. The resulting list of three sites will be used to support, inform and underpin existing protected area mechanisms designed to conserve biodiversity in Montenegro.

BETWEEN- AND WITHIN-POPULATION ABUNDANCE VARIATIONS OF THE RELICT ENDEMISM *FERULA SADLERIANA* (APIACEAE) AND IMPLICATIONS FOR THE SPECIES' CONSERVATION

Lendvay, Bertalan, Institute of Biology, Hungary; **Kalapos, Tibor**, Institute of Biology, Hungary

The relict endemism *Ferula sadleriana* (Ledeb.) survives at eight disjunct populations within the Carpathians, typically in mosaics of rock grasslands, slope steppes and xerothermic thickets and forests. In summer 2008 we surveyed all occurrences, and for the largest population (Pilis Hill, Hungary) analyzed a monitoring dataset spanning over twenty years. Although this polycarpic herbaceous perennial produces fruits at each locality, population size varies by two orders of magnitude (from <50 to >5000 plants) across sites. Within population (Pilis), the proportion of flowering individuals fluctuated between 8% and 45% through years, and strongly correlated with current-year spring precipitation. Grazing by ungulates (mostly the alien mouflon) on fruiting stalks, and occasional human trampling causes the greatest threat for the plant. Experimental clearing at one locality showed that the shade-sun vegetation mosaic is also essential for the species. At two sites, industrial limestone quarrying greatly decimated the population in the late 1900s. Today each locality is under protection. Given the species' small, disjunct populations and weather-sensitive reproduction, disturbance in its habitats should be minimized, particularly under the current changing climate. Subtle differences in fruit morphology suggest genetic differentiation between populations, that calls for the importance of preserving each of them.

GILL-NET CATCHES IN A MEDITERRANEAN RESERVOIR: FISH DIVERSITY AND ABUNDANCE

Petriki, Olga, Aristotle University of Thessaloniki, Greece; **Bobori, Dimitra**, Aristotle University of Thessaloniki, Greece

We present data on fish species composition and abundance recorded in gill-net (multimesh nets, mesh sizes 8-70 mm knot to knot) catches in Kerkini dam-lake (catchment of the transboundary river Strymonas, Balkan Peninsula, Greece). Sampling took place seasonally (autumn 2007 - summer 2008). A total of 14 species representing four families were recorded, with Cyprinids being the most abundant (78.6 %). Five species (35.7 %) were endemic to Greece and the Balkan Peninsula and three species (21.4 %) introduced. Two species *Aspius aspius* and *Vimba melanops* are considered as "vulnerable" in Greece, while the most abundant species in the total catches (in terms of number and weight) was *Rutilus rutilus* (52.10 % and 32.88 % respectively). Numerical and weight catch species composition differed among seasons. Higher fish abundances (>80%) were recorded at the northern compared to the southern part of the reservoir during summer while the opposite was observed in winter. Catch species richness was lower than the previous known fish faunistic list for the system. *Anguilla anguilla* has almost extinct from the system after the dam construction, while the rest species are present in low populations due to high water fluctuation and destruction of their reproductive areas.

RECOLONISATION AND MICROHABITAT USE OF THE WHITE CLAWED CRAYFISH *AUSTROPOTAMOBIOUS PALLIPES*

Ream, Heather, Durham University, United Kingdom; **Bubb Damian**, Durham University, United Kingdom; **Greaves, Rachael**, Durham University, United Kingdom; **Lucas, Martin**, Durham University, United Kingdom

British populations of the white-clawed crayfish, *Austropotamobius pallipes*, IUCN red listed as a threatened species, now represent one of the greatest concentrations of this species in Europe. In order to effectively conserve native crayfish and to plan reintroductions, information is needed on the patterns and processes of colonisation, as well as microhabitats used. In 2004, a point pollution event in the River Wansbeck, North East England, resulted in the complete mortality of crayfish for 1km downstream of the pollution site. Repeat surveying between 2004 and 2008 demonstrated that by 2008 the populations of crayfish in the area affected reached similar densities to those of control reaches. Changes in size-frequency distributions over time suggest that downstream colonisation by age 0+ and 1+ crayfish was the main component of the recolonisation process. Quantitative sampling of crayfish across a range of microhabitats showed that juveniles occupied a more restricted range of microhabitat types, being more common in habitats characterised by heterogenous substrate, bank-side vegetation and high levels of shade. This work highlights the destruction that small-scale pollution events can have on crayfish populations and the importance of habitat knowledge in efforts to restore populations following such disturbances.

