



4th International Eurasian Ornithology Congress
12-15 April 2012
Baja, Hungary

Abstract book



CONTENTS

Welcome!	7
Plenary presentations	9
Albayrak Tamer: Ten years of Krüper's Nuthatch <i>Sitta krueperi</i> projects	10
Garamszegi László Zsolt: Avian personalities and behavioral syndromes: implications of recent advancements in behavioral ecology for the field study of birds	11
Szép Tibor: A small bird with a difficult life - in the light of 25 years long integrated monitoring of sand martin (<i>Riparia riparia</i>) breeding population along the river Tisza	12
Oral presentations	13
Aydoğan Ahmet, Özmen Ozlem, Haligür Mehmet, Adanir Ramazan, Kose Onur: Pathology of <i>Macrorhabdus ornithogaster</i> infection in budgerigars (<i>Melopsittacus undulatus</i>) suffer from coccidiosis	14
Béres Judit, Németh Ákos, Tokody Béla, Csörgő Tibor: Habitat preference of migratory Red-backed shrike (<i>Lanius collurio</i>)	15
Canal David, Jovani Roger, Potti Jaime: Multiple mating opportunities boost protandry in a pied flycatcher population	16
Erdélyi Károly, Barna Mónika, Szentpáli-Gavallér Katalin, Csörgő Tibor, Ferenczi Emőke, Dán Ádám, Bakonyi Tamás: West Nile virus in wild birds in Hungary and Europe	17
Evens Ruben, Ulenaers Eddy: Nightjars (<i>Caprimulgus europaeus</i>) with radiotransmitters in Bosland	18
Ferenczi Márta, Heinicke Thomas, Müskens Gerard, Polderdijk Kees, Kruckenberg Helmut, Faragó Sándor: Preliminary results of goose ringing project in the Fertő-Hanság National Park/Western Hungary in late autumn 2010	19
Hahn Steffen, Liechti Felix, Lisovski Simeon: Geolocation by light: a new avenue in tracking small migrants	20

Kalocsa Béla, Tamás Enikő Anna, Mórocz Attila: Waterbird monitoring on the Danube reach between rkm 1479 and rkm 1433 (downstream Baja, in Hungary), from August to April, years 1996-2012	21
Kovács Gyula: Waterbird monitoring at Lake Balaton and surroundings	22
Kunduz Emel, Alin Çigdem, Bëgin Can: A comparison of three different primer systems for sexing birds	23
Onmus Ortaç, Gül Orhan, Siki Mehmet: Environmental Factors Affecting Nest Site Selection and Breeding Success of the White Stork (<i>Ciconia ciconia</i>) in Western Turkey	25
Ónodi Gábor, Csörgő Tibor: Relation between vegetation structure and Great spotted woodpeckers (<i>Dendrocopos major</i>) in a mosaical habitat	26
Rodríguez Alram, Rodríguez Beneharo, Negro Juan J.: The effects of artificial lights on the Canarian Petrels	27
Szász Eszter, Garamszegi László Zsolt, Hegyi Gergely, Török János, Rosivall Balázs: Does male aggression predict the brood sex ratio in a songbird?	28
Szinai Péter, Karcza Zsolt, Harnos Andrea, Csörgő Tibor: Effects of weather to the wintering Mute Swan (<i>Cygnus olor</i>) populations	29
Tamás Enikő Anna, Kalocsá Béla: An assessment of the hydro-meteorological impacts on the reproductive success of the Black Stork (<i>Ciconia nigra</i>) in Hungary	30
Wojczulanis-Jakubas Katarzyna, Jakubas Dariusz: Why the Little auk <i>Alle alle</i> females are so monogamous?	31
Zagalska-Neubauer Magdalena, Neubauer Grzegorz: Females infidelity and brood parasitism in socially monogamous colonial birds - making the best of the bad job	32
Poster presentations	33
Ágh Nóra, Harnos Andrea, Csörgő Tibor, Kovács Szilvia: Study of the changes in migration pattern of two flycatcher species by the analysis of long-term bird ringing data series	34
Arslan Gönül: Determination of trace elements in feathers of <i>Ardea cinerea</i> and <i>Nycticorax nycticorax</i> nestlings, Nallihan Bird Paradise, Ankara, Turkey	35
Arslan Necmiye Sahin: Nest site selection of red-backed shrike (<i>Lanius collurio</i>) in Kizilirmak Delta, Samsun, Turkey	36

Baltag Emanuel, Pocora Viorel, Bolboacă Lucian, Sîlcă Lucian: Long-legged Buzzard (<i>Buteo rufinus</i>) wintering in the Moldavian Region (Romania)	37
Banyakó Jura: An Uncommon Preying Behaviour of Eurasian Kestrel (<i>Falco tinnunculus</i>)	38
Barna Mónika, Erdélyi Károly, Csörgő Tibor, Ferenczi Emőke, Sós Endre, Bakonyi Tamás: Serological survey on the occurrence of West Nile virus infections in wild birds in Hungary	39
Constantin Ion, Ignat Elena Alina: The relationships between birds assemblage and wetlands features in North-Eastern Romania	40
Csörgő Tibor, Németh Ákos, Harnos Andrea: Sex ratios of Chiffchaffs (<i>Phylloscopus collybita</i>) in the Balkan wintering grounds	41
Fluck Dénes: Hungarian – French Ringing Joint Venture for Woodcock	42
Gellai Zsófia, Marikólt Ferenc, Szemethy László, Németh Ákos: Habitat use of the Nightjar (<i>Caprimulgus europaeus</i>) in the Lake Kolon core area of the Kiskunsági National Park	43
Gholami Jafar, Elham Sharifi, Soheil Sobhan Ardakani: Observations on Breeding Birds of Shirsou Wetland, Hamedan Province, West Iran	44
Gül Orhan, Onmus Ortaç, Siki Mehmet: The effects of drought and water level on the populations of waterbirds breeding in Marmara Lake - Western Turkey	45
Hornok Sándor, Csörgő Tibor, de la Fuente José, Privigyel Csaba, Meli Marina, Kreizinger Zsuzsa, Gyuranecz Miklós, Tanczos Balázs, Fernández de Mera Isabel G., Farkas Róbert, Hofmann-Lehmann Regina: Birds as disseminators of ixodid ticks and tick-borne pathogens: relevance to migratory routes	46
Jakubas Dariusz, Wojczulanis-Jakubas Katarzyna, Harding A.M.A., Karnovsky N.J., Steen H., Strom H., Welcker J., Kidawa D., Stempniewicz L., Johnsen A., Lifjeld J.T.: The most numerous palearctic seabird, Little auk <i>Alle alle</i> constitutes world panmictic population with a considerable phenotypic variation	47
Jónás Bianka, Nóra Ágh, Andrea Harnos, Tibor Csörgő: Can the loop migration be detected by the wing length distribution of Passerines?	48
Kubasakal Bekir, Albayrak Tamer: Determining the mortality ratio and breeding success depending on sex of Tits (<i>Parus, Aves</i>) by using molecular sexing method	49

Karaardıç Hakan, Wilkins Matthew, Özkan Leyla, Erdogan Ali, Sefran Rebecca J.: First Results of Reproductive Success of Barn Swallow (<i>H. rustica</i>) in Antalya, Turkey between 2010-2011.....	50
Karcza Zsolt, Szinaí Péter, Albert László, Csörgő Tibor: Affectivity of different marking methods on Mute Swan (<i>Cygnus olor</i>).....	51
Kiss Orsolya, Tokody Béla, Moekát Csaba: Food availability and breeding parameters of Rollers (<i>Coracias garrulus</i>) in two different habitats.....	52
Kiss Orsolya, Tokody Béla: Landscape composition of European Roller's habitats in Southern Hungary.....	53
Kovács Szilvia, Andrea Harnos, Péter Fehérvári, Tüzer Csörgő: Impacts of weather parameters on migrating population of Reed warblers (<i>Acrocephalus scirpaceus</i>) in autumn.....	54
Kulaszewicz Izabela, Jakubas Dariusz, Wojczulanis-Jakubas Katarzyna: Biometrical and hematological parameters in the Savi's Warbler <i>Locustelia fuscinoidea</i> in relation to sex, age and period of capture.....	55
Mérő Thomas Oliver, Antun Žuljević: Population size of the Great Reed Warbler <i>Acrocephalus arundinaceus</i> in Vojvodina: A new method for estimating population size?.....	56
Németh Ákos, Kiss Orsolya, Tokody Béla: Effect of water level on three reed passerine species' abundance in two different types of wetlands during post breeding and migratory period.....	57
Németh Ákos, Karcza Zsolt, Tamás Enikő Anna, Kralj Jelena, Kalocsa Béla, Madarász Boglárka, Ilic Barisa, Sebastianelli Claudio: Site fidelity of the Mustached Warbler (<i>Acrocephalus melanopegon</i>) during migration and wintering.....	58
Nyúl Mihály, Németh Ákos, Madarász Boglárka: Pattern of moult of Savi's Warbler in the Carpathian Basin.....	59
Özkan Leyla, Karaardıç Hakan, Erdogan Ali: Bird Ringing Results of Titreyengöl/Manavgat Ringing Station, Antalya, Turkey In 2011.....	60
Pocora Viorel, Iorgu Stefan Ionut, Popovici Mariana: Feeding of the Little Owl (<i>Athene noctua</i> Scop., 1769) during nesting season in Danube Delta (Romania).....	61
Sarlós Dávid, Mátrai Norbert, Lenczi Mihály, Csörgő Tibor: Site fidelity of the adult Great reed warblers (<i>Acrocephalus arundinaceus</i>) in an old fish-pond system area, Hungary.....	62

Saygılı Fulya, Nuri Yigit: Allozyme variations of Three Passer species in western Turkey.....	63
Tamás Ádám, Agócs Péter: Survey of waterbird populations on the Danube reach between Dunaföldvár and Baja.....	64
Tamás Ádám, Cabau Gerard Bota, Jonama David Giralt: Does the colour and type matter? Effects on readability of different White Stork (<i>Ciconia ciconia</i>) colour ring schemas and consequences on resighting.....	65
Türker Isinsu, Yigit Nuri: Comparative skeleton anatomy between <i>Fico pico</i> (L. 1758) and <i>Garrulus glandarius</i> (L. 1758) (Aves: Passeriformes).....	66
Vas Zoltán, Fuisz Tibor L., Rácz Róbert, Pólya Sára, Rózsa Lajos: Distribution and transmission of lice (Insecta: Phthiraptera) on the European Bee-eaters (<i>Merops apiaster</i>) – preliminary results.....	67
Yavuz Mustafa, Karaardıç Hakan, Özkan Leyla, Erdogan Ali, Vohwinkel Reinhard, Prunte Werner, Solak Hatice Öznur: General View to the Acrocephalus Warblers' Eastern Migration Phenology on South Turkey, between 2002-2006 and 2009-2011.....	68

Welcome!

Dear participant of the 4th International Eurasian Ornithology Congress! On behalf of the Organizing Committee I would like to warmly welcome you to this famous event to Hungary, to our nice little town Baja, and at the same time to the Faculty of Technology and Economics of Eötvös József College.

It was a great pleasure for us being able to offer you to organize this event, which wouldn't be possible without our kind sponsors, to whom we'd like to express our sincere thanks:

- BioTrack Ltd.
- ECOTONE Ltd.
- Eötvös József College
- Kiskunság Bird Protection Society
- Kiskunság National Park
- MME BirdLife Hungary.

In this booklet you will find the abstracts of all presentations you are going to see and hear during the Congress, grouped by presentation type and in alphabetic order according to the first author.

We've been doing our best that bringing together ornithologists from two continents in a wide variety of subjects would work well. We hope that you find the Congress useful, the venue comfortable and the programs enjoyable.

Wishing a fruitful scientific cometogether.

Tamás Enikő Anna

Plenary presentations

Albayrak Tamer¹: Ten years of Krüper's Nuthatch *Sitta krueperi* projects

Krüper's Nuthatch (Sittidae, *Sitta krueperi*) is endemic to Anatolia, Lesvos Island and Caucasus region. It is listed "Near Threatened" by IUCN due to habitat loss and declining the population. Here, sequences of the mitochondrial cytochrome oxidase subunit 1 gene (605 bp) were analyzed in order to infer the genetic and phylogeographical structure of the populations and geographical information system was used for preparing the distribution maps and depicting the hotspots for Krüper's Nuthatch. A total of fourteen haplotypes were found in the global populations.

The results revealed three distinct groups of populations. This genetic structure pattern may be linked to isolation processes of these populations in different glacial refuges. It was found statistically significant differences between densities of Krüper's Nuthatch of different longitudes and positive correlation between density of the species and longitude from Eastern to Western.

In conclusion, it is highlighted three key areas for the conservation of this species which were located in the located in the Antalya region and/or Aladağlar Mountains in southern Turkey and the Uludağ Mountain and/or Ilgaz Mountain and/or Kazdağları Mountains in northern Turkey and northern Caucasus Mountains. The areas should be considered as an Important Bird Area for Krüper's Nuthatch.

