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Congress**

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PLENARY, IEOC_001

DNA ANALYSIS- PHYLOGENY, PHYLOGEOGRAPHY, GENOMICS & TRANSCRIPTOMICS

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DNA analysis has become an important tool in most biological and medical disciplines. This is also true for ornithology. Since more than 25 years avian biologists use DNA markers to study the evolution, phylogeny, systematics, phylogeography, physiology, social systems and development of birds. Markers include DNA sequences, genome sequences, RNA sequences (transcriptomes), microsatellites and other PCR methods. In this talk the main methods and application of DNA analysis of birds will be introduced. The new avian genomic trees of life will be shown and problems and implications will be discussed. Kraus R.H.S., M. Wink 2015. Avian genomics – Fledging into the wild! *Journal of Ornithology*, 156, 851-865

Key words: Phylogeny, phylogeography, genomics & transcriptomics

PROJECT “LIFE TRACK” – LARGE SCALE TRACKING OF WHITE STORKS ON THREE CONTINENTS

WOLFGANG FIEDLER

GERMANY

The White Stork *Ciconia ciconia* is one of Europe’s most popular migrating birds. More than a hundred years of research, based on bird ringing and observations, revealed a good base for intensive modern studies of bird migration in this species. In recent years far more than 200 White Stork nestlings of 12 different populations in Europe, Africa and Asia have been studied by our institute with collaborators through high resolution tracking devices. The main question is how genetics, ontogeny, social behavior, individual experience and environmental factors play together and shape the migration behavior as well as survival and fitness of a migrating bird in general. White Storks that breed roughly east of river Elbe in Germany migrate on the eastern flyway that concentrates around the Bosphorus and then again between the Gulf of Iskenderun and the Nile valley. Even western Russian storks use this flyway while storks from Armenia winter in Mesopotamia. Surprisingly, storks from Uzbekistan do not migrate at all. Movement strategies of non-breeding young storks before their third or sometimes fourth calendar year show a high degree of variation that spans from staying in the wintering ground to returning to the breeding grounds or even overshooting them to regions further north. Late migrants sometimes skip migration when still in Europe, stay there for the winter and then resume normal migration to eastern Africa in the following year. The latest generation of GPS loggers allows high resolution sampling of up to one coordinate per second and it also records acceleration data in three axes. This enables us to calculate a correlate of energy expenditure for various migration strategies as well as a close look into behavioral categories and reasons of death. In a small sample of storks also heart rate is recorded during the migration flights. In the talk general patterns and remarkable exceptions of migration strategies of white Storks are presented. The internet app “Animal Tracker” will be shown that enables the public to follow the storks on the smartphone and help to retrieve loggers of birds that died. Through this tool it is also possible to submit observations of logger storks, for instance whether they are in a group, what they feed or whatever is of additional interest to understand the tracks of the animals.

Key words: White Storks, Tracking

ECOLOGICAL MONITORING ON REVITALIZATION OF FLORA AND BIRD-FAUNA AT THE TARIM

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The Tarim River, located along the Taklamakan Desert in Xinjiang, Northwest China, is about 1320 km long and thus one of the longest continental inland waterways in the world. The riparian Tugay forests at the Tarim is an important ecosystem that offers crucial wetland habitats for several plant and bird species. However, the multifunctional river habitats and its biodiversity are suffering from water shortage due to climate change and human activities. As a result of the rising water consumption for cotton production and massive hydro-technical interventions in the upper and middle reaches of Tarim River, the lower reaches (ca. 320 km) has been cut off since 1970, this resulted in the degradation and shrinkage of riparian forests, small lakes and water bodies around the river was also decreased, this caused the loss of many bird species relying on these habitats. For ecological restoration of this damaged river ecosystems, the Chinese government has started “Emergency Water Diversion” to the lower Tarim River since 2000. Today, with the implementation of this artificial water transfer project, the riparian forest began to recover, and certain area of wetlands formed which creates habitats, thus, some plant and bird species has migrated back to this area. This revitalization process of local flora and fauna needs efficient and extensive long-term monitoring. In this thesis, current restoration measures as implemented to date are presented and eco-hydrological dynamics of riparian ecosystems as a function of man-made water diversion are analyzed. The results of our Sino-German research project showed that: (a) the impact of climate change and human activities on the flora and bird-fauna of the riparian ecosystem is huge; (2) man-made water diversion practices must be sustained in order to guarantee the further formation of habitats; (3) in the meantime, protective measures for the rare plant and animal species in general and the wetland habitats at the Tarim River are urgently needed.

Key words: Riparian ecosystem, habitat, bird-fauna, artificial water diversion

A COMPARATIVE STUDY OF THE DIURNAL BEHAVIOUR OF THE NORTHERN SHOVELLER (*ANAS CLYPEATA*) DURING THE WINTERING SEASON IN TWO WETLANDS (NORTHEAST ALGERIA AND ALGERIAN HIGHLANDS).

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The rhythms of the Northern shoveller's (*Anas clypeata* Linnaeus, 1758) activities during its wintering period in 2 wetlands, Garaet Hadj-Tahar (North-East Algeria) and Garaet Timerganine (Oum El-Bouaghi, Algerian highlands), were studied during 2 wintering seasons in Garaet Hadj-Tahar from November 2007 to March 2008 and November 2008 to March 2009, and in the Timerganine wetland from November 2007 to March 2008. They were linked to certain spatiotemporal variables, i.e. daytime activities and 2 different wetlands. During the wintering season, the main activity at Garaet Hadj-Tahar was sleeping (70%), followed by swimming (12%). By contrast, feeding was the dominant activity at Garaet Timerganine, occurring 45% of the total monitoring time, followed by sleeping (35%). The frequency of the behaviours did not differ significantly between the sites as a function of the date ($P > 0.05$). The choice of the site was made according to either the feeding resources or the resting place. These factors are therefore essential and highlight the importance of the protection of the sites where the species is concentrated outside of the breeding period.

Key words: Northern Shoveller, wetlands, wintering, season activity budget, behaviour

**HABITAT PREFERENCES OF CO-OCCURRING RED-BACKED SHRIKE
LANIUS COLLURIO AND BARRED WARBLER SYLVIA NISORIA
BREEDING IN NORTHERN POLAND**

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The aim of the current study was to examine distribution and habitat preferences of the red-backed shrike *Lanius collurio* (RBS) and the barred warbler *Sylvia nisoria* (BW) breeding in the ecotone zone between wetlands and agricultural landscape. Territories of RBSs and BWs (with probable/certain breeding category) were established along transects (total length 32 km, based on regular controls). To examine habitat preferences, proportion of habitat types between average territory of each species and the study area was compared. In total, 74 territories (2.3/10 ha) of RBS and 35 (1.1/10 ha) of BW were found. Most of BW territories (71%) overlapped with RBS territories; only 34% of RBS territories overlapped with those of BW. Despite of similar habitat preferences, there were some differences. RBS compared to BW stronger preferred single trees (Jacobs preference index: 0.57 vs. 0.45, respectively) and fallows (0.36 vs. 0.26). BW compared to RBS more often chose woodlots (0.39 vs. 0.03), levees (0.48 vs. 0.26) and bushes (0.38 vs. 0.21). Both species avoided anthropogenic areas, water and wetlands. Obtained results indicate, that the study area is the optimal breeding habitat for RBS and BW and both species can coexist if only given conditions of habitat are met.