PATTERN OF PATTERN OF ABUNDANCE AND BIODIVERSITY OF RAPTOR COMMUNITY IN RICE FIELDS OF MEDITERRANEAN AREAS (EXTREMADURA, SW SPAIN)

Sánchez, Juan Manuel, Grupo de Investigación en Biología de la Conservación. Área de Zoología. Facultad de Ciencias. Universidad de Extremadura. Badajoz, Spain; **Corbacho, Casimiro**, Grupo de Investigación en Biología de la Conservación. Área de Zoología. Facultad de Ciencias. Universidad de Extremadura. Badajoz, Spain; **Santiago, Francisco**, Grupo de Investigación en Biología de la Conservación. Área de Zoología. Facultad de Ciencias. Universidad de Extremadura. Badajoz, Spain; **Masero, José Antonio**, Grupo de Investigación en Biología de la Conservación. Área de Zoología. Facultad de Ciencias. Universidad de Extremadura. Badajoz, Spain; **Villegas, Auxiliadora**, Grupo de Investigación en Biología de la Conservación. Área de Zoología. Facultad de Ciencias. Universidad de Extremadura. Badajoz, Spain

In Mediterranean areas, natural wetlands have been highly altered in the past, so the biotic communities associated to them are strongly declining. It is therefore essential to identify key and new "buffer areas" in the basis to develop conservation strategies for these species. Rice fields have been shown repeatedly as important suitable areas for Waterbirds but not for other avian communities. In this context, we analyse the role of this agro-ecosystems for the Raptor community in order to evaluate their importance in Conservation. Data basis result from monthly censuses of the study area (25,000 ha.; Extremadura, SW Spain) during a complete year, where all the species of diurnal birds of prey were recorded. Raptor community consisted of a total of 15 species and 1,329 individuals. Wintering (Dec.-Feb.) and autumn migration (Oct-Nov) periods accounted for the higher abundance of birds, whereas biodiversity not showed a clear seasonal variation. Common Buzzard, Marsh Harrier and Red Kite were the most common species using the rice fields as foraging and/or breeding area during the annual cycle. Our results show that in Mediterranean areas rice fields play a valuable role for the Conservation of Raptor community.

ARE SPECIAL PROTECTED AREAS PROPERLY DESIGNATED TO SECURE THE LONG TERM CONSERVATION OF ROMANIA'S FOREST BIRDS?

Sandor, Attila D., NaturalNet Ltd., Romania; **Lészai, István**, NaturalNet Ltd., Romania; **Domşa, Cristian**, Babeş-Bolyai University, Romania

The Birds Directive provides the protection, management and control of naturally occurring wild birds within the European Union (EU). Article 4. requires Member States to identify and classify the most suitable territories in size and number for rare or vulnerable species listed in Annex I. These sites are known throughout the Member States as special protection areas (SPAs). The Directive envisages that the designation of SPAs by all Member States will result in a European network of protected sites, providing secure future to species listed on it's Annex 1. Here we evaluate whether SPAs network in Romania is suitable enough to assure the long term conservation of forest specialist species. Our investigation is based on a thorough analysis of habitat preference compared with the existence of suitable forested habitats within the Romanian SPA network. Our results suggest that the Romanian system of SPAs is insufficient to assure long term protection for forest species. Given the trade-off between financial investment and the conservation of biodiversity, we propose to maximize the surface of potential habitat included in the protected network minimizing the surface of new country area that would be necessary to protect, thus avoiding expense and otherwise unrealistic results.

IBERIAN LYNX HABITAT CONSERVATION ON A TRADITIONAL HUMANIZED LANDSCAPE

Santos, Eduardo, League for the Protection of Nature, Portugal; **Loureiro, Filipa**, League for the Protection of Nature, Portugal; **Martins, Ana Rita**, League for the Protection of Nature, Portugal; **Lecoq, Miguel**, League for the Protection of Nature, Portugal