¹ Mehmet Akif Ersoy University, Science and Art Faculty, Department of Biology, Ortulu, Burdur, Turkey, Phone: +90 248 213 30 34 Fax: +90 248 213 30 32
<http://ef.mehmetakif.edu.tr/akademik/albayrak>

Garamszegi László Zsolt¹: Avian personalities and behavioral syndromes: implications of recent advancements in behavioral ecology for the field study of birds

In evolutionary and behavioral ecology, increasing attention is being paid to personality (i.e. the consistency of the same behavior across time) and behavioral syndromes (i.e. the consistency of behaviors across contexts), which imply that behavioral traits are repeatable within individuals and correlate with each other. Several studies used birds as a model to study these phenomena, most of which have a major impact on how we understand the evolution and ecology of behaviors.

This talk will provide a brief overview on the study of personality and behavioral syndromes in avian taxa. First, I will provide some insights on the corresponding terminology that is still confusing in some cases, and, by relying on illustrative examples, I will demonstrate what personality and behavioral syndromes mean in wild birds. Second, I will investigate the evolutionary and ecological consequences of the constraints that arise from the repeatability and non-independence of behaviors. In this part, it will be showed that consistent behaviors have important implications for ecological adaptation, sexual selection and for the sampling of avian populations, i.e. the most important topics that we target in our field studies of birds.

¹ Department of Evolutionary Ecology - Estación Biológica de Doñana - Seville, Spain, lazslo.garamszegi@ebd.csic.es

Szép Tibor¹: A small bird with a difficult life - in the light of 25 years long integrated monitoring of sand martin (*Riparia riparia*) breeding population along the river Tisza

Sand martin population breeding along the river Tisza, in naturally forming river banks in Eastern Hungary shows large annual fluctuation (between 10-30 thousands pairs) with obvious decline during the last decade, similar to many long-distance migrant species in Central Europe. The size and distribution of breeding habitats and population size, breeding success and survival are relatively easy to investigate for such large population which let us to study in details the population processes and potential factors behind it. Intense ringing work at breeding colonies since 1986 (~130 thousands birds were ringed) allow us to model and estimate the survival rate with high precision. Our earlier work showed among the first the direct relationship between the Sahelian rainfall and survival rate in the case of a long-distance migrant, indicating the important role of the migration/wintering effects on the breeding population. Adverse Sahelian condition could explain large population decline between two consecutive years because of higher mortality, however on the base of the survival rates of more than two decades, there is no decreasing tendency in the survival and behind the decline of the breeding population influence of environmental factors on the breeding success could have high importance. Investigation of the breeding success of near 23 thousands holes since 1985, using endoscope, allowed to monitor the reproductive performance of the studied population.

The level of the breeding success in a given year has high impact on the population size in the following year, which is very obvious in years with "green flood" along the river, when near all nests destroyed during incubation/feeding period. Different environmental factors known or expected behind the change of the breeding success are discussed.

Oral presentations

Aydogan Ahmet¹, Ozmen Ozlem, Haligur Mehmet, Adanir Ramazan, Kose Onur: Pathology of *Macrorhabdus ornithogaster* infection in budgerigars (*Melopsittacus undulatus*) suffer from coccidiosis

Severe diarrhea and vomiting were diagnosed in a flock consisting of 250 budgerigars (*Melopsittacus undulatus*). The birds were 2-2.5 month olds and transferred 2 weeks ago from an aviary to the farm. Affected birds showed inapetence, loss of condition, and flock mortality rate was 30%. Necropsy performed to 38 birds that died from the illness. At necropsy, the proventriculi were swollen and hyperemic, and viscous mucus with blood adhered to the mucosa. Bloody and mucoid content was also seen in gut lumen. Numerous *Eimeria* oocysts were observed in the feces.

Cytological examination of Giemsa stained proventricular and gut content revealed cluster of yeast. Microscopically, mild to severe inflammatory reaction, ulcers and hemorrhages were observed in proventriculus. Numerous large and rod shapes *Macrorhabdus ornithogaster* agents were colonized at proventriculus, ventriculus and gut. Bright pink stained agent easily detected in periodic acid Schiff stained sections. At the histopathological examination of gut, coccidia agents were seen in epithelial cells. *Eimeria dunsingi* (Farr, 1960) identified from gut content of the birds according to morphological characteristics.

This is the first report of simultaneous natural infection with *M. ornithogaster* and *Eimeria dunsingi* (Farr, 1960) in budgerigar

¹ University of Mehmet Akif Ersoy, Faculty of Veterinary Medicine, Department of Pathology, Burdur, Turkey. aydogan@mehmetakif.edu.tr

Béres Judit¹, Németh Ákos, Tokody Béla, Csörgő Tibor: Habitat preference of migratory Red-backed shrike (*Lanius collurio*)

The Red-backed Shrike has a special habitat preference in the breeding, wintering and migratory stopover sites.

In this study we compared the results of the mistnetting of Red-backed Shrike at three Hungarian ringing stations that belong to Actio Hungarica. The three ringing sites (Ócsa Landscape Protection Area (1.) Lake Kolon (2.) Lake White (3.) vary in ratios of reedbeds, bush and woodland areas. High numbers of captured birds imply that these areas are preferred by this species. All 2160 birds were caught, ringed and weighed at the three station during the autumn migration between 2003 and 2011. Age groups were handled separately.

The aim of this study was to compare the areas with certain habitat preference parameters (the average number of captured birds and standard deviation (SD), the rate of recaptured birds, the site fidelity, the adult-juvenile ratio, the average body mass.

Only slight similarities were perceptible in the patterns of annual capture. The highest correlation was between the 1-2. (0.64), while between the 2-3. and the 1-3. it was smaller: 0.37 and 0.25 respectively. On average most birds ($x=119.7$) were caught at the 1. ringing station with the smallest SD (20.4). In the 2. place there was fewer capture ($x=78.3$, $SD=35.6$) while the 3. location had the lowest numbers ($x=72.0$, $SD=23.1$). The average recapture rates differed in the three areas: in the 1. it was high ($x=28.4\%$, $SD=5.8$), in the 2. it was extremely low ($x=1.5\%$, $SD=1.1$) and in the 3. it was medial ($x=13.7\%$, $SD=4.5$). Adult-juvenile ratios were low at the 1. and 2. stations (2.0 and 2.5), while at the 3. location it was significantly higher (6.3). The adults are heavier than juveniles, but the range of body-mass fluctuation of juveniles and adults were quite similar both within and between areas.

The Carpathian Basin is an important migratory area for the European Red-backed Shrikes. To develop a comprehensive picture the results of optimal and suboptimal area-comparisons will be needed.

¹ Eötvös Loránd University, Department of Anatomy, Cell- and Developmental Biology, Ócsa Bird Ringing Station, b.judit88@gmail.com

Canal David¹, Jovaní Roger, Potti Jaime: Multiple mating opportunities boost protandry in a pied flycatcher population

Protandry, the earlier arrival of males than females to breeding areas, is widespread in birds, but its underlying mechanisms are far from well understood. The two, not mutually exclusive most highly supported hypotheses to explain avian protandry postulate that it has evolved from intrasexual male competition to acquire the best territories ("rank advantage" hypothesis) and/or to maximize the number of mates ("mate opportunity" hypothesis).

We studied for two consecutive years the relative importance of both hypotheses in a population of pied flycatchers (*Ficedula hypoleuca*), a territorial songbird with a mixed mating strategy. We measured territory quality using a longterm dataset on nest occupation and breeding output, and we used molecular techniques to assess male fitness across the range of social and genetic mating options. Territory quality was unrelated to breeding date and had no influence on extra-pair paternity or social polygynous events. However, males breeding early increased their chances of becoming socially polygynous and/or of attaining extra-pair paternity and, as a consequence, increased their total reproductive success. These results support the "mate opportunity" hypothesis, suggesting that sexual selection is the main mechanism driving protandry in this population.

¹ Department of Evolutionary Ecology, Estación Biológica de Doñana CSIC, Avda. Américo Vespucio s/n, 41092 Seville, Spain. Tel. +34 954 466 700 Ext. 1406. Fax. +34 954 621 125, davidcanal@ebd.csic.es

Erdélyi Károly¹, Barna Mónika, Szentpáli-Gavallér Katalin, Csörgő Tibor, Ferenczi Emőke, Dán Ádám, Bakonyi Tamás: West Nile virus in wild birds in Hungary and Europe

As opposed to the high rates of clinical disease and mortality in wild bird species of the New World European West-Nile virus outbreaks are hardly ever indicated by collateral bird dieoffs. However, WNV related clinical disease and mortality has been detected in both free ranging and captive wild birds during the past decade. Since the 2002 emergence of lineage 2 WNV in Hungary more than 50 cases of WNV related goshawk (*Accipiter gentilis*) mortality were identified. Mortality was also recorded in non native and native species of falconry birds e.g. gyrfalcons (*Falco rusticolus*), Harris hawks (*Parabuteo unicinctus*) and peregrine falcons (*Falco peregrinus*). Other captive birds like bearded vulture (*Gypaetus barbatus*), snowy owls (*Bubo scandiacus*) and keas (*Nestor notabilis*) were affected in both Hungary and Austria. Fatal WNV infection was also diagnosed in nestlings and fledglings of free ranging red footed falcons (*Falco tinnunculus*) and sparrowhawks (*Accipiter nisus*) in Hungary. In other parts of Europe sporadic disease and mortality cases caused by lineage 1 WNV infection were identified. Since 2001 infections were found in Spanish imperial eagles (*Aquila adalberti*), golden eagles (*Aquila chrysaetos*) and Bonelli's eagle (*Hieraaetus fasciatus*) in Spain and mortality of subadult white storks (*Ciconia ciconia*) was recorded in Israel during their autumn migration in 1999. Subclinical WNV infections were diagnosed in a range of species during the most recent outbreaks in Italy, France, Hungary and Greece while serological conversion to WNV has been detected historically in an even wider range of European bird species. The most severely affected bird species were members of the family Accipitridae and the infections were caused by both lineage 1 and lineage 2 WNV strains. Long term monitoring and targeted examinations identified some Eurasian species that regularly succumb to WNV infection as well as others which may prove to be reservoir and amplifying hosts. As it is evident that North American studies on the avian host component of WNV circulation are not directly applicable in Europe it is our primary aim to identify the local amplifying, reservoir and sentinel host species. The role and potential impact of European WNV epidemiology and ecology studies is crucial for risk assessment issues, including potential for future geographic spread and the overall impact on species conservation, wildlife, human and domestic animal health.

¹ Veterinary Diagnostic Directorate CAO, Hungary, kerdelyi@gmail.com

Evens Ruben¹, Ulenaers Eddy: Nightjars (*Caprimulgus europaeus*) with radiotransmitters in Bosland

The Nightjar *Caprimulgus europaeus* is a nocturnal insectivore which is found in dry and sandy areas. In woodlands the Nightjar occurs in clearings or open woodland. In the second half of the 20th century habitat degradation and fragmentation are two important factors which caused marked population decline in this species. For this reason the Nightjar is included in appendix I of the European bird regulations.

Its hidden and mysterious life is a source of inspiration and phantasy for many, but at the same time this makes it difficult to study. In order to understand the ecology of this species better, in 2010 and 2011 a radio telemetric study was undertaken in Bosland (Northeast Belgium). Habitat analysis showed that Nightjars occurred mainly in open sandy ground and open woodland with sufficient Scots Pine. The territory of Nightjars covers a mean surface area of 100ha. The distances travelled to forage during the breeding season (750 - 1000 m and later 3000 - 6000 m) were longer than in previous studies. Roosting places were mainly in Corsican Pine (41%) and on the ground in areas of Scots Pine (30%). Heaps of branches left behind after maintenance work or felling, were often used as roosting places. Finally Nightjars had multiple singing locations over their whole territory. Since recent counts have allocated single singing locations to single breeding places, the population in the study area has been overestimated.

Because this method has also been applied outside this study area, it is possible that the population has been overestimated there too. It is therefore necessary to investigate by how much the Nightjar population in the province Limburg has been overestimated in the past.

¹ *evens.ruben@gmail.com, Tracing Nature, Populierenstraat 13, 3990 Peer (Belgium). Mobile: 0032/474.444.542*

Ferenczi Márta¹, Heinicke Thomas², Müskens Gerard³, Polderdijk Kees⁴, Kruckenberg Helmut⁵, Faragó Sándor⁶: Preliminary results of goose ringing project in the Fertő-Hanság National Park/Western Hungary in late autumn 2010

In November 2010, a goose ringing project in Western Hungary was organized as part of an international cooperation between the University of West Hungary, Wetlands International, Goose Specialist Group, the Fertő-Hanság National Park and Birdlife Hungary. Goose catching was focused on Greater White-fronted Geese (*Anser albifrons*) and Tundra Bean Geese (*Anser fabalis rossicus*), which are regularly wintering around Lake Fertő. The main goal was to collect new data about the poorly known migration pattern of geese, wintering in the Pannonic region and to find out possible connections and exchange to wintering populations in Western and South-eastern Europe. All caught geese were ringed with metal rings of the Hungarian Bird Ringing Centre and additionally marked with individually coded neckbands (Tundra Beans and Greylags (*Anser anser*) = yellow neckbands, Greater White-fronts = black neckbands). In addition, an adult male Greater White-fronted Goose of a family with two offspring was mounted with a GPStransmitter and a light green leg ring. Altogether 48 individuals of three goose species (35 *Anser fabalis rossicus*, 10 *Anser albifrons*, 3 *Anser anser*) were marked. Until February 2012, we received 259 reports (258 sightings, 1 bird reported shot) from 40 out of 47 color-marked geese (Bean Geese: 171 reports, White-fronts: 74 reports, Greylags: 14 reports). Neckbanded birds were reported alive from 7 different countries in the wintering areas, mainly from Germany, Hungary and Poland, while one Greylag Goose was reported shot in December 2011 from Northern Algeria.