Key words: Habitat types, Ecotone zone, Agricultural landscape, Inter-species overlap, Habitat preferences

ASPECTS OF THE BREEDING ECOLOGY OF THE PURPLE SWAMPHEN (*PORPHYRIO PORPHYRIO*) IN THE WETLAND COMPLEX OF GUERBES-SANHADJA (NORTHEAST ALGERIA)

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The Purple Swamphen (*Porphyrio porphyrio*) is a common rail that has been little investigated in North Africa. To present some aspects of the breeding ecology of the Purple Swamphen in two natural wetlands located in Northeast Algeria (Garaet Hadj Tahar and Garaet Messaoussa), during two subsequent years (2011-2012), weekly visits were carried out in both sites between February and June in order to survey active nests until hatching. The metric parameters (height, depth, external and internal diameter) related to nests were measured to determine which variables are likely to influence the breeding success of the species. The peak number of individuals was recorded during the breeding season in both sites. Egg laying started in early March while hatching started in late March. Egg size and weight were significantly different between years and sites. Most nests were installed in relatively dense tufts of *Typha angustifolia* and *Phragmites australis*. The mean clutch size was 2.75 ± 0.70 eggs and it was not significantly different between sites and years. Mean hatching success was 50.84% and it was positively correlated to nest depth only at Garaet Hadj Tahar.

Key words: Purple Swamphen, rail, reproduction, ecology, breeding success, Algeria.

AVIFAUNA OF KARAÇOMAK DAM LAKE IN KASTAMONU, TURKEY

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Recently, 482 bird species have been recorded in Turkey. Four out of 482 bird species introduced by humans. Seventyeight species are rare/accidental and 14 species are globally threatened. Turkey is known to have a lot of suitable wetlands for birds and their nutrition activity. This study was conducted from February 2015 to February 2016 at Karaçomak Dam Lake located in Kastamonu to determine wetland bird species of the study area to contribute the inventory of avifauna. Observations were carried out by using camera, spotting scope and binoculars. Field surveys were performed once a month. Observations were made from sun rise to sun set in a day. In this study, bird species and numbers varied depending on time during the day and season. Sixteen bird species from 9 family were observed in the study area. As a result of this study, *Ardea cinera* (Ardeidea), *Anas platyrhynchos* (Anatidae) and *Phalacrocorax carbo* (Phalacrocoracidae) have been most observed species. *Tadorna ferruginea* (Anatidae), *Ardea purpurea* (Ardeidae) and *Egretta garzetta* (Ardeidae) have been less observed species. *Ardea cinera* (Ardeidea) has been the most observed species in a whole year.

Key words: Wetlands, Birds, Kastamonu

BIRD DIVERSITY OF GUNUNG TAMBORA NATIONAL PARK, NUSA TENGGARA BARAT

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Gunung Tambora National Park (GTNP) is a new national park it was declared on April 2015. Limited data base of bird diversity for managing GTNP must be exploration. This study aimed to increase our knowledge of the birds diversity and its importance in GTNP. The data was collected by dividing GTNP region into two areas, Doropeti and Kore. We surveyed the birds using point counts and line transects with variable widths. The species list was analyzed using the MacKinnon list technique. Bird diversity was analyzed using dominance index, diversity index, species richness index, and index of evenness. We found 38 species during this study, 37 species classified as Least Concern and one species (*Ficedula dumetoria*) classified as Near Threatened by IUCN, 4 species listed category by CITES and 6 species protected by Government Regulation No. 7 1999. The species with the biggest dominance index in Doropeti was Ruddy Cuckoo Dove (*Macropygia emiliana*) (18%) and in the Kore was Glossy Swiftlet (*Collocalia esculenta*) (33%). The diversity index 2.6 and 2.3 in the Doropeti and Kore areas respectively, while the species richness index is 3.6 in the Doropeti and 4.2 in the Kore. The Index of evenness of the birds in the Doropeti was 0.84 and 0.72 in Kore. There is still a possibility that unknown species lives at GTNP because the MacKinnon curve is still accruing at the end of observations. We conclude that GTNP is an important site for bird diversity and it is important that the forest is protected to prevent possible extinctions occurring.

Key words: Biodiversity of Bird, ecological analysis, key biodiversity area, Nusa Tenggara Barat

CAN FOOD CACHING INCREASE FREQUENCY OF CHICKS' FEEDING OF ELEONORA'S FALCON IN ISLAND MOGADOR (ESSAOUIRA, MOROCCO)?

HAMID RGUIBI IDRISSE, BOUCHRI HAYTEM , SCHAMEL ABDENBI & URIOS VICENTE
HAMID RGUIBI IDRISSE, BOUCHRI HAYTEM , SCHAMEL ABDENBI : EQUIPE DE RECHERCHE

"VALORISATION DES RESSOURCES NATURELLES ET BIODIVERSITÉ", UNIVERSITÉ CHOUAIB DOUKKALI, FACULTÉ DES SCIENCES, BP 20, EL JADIDA, URIOS VICENTE : TERRA NATURA BIOLOGICAL STATION, VERTEBRATES ZOOLOGY RESEARCH GROUP, CIBIO, UNIVERSITY OF ALICANTE, APDO. 99, E-03080

We studied the behavior of Chicks' Feeding of Eleonora's falcon during the breeding period in the Island of Mogador by the use of traps cameras. Continuous video camera observations of the Eleanor's nest situated in Mogador Island (Essaouira, Morocco) during breeding season (August-October 2015) showed presence of a surplus prey (mainly migrants passerines) stored in the nest and its close vicinity. During the first three weeks in August of the nestling period, chicks were fed this prey, and the frequency of feedings was higher than the frequency of prey delivery. Analysis of our photos and videos data showed that the adults falcon first select the hunted birds. They give chicks, the birds that have lots of fat during the first weeks. Eleonora's falcon do not keep live birds in the stones. Daily pattern of prey deliveries observed in Island Mogador differ

Key words: Food Caching, Chicks' Feeding, Eleonora's falcon, Island Mogador, Morocco

COMPARATIVE STUDY OF THE DIET OF RAVEN CORVUS CORAX (AVES, CORVIDAE) IN TWO REGIONS IN ALGERIA

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The purpose of this study is to compare the trophic menu of common raven between two different regions in Algeria, based on the analysis of pellets. Following this study 2718 preys belong to 7 classes. These preys are spread over 7 classes. The class that is dominated those of Insecta with a rate of 93.4% in Laghouat and 80.3 % in Djelfa. Within this class, *Plagiographus hieroglyphicus* (17.03%) dominated the diet in Djelfa and *Messor arenarius* (33.41%) in Laghouat.

Key words: *Corvus corax*, trophic menu, Djelfa Laghouat, Algeria

CONSERVATION OF MIGRATORY WATERBIRDS THROUGH
COASTAL KEY CONGREGATORY SITES PROTECTION IN THE RED
SEA AND ARABIAN GULF OF SAUDI ARABIA

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The Kingdom of Saudi Arabia is an important ornithologically, both for its resident birds as well as for migrants and is on important north-south and east-west migratory pathways. The area serves as an important stop for birds migrating from Asia to wintering spots in Africa and from wintering quarters in Africa to breeding ranges in Europe and western Asia. There are 30 sites identified, where waterbirds congregates in significant numbers and most of these water bodies are on the coasts of Red Sea and Arabian Gulf. These coastal wetlands support internationally important populations of breeding seabirds, wintering shorebirds, breeding turtles, dugongs, fish and a vast array of corals and other invertebrate taxa. The key congregatory species are: *Bubulcus ibis ibis*, *Calidris alpina centralis*, *Charadrius alexandrinus alexandrines*, *Charadrius leschenaultii crassirostris*, *Ciconia ciconia ciconia*, *Dromas ardeola*, *Egretta gularis schistacea*, *Himantopus himantopus himantopus*, *Larus fuscus fuscus*, *Larus genei*, *Larus hemprichii*, *Phalacrocorax carbo sinensis*, *Phalacrocorax nigrogularis*, *Platalea leucorodia archeri*, *Plegadis falcinellus falcinellus*, *Recurvirostra avosetta*, *Sterna bengalensis bengalensis*, *Sterna bengalensis par*, *Sterna bergii velox*, *Sterna caspia caspian*, *Sterna nilotica nilotica*, and *Tadorna tadorna caspian*. These species are found mainly on 14 sites in large numbers, which are Abu Ali, Ad Darb Mangroves, Gulf coast, Farasan Islands, Jiddah south corniche and port, Jizan Bay, Jubayl Lagoons = Sabkhat al Fasl, Makkah by-pass pool, Red Sea shore: (Southern) Jeddah to Jizan, Sawarma, Tarout bay: Alawaymiyah & Safwa Mangroves, Tarout bay: North East, Tarout bay: South (Incl. Sana! bis South), and Wadi Jizan dam = Malaki. These sites have been monitored opportunistically and regular systematic monitoring system will be in place that will be helpful in assessing migratory bird population assessment. We present the status of the birds their numbers, sites and conservation issues to these sites. We are in touch with the Wetlands International for waterbird monitoring and provided data for the Atlas of waders book. Most important bird, which is one of the globally threatened one is Bald Ibis *Geronticus*