Iberian Lynx (*Lynx pardinus*) is currently the most threatened cat in the world being classified as Critically Endangered (IUCN). Its populations have steeply declined in the last decades, being nowadays highly dependent of intensive habitat management. In 2006, Liga para a Protecção da Natureza (Portuguese NGO) through a partnership with Fauna & Flora International, started the LIFE-Nature Project "Recovery of the Iberian Lynx Habitat in Moura/Barrancos Site" (Portugal), co-financed in 75% by the EC. This project aims to manage areas of Mediterranean habitat for the species in a landscape mainly composed by one of the oldest traditional humanized landscapes, oak woodland - „montado“. The project has now 7700ha under management agreements with landowners/hunters. Main conservations measures applied include the recovery of habitat and rabbit populations (Iberian Lynx main prey). So far, 16ha of burnt area and about 6km of riparian corridor are being recovered, and more than 100 rabbit shelters, 200 food and water suppliers, and 30ha of pastures were already made. Wild rabbit (*Oryctolagus cuniculus*) is using shelters, food and water suppliers and pastures. We believe that this project can play a crucial role for Iberian Lynx conservation and for the maintenance of traditional agricultural landscapes in Portugal.

TAXONOMY, ECOLOGY, DISTRIBUTION, AND PROTECTION STATUS OF ACER INTERMEDIUM PANČIĆ IN BALKAN PENINSULA

Tripic, Rajko, Institute for the Protection of nature of Montenegro, Montenegro; **Sead, Hadziablahovic**, Institute for the Protection of nature of Montenegro, Montenegro; **Zlatko, Bulic**, Institute for the Protection of nature of Montenegro, Montenegro

Acer intermedium was described as a new species by Josip Pančić (1871) from east Serbia (mountain Rtanj). According to taxonomical characteristics this tertiary relict and endemic species of Balkan Peninsula belongs to *Acer hyrcanum* Fisch. & Mey. sensu lato. The species prefer very specific ecological conditions and it is relatively rare in forest communities of Balkan Peninsula. Recently, the populations of the species are much endangered, especially, by human impact which needs very sophisticated protection measures of the species. Taxonomy, ecology, distribution and protection status of this species in the Balkan Peninsula are given in this paper. Also, the IUCN categorization for the territory of Montenegro is given in the paper.

LOCAL VERSUS GLOBAL PATTERNS: MATING BEHAVIOUR AND HABITAT CHANGES CONSTRAIN THE SPATIAL DISTRIBUTION OF AN ENDANGERED BIRD LEKKING-SPECIES

Villers, Alexandre, Chizé Centre of Biological Studies, National Center for Scientific Research, France; **Pinot, Adrien**, Chizé Centre of Biological Studies, National Center for Scientific Research, France; **Bretagnolle, Vincent**, Chizé Centre of Biological Studies, National Center for Scientific Research, France

While estimating the population dynamics and status of a given species, scientists have to accurately choose the spatial scales at which they assess population trends. Looking at a global scale without accounting for local effects would lead to misinterpreting results in the same way as looking at the same pattern in a much narrower window. The spatial dimension of population dynamics is thus essential to our understanding of biological processes. We illustrate this point with the case of the Little Bustard *Tetrax tetrax*, an endangered bird-lekking species whose last migrating population breeds in the agricultural plains of western France. Three complete censuses conducted in 2000, 2004 and 2008 on a 5000 km² area provided the number of displaying males, a good proxy of population size for this bird. The population decreased between 2000 and 2004, from 404 to 292 displaying males, but it now seems to have stabilized (280 males in 2008). However, the local dynamics showed much more contrast, with some leks completely disappearing while others increased. We investigate this complex pattern, assuming that males are highly mobile between years due to both a specific mating system and changes in availability of suitable habitats for females.

HAPLOTYPE DIVERSITY OF THE SEAGRASS *CYMODOCEA NODOSA* IN THE AEGEAN SEA, HELLAS

Zambounis, Antonio, Department of Ichthyology and Aquatic Environment, School of Agricultural Sciences, University of Thessaly, Greece; **Lolas, Alexios**, Department of Ichthyology and Aquatic Environment, School of Agricultural Sciences, University of Thessaly, Greece; **Skoufas, George**, Department of Ichthyology and Aquatic Environment, School of Agricultural Sciences, University of Thessaly, Greece; **Palaikostas, Ghris**, Department of Ichthyology and Aquatic Environment, School of Agricultural Sciences, University of Thessaly, Greece; **Neofitou, Nickolaos**, Department of Ichthyology and Aquatic Environment, School of Agricultural Sciences, University of Thessaly, Greece; **Vafidis, Dimitrios**, Department of Ichthyology and Aquatic Environment, School of Agricultural Sciences, University of Thessaly, Greece; **Exadactylos, Athanasios**, Department of Ichthyology and Aquatic Environment, School of Agricultural Sciences, University of Thessaly, Greece