¹ *Birdlife Hungary, Fuskás T. u. 11., 9027 Győr, Hungary, martaferenczi5@gmail.com*

² *Bean Goose project, Gingster Str. 18, D-18573 Samtens, Germany*

³ *Alterra Centre for Ecosystem Studies, P.O. Box 47, 6700 AA Wageningen, The Netherlands*

⁴ *Oude Dijk 13, 4339 NJ, The Netherlands*

⁵ *European White-fronted Goose Research program, Am Steigbügel 3, D-27283 Verden, Germany*

⁶ *Institute of Wildlife Management and Vertebrate Zoology, University of West Hungary, Ady E. u. 5., 9400 Sopron, Hungary*

Hahn Steffen¹, Liechti Felix, Lisovski Simeon: Geolocation by light: a new avenue in tracking small migrants

Each year billions of passerines are migrating between Eurasia and Africa, but individual wintering sites or spatio-temporal migration patterns are only fragmentary known. Most of the migrants have body masses lower than 50g, and therefore, GPS devices are still not suitable to study individual migration in small birds. However, current technical development of miniaturized geolocators allows for the first time to track passerines with body masses down to 12-15g.

Here, we want to introduce into this astonishing method by giving some astro-physical background information, by providing details on factors which influence the accuracy of calculated positions and how we can account for such inaccuracies.

Finally, we would like to give a brief outlook how this method can be most profitable applied in future avian migration research.

Kalocsa Béla¹, Tamás Enikő Anna, Mórocz Attila: Waterbird monitoring on the Danube reach between rkm 1479 and rkm 1433 (downstream Baja, in Hungary), from August to April, years 1996-2012.

Waterbird counts on the river Danube have been carried out since 1977 with changing intensity. The Danube reach researched by us covers the river from Baja (rkm 1479) to the southern country border (rkm 1433). We have carried out counts each year from August to the following April, mid-month. We did our research in frame of the Waterbird Specialist Group of MME BirdLife Hungary, but in 1996 we also joined the initiative of the University of West Hungary on wildfowl monitoring.

The Danube reach belongs to the middle course of the river, tending to be meandering, but regulated. Stone bank protection is often applied, thus eroded banks are scarce. In the backwaters of horizontal regulatory structures (groynes) the riverbed is characterised by high sand dunes, which are under water at mean or higher waterlevels. The width of the floodplain on the reach varies between 350 m and 6 km; and the difference between the lowest and highest observed waterlevels is around 10 m.

The upstream 14 kms of the reach belong to the Gemenc Region, while the downstream part to the Béda-Karapanca Region of the Danube Drava National Park since 1996. This reach of the Danube covers two Ramsar sites, and is also an Important Bird Area.

In our talk we present the species list, numbers, within year fluctuations and long-term trends of the observed migrating and wintering waterbirds, out of which the Mallard (*Anas platyrhynchos*) represents 60-80%, the Cormorant (*Phalacrocorax carbo*) represents 10-15%. Other frequently observed bird species include *Aythya ferina*, *Anas crecca*, *Anas penelope*, *Bucephala clangula* and *Aythya fuligula*.

¹ Swiss Ornithological Institute, Department of Bird Migration, Sempach, Switzerland, steffen.hahn@vogelwarte.ch

Kovács Gyula¹: Waterbird monitoring at Lake Balaton and surroundings

Lake Balaton is the largest freshwater lake in Central Europe with a surface covering approximately 600 km². The formerly continuous, now largely fragmented wetland habitats at the southern shore (20-400 ha fishponds, marshes) were once parts of Lake Balaton. Their present area coverage is less than 3% of the lake. Systematic waterbird surveys have been carried out since 2003 at Lake Balaton and the surrounding wetlands. Data analysis are based on monthly surveys at the southern shore of Lake Balaton carried out on 18 observation points and on winter population census on more than 50 survey plots of Lake Balaton and surrounding wetlands. The survey method corresponds to the internationally approved count technique. Although Lake Balaton provides few nesting opportunities for waterbirds, it is a very important feeding and resting habitat during the autumn migration and wintering period. Tens of thousands of waterbirds use this area, averagely 20% of them are staying on fishponds and marshes. Due to the human disturbance, including tourism, and the lack of semi-natural habitats, Lake Balaton is less significant as nesting area in the breeding season. It is therefore a seasonally-restricted Ramsar site only. The wetlands of the southern shore could be considered as important habitats during the migration and wintering period but their main functional importance is even more significant as a nesting area. During the study period a total of 78 waterbird species belonging to 12 families were observed. The dominant species of the southern shore are the Mallard (*Anas platyrhynchos*), the Black-headed Gull (*Larus ridibundus*), the Coot (*Fulica atra*), the Goldeneye (*Bucephala clangula*), the Pochard (*Aythya ferina*), the Yellow-legged Gull (*Larus michahellis*) and the Great Cormorant (*Phalacrocorax carbo*). Fishponds and marshes at South-Balaton support over 1% of the population of Greylag Goose (*Anser anser*), White-fronted Goose (*Anser albifrons*) and Great White Egret (*Egretta alba*). Furthermore, the number of all waterbirds is regularly over 20.000 individuals, thus the area itself fulfills the Ramsar criteria, constituting an ecological-functional unit.

This work has been supported by TAMOP-4.2.2 B-10/1-2010-0018 project.

¹ University of West Hungary, Institute of Wildlife Management and Vertebrate Zoology, gyuszkovacs@yahoo.com

Kunduz Emel¹, Akın Çiğdem, Bilgin Can: A comparison of three different primer systems for sexing birds

Since many bird species are morphologically monomorphic or only sexually dimorphic in adult stages, it is difficult to determine their sex. This fact creates a problem, particularly in population and conservation research that require data on sex ratios. Although several methods are applied to distinguish sex, the most reliable and least invasive way is molecular sexing. In birds, the female is the heterogametic sex (WZ). Even though the W chromosome is female specific, it carries a few homologous genes on the Z chromosome. Through amplification of the chromo-helicase DNA binding protein (CHD) gene located in W chromosome and its homologous part on the Z chromosome using specific primers, it is possible to obtain distinct banding patterns on agarose gel for each sex. So far, three primer systems, namely P2 and P8, 2550F and 2718R, and CHD1F and CHD1R have been proposed as alternative methods using this approach. We evaluated the efficiency of those three primer systems by amplifying a fragment of the CHD gene using a total of 200 blood and/or feather samples. The samples cover 62 avian species belonging to 12 orders. The analysis of CHD1F/CHD1R PCR products on agarose gel showed an apparent single band in males and two bands in females, but the products of 2550F/2718R and P2/P8 generally gave a single indistinguishable band of equal size in both sexes. However, when PCR products of these last two primer pairs were labeled with fluorescent dye, run in a capillary gel, and detected using an ABI 3100 DNA analyzer, they gave two distinguishable electropherograms in females, sometime of only one bp difference. The size of the amplicons from the CHD gene was found to be species specific for the samples tested. Fragment size ranges for CHD1F/CHD1R, 2550F/2718R and P2/P8 primer systems were 320-550 bp, 430-650 bp, and 320-390 bp, respectively. The size of the Z fragment was larger than the W fragment in amplifications using the CHD1F/CHD1R and 2550F/2718R primer sets, and the reverse in the case of the P2/P8. Results show that the CHD1F/CHD1R set is the most efficient for molecular sexing in birds, both in terms of unambiguous results and sequencing costs.

¹ Middle East Technical University, Department of Biological Sciences, Biodiversity and Conservation Lab/ Ankara /TURKEY, ekunduz@metu.edu.tr

Lahkar Kulojyoti¹, Mridu Paban Phukan, Risebrough Robert
W.: Issues currently affecting Gyps vulture populations in
Assam, India

The populations of three species of Gyps vultures have been declined disastrously in south Asia in recent years as a result of contamination of livestock carcasses with diclofenac and possibly to a lesser extent other NSAIDs (non-steroidal anti-inflammatory drug) with similar properties. To know the status and to initiate a long term conservation process for two critically endangered vultures (*G. tenuirostris* and *G. bengalensis*), a survey was initiated in 2003 and thereafter surveying and monitoring regularly to know about the factors which are currently affecting their survival. These include destruction of nests and cutting and thinning of nesting trees; egg collection for medicinal purposes, hunting chicks and adult birds for meat; being killed accidentally by vehicles and trains while feeding on carcasses on roads and railway tracks and, in 2010 - 2011, the deliberate poisoning of carcasses with insecticides to kill carnivores.

Three-year running averages of the number of nestings of both species suggest a decline in the order of 50% over the seven year period, with a particularly sharp drop recorded in 2010 - 2011.

In order to ensure the long-term conservation of vultures in wild in Assam, we propose: awareness campaigns among local communities to protect nests, nestlings and nesting trees; to use safer drugs in veterinary medicine instead of diclofenac and other NSAIDs with similar properties, and to avoid the poisoning of carcasses likely to be consumed by vultures.

Onmus Ortaç¹, Gül Orhan, Siki Mehmet: Environmental
Factors Affecting Nest Site Selection and Breeding Success
of the White Stork (*Ciconia ciconia*) in Western Turkey

We investigated nest site selection and breeding success of White Storks (*Ciconia ciconia*) in relation to geographical features, weather, and land use in western Turkey. Locations of nests in relation to altitude, distance to the nearest river and stream, slope, and aspect were examined between 2008 and 2010 in Sındırgı District. Population dynamics of breeding White Storks were surveyed in the central town in 1984, 1987, and between 1992 and 2010. White Storks nested in only 17 of 74 settlements. Twenty-six of 46 nests were occupied in 2010 with a mean density of 1.72 breeding pairs/km². Settlements with nests were significantly lower in elevation (283.3 ± 77.3 vs. 622.5 ± 230.7 m) and closer to the nearest river ($1,646.2 \pm 1,004.5.0$ vs. $4,101.7 \pm 3,231.5$ m) than settlements without nests. No significant difference was found between the mean aspects of the settlements and the distances to the nearest stream between these two groups of settlements. The number of breeding pairs and fledglings had a significantly decreasing trend throughout the study period. The number of breeding pairs was positively correlated with the annual total area of crop fields and negatively correlated with the total area of fruit production. The number of breeding pairs was positively correlated with total and maximum precipitation in April, but breeding success was negatively correlated with mean total precipitation and mean maximum precipitation during the breeding season.

Ónodl Gábor¹, Csörgő Tibor: Relation between vegetation structure and Great spotted woodpeckers (*Dendrocopos major*) in a mosaical habitat

This study was made in a postglacial relic bog in the Ócsa Protected Landscape Area (47°29' N 19°20' E). After the end of peat mining a secondary succession of vegetation began and evolved a diverse, mosaical, grove-like wooded association.

The volunteers of the Ócsa Bird Ringing Society have been carrying bird ringing activity here since 1983. In this study we used the data of mist-netted Great spotted woodpeckers (*Dendrocopos major*) collected between 1984 - 2010. We used 120 mist nets, which were placed in various blocks, according to the different type of vegetation (reedbeds, willow bush and willow and poplar wood).

Eight woodpecker species have already occurred in the studied area. Among them, the Great spotted woodpecker is the most common and most abundant. Only this species has got few breeding pairs, so they have low number of competitors in the studied area.

The aims of this work were to detect the changes of the abundance of the studied species related to the forestation; to examine the seasonal patterns of the species' abundances, and to reveal the correlation between the height of the trees near the nets and the number of captured birds in the wooded five blocks.

We collected 1411 (capture:523, recapture:888) data of mist-netted Great spotted woodpeckers. The detection of succession rates were based on aerial photos, made between 1979 - 2010. We measured the vegetation structure (the height of the vegetation, in 12 points, near each 12 m long nets) in 2009.

The studied species' population growth significantly correlated with the forestation and showed exponential distribution. Most of the birds appeared only in the dispersal period, there were only few year-round residents. The pattern of the captures correlated well with the vegetation structure, not just with the height of it, but with the qualities of it as well. The correspondences between the height of the trees near the nets in each blocks and the number of captured birds showed logarithmic distributions.

¹ gagacrocuta@citromail.hu, tel: +36305657882

Rodríguez Aíram¹, Rodríguez Beneharo, Negro Juan J.: The effects of artificial lights on the Canarian Petrels

The extent and intensity of artificial night lighting has increased with urban development worldwide. The resulting light pollution is responsible for mortality among many petrel species which show nocturnal activity on their breeding grounds.

We report light-induced mortality of petrels on Tenerife, Canary Islands. A total of 9880 birds from nine species were found grounded during a 9-year study, the majority being Cory's Shearwaters. The majority of grounded birds were fledglings, which fall apparently while leaving their nesting colony for the first time. For almost all species, grounding showed a seasonal pattern linked with their breeding cycle. Certain phases of the moon influenced grounding of shearwaters, with the extent of grounding being reduced during phases of full moon. Fledglings attracted to lights in relation to the fledglings produced annually varied between species and years. Mean adult mortality rates also varied between species. These light-induced mortality rates are of concern, at least for petrels and small shearwaters.

Thanks to efforts involving civil cooperation, 95% of grounded birds returned to the wild. To minimize this impact we recommend several conservation measures: continuing rescue campaigns, alteration of light signatures and reduction of light emissions during the fledging peaks. Furthermore, a monitoring program for petrel populations must be implemented, as well as further studies to assess the fate of released fledglings and continued research to address why petrels are attracted to lights.