eremita has been using the Red Sea costal areas in Saudi Arabia on the way to Africa and regular site assessment and public awareness is regularly done to protect this bird. These 30 most important sites mainly 14 of them as mentioned above are subject to high pressure from expanding commercial and industrial fisheries, and many former fish nurseries have been lost to coastal reclamation from industrial, residential and recreational facilities. The Gulf has lost over 40% of its inter-tidal area to development, and the Red Sea 8%. Burgeoning human populations in the Gulf and Jeddah, Jizan and Yanbu areas on the Red Sea are resulting in considerable pollution from domestic sewage and industrial discharges. Saudi Wildlife Authority has increased its efforts to conserve these sites for resident and migratory species and proposed to have the 20km off coastal area protection for birds and other taxa.

Key words: Waterbird congregatory sites in Saudi Arabia, coastal wetlands of Red Sea and Arabian Gulf, Waterbirds monitoring

DEMOGRAPHIC PATTERNS OF INVASIVE PARROTS IN EUROPE

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Alien species are currently considered one of the major threats for biodiversity. A number of alien species have become widespread and their impact ranges from displacing local fauna to decreasing agricultural production. Among 12 established alien species of parrots in Europe, Rose-ringed Parakeets *Psittacula krameri* are the most abundant. However, increasing empirical evidence suggest this species has a negligible impact on local avifauna. Since 1970's Rose-ringed Parakeets have established in more than 100 urban centres across the continent. In Western Europe, a number of long-term census programs have monitored population trends: the species has grown considerably in numbers, yet some subpopulations failed. Valuable demographic data exists, but independent from one another. During our study, we collated these data and updated the status for 90 populations of Rose-ringed Parakeets in 10 countries. Furthermore, we obtained information regarding the species presence in 27 European countries, for which no data was previously available. Information was extracted from published papers, regional bird-atlases, grey literature or experts from the region were contacted. Our data synthesis reveals a positive demographic trend across the continent, with Rose-ringed Parakeets in Southern countries spreading more rapidly than populations in West and Central Europe.

Key words: demography, Europe, invasive alien species, parrots, population, *Psittacula krameri*, Psittaciformes

DEVELOPMENT OF WINDFARMS IN MOROCCO: LANDSCAPE AND BIRDS

HADI HOUDA, SCHAMEL ABDENBI, SALHI FOUAD, URIOS VICENTE & RGUIBI IDRISSE, HADI HOUDA & RGUIBI IDRISSE HAMID

EQUIPE DE RECHERCHE: VALORISATION DES RESSOURCES NATURELLES ET BIODIVERSITÉ\ UNIVERSITÉ CHOUAIB DOUKKALI, FACULTÉ DES SCIENCES, BP 20, EL JADIDA, MOROCCO, SCHAMEL ABDENBI: LABORATOIRE BIOCHIMIE, NUTRITION ET VALORISATION DES RESSOURCES NATURELLES, UNIVERSITÉ CHOUAIB DOUKKALI, FACULTÉ DES SCIENCES, EL JADIDA, MOROCCO, SALHI FOUAD: DÉPARTEMENT DE GÉOLOGIE, UNIVERSITÉ CHOUAIB DOUKKALI, FACULTÉ DES SCIENCES, EL JADIDA, MOROCCO, URIOS VICENTE: TERRA NATURA BIOLOGICAL STATION, VERTEBRATES ZOOLOGY RESEARCH GROUP, CIBIO, UNIVERSITY OF ALICANTE, APDO. 99, E-03080, ALICANTE, SPAIN

Landscape and birds conservation are important blockers in wind power projects. We followed birds, birdwatchers and wind power developers in their attempt to develop such a project in Morocco. We focused on the different impacts of a windfarm on birds. We showed that the process by which such a wind power landscape is composed engages birds into successive translations, which ultimately translate bird intelligence in composing with the wind into a quality of the landscape. As a result, we founded that the nature of the landscape and the positions of wind turbines are very important factors to take in account in windfarms development

Key words: Landscape, windfarms, birds conservation, Morocco

ECOLOGICAL FEATURES OF LONG-LEGGED BUZZARD *BUTEO RUFINUS* (CRETZSCHMAR, 1827) IN KIRIKKALE (TURKEY)

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This study, composed of 178 days field work, was performed during 2010-2012 in Kırıkkale (Turkey) and aimed to shed some light on the ecology of Long-legged buzzard (*Buteo rufinus*) in the area. Habitat preference, some aspects of population size and breeding features of the species were investigated. The breeding activities were found to begin in March, and newly hatched chicks were observed in May. In June, offspring began flying exercises in the nest. We observed that the species competes with fish eagle (*Pandion haliaetus*), buzzard (*Buteo buteo*) and magpie (*Pica pica*). Food preference of long-legged buzzard includes vole (*Microtus sp.*) and various species of snakes. The species have a very low population size. During the study period species was observed 120 times, and a maximum of 12 individuals were counted in a day. While the total number of individuals in the period 2010-2011 encountered was 201, it decreased to 154 between 2011 and 2012. Long-legged buzzard is a native species in Turkey and its conservation status is low-risk (LC) according to IUCN standarts.

Key words: *Buteo rufinus*, Long-legged buzzard, Ecology, Kırıkkale, Turkey

ECOLOGY AND DISTRIBUTION OF URBAN BIRDS IN A CONTINENTAL CITY

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The urban environment birds are rarely studied in Algeria. We intend to make a contribution to the study of the avifauna species. We surveyed 30 species at the town of Oum El Bouaghi during the years 2013 ; 2014 in 30 stations including 84 listening points. According to the recovery of the soil, we have three types of habitat: gray -Built, green-built and urban forest. -the gray buildings with total richness of 18 avifauna species, They comprises 12 accidental species, 2 ubiquitous species, 2 accessories species, 1 constant and 1 regular species. The urban forest is characterized by a rich avifauna of 22 species, it has 10 ubiquitous species, 5 accidental species, 4 regular species, two constant and one accessory species. The green buildings consists 27 avifauna species where the highest richness, which 11 species are accidental, 9 species accessories, 4 ubiquitous, 2 Regulars 1 constant. The population of the gray built environment is more homogeneous than the green built environment and the urban forest populations. The homogeneity of the medium resulting in a low total wealth or there is a strong competition. Furthermore the heterogeneity of private gardens in some areas allows the establishment of a maximum species' number.

Key words: Keywords: urban avifauna, inventory, total richness, habitat.

EFFECTS OF ROAD CONSTRUCTION WORKS ON SOME BIRD COMMUNITIES IN VAN (TURKEY)

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In recent years, highway reconstruction and restoration activities have been rapidly increasing all over Turkey and in Van province. The aim of this study was to determine the impacts of these activities on bird populations in the grassland area (Van, Turkey). Observations and censuses were carried out to determine population trends of birds such as Sand martin (*Riparia riparia*), European bee-eater (*Merops apiaster*) and European roller (*Coracias garrulus*) nesting at highway roadside verges. In these surveys, population size of these species before and after the road widening works were compared and assessed statistically. The study in which, habitat preference, reproduction activities and population densities of three bird species (*Riparia riparia*, *Merops apiaster* and *Coracias garrulus*) were investigated, was performed at 6 points along the 85 kilometers long highway and 4 points other localities in Van between years 2013-2015. The road widening works through the grasslands was conducted in 2013-2014 and we performed bird counts in the area in 2012-2015. Bird populations were monitored using yearly breeding bird counts. Population density of the species were determined by using Point Counts (Dobinson, 1976; Bibby ve Burgess 1992). To determine if there is a difference between years pertaining population sizes ANOVA method and Tukey test were used. Bird population changes were studied during construction of the new highway and the possible effects of road widening works on bird populations were investigated. The total population number of three species and nests decreased during and after the road broadening and construction efforts. Due to detriment of nests during these activities, a statistically significant decrease was determined in total populations of *Riparia riparia*, *Merops apiaster* and *Coracias garrulus* species in years 2013-2015 ($p < 0.05$). It was concluded that highway reconstruction and restoration activities affects birds directly and indirectly.