Cymodocea nodosa is a dioecious seagrass widely distributed in the Mediterranean. Its vegetative growth habit renders an extensive morphological plasticity. *C. nodosa* is rated as of highly ecological importance; its gene pool should

be considered under conservation schemes. Haplotypic variation was investigated among eight natural populations of *C. nodosa*, collected in the Aegean Sea. In total 80 specimens were characterised by a PCR-RFLP approach, using the restriction enzymes AluI, RsaI and EcoRI. Analysis of six genic loci corresponding to both nuclear rDNA operon and plastid region resulted in the revealing of 14 unique and distinct restriction profiles. The observed values of FST across all loci and populations revealed the existence of a previously unidentified, non-significant nevertheless, diversity in the Aegean Sea, implying a possible geographical and reproductive diversity pattern, although *C. nodosa* dispersal ability is recorded as relatively low. In all cases, PCA analysis of allele frequencies revealed a potential non-significant subgrouping of a northern to southern pattern overall differentiation. AMOVA indicated a more significant genetic variation within populations (59%) rather than among them (41%). The results obtained in this study showed that PCR-RFLP approach is a useful tool for the phylogeographic analysis of *C. nodosa* in the Aegean Sea.

THE MARSH FRITILLARY BUTTERFLY (*EUPHYDRYAS AURINIA*) IN THE CZECH REPUBLIC: EIGHT-YEARS OF MONITORING AND SUBSEQUENT STUDIES

Zimmermann, Kamil, Faculty of Science, University of South Bohemia; Institute of Entomology, Biology Center, ASCR, v.v.i., Czech Republic; **Fric, Zdeněk**, Institute of Entomology, Biology Centre, ASCR, v.v.i., Czech Republic; **Hula, Vladimír**, Faculty of Agronomy, Mendel University of Agriculture and Forestry Brno, Czech Republic; **Vlašánek, Petr**, Faculty of Science, University of South Bohemia, Czech Republic; **Zapletal, Michal**, Pedagogical Faculty, University of South Bohemia, Czech Republic; **Slámová, Irena**, Faculty of Science, University of South Bohemia; Institute of Entomology, Biology Center, ASCR, v.v.i., Czech Republic; **Blažková, Pavla**, Faculty of Science, University of South Bohemia, Czech Republic; **Kopečková, Michala**, Civic Association Ametyst, Czech Republic; **Jiskra, Petr**, Agency for Nature Conservation and Landscape Protection of the CR, Karlovy Vary, Czech Republic; **Konvička, Martin**, Faculty of Science, University of South Bohemia; Institute of Entomology, Biology Center, ASCR, v.v.i.

All known colonies of the HD-protected butterfly *Euphydryas aurinia* have been monitored in CR for eight years. The distribution is restricted to westernmost Bohemia, where the species occurs at humid seminatural meadows. Since 2001, when only five colonies were known, increased mapping effort resulted in discovery of 92 colon. Most local colonies are small, only eight regularly contains > larval nests. A massive marking campaign in 2007 detected an unusual number of long-range movements: 61 over 5 km (46 males, 15 females), 18 over 10 km (16 males, 2 females). Total estimate is 27 600 adults. Observations of 21 extinction and 11 local colonisation events corroborate that the system functions as a metapopulation, whose survival supported by phenological asynchrony among sites. Comparison with co-occurring species revealed that *E. aurinia* occurs in lower densities (108 ind./ha) than *Argynnis aglaja* (264/ha), *Brenthis ino* (188/ha) and *Boloria selene* (386/ha), and higher densities than *Melitaea diamina* (128/ha) and *M. athalia* (30/ha). Long-distance dispersal is lower than for *B. selene*, but higher than for *A. aglaja* and *B. ino*. The system remains viable and some colonies may remain undiscovered. However, long-term survival of the species will require more sensitive management of its sites, with such measures as mowing in mosaic-like manner. Financed by ME (LC-06073, MSM-6007665801, GAV-KJB 60070601) and Karlovarský regional government.