¹ Estación Biológica de Doñana CSIC, airamrguez@ebd.csic.es

Szász Eszter¹, Garamszegi László Zsolt, Hegyi Gergely, Török János, Rosivall Balázs: Does male aggression predict the brood sex ratio in a songbird?

It has been revealed in a number of bird species that the sex ratio of the brood is not random. Instead, it depends on parental morphological traits and environmental factors. The phenomenon, when the sex with greater fitness potential is overproduced is called adaptive sex ratio manipulation. Though behavioral traits, similarly to morphological ones, have heritable basis and sex-specific fitness consequences, studies have so far focused on morphological traits. To test whether behavioral traits also play a role in sex ratio manipulation, we investigated the brood sex ratio in relation to male aggression, in a Hungarian population of the collared flycatcher (*Ficedula albicollis*). Male aggression was measured in owner-intruder tests. Brood sex ratio was determined using molecular techniques. We found that male aggression predicted the brood sex ratio: pairs of more aggressive males produced more female offsprings. This pattern can be adaptive, because female nestlings are less sensitive to rearing conditions, and more aggressive males may contribute less to parental care. In our analysis, we controlled for possible confounding variables, and in line with our previous results, only laying date affected the brood sex ratio.

Szinai Péter¹, Karcza Zsolt, Harnos Andrea, Csörgő Tibor: Effects of weather to the wintering Mute Swan (*Cygnus olor*) populations

The typical migration pattern of Mute Swan is short or middle range. The Hungarian breeding population over winters on ice-free water of Drava, Sava and Danube rivers, the southernmost wintering grounds reaches the southern edge of the Carpathian Basin. The Hungarian wintering population arrives from the area between eastern part of Germany and the western part of Ukraine; the highest numbers come mainly from the southern and central Poland. In some severe winters Mute Swan recoveries can be from longer distances (Baltic states, Belarussia, Russia) also.

The wintering population has intensive studied, during the last fifteen years period from winter 1996/1997 till winter 2010/ 2011 in Hungary. The method of the study has been done by individual marking of the birds. Not only metal rings, but partly colour mark (tarsus ring and collars) had been used also, to enlarge the recovery rate. The wintering sites have been checked regularly and ring reading also has done. During the period 4662 wintering bird had been marked and out of the 228 individual has been recovered at least once during breeding and moulting period (from mid May to mid September) in Poland.

Analysing the Polish recoveries results, strong correlation ($R^2=0.59$) with the winter temperature in Poland, and number of the wintering Mute Swans in Hungary, showing a typical escape migration from German Polish Plane to the Carpathian Basin. In severe winters significantly larger number of Polish Mute Swan wintered in Hungary, than in mild winters.

The size and the distribution of the Hungarian wintering population is water depend also. Severe large flocks occurred on running waters, while in milder winter flocks are looser, and partly distributed on standing waters too.

¹ Behavioural Ecology Group, Department of Systematic Zoology and Ecology, Eötvös Loránd University, iclperezvon@gmail.com

¹ Balaton Uplands National Park Directorate, 8229 Csopak, Kossuth u. 16. Hungary, szinai@freemail.hu

Tamás Enikő Anna¹, Kalocsa Béla: An assessment of the hydro-meteorological impacts on the reproductive success of the Black Stork (*Ciconia nigra*) in Hungary

The decline in population numbers of the Black Stork, that is reported from more eastern European countries, makes it important to understand the factors influencing the number of fledging young of the species for an effective protection strategy on the long run. Studies of the nestling success considering the factors limiting it can hardly be found for the species to date. We have conducted field surveys for 15 years on the species in the Gemenc floodplain, southern Hungary. Now we investigated what hydro-meteorological factors the number of young might be influenced by.

We found that the number of young has a negative correlation with the amount of precipitation and the length of the longest rainy period during the breeding season. Mean temperature in May and June are both positively correlated with the number of young.

According to our results, the number of Black Stork young is positively correlated to the mean spring waterlevel, meaning a higher abundance of their prey positively influences the number of raised young. At the same time, depending on summer waterlevels, a higher effort of adults when they are forced to hunt outside the floodplain, may hinder their abilities to properly feed their young.

We found that – at least in the temperate areas of Europe, where weather impact in the past 15 years could have been very similar to that of the Carpathian Basin – the prospects of the Black Stork to avoid a serious population decline depend very much on rainfall, the changes in summer temperatures and the availability of suitable prey in the necessary abundance to feed their young.

¹ Eötvös József College, Faculty of Technology and Economics, H-6500 Baja, Hungary, Bajcsy-Zs. u. 14. tamas.eniko.anna@gmail.com

Wojczulanis-Jakubas Katarzyna¹, Jakubas Dariusz: Why the Little auk *Alle alle* females are so monogamous?

Applying molecular tools in ecology has revolutionized the knowledge of prevalence of monogamy in birds. It has turned out that most species perform a promiscuous behavior and that this strategy seems to be advantageous for both sexes. In that context, species with low level of extra-pair paternity are worth of a research attention. Here, we summarize the studies on sexual behavior as well as parental effort in the Little Auk (*Alle alle*) - colonially breeding and socially and genetically monogamous High Arctic seabird laying a single egg annually. We found that extra-pair sexual contacts of Little Auks are quite frequent. However, majority of them are unsuccessful, mostly due to lack of female's acceptance. Only 3% of the studied chicks were sired through extra-pair fertilization. Ensuring male's parental care is the most likely explanation of the females reluctance to extra-pair contacts, since the male uncertain of his paternity could withhold parental care or desert the brood. Indeed, in an experimental study, a chick with one parent burdened with a logger grew significantly slower than chick of two undisturbed parents. This result highlights the necessity of bi-parental care in the Little Auk to raise the young successfully. Moreover, comparison of body condition (body mass and stress level) as well as parental behavior (egg incubation and chick feeding) between sexes indicates similar if not male-biased parental efforts. An avoidance of transmission of the pathogen during the copulation might be an alternative explanation of the females' reluctance to engagement in extra-pair copulations. However, the results of the study of fungi prevalence in breeding Little Auk pairs show that the pathogen transmission might be insufficient to have a significant effect in shaping the sexual behavior of the birds.

¹ University of Gdańsk, Dept. of Vertebrate Ecology and Zoology, al. Legionów 9, 80-441 Gdańsk; biokwj@univ.gda.pl

Zagalska-Neubauer Magdalena¹, Neubauer Grzegorz:
**Females infidelity and brood parasitism in socially
monogamous colonial birds - making the best of the bad job**

Long-living seabirds, as large gulls, are socially monogamous. It is believed that they form pair-bonds for several breeding seasons and both extra-pair paternity and brood parasitism are typically infrequent. However, under hybridization females could be paired to heterospecific mates and produce hybrid offspring which may be less fit (i.e., survive worse or infertile). In such a case, females could adopt different reproductive strategy to improve their success. For example, females may take the risk of mating with non-social partner or laying eggs in the nest of other pair (intraspecific or intraspecific brood parasitism). To date, among 61 studied bird species intraspecific brood parasitism was reported only in six gull species, but has never been found in hybridizing population. We analyzed parentage in 79 broods (54 females, 54 males and 201 chicks) of pure and mixed pairs of Herring and Caspian Gulls, (*Larus argentatus*, *L. cachinnans*) which breed in a colony in central Poland. Using nine pairs of microsatellite primers, we found that 91 of all chicks had at least one parent from outside social pair. 33% of chick have had non-social mother and 21% - non-social father within broods. With this extraordinarily high level of non-social parentage, we discuss costs and benefits of extra-pairing and brood parasitism in face of hybridization.

Poster presentations

¹ Ornithological Station, Museum and Institute of Zoology PAS, Poland.
magzag@miz.waw.pl

Ágh Nóra¹, Harnos Andrea, Csörgő Tibor, Kovács Szilvia:
Study of the changes in migration pattern of two flycatcher
species by the analysis of long-term bird ringing data series

Recently, most of the long-distance migrant species had strong population decline. We have studied the changes in migration and the migration strategies of the Pied flycatchers (*Ficedula hypoleuca*) and Spotted flycatchers (*Muscicapa striata*). We have used the dataset of the Ócsa Bird Ringing Society to compare the migration phenology of these closely related long-distance migrant species: records of 2808 Pied flycatchers and 2753 Spotted flycatchers from 1989 to 2010. During the analysis we treated the age groups at both species and at the Pied flycatchers based on plumage the sexes separately also. We have estimated the changes in biometrics and in the timing of migration. We have also compared average wing length of birds caught in spring and in autumn.

According to our results the timing of spring migration shifted earlier, while the timing of autumn migration shifted later in both species. The reason of this phenomenon might be the change in weather conditions and vegetation period causing a shift in food abundance. The relationship between the timing and wing length was different at the two species. In case of Pied flycatcher the on average longer winged individuals arrive significantly earlier in spring and the shorter winged ones in autumn, in case of Spotted flycatcher longer winged individuals arrive earlier in both seasons. Probably the migrating populations are different in spring and autumn meaning that Pied flycatchers are loop migrants using different routes in the two periods. In case of Spotted flycatchers we can hardly draw conclusions, however it is possible that the difference in the timing of indistinguishable sexes produces this pattern. Cause of the increase in average wing length could be the raised ratio of trans-migrant individuals originated from northern European breeding areas. It might reflect the fact that the area size of the northern breeding populations and/or the reproductive success of birds breeding in northern areas have increased.

¹ Eötvös Loránd University, Faculty of Science, Department of Anatomy, Cell- and Developmental Biology, bius@caesar.elte.hu

Arslan Gönül¹: Determination of trace elements in feathers
of *Ardea cinerea* and *Nycticorax nycticorax* nestlings,
Nallihan Bird Paradise, Ankara, Turkey

In this study, concentrations of three trace elements (Cd, Cu and Pb) in cover feathers of grey heron (*Ardea cinerea*) and night heron (*Nycticorax nycticorax*) nestling were determined in Nallihan Bird Paradise, which is located in the northern part of Sariyar Dam Reservoir, Turkey. This results were compared to results of another study exercised by Ayas (2007) using eggshells of this ardeids in the same area.

Average residue amount was found for Cd, Cu and Pb in nestling feathers were 2.48 mg/kg, 12.73 mg/kg and 12.36 mg/kg, respectively, for grey heron; and 1.56 mg/kg, 7.66 mg/kg and 7.66 mg/kg, respectively, for night heron. This results corresponded to the order of average residual amount of eggshells of this ardeids species in the same area. Bioaccumulation ratios were calculated as 8(Cd), 37(Cu) and 41(Pb) for grey heron and 6(Cd), 22(Cu) and 25(Pb) for night heron. This results also corresponded to the order of bioaccumulation ratios of eggshells of this ardeids species in the same area. Indeed, average residual amount and bioaccumulation ratios of nestling feathers were higher than of eggshells in this both species. In conclusion, feathers of nestling ardeids appeared to be better bioindicators for monitoring of trace elements in this area.

¹ Nevşehir University, Science and Art Faculty, Biology Department, Nevşehir, Turkey, gonul@hacettepe.edu.tr

Arslan Necmiye Sahin¹: Nest site selection of red-backed shrike (*Lanius collurio*) in Kizilirmak Delta, Samsun, Turkey

Nest site selection of Red-backed Shrike, *Lanius collurio* was investigated, in Kizilirmak Delta, in North of Turkey, in 2011. A total of 56 nests were used in this study. Nest plant species, height of nest plants and height of the nests from the ground were considered. Nests were built on eight plant species. Blackberry (*Rubus ceneszens*) (64%) and common hawthorn (*Crataegus monogyna*) (21%) were the bush species most frequently used as support for nests. Plants also used were daphne (*Laurus nobilis*), oleaster (*Elaeagnus angustifolia*), privet (*Ligustrum vulgare*), rushes (*Juncus sp*), Traveller's Joy (*Clematis vitalba*) and common ash (*Fraxinus excelsior*). 89.3 % of nest plants were thorny bushes or trees. Nest plants were 1.2-4.4 m (average 2.2 m \pm 0.6 m). Mean nest height was 1.2 m \pm 0.4 m.

The results indicated that in Kizilirmak Delta, this species prefers thorny shrubs shorter than 3 m and mostly builds its nest at a height of less than 1.5 m.

¹ Hacettepe University Faculty of Science Biology Department Ankara Turkey, necmiyehsahin@hacettepe.edu.tr

Baltag Emanuel¹, Pocora Viorel, Bolboacă Lucian, Sfică Lucian²: Long-legged Buzzard (*Buteo rufinus*) wintering in the Moldavian Region (Romania)

The Long-legged Buzzard (*Buteo rufinus*) is known as a breeding species in South - Eastern Romania (Dobrogea Region) and recently, in Eastern Romania (Moldova Region). However, in the last decade, it has been seen wintering regularly in Dobrogea. In Moldova, the first observation was recorded during winter, on the 16th of February, 2007. In the last 3 years, the occurrence of Long-legged Buzzards has increased, appearing more frequently and in greater numbers in Moldova during the cold season. In total, from January 2007 until January 2012 we documented 12 records for this region. Few individuals stayed for a longer time in the same location (e.g. one individual during 11.12 - 20.01.2011, another during 20.11 - 15.12.2011), and they seems to use the same places each year. Regarding the habitat, they use open valleys with pastures and agriculture fields.