Key words: Biodiversity loss, ecological effect, roads, population size, Van-Turkey

ENTOMOPHAGY ASPECT OF THE TAWNY OWL *STRIX ALUCO MAURITANICA* LINNAEUS, 1758 (AVES, STRIGIDAE) IN THE ALGERIAN COAST

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The analysis of 318 pellets of *Strix aluco* tawny owl gathered in a park in Algiers coastline (1998-1999) identified prey 1210 from 11 food categories. The most abused category is that of birds (AR% = 36.9%), followed by insects with a total of 276 individuals. The relative abundance recorded for insects prey of owls Tawny is AR% = 22.8%. The percentage of biomass consumed is B% = 0.61%. The most common insects in the menu of *Strix aluco* are *Cicadetta montana* (AR% = 4.21%), *Periplaneta americana* (AR% = 3.64%) and *Gryllus bimaculatus* with relative abundance AR% = 2.15%. The less abundant prey insects are *Eyprepocnemis plorans* (AR% = 0.25%) and *Phoracantha semipunctata* (AR% = 0.17%). The review of the contents of 52 pellets fledgling of the tawny owl harvested in June and July 1999 in the same place shows that they are also birds (AR% = 44.3%) that are the most ingested, insects come in second (AR% = 29.3% B% = 0.88%). The most prey found in the diet of young owls is *Tettigonia orni* with a rate of 11.38% and 0.37% biomass.

Key words: Tawny owl, *Strix aluco*, Pellets, insects prey, Relative abundance and Biomass

EVALUATION THE SPATIAL AND TEMPORAL CHANGES IN WATERBIRD SPECIES AT TURKISH WETLANDS WITH PEARSON CORRAELATION ANALYSIS

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Correlation analysis is an analysis that measures the level or degree of the relationships between variables. The purpose of this study is to determine the spatial and temporal changes in waterbird species and the wetlands in Turkey. Mid-Winter Waterbird Census data between 1967-2015 years has been evaluated with Pearson correlation coefficient method at R software. The analyses are performed for each wetland according the yearly changes in waterbird and species numbers. The degree and level of the relationship between variables is measured with correlation coefficients. According to this analysis; the species number is increasing yearly with a very strong relationship to positive direction at Bafa Lake, Büyük Menderes Delta, Çorak Lake, Demirköprü Dam, Gölarmara, Hersek Lagoon, Kızılırmak Delta, Küçükçekmece Lake, Meriç Delta, Sapanca Lake, Terkos Lake, Yeşilirmak Delta and Yumurtalık Lagoon, and there is strong positive correlation between species & year variables. The number of individuals is decreasing yearly at Adana Tuzla and Güllük Delta and there is a very strong negative correlation between individual & year variables. The individual number is increasing yearly at Eğirdir and Eymir Lakes and there is a very strong positive correlation between individual & year variables. The mid-winter waterbird census in Turkey was performed irregularly in the 1970s and '80s, where regularly counts began in the 1990s with increasing number of counted wetlands. Increasing threats at wetlands have direct influence on the bird numbers and diversity. In this study an evaluation from the mid-winter waterbird census results has been performed and to achieve specific results there is a need to make more detailed analyses in relation to each wetland specificity.

Key words: Pearson correlation analysis, R software, Wetlands, Bird, Turkey

**FREYANA ANATINA KOCH, 1844 (ACARINA, FREYANOIDEA)
SPECIE RECORDED FOR THE FIRST TIME ON WILD DUCKS IN
TURKEY**

NURSEL AKSIN

FIRAT ÜNİVERSİTESİ, SAĞLIK BİLİMLERİ FAKÜLTESİ

This study was performed to determine the presence of mite species on wild ducks in Turkey. For this purpose, a total of twelve ducks were caught in 2003-2004 hunting seasons and inspected for the presence of mite species. At the end of the examinations six ducks were found to be infested by mites. One different mite species were found on the infested ducks. This specie was identified as *Freyana anatina* (Koch, 1844). As a result of this study, one specie of mites were found for the first time which has not been reported before in the mite fauna of Turkey.

Key words: Acari, Wild duck, *Freyana*, *freyanidae*, *Freyanoidea*, *Freyana anatina*, Turkey

IMPACT OF FISHERIES' ABANDONMENT ON THE BIRD FAUNA'S DIVERSITY IN THE ROMANIAN PRUT RIVER BASIN

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The Nature 2000 network includes seven Special Protected Areas (SPA) located in the Romanian Prut River basin, nominated for birds' diversity's conservation, five of its covering fisheries territories. Our ornithological monitoring began in 1992 and is still on-going, permitting us to assess the dynamic of bird's fauna diversity and trends of avian populations in the area. We give an analysis on the risks for wetlands biodiversity, starting from the abandonment of fisheries and its' impact on the regional biodiversity using birds' presence and dynamic like bio-indicator. In some areas (Volovat River basin), the birds' diversity diminished to about 45% comparing to 15 years ago through the absence of waterfowls and semi-aquatic species due the disappearance of existing reservoirs and fisheries. Our fieldwork proves that the birds, especially the breeding populations, leave completely an area when their usual habitat is damaged through one fishery's closing despite the presence of suitable habitats in the immediately vicinity (ponds of Jijia and Miletin Rivers).The major identified risk is the constant diminution of aquatic and swampy areas in fisheries' perimeters due the economic constraints, high costs of water supply mostly fisheries being situated upper than the minor valley of rivers and intensive poaching activities.

Key words: fisheries, bird fauna, Nature 2000 network

**IMPORTANT THREATS IN NORTH AEGEAN (KÜTAHYA) AND
CENTRAL WEST ANATOLIAN (ESKIŞEHİR) POPULATION AREAS
OF GREAT BUSTARD (*OTIS TARDA*, LINNAEUS, 1758)**

MUHARREM KARAKAYA, MEHMET MAHIR KARATAŞ, ÜNAL ÖZELMAS

ESKIŞEHİR OSMANGAZI ÜNİVERSİTESİ, FEN-EDEBİYAT FAKÜLTESİ, BİYOLOJİ BÖLÜMÜ,
ESKIŞEHİR

In this study, it has been aimed to identify which threats are important or not in the North Aegean (Kütahya) and Central West Anatolian (Eskişehir) living areas of the Great Bustard (*Otis tarda*, Linnaeus, 1758). The study area was divided into squares of 1x1 km and field scanning was made by driving at each square. Also, it has been taken information from local people about events of bustard deaths in the past years. In Central West Anatolian (Eskişehir), important threats to the population include illegal hunting, use of herbicides and insecticide, disturbance in breeding areas, habitat loss through agricultural changes and collision with power lines. In North Aegean (Kütahya), important threats to the population include habitat loss through infrastructural changes (construction of a motorway and airway), disturbance in breeding areas, illegal hunting, collision with power lines and use of pesticides and rodenticide. Therefore, immediate conservation actions are urgently required to save this extremely endangered population from extinction and By making detailed bio-ethological studies for related this species, according to the findings and results, to regain a healthy population new measures must be determined for Eskişehir and Kütahya.

Key words: Eskişehir, Kütahya, Great Bustard, *Otis tarda*

INVENTORY AND ECOLOGY OF BIRDS FOREST OF DJEBEL SIDI REGHIS(OUM EL BOUAGHI)

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The Forest Sidi Reghis is characterized by a special canopy differently from other areas within the region Oum El Bouaghi. This is due to the significance of the area and altitude that ranges up to 1635 m like the mountainous terrain that characterizes the chain of Aures. It appears through the characteristics of the semi-arid bioclimatic stage with sharp climatic differences. Affecting vegetation cover and its development, this has been reflected by the diversity of plant species which provide habitat for wildlife. This forest is home to a bird that is unfortunately unknown and no study has been conducted there, yet it is one of the most diverse and most species-rich ecosystems of our country, also there are not enough studies on forest birds in Algeria, it has a relationship with the ground conditions and difficult access. And relations (bird / habitat) are little studied. To fill these gaps we began this study in order to better know birds and plant biodiversity of the forest and understand the relationships that exist between them. For two passages which take place from mid-April to mid-March and then from mid-May to mid-June, the inventory of birds in this forest was created by the method of point indices of abundance (70 partial IPA). We identified 50 species distributed in 20 families. The most dominant family: Muscicapidae (11.76% of species), followed by: Sylviidae, Fringillidae, Accipitridae and Turdidae which are 9.80%, the Alaudidae, Columbidae and Hirundinidae with 5.88% and the percentage of the rest of the families is lower in 4%. Method The design of the sampling device was made taking into account the objectives of the study and field constraints. Indeed, the inventory is to count the birds in their different backgrounds is to Cella The abundance surveys Sidi Reghis of forest birds were performed according to the method of point abundance indices (API) developed by Blondel et al. (1970) and commonly known method of listening points by mentioning the type of media and plant structure for each IPA during the two passages. The listening points were chosen randomly, remote from 200 to 300 m according to the closing of the The 70 statements (partial IPA) made in the forest of Sidi Reghis allowed us to contact 50 bird species belonging to 20 families : (There are 5 raptor species)- Total cash S : 50 total average -Abundance : 17.8 species -Number F > 50% : 6 species (The following table shows the first list of species inventory and statutes) medium. Conclusion The inventory of birds in the forest of Sidi Reghis by IPA identified 50 species belonging to 20 families with an average of IPA = 17.8 in total,

among species there are some remarkably dominating the field in numbers significant couples and other species are poorly represented in an interval ranging from 0.01 to 2.74 as IPA means. This finding underlines the dominance of the following species in descending order: Chaffinch (*Fringilla coelebs*), Serin (*Serinus serinus*) European Greenfinch (*Passer domesticus*), Blackbird (*Turdus murela*), Swift (*Apus apus*). In terms of abundance. These species were the highest abundance (56.01%) of the total workforce of birds. 20 species had a negligible abundance, among which 6 species of raptor, usually encountered in flight and not necessarily related flew environment. This imbalance in favor of some species has led even by the diversity of the stand which proved weak (index of Shannon-Weaver Bits = 3), as equitability index (0.46), which indicates a hierarchical distribution among individuals

Key words: forest - inventory - IPA - Birdlife - Jebel Sidi Reghis

LAKE VAN BASIN TYPES OF BIRD SPECIES

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This study includes the avifauna (bird fauna) data of the project “Inventory and Follow-up of Van Terrestrial and Inland Water Ecosystems Biological Variety” belonging to Ministry of Forestry and Water Affairs, General Directorate of Nature Conservation and National Parks and done by Anadoku firm in 2014. The study aims to put forward the bird species living in Lake Van, threats and significant dense points of the birds. Studies continued for one year. Observations were made in 152 sections covering the whole city in four seasons of 2014. Binoculars, telescope, map, GPS and camera, numerator, laptop, zodiac boots, wetlands clothing, camouflage were used in the observations. Generally, point observation and/or line observations were made for the birds. For this reason, among the bird counting methods of Dobinson (1976), the most appropriate one for every field was chosen and observations were made. In the ornito-faunistic section of the identification study of biodiversity carried out in the borders of Van 232 bird types belonging to 51 families were found out. These species were found out to be as follows: 68 Native Birds (N), 99 Migrants (Summer Migrant=M), 44 Winter Visitors (WV), 14 Transit Migrant (TM) and 7 Coincidental Birds (C). Native and migrant birds incubate within the city borders. Due to this reason, 157 bird species are reproduced in Van. IUCN status of the birds species living in the borders of Van: EN 4, VU 5, NT 6, LC 217. 36 of these species are in Annex: II list of CITES, 2 are in Annex: I. *Oenanthe alboniger* (Hume’s Wheathear), given in the list, is a new record for Turkey. This species is a kind of species reproducing in the South regions of our country. It was found out in the land observations during summer in Hoşap Castle in Van. We think that this record contributes significantly to the ornitofauna of our country. As a result of this study, 232 bird species living in the borders of Van were found out. Status of these species were put forward. One of these species, Hume’s Wheathear was found out to be a new record for Turkey. In the study, from one hand ornitoinventory was put forward; on the other hand, hot points where birds are densely seen and need to be protected have been updated. These results are expected to contribute to the protection and development studies.

Key words: Lake Van, Erçek Lake, Birds, Biologic Variety, Ornithology, Avifauna

LOW GENETIC VARIANCE, BUT CONTRASTING MIGRATORY STRATEGIES BETWEEN AND WITHIN POPULATIONS THROUGHOUT EUROPE OF A LONG-DISTANCE PALEARCTIC-AFRICAN MIGRANT

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It is generally believed that migratory behaviour at least in part is influenced by genetics. But the relationship between genetic diversity and migratory strategies, is still unclear and scarce studies to date show ambiguous results. We tracked Hoopoes (*Upupa epops*) from different populations throughout Europe using geolocators, that vary in migratory strategies from resident to long-distance migration and simultaneously studied their genetic background using mtDNA and microsatellites. We found that the genetic background of the studied populations overlapped strongly throughout their range, suggesting a panmixia. Migratory strategies however differed strongly not only between, but also within populations. It seems that even though these differences are partly in line with historical differences in the way the different populations were repopulated after the last glacial period in Eurasia, in the meantime populations have mixed strongly, creating a rather homogeneous genetic pattern throughout Europe. As a consequence, other factors such as influences by weather rather than genetics may be playing an (increasingly) important role in determining migratory strategies between and within populations.

Key words: Migration, Geocator, Population genetics, Hoopoe

ORNITOFAUNA OF KÖRFEZ WETLANDS (KOCAELİ)

BILGENUR YAŞA, ALI UZUN

SAKARYA ÜNİVERSİTESİ FEN EDEBİYAT FAKÜLTESİ BİYOLOJİ BÖLÜMÜ

Korfez Wetland is located in Kocaeli border in Northwest of Turkey. The aim of this study is determination of ornitofaunistic features of the area. The study has done dates between June 2014-May 2015. Field works was completed within 10 different months for annual period. The observation was done by point and line counting method between 10.00-17.00 o'clock. The book of Hayman and Hume (2000) was used to identify the species. As a result of studies for one year, 93 bird species was identified. Among them, 42 species are domestic, 22 species are winter migrant, 8 species are transit migrant and 21 species are summer migrant. The Korfez Wetland, includes freshwater and saltwater ecosystems together, has important bioecological structure in terms of ornitofauna.