The Long-legged Buzzard is listed in Annex I of the Bird Directive as subject to special conservation measures in order to ensure its survival and reproduction.

¹ Department of Zoology, Faculty of Biology, "Al. I. Cuza" University, Iasi 700505, Romania, baltag.emmanuel@gmail.com
² Department of Geography, Faculty of Geography and Geology, "Al. I. Cuza" University, Iasi 700505, Romania

Banyakó Juraj¹: An Uncommon Preying Behaviour of Eurasian Kestrel (*Falco tinnunculus*)

The Eurasian or common kestrel is a well-known bird species even for laymen. Kestrels are often found in agricultural areas but are also found in cities. Their typical hunting behaviour is to hover at a height of around 10–20 metres over open country and swoop down on prey, small rodents (in Central Europe usually common and field voles), lizards or larger insects.

Kestrels may habitually take small birds, as well. They readily take blue tits or other small birds up to the size of a blackbird. This is a statement to be found almost in all description of kestrels.

But this little falcon is also able to take larger birds than blackbird.

The male of the resident kestrel pair, breeding below the roof of the main building of Kosice University (East-Slovakia), was regularly and successfully hunting feral pigeons.

Pigeons nest partly in the same building, where the kestrels do, partly below the roof of other elder buildings in the university area. The pigeons were practically sitting every day on the roof of some building. Their closeness to kestrels could be one of the motives egging the male kestrel to take the pigeons as an everyday diet.

In every observed case, the male kestrel unexpectedly attacked its prey, one bird from the group of pigeons resting on the ridge. Because the attack was not awaited and strong, the kestrel was always successful.

The male kestrel was able to tear and consume its prey only in these cases, when the object of prey did not fall down on the ground immediately after the strong kestrel's attack. To take the killed pigeon from the ground up to the perch over the windows and consume it was beyond the kestrel's power. We can find some pigeon corpse lying on the ground many times.

Although the pigeons were hunted by the male kestrel during every season of the year, occasionally some other bird species were taken (blue tits, domestic sparrows etc.) by it or by the female.

¹ Velké Kopušany, P.O.H. 55, Slovakia, banyak@hotmail.com

Barna Mónika¹, Erdélyi Károly, Csörgő Tibor, Ferenczi Emőke, Sós Endre, Bakonyi Tamás: Serological survey on the occurrence of West Nile virus infections in wild birds in Hungary

An exotic strain of West Nile virus (WNV, Flaviviridae family, Flavivirus genus) has caused infections among wild birds, horses and humans in Hungary since 2004. The natural hosts of WNV are wild birds and the infection is transmitted mainly by mosquitoes. The most common sign of the disease is fever, but severe meningo-encephalitis was also observed in many vertebrate hosts. Two main genetic lineages of the virus have been identified so far. The presence of a lineage 2 strain has been detected in Hungary. Since its emergence, the WNV strain established itself in the Carpathian basin, and considerable geographic spread was recorded between 2008 and 2011. The aim of our study was to determine which bird species could serve as potential reservoirs of the virus in Hungary.

Between 2009 and 2011 285 serum samples collected from different bird species were investigated by competitive, IgG-detecting ELISA tests. Antibodies produced against the envelope protein of WNV were found in 81 (29%) of the samples. Among the investigated species, samples of great bustards (14/27 samples, 52%), pigeons (23/61 samples, 38%), red-footed falcons (35/143 samples, 25%), goshawks (2/7 samples, 29%) and white storks (3/8 samples, 38%) were found positive. Antibodies were detected also in an eastern imperial eagle (1 sample), a marsh harrier (1 sample), a sparrow-hawk (1 sample) and a black kite (1/2 samples).

The majority of great bustard samples were collected at Dévaványa, where the presence of the virus was detected for the first time in Hungary. The high proportion of positivity suggests that pigeons may have a potential role in the spread of the virus. Since cross-reactions between flaviviruses in serological tests are known, the ELISA results need to be validated by other serological or direct virus-detection methods.

The study was partially supported by the EU research grant FP7-261504 EDENext.

¹ Department of Microbiology and Infectious Diseases Faculty of Veterinary Science Szent István University, Hungária krt. 23-25, Budapest, 1143 Hungary, barna.monika@aotk.czie.hu

Constantin Ion¹, Ignat Elena Alina: The relationships between birds assemblage and wetlands features in North-Eastern Romania

We evaluated birds' diversity and features from 10 wetlands areas of North-Eastern Romania in a period ranged between 2008-2011. The data were statistically computed to estimate the relationship between birds' assemblage (number of bird species, abundance and species diversity) and wetlands features (wetland area, open water area, total vegetation cover, vegetation heterogeneity and water depth). The birds utilize differently the space and trophic resources from wetlands areas depending on season, vegetation cover and water depth. During winter, the birds prefer the dam reservoirs instead of fish farms. When the temperature is low, the water does not freeze easily in dam reservoirs because of large water volume and depth more than 1 m. During breeding period, birds prefer the fish farms, because there are big surfaces of reed beds, properly for nests placement.

During migration a lot of birds' species are present at the end of dam reservoirs, where the water has less than 1 m depth and all the time, especially in autumn, form swamps. The beton banks are preferred by birds for resting. During passage, the farm fish are especially visited when the temperature is very low because the vegetation from there represents a good shelter.

Csörgő Tibor¹, Németh Ákos, Harnos Andrea: Sex ratios of Chiffchaffs (*Phylloscopus collybita*) in the Balkan wintering grounds

Sexual size dimorphism in Chiffchaffs makes it possible to identify the sex ratios based on wing length distributions in both the breeding and the non-breeding season. Western European breeders show a latitude dependent sex ratio distribution on their wintering grounds. The populations in the northern extremes of the wintering area (England) are generally male biased while more southern areas (Morocco and Sub-Saharan countries) are typically female biased.

On the other hand ring recoveries show that the population breeding in the Carpathian Basin migrate South, South-East, wintering from then the Balkans to the Middle-East, in the East Mediterranean Basin. Hungarian ringers worked at 1 location in Croatia and at 2 different locations in Greece (from North to South: 1. Neretva delta, Prud 43° 05' N, 17° 37' E, November - December 2002, 2. Strongyli 39° 30' N, 19° 54' E, November - December 2006, 2007, 3. Gialova 36° 95' N, 21° 70' E, February 2002.) to identify wintering grounds of several species originated from Hungary.

Analysing the data of a total of 1100 Chiffchaffs mist-netted, ringed and measured at these sites revealed that the wing length distributions resemble the distribution shown for the Hungarian breeding population (average of females: 55.5 - 55.7, average of males: 61.7 - 61.9). We found significant male bias at all three locations. The ratio of males was 68.7%, 67.8%, 76.9%, 89.2% at the Neretva Delta, Strongyli (2006, 2007) and Gialova, respectively. The first three ratios resemble that found in France calculating from data of some areas and years (69.5%) albeit at higher latitudes (cc. 45° N), while the ratio found at the most southern location in the Balkans, is higher than that found in England (83.2%). The contradicting pattern found in the current study may be due to differential topography of eastern wintering site, climate effect of the Atlantic-ocean and/or sex-dependent survival rates (data from the beginning and last periods of wintering).

¹ University "Alexandru Ioan Cuza" Iasi, Romania, costin_zoo@yahoo.com

¹ 1117 Budapest, Pázmány Péter sétány 1/C, csorgo@elte.hu

Fluck Dénes¹: Hungarian – French Ringing Joint Venture for Woodcock

Hungary is both in breeding range and on the stopover migrating places for woodcocks at spring and autumn. Following the request of Dénes FLUCK, President of Hungarian Woodcock Club, the « Club National des Bécassiers » of France, the « Fédération Départementale des Chasseurs de l'Ardèche » and the Hungarian Bird Ringing Center, a ringing program has been developed with a network of woodcock ringers in 2005. Through this partnership, 4 missions have been realised by Dominique FIALON (CNB), Pierre LAUNAY (CNB) and Fabrice ETIENNE (FDC 07) : about 15 ringers have been trained to the nocturnal method for catching.

The two French organisations (CNB, FDC) have provided the main equipment for 5 hungrian ringers.

During this partnership more than 100 woodcocks have been ringed. The number of ringed birds seems low, but, woodcocks at this period in Hungary, stay more often in the woodland at night than in the open grounds. This behaviour has reduced the observations and the success rate. For example, Nocturnal Abundance Index (NAI) is close to 1 bird per hour in Hungary, compare with a value of 3 in France..

¹ VKE, cnbdfluck@yahoo.fr

Gallai Zsófia¹, Markolt Ferenc, Szemethy László, Németh Ákos: Habitat use of the Nightjar (*Caprimulgus europaeus*) in the Lake Kolon core area of the Kiskunsági National Park

In Hungary, the Nightjar (*Caprimulgus europaeus*) is a frequently resident protected, Natura 2000 indicator bird species. Its hidden nocturnal lifestyle makes its investigation difficult. The very limited knowledge of its population is almost exclusively based on observation data. The species' European population is declining. Its natural habitat in the Kiskunság is in sand dune thickets, in Junipero-Populetum associations. This landscape changed significantly after the 1950s and '60s due to the structural changes in land use, followed by a large-scale tree planting program for sand fixing. This had a significant impact on the Nightjar population. In order to develop conservation plans for the Nightjar in the future, we need more detailed information on its habitat use and preference, therefore, the aim of this study was to identify important space-use factors of *Caprimulgus europaeus* in this unique Junipero-Populetum habitat. Our studies were conducted in the Lake Kolon core area of the Kiskunság National Park. Locations of the "churring" male birds' perches were registered every night from May to July. The resulting 31 locations were supplemented by another 31 computer-generated random locations as control points. A 25-meter-radius buffer zone (1963.5 m²) was designated around each of these points, where the impact of the woody vegetation's structure was investigated. Total forest cover [m²], patch size (of forested patches) [m²] and total edge length [m] within the sample and control plots were calculated based on a hand-digitized habitat map. Strong avoidance was found in areas where forest cover was under 20% or over 75% in the plots, while the same was preferred between 20% and 60%. Forest patches with a size above the half of the plots (>1000 m²) negatively affected habitat selection. Plots with total edge length less than 122 m were also notably less preferred as would be expected by chance. Our results highlighted the unambiguous importance of the amount and size of woody vegetation for the habitat selection of the Nightjar. Based on this and broader-scale, more intensive habitat-use investigation in the future, targeted management plans can be prepared for foresters that incorporate the habitat requirements that are optimal for maintaining Nightjar populations.

¹ Szent István University, Kiskunság Bird Protection Society, zsofi@gallai.hu

**Gholami Jafar¹, Elham Sharifi, Soheil Sobhan Ardakani:
Observations on Breeding Birds of Shirinsoo Wetland,
Hamedan Province, West Iran**

Shirinsoo wetland (35°29'47"N, 48°27'08"E) covers an area of about 60 ha, located northwest of Hamedan in west Iran. It is 1,806 m above sea level. The climate of the area is on the border of warm and cold semi-arid. In the surveys conducted every weeks, from late April to early August 2011, breeding birds of Shirinsoo wetland were listed in three categories: possible breeding (PsB), probable breeding (PrB) and confirmed breeding (CB).

Of 115 species recorded in Shirinsoo wetland, breeding of 7 species was confirmed and 7 others were classified as probable or possible breeders. Three species, this was the first record of breeding at this site.

¹ jafar.gholami@iauh.ac.ir

**Gül Orhan¹, Onmus Ortaç, Siki Mehmet: The effects of
drought and water level on the populations of waterbirds
breeding in Marmara Lake - Western Turkey**

We investigated effects of drought and water level on the population of waterbirds breeding in Marmara Lake - Western Turkey. The state of breeding waterbirds was identified by applying Breeding Bird Surveys (BBS) in 2008 (dry season) and 2011 (rainy season). 70 1x1 km² UTM grids were covered. In 2008, 44 waterbird species were identified and 24 species were given breeding codes: 9 were confirmed, 12 probable and 3 possible breeding. In 2011, 37 waterbird species were identified and 31 species were given breeding codes: 17 confirmed, 11 probable, and 3 possible. According to these studies, we have also found that maximum breeding code, maximum breeding pairs and total number of waterbirds per UTM grid in 2008 and 2011.

Besides we have compared the distributions of breeding waterbirds by using GIS maps. This study summarizes the comparative results of these two Atlas Studies with respect to drought and water level.

¹ Natural History Museum, Research and Application Centre, Faculty of Sciences,
Department of Biology, Ege University, Izmir - Turkey, orhan.gul@ege.edu.tr

Hornok Sándor¹, Csörgő Tibor², de la Fuente José, Privigyel Csaba, Meli Marina, Kreizinger Zsuzsa, Gyuranecz Miklós, Tánczos Balázs, Fernández de Mera Isabel G., Farkas Róbert, Hofmann-Lehmann Regina: Birds as disseminators of ixodid ticks and tick-borne pathogens: relevance to migratory routes

In 2011 more than 5500 birds were evaluated for the presence of hard ticks (Acari: Ixodidae) at the Ócsa Bird Ringing Station (Hungary, Duna-Ipoly National Park). Tick-infested birds were significantly more prevalent in the spring, than in the summer or in the autumn. Focusing on birds caught in the spring time, the majority of species with higher extensities (3-10% of all examined individuals) and intensities (1-4-6 ticks per host) of tick infestation can be characterised as frequently synanthrop (having urban or peri-urban habitats). These species included the Robin (*Erithacus rubecula*), the Dunnock (*Prunella modularis*), the Great tit (*Parus major*), the Blackbird (*Turdus merula*) and the Redwing (*T. iliacus*).