Key words: Turkey, Ornitofauna, Körfez Wetland, Bioecology

PHENOLOGY AND BREEDING BIOLOGY OF TREE NESTING ARDEIDS IN KIZILIRMAK DELTA

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All 9 species (*Botaurus stellaris*, *Ixobrychus minutus*, *Nycticorax nycticorax*, *Ardeola ralloides*, *Bubulcus ibis*, *Egretta garzetta*, *Ardea alba*, *Ardea cinerea*, *Ardea purpurea*) of Ardeidae occurring in Turkey are breeding in the Kızılırmak Delta. This study presents the phenology of all species between November 2013 – October 2015 and the breeding aspects of colonial tree nesting Ardeids. Once every two weeks, the birds were counted at the 32 selected locations and transects representing different habitat types. During the breeding season, 3 breeding colonies were monitored to observe and evaluate breeding parameters. The peak counts for the species were made in the beginning of April and the beginning of July with a maximum count at one day of *Egretta garzetta* 2568, *Ardea alba* 1232, *Ardea cinerea* 1480, *Ardea purpurea* 365, *Nycticorax nycticorax* 436, *Ardeola ralloides* 310, and, *Bubulcus ibis* 721 individuals, with a total of 7212 individuals. The highest numbers were recorded at wet meadows. The numbers of nests at three colonies were 1772, 950 and 416 with 527, 480 and 416 being occupied respectively. The breeding Ardeid population consisted of 68% *Egretta garzetta*, 10% *Nycticorax nycticorax*, 10% *Ardeola ralloides*, 7% *Bubulcus ibis* and 4% *Ardea cinerea*. Fledging success was the highest for *Nycticorax nycticorax* (3,15 chick/nest) and the lowest for *Ardea cinerea* (1,55 chick/nest). As there has been no competition for foraging sites and breeding sites observed, it is concluded that the delta has sufficient resources for the Ardeids. This project has been funded by the Ondokuz Mayıs University Project Management Office with the Project Number PYO.ORN.1901.13.001

Key words: Ardeidae, Egret, Heron, Kızılırmak delta, colonial breeding

POTENTIAL IMPACTS OF MARBLE QUARRIES TO BIRDS IN ISPARTA-TURKEY

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Mining activities significantly contributes to country's economy, but its growing presence has brought ecological problems in our Country. The sector has affected the natural cycles of the species in the environment, particularly their mobility. Activity of marble quarries operating in the area led to the disintegration of the birds' breeding, feeding and perching areas, causing direct or indirect harm to the species. We observed that *Griffon vulture* population around Yeşilyurt Village (Sütçüler – Isparta) declined due to the departure of the local people with the livestock and increased marble quarry numbers. Mining activities having a significant return on the country's economy growing presence has brought with ecological problems in our Country. This sector has affected the cycles of the species in the natural environment, particularly the immobility of those. In particularly, Marble quarries operated in this area led to the disintegration of the birds breeding habitat, feeding and perching them harm, directly or indirectly. We observed that the *Griffon vulture* individuals observed around Yeşilyurt Village (Sütçüler- Isparta) showed decline of population because local people had left livestock and the numerical increase in marble quarries. The reason why the local people left the area is unknown at the moment. However, noise and pollution are considered as contributing factors to this decision. If the necessary legal measures are not taken, extinction of the species is unavoidable.

Key words: Marble factories, birds, Negative factors on birds, Isparta

PREVIEW TO THE STUDY OF PARASITES FROM THE OSTRICH (STRUTHIO CAMELUS) IN TWO ZOOLOGICAL PARKS IN ALGIERS (ALGERIA)

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The ostrich farming interests increasingly breeders by profitability, many products and by-products, a fairly significant economic value. Parasitic diseases can cause lower growth. The objective is the identification of parasites may affect the high ostriches on Algerian soil. The excrement of ostriches is collected in two zoos in Algiers between March and April 2015. The flotation method was chosen for faecal analysis. This study optical identify parasites that may affect ostrich farms installed in Algeria. We chose to study the analysis of stool by endoparasites ostriches that are in the Hamma garden and Ben Aknoun Zoo. We found that the infestation is not important digital standpoint as veterinarians conducted the preventive treatment. Despite this, we have identified 10 species in the zoo of Ben Aknoun and 8 species of parasites in the Hamma garden. These parasites belong to coccidia and nematodes. Conclusion At the end of our study of 18 ostriches we have demonstrated the presence of parasites in their feces, but in small quantities. No clinical signs were detected in these birds. The latter seem to respond well to treatment and preventative anthelmintics anticoccidials.

Key words: Ostrich - Parasites – Coprology - Ben Aknoun zoological park - Hamma Garden - Algiers

SMALL DAM RESERVOIRS IN DIYARBAKIR AREA AND THEIR BIRDS OBSERVED DURING WINTER PERIOD

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With the extension and intensification of agricultural practices, many natural aquatic ecosystems in south-eastern Anatolia have lost their natural characteristics. On the other hand, reservoir areas of man-made dams in a range of different sizes provide new habitats for birds. Selected attributes of 13 small size dam reservoirs in Diyarbakır area (South-eastern Anatolia) were studied to determine the bird species associated with the reservoirs. Our aim was to (1) describe the bird species using these areas in winter and early spring time, and (2) determine those reservoir attributes favouring birds. Selected dams with small to moderate size reservoirs (between 2 to 600 ha surface areas) were surveyed once a month during January to March of 2010 to 2013. Bird species and their numbers observed inside or around the reservoir areas, as well as several attributes of the areas and climatic conditions were recorded. Bird richness and its relation to the particular attributes were evaluated by statistical methods. A total of 68 bird species were determined in the areas examined, of which 35 were waterfowls. Results indicate that shallower reservoirs with relatively larger size or the ones with less human disturbance hold more richness. Here, we want to highlight the noteworthy role of the man-made aquatic ecosystems for birds such as moderate size dam reservoirs, which appear to become more significant over time in a probably more arid environment. This study was supported by Research Foundation of Dicle University (Project No: DÜBAP -11-FF-82).

Key words: Bird richness, Dam reservoirs, Diyarbakır, South-eastern Anatolia, Winter

**SPOUSE AND LOYALTY TO NEST IN NORTHERN BALD IBISES
(*GERONTICUS EREMITA*)**

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The aim of this study is to determine the unity periods of couples in northern bald ibises and loyalty to nest. The relation between number of raised chicks and unity period of couples was researched. The research was conducted on Northern bald ibises living in Birecik (Şanlıurfa). The study lasted for 4 years (2012-2015). Observation was made for 2 days a week during reproduction period (march-june), for 7-9 hours. Between 2012-2015, 167 individuals performed incubation period. 107 individuals in the population performed incubation once. 25 of them performed incubation twice while 17 of them performed incubation three times and 18 bald ibis birds performed reproduction activity four times in a row. During the researches unity of 91 nest partners was evaluated. In 65 of the nests unity of partners lasted for 1 year. In 11 partners unity lasted for 2 years. 7 partners stayed together for 3 years while 8 partners stayed together for 4 years. The unity of partners and the number of chicks raised by them were determined as follows: partners that stayed together for 1 year raised 87 chicks while partners that stayed together for 2 years raised 41 chicks, partners that stayed together for 3 years raised 46 chicks and partners that stayed together for 4 years raised 70 chicks. In Northern bald ibises some partners demonstrate monogamy while some individuals demonstrate polygamy. Males behave loyal to their nests and play more role in protecting their nests.

Key words: Northern bald ibis, incubation quantity, loyalty to nest, monogamy, number of chicks

STUDY OF PARASITIC QUAIL *COTURNIX COTURNIX COTURNIX* (AVES - PHASIANIDAE) (LINNAEUS, 1758) IN DIFFERENT LOCATIONS IN ALGERIA

FAIZA MARNICHE, AMEL MILLA, AMINA SMAI, SAFIA ZENIA, HINDA IDRIS BEY ET FATMAZOHRA ZOUBIRI

RUE ASAAD ABASS EL ALIA ALGER

The aim of the present study is making the inventory of parasites hosted by *Coturnix coturnix coturnix*, a wild bird commonly known as quail. The collection of individuals was made during the months of February-March 2015 in three different regions: Chlef, Tizi ousou and Bouira. The techniques of the flotation, the Mc Master, fixing of the intestinal mucosa, staining of blood smears in the M.G.G and biochemical analysis were used for the investigation and the identification of parasites in the digestive tract, shells and blood. Parasites mainly belonging to Eimeria's genus with a frequency of 94.36% and Chilomastix were found in the digestive tract. The minimal presence of the genus Isospora was observed on egg shells adding to it a frequency of 89.66% for the Chilomastix. On the other hand, blood smears showed no parasitic presence while serum biochemical analyses allowed us to see the effect of coccidiosis showing a cholesterol rate of 0.011/0,013mmol/l and a calcium rate equals to 3.24/6,017mmol/l for non-contaminated and contaminated individuals respectively.

Key words: Algeria, Quail Wheats, flotation technique, Parasitic, Eimeria, Chilomastix

THE CONCEPT OF BEING RESIDENT FOR THE BIRDS

BAŞAK ŞENTÜRK

TINAZTEPE MAHALLESİ AKYÜZ SOKAK 31/7 K.ESAT ÇANKAYA/ANKARA

The aim of the talk is to discuss the concept of \"being resident for birds\". The general deblockedion is made saying that the resident birds are the ones who do not migrate. However, there are species who are determined to be a resident to an area but some populations are not observed in that area the all year around. And also there are some populations of species determined to be migratory but staying in the same areas for most of the year. The talk includes a literature survey of this topic and some examples of the contradictions. I suggest that the concept of being resident might have exceptions for different size of areas and different populations of

Key words: resident, local, migration, populations

THE EUROPEAN BREEDING BIRDS ATLAS EBBA2 - AIMS,
PARTICIPATION AND OUTLOOK

HANS-GÜNTHER BAUER

MPIO, VOGELWARTE RADOLFZELL, AM OBSTBERG, D-78315 RADOLFZELL

The second European Breeding Bird Atlas aims to cover all 50+ European countries and as many of the 5000+ squares of 50x50 km as possible. It is one of the most ambitious biodiversity projects ever attempted. The history of the atlas and its methodologies are explained and the envisaged outputs depicted. The main focus in the Atlas will lie on a comparison of breeding distributions of all species with those in the first Atlas, on the species\' breeding probabilities and abundances per square, and on fine-scaled maps based on distribution models. The presentation also focuses on current gaps in coverage and how ornithologists could contribute to this major endeavour in their own country or abroad.

Key words: Breeding Birds, Atlas, Maps, EBBA2, EBCC, volunteer fieldworkers, involvement

THE EVALUATION OF GELİBOLU PENINSULA IN TERMS OF BIRD MIGRATION AND WINDPOWER PLANTS

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Every year in Spring and Autumn periods, there happens a large scaled bird migration, which is regular and joined by billions of birds, between Africa Continent and West Paleartrik Region that Turkey is in too. Gelibolu Peninsula, which forms the narrowest passing point in the west of Turkey, is considered as a critical point in terms of bird migration because of its existing wind potential, wetland area and the geographical position. In this study, the importance of the Gelibolu Peninsula in terms of bird migration and the probable effects of the planned Windpower Plant areas are evaluated. As a result of 107 days field work, 226 bird species had been determined that belong to 20 teams and 50 family. 958 passing and 18478 individuals are counted in the period of spring migration and 523 passing and 12513 individuals are counted in the autumn migration period that belongs to floating migratory birds. It has been suggested to create a 30 kms buffer zone on the coastal stretch of Saroz Gulf between Tayfur village and Yeniköy, and a 10 kms buffer zone around Kavak Delta, Uzunhızırılı Pond and Lake Tuz in Kemikli Snout (Suvla).

Key words: The Route of Bird Migration, Gelibolu Peninsula, Windpower Plants, Ornithofauna

THE FIRST SIMULTANEOUS COUNTS IN THE GREEK AND TURKISH PARTS OF THE EVROS/MERIÇ DELTA REVEAL ITS TRUE VALUE FOR WINTERING WATERBIRDS

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The Evros/Meriç River delta is among the most important wetlands for wintering waterfowl in the Mediterranean. We present the combined results of the first counts of wintering waterbirds (under the International Waterfowl Census) carried out simultaneously in the two parts (Greek and Turkish) in 2012-2015. Fifty nine species occurred regularly and eleven were observed irregularly. The three most numerous species were *Anas crecca*, *Anas platyrhynchos* and *Anas penelope* summing up to 80% of all birds. Total numbers of birds present in the delta ranged from 71,741 to 227,566. The average number of birds counted in the delta equals 20.4% of all birds counted in Greece and 9.3% of all birds in Turkey. The high inter-annual variation can be probably attributed to weather conditions in adjacent regions to the north. On average, 81.9% of birds were observed in the Greek part and 18.1% in the Turkish. This may relate to the higher habitat diversity in the Greek part, the presence of an extensive non-hunting zone and the scarcer human presence. Finally, the simultaneous counts corroborated the interdependence between the two parts by documenting the daily shuttling movements of some species for foraging and roosting.

Key words: Evros/Meric Delta, IWC, Greece, Turkey, *Anas crecca*, *Anas platyrhynchos*

THE INCREASE OF BEWICK'S SWAN *CYGNUS COLUMBIANUS*
WINTERING IN THE EVROS/MERIÇ DELTA AND THE ORIGIN OF
THE BIRDS

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During the last decade, an impressive increase was observed in the numbers of Bewick's Swans wintering in the Evros/Meriç Delta. In recent years, the Western European wintering populations has shown a significant decrease. We investigated probable connections between these two trends, the phenology of the species and the origin of the birds wintering in the Delta. Data were drawn from the censuses carried out by the Evros Delta Management Body, the IWC databank and literature search. They were supplemented with data obtained from birds ringed or/and tagged with satellite transmitters. In 2003, only 30 birds were observed but the number rose to 8400 in 2016. Three birds ringed in the Netherlands and one in the Pechora mouth, Russia (all belonging to populations thought to be wintering in W. Europe), have been re-sighted in the Evros Delta. On the other hand, a bird equipped with a transmitter in the Yamal Peninsula, Siberia, arrived in the Delta in December 2015, connecting it with another sub-population, until now supposed to winter in the Caspian Sea. The wetlands of the Evros/Meriç Delta seem to have a high potential for hosting wintering Bewick's Swans. It is important to know what factors made this possible in order to secure the future of the birds in this area.

Key words: Evros/Meriç Delta, Bewick's Swan, *Cygnus bewickii*, wintering

THE MIGRATION OF THE MOUSTACHED WARBLER
(*ACROCEPHALUS MELANOPOGON*) POPULATION OF CENTRAL-
EASTERN EUROPE

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Our aim was to discover the migration routes and stopover areas of the Moustached Warbler population, and to map the habitats used during migration and their threatening factors, because the breeding population of the species is decreasing in Central Europe, despite the good status of the breeding grounds. We carried out traditional bird ringing activities at the supposed stopover and wintering locations. Because a local ringer activity is very low in the target places, we organized expeditions to the stopover and wintering sites with the participation of more than 150 volunteering Hungarian bird specialist. We've carried out our research between 2002 and 2015, at 9 locations. Recapture rate of ringed specimens changed according to place and year, but it was between 0-6.6%. We found several locations which are suitable for the species, and we found the ringed birds at these places, breeding in the Carpathian Basin. The Moustached Warbler is a specialist, with a strong bound to dense, flooded reedbeds. Site fidelity is high. Stopover sites and wintering places (reedbeds near the sea) are under high pressure due to infrastructure projects, which, on the long run can endanger the breeding population of the species in Europe.

Key words: Moustached Warbler, migration, stopover, reedbeds, Mediterranean, Adriatic Sea

THE NESTING ECOLOGY OF COMMON BLACKBIRD IN CENTRAL ANATOLIA

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The nesting ecology parameters of common blackbirds were investigated in two cities in central Anatolia within this study. Parameters regarding blackbird nests (N = 53) collected between 2013 – 2015 in black pine forest. Physical properties such as diameter, outside diameter, depth, weight of nest and place in the nest plant were measured in centimetre, nest plant species were recorded. Common blackbirds in the study area chose juniper to nest in most frequently, with 77.7% of the total. The density of the blackbird territory in the area was found to be 1.35 ha/nest. The mean \pm SD distance between the nests was measured as 32.39 ± 8.1 m. The mean nest weight were 243.09 ± 5.3 g in 5.6 cm depth, 9.7 cm diameter. According to study results, common blackbird in study areas have similar nesting ecology in terms of nest and nest plant characteristic and they generally nest in middle of nest plant.