The majority of ticks removed in the spring were Ixodes subadults (larvae from 16 and nymphs from 50 birds). On one Robin a *Haemaphysalis concinna* nymph, and on another one nymph and two moulting larvae of *Hyalomma marginatum* were found. The latter tick species is indigenous in Mediterranean countries, but not in Hungary. DNA was extracted from these specimens either individually or in pools (to separate tick stages/species according to host individuals). Molecular biological - mostly TaqMan real-time PCR - evaluation revealed vector-borne zoonotic bacteria in more than half of the samples. Detected pathogens include *Rickettsia* spp., *Borrelia burgdorferi* s.l. and *Anaplasma phagocytophilum*.

When sequences obtained from tick- and/or bacterial genomes are compared with data deposited in the GenBank, geographically defined isolates maybe helpful in tracking the most likely migratory route of relevant birds. For instance, based on its partial 12 rRNA gene sequence, *Hyalomma marginatum* analysed in the present study showed 100% homology to a previous isolate of the same tick species from Morocco.

¹ Dept. of Parasitology and Zoology, Fac. of Veterinary Science, Szent István University

² Dept. of Anatomy, Cell and Developmental Biology, Eötvös Loránt University

Jakubas Dariusz¹, Wojczulanis-Jakubas Katarzyna, Harding A.M.A., Karnovsky N.J., Steen H., Strom H., Welcker J., Kidawa D., Stempniewicz L., Johnsen A., Lifjeld J.T.: The most numerous palearctic seabird, Little auk *Alle alle* constitutes world panmictic population with a considerable phenotypic variation

Studying morphological and genetic structure of a species population may be important in understanding the evolutionary process leading to speciation. Here, we examined geographic variation both in the body size (wing length, head-bill length, body mass and body size index) and genetic frequency of microsatellite markers of the Little Auk (Dovekie) *Alle alle*, the most numerous seabird in Palearctic. This is colonial species breeding exclusively in the High Arctic. Results of morphological analyses showed a longitudinal increase in the birds body size from west to east of the breeding range. The smallest birds breed in the western part of the population (Greenland and Jan Mayen), middle-sized individuals on Svalbard, and the largest birds (*A. a. polaris* subspecies) breed in the eastern part of the studied area, Franz Josef Land.

The observed variation seems to be related to air temperature, with increasing body size of birds along with decreasing air temperature. Despite significant variation in body size, results of genetic analyses showed very low values of pairwise *F_{ST}* indicating a considerable gene flow between the breeding populations. That suggests that all Little Auk breeding areas constitute one panmictic population and morphological variation observed might result from a phenotypic plasticity.

¹ University of Gdańsk, Department of Vertebrate Ecology and Zoology, Gdańsk, Poland, bludj@univ.gda.pl

Jónás Bianka¹, Nóra Ágh, Andrea Harnos, Tibor Csörgő: Can the loop migration be detected by the wing length distribution of Passerines?

Many bird species follow a different route on the autumn outward journey to their wintering grounds than the route taken on the spring return journey. This loop migration pattern is influenced by many factors including: time optimization, geographical barriers and effects of weather on the quality of habitats. The Carpathian Basin is a fairly special area: some bird species use it as a stopover and refuelling site, others avoid it in both migratory seasons.

Species originating in the north have longer and more pointed wings than species in the south because this structure supports a longer migratory route. If the distribution of wing length of adult migratory birds differs significantly between spring and autumn in the Basin, a portion of the migratory population at this stopover originates from different areas indicating a possible loop migration pattern. Since wing length increases during moulting, a significant difference (greater or smaller) of the population's average wing length supports the hypothesis of loop migration.

We used the wing length data of ca. 21500 adults of 14 passerine species collected at the Ócsa Bird Ringing Station in Hungary between 1984 and 2010. Five of them have a complete postnuptial (SC), 8 prenuptial moults (WC) and only one, the Willow warbler moults in both seasons (SC, WC). Because of the abrasion of the primaries we used only the 0, 1 categories from 0-3 grading scale, excluding birds with heavy worn feathers.

Three of the 5 species moulting in summer and the Willow warbler have significantly shorter average wing lengths in autumn than in spring. The species moulting in winter showed a significantly longer average wing in spring, but the differences (0.4-0.8 mm) overlapped with the growth would caused by the moult. Only the Wood warbler's data was outside of this interval (1.6 mm). The Red-backed shrike, a known loop migrant species showed no difference because the spring and autumn routes lie close to each other in this latitude.

Kabasakal Bekir¹, Albayrak Tamer: Determining the mortality ratio and breeding success depending on sex of Tits (*Parus*, Aves) by using molecular sexing method

In this study, it is aimed to determine offspring sex ratios, sex biased breeding success and mortality ratio of *Parus* sp. living in Lütfi Büyükyıldırım Research Forests in Antalya. For this reason during 2010 breeding season (March - July) feathers were collected from each nestling, unhatched eggs and death nestlings were taken to DNA extraction using phenol/chloroform method following digestion with proteinase K. Molecular sex identification was performed using CHD genes amplifying the P8, P2 primers.

Primary sex ratio (at conception) was 54 % male and 46 % female for *P. major* and it did not differ significantly from unity ($df = 1$; $\chi^2 = 0,7$; $p > 0,05$). Male hatchling success were found $87,3 \pm 6,8$ % and female was 100 %. Secondary sex ratio (at hatchling) was found 52 % male and 48 % female and it did not deviate from the unity ($df = 1$; $\chi^2 = 0,1$; $p > 0,05$). Male fledgling success was $96,1 \pm 6$ % and female was $91,6 \pm 5$ %. Tertiary sex ratio (at fledgling) was found 53 % male and 47 % female and it did not differ significantly from unity ($df = 1$; $\chi^2 = 0,3$; $p > 0,05$). General breeding success was $85 \pm 6,7$ % for males and 93 ± 5 % for females. Mortality ratio of *P. major* at hatchling was 10,5 % for males. Fledgling mortality ratio was 3,2 % for males and 8,3 % for females. Population hatchling success was $94,2 \pm 3,5$ %, fledgling success was $93,1 \pm 2,1$ % and General breeding success was $88,5 \pm 2,3$ %. Mean number of fledglings per pair and Mean number of male fledglings per pair were significantly higher in first brood ($p < 0,05$). We found primary, secondary and tertiary sex ratios of *P. ater* were 45 % male and 55 % female and they did not differ significantly from unity. Hatchling, fledgling and general breeding successes were 100 %. *P. caeruleus*'s hatchling success was 89 %, fledgling success was 100 % and general breeding success was 89 %.

¹ Eötvös Loránd University, Faculty of Science, Department of Anatomy, Cell- and Developmental Biology; Ócsa Bird Ringing Society; bjus@coesar.elte.hu

¹ MSc. independent researcher; kabasakalbekir@gmail.com

Karaardıç Hakan¹, Wilkins Matthew, Özkan Leyla, Erdogan Ali, Safran Rebecca J.: First Results of Reproductive Success of Barn Swallow (*H. rustica*) in Antalya, Turkey between 2010-2011.

The barn swallow (*Hirundo rustica*) is considered a model species for studies on mate choice and sexual selection. For several decades, the tail streamers of the barn swallow have served as a classic illustration of a sexual signal. Within European populations of barn swallows (*H. r. rustica*), several studies have shown that females prefer the longest-tailed males both as social and extrapair partners. We aimed to investigate the potential role of sexual selection in ventral coloration and streamer length and to determine the breeding contact zone of two barn swallow subspecies (*H.r. rustica* and *H. r. transitive*). Moreover the seasonal reproductive success of two breeding sites.

We studied a population of barn swallows at two breeding sites in Boğazkent and Karadayı, Antalya, Turkey from March 2010 to August 2011. We checked the nests every three days, thus we could determine the clutch initiation and Hatching dates of each pairs. We captured the adults using mist nests and marked with numbered aluminium rings (Turkish Bird Ringing Scheme) and color bands to identify the nest owner and possibly nest changing following clutches. All captured adults were measured, nestlings were weighed, banded with aluminum rings. We determined 56 nesting areas at Boğazkent and 20 at Karadayı. We captured 61 males and 59 females at 2010, 69 males and 71 females at 2011. We banded 257 nestlings in 2010 and 318 in 2011. 46 had first brood and 17 pairs second brood in 2010, 50 pairs had first brood and 28 pairs second brood in 2011. 38 pairs first brood (%82.6) and 12 pairs second brood (%70.6) were successful in 2010. 33 pairs first brood (%66) and 22 pairs second brood (%78.6) were successful in 2010. One pair had successful third brood in 2010, there was no third brood in 2011.

The result of this study indicates that most of the population has successful first and second brood. However the third clutch size was extremely low. Here, there is a question that why they don't do third clutch, although there are favorable ecological conditions, especially food and also no time pressure? How important the macro and micro climate (temperature and humidity) to inhibit third clutch?

¹ PhD Student, hkaraardic@akdeniz.edu.tr

Karcza Zsolt¹, Szinai Péter², Albert László³, Csörgő Tibor⁴: Affectivity of different marking methods on Mute Swan (*Cygnus olor*)

The numbered metal rings have been used for individual marking of different bird species until the 1970-es. Since than different colour marks (tarsus rings, neck-collars, dyes markers, nasal saddles) also used to enlarge the affectivity of the recovery, reading in distance with binoculars and telescopes.

The rate and the accuracy of distant ring reading depend on the size of the bird, the longevity of the bird, the size and the visibility of the colour mark, the synathrope behaviour of the bird.

The ringing of the Mute Swan started in 1981. In the first two decades of the swan ringing Hungarian made rings use without clip. Since year 2000 IÖ. Mekaniska (Sweden) made thick aluminium rings with lock used mainly. These rings have large engraved characters too. Since 1993 colour neck-collars have used in Hungary with four character alphanumeric codes, and since 1997 colour leg (tarso-metatarsus) rings have used in Hungary with four character alphanumeric codes. According to the data of the last 30 years, we able to calculate and compare the affectivity of different marking methods.

Between 1981 and 2011, 2627 individual ringed by Hungarian made metal ring without clip, and 1094 individual IÖ. Mekaniska metal, 1341 swan has been marked colour tarsus ring, and 524 birds with neck-collar too. The recovery rate of the four different method: Hungarian metal ring 23,9 %, large numbered metal ring with clip 44,3%, colour tarsus ring 71,2%, colour neck-bend 89,1%.

Recapture frequency of the different method ringed individuals also differ. Absolute number of recapture cases Hungarian made metal ring without clip 1055, and Sweden made metal ring 1517, colour tarsus ring 4597 and bird with neck-collar 5420. The most frequently seen swan had neck-collar, and seen in 92 cases during a six year period.

¹ Birdlife Hungary Hungarian Bird Ringing Centre, 1121 Budapest, Költő u. 21. Hungary E-mail: karcza.zsolt@mme.hu

² Balaton Uplands National Park Directorate, 8229 Csopak, Kossuth u. 16. Hungary

³ Budapest Zoo & Botanical Garden, 1146 Budapest, Állatkerti krt. 6-12. Hungary

⁴ Eötvös Loránd University, Department of Anatomy, Cell- and Developmental Biology 1117. Budapest, Pázmány Péter sétány 1/c. Hungary

Kiss Orsolya¹, Tokody Béla, Moskát Csaba: Food availability and breeding parameters of Rollers (*Coracias garrulus*) in two different habitats

Intensification of agricultural practices resulted in decrease of available arthropods and contributed to the decline in populations of farmland and grassland birds. The preservation of remnants of natural grasslands and extensive grassland management may contribute to food availability of insectivorous birds. In this study we compared abundance and seasonal trends in food supply, feeding rate and breeding parameters of the Roller (*Coracias garrulus*), a highly protected insectivorous species, in mosaics of grassland habitat and an extensive, natural grassland. During the nestling period, the combination of pitfall traps and sweep-net sampling was used to estimate arthropod abundance in the study plots. We checked nest-boxes of rollers weekly to determine breeding parameters.

Relative frequency of orthopterans collected by sweep-netting had significant effect on hatching, fledging and reproductive success. The total amount of orthopteran dry biomass collected by sweep-netting was higher in the extensive natural grassland than in the grassland mosaics, but sampling dates had no effect. Seasonal changes of food supply were similar in both habitats and declined during the nestling period. However, arthropod dry biomass, collected by pitfall traps, did not differ in the two sites. Feeding rates differed between the two sites and had effect on fledgling success. Clutch size, number of hatchlings and fledglings, and reproductive success did not differ between the two habitats. Our results supported the idea that mosaic grasslands in agricultural areas may serve as food reservoirs for insectivorous birds.

Kiss Orsolya¹, Tokody Béla: Landscape composition of European Roller's habitats in Southern Hungary

The European population of the Roller declined throughout its breeding range between 1970 and 1990 and the same trend has been representative in Hungary as well. The considerable changing of landscape could be one of the reasons for Roller population decline. The Hungarian agricultural system has changed in the past decades in order to major part of grasslands have turned to intensive cultivated plough-lands. In this study we examined the habitats of European Roller in the Southern-Hungarian region. The data of territory mapping and occupied artificial nest boxes in Csongrad and Bács-Kiskun counties were used to define areas used by Roller. We compared habitat composition of 2.5 × 2.5 km scale Universal Transverse Mercator (UTM) squares containing (1) Roller presence without artificial nest boxes, (2) Roller breeding in known artificial nest box, and (3) no Roller presence was recorded, based on widely available CORINE land cover map of Europe. Although, the agricultural area was the most frequent category, the composition of habitats in three area types differed significantly.

The amount of treeless natural grassland was bigger in those areas, where the Roller breeds (naturally or in nestboxes) than the areas without breeding. The heterogeneous agricultural areas, like complex cultivation (small parcels of diverse crops and pastures), were also important for Roller because its amount was the biggest in squares, where Roller breeds without artificial nest boxes. Our results highlight the importance of heterogeneous land use including natural habitats for the conservation of European Roller in intensified agricultural landscape.

¹ Department of Ecology, University of Szeged, orsolyakiss22@gmail.com

¹ Department of Ecology, University of Szeged, orsolyakiss22@gmail.com

Kovács Szilvia¹, Andrea Harnos, Péter Fehérvári, Tibor Csörgő: Impacts of weather parameters on migrating population of Reed warblers (*Acrocephalus scirpaceus*) in autumn

Environmental processes like weather changes could severely affect population level migratory behaviour. Reed warblers (*Acrocephalus scirpaceus*) are long-distance migrants. The northern populations of the species avoid the Carpathians on migration, thus the local breeding population can be regarded as a Carpathian Basin isolate. Therefore, we presumed that all individuals mistnetted at our study site are from a homogeneous population breeding within the Carpathian Basin.

In the current study we analysed the records of 12000 Reed warblers caught and ringed between 1989 and 2010 during autumn migration at a stopover site (Hungary, Ócsa Protected Landscape Area - 47°29' N 19°20' E) by the volunteers of the Ócsa Bird Ringing Society. Adult (hatched previous years) and juvenile (hatched that year) birds were distinguished by the abrasion of primary feathers, tongue spots and were treated separately. We examined the relationship between weather parameters of the Carpathian Basin and the amount of extra deposited fat, body mass and juvenile/adult rate of the autumn migrant Reed warblers to reveal which meteorological parameters can influence the number of juveniles and the condition of migrating birds. We used the annual mean of weather data from the NCEP/NCAR Reanalysis and NCEP/DOE Reanalysis II datasets. According to our results annual average and minimum temperature of July in the Carpathian Basin negatively correlated with the amount of extra deposited fat and body mass both in case of adults and juveniles. We found the same negative effect of annual average and minimum temperature on juvenile/adult rate. However we could not detect any relationship with precipitation data.

We hypothesize that high temperature data could indicate long drought periods and due to the drought the amount of food could decrease and this effect could be more influencing on survival of juveniles and migrating conditions than large amount of precipitation which could characterize summer storms.

Kulaszewicz Izabela¹, Jakubas Dariusz, Wojczulanis-Jakubas Katarzyna: Biometrical and hematological parameters in the Savi's Warbler *Locustella luscinioides* in relation to sex, age and period of capture

Birds of different sex and age are known to differ in morphology and physiology. Here, we compared body size and stress level between individuals of various sex, age in breeding and/or migration status of a small migratory passerine bird - the Savi's Warbler *Locustella luscinioides*. Birds were trapped in the "Druzno Lake" reserve (N Poland) in 2010 and 2011 during breeding (spring) and post-breeding dispersion/migration (summer) periods. We measured wing-length, head-length, bill-length, claw-length and body mass. We also collected a blood sample for molecular sexing and leukocyte counts [number of heterophils (H), lymphocytes (L), to establish heterophils/lymphocyte ratio (H/L) considered as an index of stress level in birds]. Males were significantly bigger than females in all parameters in both age groups, and that indicates a noticeable sexual size dimorphism. Considering the birds stress level, we found no sex differences but significant differences between age groups, with adults being more stressed (higher H/L) than immatures. Moreover, breeding adults were more stressed than adults during migration, though their stress level decreased in the progress of the migration period.

Lack of the sex differences in the stress level in adults suggests similar effort of males and females during breeding and migration. The age differences in H/L in summer as well as decreasing stress level with the progress of migration in adults suggest a remarkable impact of breeding on the birds' physiology.

¹ University of Gdańsk, Dept. of Vertebrate Ecology and Zoology, al. Legionów 9, 80-441 Gdańsk, izabela.kulaszewicz@wp.pl

¹ Szent István University, Faculty of Veterinary Science, Department of Biomathematics and Informatics, kovacs-szilvia@qatk.szie.hu

Mérő Thomas Oliver, Antun Žuljević: Population size of the Great Reed Warbler *Acrocephalus arundinaceus* in Vojvodina: A new method for estimating population size?

The population size of Great Reed Warbler *Acrocephalus arundinaceus* in 25 countries of the EU is estimated between 240 000 and 460 000 pairs and has been moderately declining in the last four decades. However, we have very little information on population sizes and trends in non-EU countries, in which 84% of the pan-European population breeds. The aim of this study was to estimate population size of Great Reed Warbler for Sombor municipality and Vojvodina province (N Serbia) based on densities of active nest cups. Population estimation based on such detailed knowledge has not yet been carried out in Serbia for any passerines due to the lack of a systematic bird monitoring program. We attempted to cover all reed habitats, and categorized them in five different habitat types: large canals, small canals, mining ponds, marshlands and fishponds, lakes. Nests were surveyed during the entire breeding season from May to August between 2009 and 2011 on 25 localities. Randomly chosen parts of canals (both sides) and fishponds and marsh, and the entire extent of mining ponds was surveyed. For estimating the size of the breeding population of canals in Sombor municipality, we multiplied the mean nesting densities with the total length of the canals. For the other three habitat types in Sombor municipality, we multiplied the nesting density by area of suitable habitats.

The size of the total breeding population for Vojvodina was estimated by multiplying the nesting densities averaged over main habitat types in Sombor with the total area or length of the corresponding habitat type in Vojvodina. We estimated the breeding population in Sombor municipality between 2 300 and 2 600 pairs (average, 2 462 pairs). Nesting population of Great Reed Warbler in Vojvodina was estimated between 31 000 and 35 000 pairs (average, of 32 380). Our estimate suggests that the breeding population in Vojvodina province is approximately 33 000 pairs. Studies that estimate population size based on habitat requirements and availability may be especially important in countries where systematic bird monitoring is poor, as in several countries in Central, Southern and Eastern Europe. This study fills a gap in our knowledge of the population size of Great Reed Warblers from an important, previously not studied part of their range.

Németh Ákos¹, Kiss Orsolya, Tokody Béla: Effect of water level on three reed passerine species' abundance in two different types of wetlands during post breeding and migratory period

In this study, we investigated the effect of water level on abundance of three reed passerine species in wetland habitats. We used data of two different wetland habitats. Lake Kolon is a natural sodic lake where water level is highly affected by the annual rainfall. Fehértó is an artificial fishpond system where the constant water level ensures permanently flooded reed beds. We analyzed capture and recapture records belonging to three species: Moustached Warbler (*Acrocephalus melanopogon*), Reed Warbler (*Acrocephalus scirpaceus*) and Savi's Warbler (*Locustella luscinioides*) during the migratory period between 2003 and 2010.

According to water level of Lake Kolon, we distinguished "dry years" when the water level was low and the reed bed was not flooded from the middle of the studied period, and "wet years" when the water level was significantly higher than in dry years. The number of caught Moustached Warblers was smaller in dry years at Lake Kolon. In case of Fehértó, Moustached Warblers' abundance increased in dry years, but not significantly. The abundance of Reed Warbler was not affected by water level. Savi's Warbler's abundance showed similar pattern than Moustached Warbler. According to our results, the amount of Moustached Warbler was affected by water level and the artificial fishponds with constant water level might play an outstanding role in the migration of this species.

¹ Nature Protection and Study Society - Hatura, Milana Rakića 20, SRB-25 000 Sombor, email: office@natira-sombor.com

¹ akos472@virtualcom.hu

Németh Ákos¹, Karcza Zsolt², Tamás Enikő Anna³, Kralj Jelena⁴, Kalocsa Béla⁵, Madarász Boglárka, Ilic Barisa⁶, Sebastianelli Claudio⁷: Site fidelity of the Moustached Warbler (*Acrocephalus melanopogon*) during migration and wintering

Moustached Warbler (*Acrocephalus melanopogon*) is, as an extraordinary value, a Natura 2000 network species. For the population inhabiting the Carpathian basin, marshes along the Mediterranean coasts provide shelter during migration and a place to spend the winter.

Between 2002 and 2011, we carried out research at 6 locations in 3 countries (Croatia, Greece, Italy) in autumn and winter periods. We investigated the recoveries of altogether 1996 (2004-2011) ringed individuals. Our research shows that the Moustached Warbler shows a high level of site fidelity during migration and wintering as well. This is best shown by our investigations in the 7 ha reedbed near Jesi, Italy, where 26.89% of the ringed Moustached Warblers were recaptured in later years. This ratio is much lower for the Greek (Amvraka Gulf) and Croatian (Neretva Delta, Vransko Jezero) wetlands, this can be partly due to the much bigger size of suitable habitat at these locations.

Moustached Warbler is a very vulnerable species because of its extreme site fidelity, so for its protection, apart from the protection of breeding grounds, the persistence of marshes on its migration route and wintering sites are also very important. The long-term goal of our studies is to contribute to the conservation of the still remaining coastal wetlands of the Mediterranean region.

¹ Kolon-lake Bird Ringing Station, Hungary, akos472@virtualcom.hu

² Hungarian Bird Ringing Centre

³ Eötvös József College

⁴ Croatian Bird Ringing Centre

⁵ MME BirdLife Hungary

⁶ Neretva Delta Bird Ringing Station, Croatia

⁷ Jesi Ringing Station, Italy

Nyúl Mihály¹, Németh Ákos, Madarász Boglárka: Pattern of moult of Savi's Warbler in the Carpathian Basin

The moult of pattern of the Savi's Warbler is very complicated. Unto this day questionable, that as what and which strategy applied moult the several populations. Individual variability makes the examination of the race harder inside the population furthermore. The moulting system of the Savi's Warbler is totally unicity, the individuals of the populations apply more moulting systems.

7772 specimen Savi's Warbler were caught between 1997-2010 at Lake Kolon Bird Observatory. The applied moulting strategies got to an analysis based on these data.

Altogether 309 moulting birds got to examination. The results that way you yield to deduce that more are the adult for the selected strategy of birds than one third the *complete postnuptialis moulting* amounts to it. 90 adult birds showed totally fresh plumage in the migration period an individual applying 21 *abridged moulting* strategies concerned turned up in the course of the examination. The other birds applied suspended moulting or it was not possible to get into nowhere.

Based on the moulting order (sequence) of the remiges onto two groups the birds separated. The first group the so-called one descending sequence observed what is typical of the European songbirds generally. Into the second group according to the eccentric sequence moulting they were found. The useage of the sequences is divided between the sexes based on the results. The descending feather exchange was typical of the males mostly, while the eccentric one was typical of the females. This distinctness maybe onto breeding biology reasons can be leaded back. Onto the demonstration of this additional examination necessary.

The presence of the *polygamy* probable the race, which would explain the different moulting between the sexes. The males can devote more energy to the moulting than the females, if fewer parts are undertaken in the upbringing of the nestlings. Under the examined period, establishing the sex certainly, 293 males and 449 females were caught. The polygamy would explain the lower number of the males.

¹ nyul.mihaly@gmail.com

Özkan Leyla¹, Karaardıç Hakan, Erdogan Ali: Bird Ringing Results of Titreyengöl/Manavgat Ringing Station, Antalya, Turkey in 2011

Aim: Titreyengöl is one of the important stopover site for migratory birds and also a lot of bird species breed at Titreyengöl. This study aimed to determine the migration phenology of migrants, especially long-distance migrants and to understand yearly and long-term changes on populations and/or species.

Methods: This study have been started 2010 autumn. Ringing studies done between 2nd Sempember and 11th October. We used to catch birds 11 mist-nets, which set up near river along the bushes. Birds were aged and sexed by plumage colouration according to Svensson (1992), measured maximum wing length to the nearest 0.5 mm after Svensson (1992) and weighed to the nearest 0.1 g.

Results: 489 birds from 26 species were caught in this season. The most caught birds are Reed Warbler (*Acrocephalus scirpaceus*), Great Reed Warbler (*Acrocephalus arundinaceus*), Kingfisher (*Alcedo atthis*), Willow Warbler (*Phylloscopus trochilus*), White Spectacled Bulbul (*Pycnonotus xanthopygos*), Red-backed Shrike (*Lanius collurio*) and Graceful Prinia (*Prinia gracilis*) respectively

Conclusion: We recorded 141 bird species in observation results. 11 bird species of the avifauna are A.1.2 criterion of the Türkiye Red Data Book List, and 1 bird species is B.1.2 criterion. Titreyengöl, located in Manavgat, must be protected for two main sensitive features: 1) one of the important stopover area for migrants, specially long-distance migrants, before or after to fly over the Mediterranean, and 2) at Titreyengöl a lot of bird species breed and most of them must be under protection

¹ PhD Student, leylozkan@akdeniz.edu.tr

Pocora Viorel¹, Iorgu Stefan Ionut, Popovici Mariana: Feeding of the Little Owl (*Athene noctua* Scop., 1769) during nesting season in Danube Delta (Romania)

The feeding of Little Owl was studied based on 100 pellets collected near Letea village, in the Danube Delta. Pellets were collected near the nest, each month from March until June 2009 and in the owl's diet, several species of insects, mammals and birds were identified.

The highest percentage is represented by insects, with species belonging to Coleoptera (90.84%) and Orthoptera (9.15%) orders. Among the Coleoptera, 10.7% are Melolonthidae species, 3.52% Dytiscidae species, 1.25% Scarabeidae species and 85.13% unidentified species. In Orthoptera, 95% of preys are Gryllotalpidae species and 5% are Tettigoniidae species.

Among Mammals, the Rodents represent the favorite prey. Adult individuals of *Micromys minutus* make up the main diet, with more than 60% of total identified Rodentia species. Some bone leftovers were identified as belonging to the species: *Microtus arvalis*, *Mus musculus* and *Apodemus agrarius*.

Birds hold a small percentage of Little Owl's diet, only two species being identified: *Motacilla alba* and *Passer montanus*.

¹ Alexandru Ioan Cuza* University of Iasi, Romania, Faculty of Biology, viorelpocora@gmail.com

Sarlós Dávid¹, Mátrai Norbert, Lenczi Mihály, Csörgő Tibor:
Site fidelity of the adult Great reed warblers (*Acrocephalus
arundinaceus*) in an old fish-pond system area, Hungary

The dispersion phenomenon bears great importance as far as evolution biology, ecology and conservation biology is concerned, as it has a central role in the colonization and the genetic flow of the new areas.

Eighty five adult Great reed warblers (*Acrocephalus arundinaceus*) were ringed at the breeding period (between 24 April-20 July) in 2007-2011 at Babatpuszta (30 ha old fish-pond system near Gődöllő), and data of ringed birds were collected within 10 km. At the beginning of the breeding season (24 April-20 May) we defined the territories of the arriving birds, we ringed (both metal and colour rings were used) the new birds and controlled the colour ringed birds.

From the annually estimated number of territories and the number of ringed birds in reality it can be concluded that on average 76% (60-97%) of the breeding birds were caught during the studied period in the area.

The questions of study were: how strong the adult birds's site fidelity, the short-term dispersion and the territorial fidelity of the local breeding birds.

The 17,6% (15) of the ringed birds were recovered in the following year/years at the studied area or in the vicinity of 10 km. Most of them (94%) were recovered inside the area of the fish-pond system, and only one was recaptured 3.5 km from the ringing place. The 46% (7) of the recovered birds were detected two or more consecutive years.

The 33% (7/21) of the birds showing very exact breeding site fidelity, their new territory overlapped with the previous year territory.

The 67% (14/21) of the recaptured birds taking into consideration the previous year's territory, occupied the new territory on an average of 573m (SD= 336.4) away. Because the area of the fish-pond system is the only good quality habitat in this region for the Great reed warblers, therefore the breeding site fidelity of the birds is relatively high.

We concluded, the key factor of the territory shifts is the previous year's territory occupancy at the time of arrival.

¹ Szent István University, Department of Zoology and Animal Ecology, 2100 Gődöllő, Péter Károly utca 1., sarlosd@freemail.hu

Saygılı Fulya¹, Nuri Yigit: Allozyme variations of Three
Passer species in western Turkey

In this study, *Passer domesticus*, *Passer montanus* and *Passer hispaniolensis* belong to the Passer species in Turkey were analyzed genetically. Genetic variation was assessed using isozyme systems and six of twenty-three loci (Ca, Ck, Est, G3pdh, Idh-s and Idh-m) were found to be polymorphic, and also G3pdh separated *P. montanus* from the other two species. Mean polymorphic locus (p) was determined for *P. domesticus*, *P. montanus* and *P. hispaniolensis* as %15.05, % 13 and %18.83 respectively. Mean FST values that were measured from the allelic frequencies *P. domesticus* (0.2043), *P. montanus* (0.1710) and *P. hispaniolensis* (0.1363), and Nm values from these results 0.9737, 1.2120 and 1.5842 showed low gene flow between these subpopulations of the 3 Passer species.

¹ Niğde University, fsaygili@gmail.com

Tamás Ádám¹, Agócs Péter: Survey of waterbird populations on the Danube reach between Dunaföldvár and Baja

The Danube is by far Hungary's largest and diverse river system. In length it's a staggering 2860km being only surpassed in Europe by the Volga. In Hungary, this section of the river holds the catchment basin with length of 417 Rkm. This significant section of the River Danube is an important bird habitat (IBA), especially in terms of migrating and wintering bird species.

In our study, we have surveyed the 81 kilometre long section between Dunaföldvár and Baja is documented, which is part of the Tolnai Duna Natura 2000 (HUDD20023) and Gemenc Natura 2000 (HUDD20032) areas. The Gemenc's section is one of the 54 Important Bird Area's and also known as an important Ramsar site. The monitoring work has been ongoing since 2005. When we began our work, very few records were available due to a lack of censuses. The survey was carried out from a ship, undertaken every mid-month in accordance with the Hungarian waterbird monitoring protocol. Our records were noted km by km during the censuses, gathered in a database for later analysis.

From its inception right through to 2011, a total of 401,321 individuals records have been amassed of which 83 waterbird species were recorded. The majority of counted birds consist of dabbling (*Anas*) ducks and diving (*Aythya*) ducks. Amongst diving ducks, Goldeneye (*Bucephala clangula*), Common Pochard (*Aythya ferina*) and Tufted Duck (*Aythya fuligula*) were dominant in terms of quantity. Cormorant (*Phalacrocorax carbo*) and Mallard (*Anas platyrhynchos*) proved to be the most common and dominant species in all seasons. Mallard's occurrence was 100% during 64 days of the survey and had 77% amount of all observed birds. Many rare or scarce bird species were also observed such as Pomarine Skua (*Stercorarius pomarinus*), Great Skua (*Stercorarius skua*) Common Scoter (*Melanitta nigra*). A pair of Red Kite (*Milvus milvus*) as a rare breeder in Hungary was discovered due to our regular surveys.

In some seasons the number of waterfowl species and their quantities were defined by some environmental factors such as air temperature and water level. Our study provides a detailed insight into the research methodology, results and conclusions and might give a potential use for nature conservation or further studies.

¹ MME BirdLife Hungary, skua85@gmail.com

Tamás Ádám¹, Cabau Gerard Bota, Jonama David Giralt: Does the colour and type matter? Effects on readability of different White Stork (*Ciconia ciconia*) colour ring schemes and consequences on resighting

The use of colour rings and other individual markings has become a common tool for bird studies in the last few decades, aiming to analyze migratory movements, survival rates, ethological aspects, breeding biology, etc. The engraved colour rings have a combination of colour alphanumeric codes that allows individualizing and identifying each bird from far distance, avoiding recapture of the individual and increasing the recovery rate with fewer disturbance. One of the assumptions in capture-recapture analysis is that all birds should have the same probability of recapture or resighting in relation to its type of mark. This assumption can be violated in studies focusing on species populations bearing different marks from different countries or ringing schemes. The objective of this study is to analyze the effect of ring type (size and colour) and sighting distance on the readability and resighting rates of a wintering White Stork population in Catalonia (NE Spain). The two main and currently used colour rings on White Stork programs in Europe are the black ELSA rings and the white engraved rings. Big concentration of wintering White storks coming from different countries on a rubbish dump, gave us a good opportunity to make a great amount of stork readings at the same site and moment, thus allowed contrasting the effect of black ELSA and white rings type in terms of readability and recapturing probability. So far no studies have been published which deal with any kind of comparison of two main types of the currently used rings on White Stork. Assuming no differences of movements during study period (Nov. and Dec. 2010) regardless of stork origin, we found that both sighting distance and type of ring affect significantly on resighting probabilities, being higher on white ringed storks. Different implications and value of our results are: 1) in the context of European stork ringing scheme, white rings are more favourable than black ELSA rings as they are easier to read from further distances 2) studies of capture-recapture dealing with animal populations with different type of rings/marks should consider this factor as well as distance in their analysis to correctly estimate survival and/or site fidelity.

¹ Biodiversity and Animal Conservation Lab, Biodiversity Department, Centre Tecnològic Forestal de Catalunya, Spain

Türker Isinsu¹, Yigit Nuri: Comparative skeleton anatomy between *Pica pica* (L. 1758) and *Garrulus glandarius* (L. 1758) (Aves: Passeriformes)

In this study skeletons of *Pica pica* and *Garrulus glandarius* individuals were examined and compared for identification of bird species from bones as metric and non-metric. In this context the concerning some skeletal bones (cranium, mandibula, quadratum, sternum, coracoid, furcula, scapula, humerus, ulna, carpometacarpus, phalanx, pelvis, femur, tibiotarsus, tarsometatarsus) of both species (118 metric, 67 non-metric) were analysed with appropriate statistical methods (Principle Component Analyses, Discriminant Function Analyses, Mann-Whitney U Test). According to the results though 11 metric characters from tibiotarsus, cranium, pelvis, phalanx, ulna, carpometacarpus, femur and sternum values were high to Principle Component Analyses (PCA). These results were congruent with the outputs of DFA. In non-metric characters, rim of processus maxillaris on nasal bone, ventral ridge of ramus mandibulae, proocculus orbitalis on quadratum and the rostrum sterni on sternum were found as the most distinctive characters to Mann-Whitney U Test.

¹ su.turker@hotmail.com

Vas Zoltán¹, Fuisz Tibor I., Rácz Róbert, Pólya Sára, Rózsa Lajos: Distribution and transmission of lice (Insecta: Phthiraptera) on the European Bee-eaters (*Merops apiaster*) - preliminary results

European Bee-eaters are insectivorous migratory birds, breeding in colonies along sandy banks, nesting in a relatively long tunnel burrowed by the pair. These birds also feed and roost communally, and have a complex social life. These conditions - through the frequent physical contacts among individuals, which result high prevalence and intensity of parasite infestations - make them an excellent model species for parasitological studies.

We started a field study in 2011 to explore the distribution of louse infestation among Bee-eaters and its shaping factors, and particularly the ecological and evolutionary adaptations of these parasites to the host's life history. Lice are obligate ectoparasites; they complete their entire life-cycle on the body surface of the host, feeding mainly on the feathers and skin debris. They affect both life expectancy and reproductive success of the hosts. Bee-eaters harbour 3 louse species (1 Amblyceran and 2 Ischnoceran) specialised for different habitats and resources of the hosts. We assumed that Amblyceran and Ischnoceran species evolved different strategies and timing to transmit from parents to chicks during the breeding season.

The fieldwork was carried out at two localities in Hungary: at a relatively big colony (Szentendrei Island, Pest County) and at a small one (Nagykarácsony, Fejér County), during the breeding season in 2011. The birds were caught with mist nets, ringed and measured, and we sampled their ectoparasites using a pyrethroid dust applied on the whole plumage. The collected ectoparasites were later identified.

In this pilot year of the study, we found some interesting preliminary results. (1) The intensity of louse infestation significantly differed between the two colonies, and (2) it seems that Amblyceran and Ischnoceran lice use different strategies and timing in transmission to the chicks before fledging. Our results have to be confirmed with bigger sample size in the future.

¹ Szent István University, Faculty of Veterinary Science, Department of Biomathematics, Hungarian Natural History Museum, Bird Collection; vas.zoltan@gmail.com

Yavuz Mustafa¹, Karaardıç Hakan, Özkan Leyla, Erdogan Ali,
Vohwinkel Reinhard, Prunte Werner, Solak Hatice Öznur:
General View to the *Acrocephalus* Warblers' Eastern
Migration Phenology on South Turkey, between 2002-2006
and 2009-2011

Recent years studies on songbirds and their migrations are increased. Although, Turkey has important geographical position to connecting three continents and two important migration ways pass from Turkey, there is restricted information about migratory species and their migration. On the other hand, there is an increasing on studies about migratory birds and their migration phenology to determine the protection statues of natural areas and to understand migration behaviors. *Acrocephalus* Warblers are important long-distance migratory songbirds and Turkey is one of the most important eastern migration route for them. We aimed to determine the migration phenology of the *Acrocephalus* Warblers. This study was done 2002-2006 at Titreyengöl, 2009-2011 at Boğazkent Antalya during migration. Ringing studies started in spring between 15th March and 11th May, and autumn between 20th August and 10th October. We used to catch birds first 4 years 22 mist-nets, and last 3 years 13 mist-nets, which set up near river along the bushes. Birds were aged and sexed by plumage colouration, measured maximum wing length and weighed. We captured 7 *Acrocephalus* Warbler *Acrocephalus scirpaceus*, *A. schoenobaenus*, *A. arundinaceus*, *A. palustris*, *A. melanopogon*, *A. agricola* and *A. dumetorum*, respectively. They started to migrate middle March by the 10th May in spring and end of August by the end of October in autumn migration seasons. There are significant differences between Reed and Marsh Warbler in spring migration phenology; Reed Warbler started to migrate middle March, on the other hand Marsh Warbler started the next half of April. Migratory birds spend much more time on their stopover sites between their nocturnal non-stop flights. When we look at recapture Data of some *Acrocephalus* Warblers, both migration period they stayed more than 2 days and they increase their body mass between %10-40. Stopover sites are important to rest and upload energy to reach their breeding areas. In south Turkey, after a long flight over Mediterranean sea in spring and also before in autumn, these stopover areas have quite importance. Here, there's a need to protect these areas with multiple collaboration of government, municipalities and civil associations.

¹ myavuz2006@gmail.com