Key words: blackbird, juniper, nest properties, characteristic, nest plant

THE NESTING OF THE BLACKBIRD *TURDUS MERULA* (AVES, TURDIDAE) IN A REGION OF THE COAST OF ALGIERS (ALGERIA)

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Blackbird breeds in North Africa until the Saharan border, it seems there are 2 or 3 broods per year, and even more since the laying starts in late March. Indeed our work is focused on the monitoring of two clutches to get a closer reproduction. For more information, deblockedion of 2 nests is performed and the observations through the breeding and feeding. Eggs were also weighed. After hatching, the chicks are also weighed every day until fledging. The results revealed that the blackbird uses various plants such as leaves, stems, roots and inflorescences and the mud in order to give a rounded shape to the nest. The inside of the cup is formed mainly of leaves (50%) and its exterior is formed of 46.6% of leaf and 33.3% of stalks. As against the texture of the mud, it is known through physico-chemical analyzes revealed a silty texture to the first nest and silty-clay texture to the nest 2. Both nests are located at a height de1,5 m. During incubation, the only female involved. She incubates the eggs in a period of 10 to 28 minutes the first day. These minutes are increasing and the female remains more, until the 7th day when the duration is 54 minutes. As against the male is usually around. Incubated the eggs were weighed and measured in order to calculate biometric parameters such as shell index, shape index, density, volume. After hatching, the female blackbird continues to stay in the nest and cover young because the maternal warmth is indispensable to the survival of chicks. About feeding, the two parents take care but it is the male who frequently responsible for food intake which is represented by the animal prey and fruit. The flight took place between the 13th and 15th day. Further results will be subsequently exploited.

Key words: blackbird, nesting, eggs, youth, parents

THE POPULATION STATUS AND HABITAT SELECTION OF GRIFFON VULTURE *GYP S FULVUS* (HABLIZL, 1783) IN AFYONKARAHISAR, ANTALYA AND ISPARTA (TURKEY)

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Bioecological features of *Griffon vulture Gyps fulvus* (Hablizl, 1783) which is an important part of the natural balance was studied in this research performed between August 2010 and August 2012 in Afyonkarahisar, Antalya and Isparta cities which are the species' roosting and breeding areas. In this study, line transects and point transects was used and observation was made from 7:00 am to sunset. ArcGIS which is an application of GIS was used for maps. The results of our study was showed that maximum individual numbers were 44 (avg. 33) in August 2010, 38 (avg. 17) in August 2011, 51 (avg. 22.87) in July 2012 in Afyonkarahisar; 12 (avg. 5.6) in September 2010, 13 (avg. 5.75) in February 2011, 5 (avg. 1.62) January 2012 in Antalya, and 6 in (avg. 1.4) November 2010, 3 (avg. 0.75) in June 2011, 6 (avg. 1.5) in March 2012 in Isparta. While the number of individuals increased in Akdağ Natual Park in Afyonkarahisar according to years, it significantly decreased in Antalya and Isparta. The number of species decreased because of habitat degradation and chemical substance. Nests' aspect, slope, elevation, and distance from both the main road and the settlements is the most important factors (94,9%) for nesting and roosting site selection of this species. Nesting areas are mostly bare limestone cliffs (68.1%). The distance of the nests from the main road is 10633 m in Afyonkarahisar, 2574.5 m in Antalya and 630 m in Isparta. The distance to the settlements is 4836 m in Afyonkarahisar, 3305 m in Antalya and 2652 m in Isparta ($p < 0.05$). The aspect of active nests was statistically different from passive nests and it was also found to east ($p < 0.05$). In 2012, the passive nests had an average elevation of 729 m, while the value for the active nests was 1485.4 m ($p < 0.05$). Although previous nests had lower elevations, we observed that the species tendency towards nesting in higher areas increased day by day. As a result, we believe that our findings will guide the application of conservation plans related with the species with this data.

Key words: Afyonkarahisar, Antalya, *Griffon vulture*, *Gyps fulvus*, Habitat selection, Isparta, Turkey.

THE SIZE ESTIMATION OF PREY INGESTED BY THE BLACKBIRD *TURDUS MERULA* AND THE EUROPEAN ROBIN *ERITHACUS RUBECULA* IN A SUB URBAN ENVIRONMENT IN ALGIERS

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The Thrushes are a group of sparrows forage mainly on the ground such as the blackbird. Their food includes all kinds of animal prey, but also the fruit. And to see more closely the composition of the diet of *Turdus merula*, work was conducted on the feeding behavior with estimation of the size of prey consumed and this for adults and youth. The same work is carried out on another small bird species, which is currently part of the family Muscicapidae: *Erithacus rubecula*. The feeding activity of the two species of birds specified through the droppings of content analysis to be 348 blackbirds and robin94. The study revealed that insects are the most consumed prey at blackbird 45.4% for adults and 67.2% for young people. We also find gastropods, arachnids, millipedes and crustaceans. For adults, the fruit is present in 35.2% of their menu. Gastropods, arachnids, millipedes, crustaceans and camel spiders are present in the diet of the blackbird. By category, *Erithacus rubecula* ingested prey part of the same categories found at blackbird with first position insects (86.5%). Preys found in the droppings of the 2 species are studied by size class. For *Erithacus rubecula*, the lengths of the body prey vary between 2 and 33 mm. The class is 3 mm in first place with 60.7%. It is represented mainly by the Scolytidae, Coccothrypes, Dactyloidea. About *Turdus merula*, the length of these preys varies from 3 to 33 mm. Class 3 mm is best represented with 27.65%. Prey species having a size of 3 mm are essentially the Formicidae. For young people, the variations are from 2 to 25 mm. Parental choice regarding food intake is focused on the 7 mm size of prey (20%) mainly represented by beetles and wasps Formicidae. The polyphage aspect of the two species is represented by a variety of prey animals that are more or less proportionate to their size. The animal preys brought by the parents of larger sizes compared to the size of chicks and ensure them a right development. Note that the presence of the plant part in the diet blackbird and robin, is also important since in some cases these birds provide seed dispersal

Key words: *Turdus merula*, *Erithacus rubecula*, diet, size of prey

TRANSNATIONAL COLLABORATION IS NECESSARY TO ADDRESS CHALLENGES SET BY CURRENT RESEARCH AND CONSERVATION ISSUES FOR THE TWO SPECIES OF PELICAN IN EURASIA

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In their Western Palearctic range, most populations of both species of pelican use a variety of wetlands scattered in almost all countries of the region to cover their needs for food, nesting, resting and coping with climate challenges, during the annual cycle. There are thus crucial issues related to pelican research and conservation that require transnational collaboration to be effectively addressed. Most important are: a. The satisfactory operation of protected areas hosting pelicans; b. Mortality causes and mortality “hotspots” identified and alleviated including the avian flu; c. Migration and movements routes exactly traced and cleared of mortality causes; d. The disclosure of genetic relations between pelican populations; e. The identification of wintering sites in Eurasia and Africa of all populations; f. The multifaceted association of pelicans with great cormorants; g. Laying dates and compatibility with food resources in the context of climate change; h. Degradation of staging wetlands on migration routes and their effects on populations and i. Standardisation of pelican monitoring methods (population size, breeding performance, feeding) and conservation and management measures across their range. The role of the WI-IUCN SSC Pelican Specialist Group for the launching, coordination and funding of international initiatives and partnerships is discussed.

Key words: Dalmatian pelican, Great white pelican, Mediterranean-Black Sea

TWENTY YEARS CHANGES IN SURVIVAL RATES OF BANDED AUKS (ALCIDAE) ON TALAN ISLAND, RUSSIA

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Investigation of different aspects of bird's biology, including social behavior and acoustic communication, requires understanding of demographic processes occurred in each population. Here we compared the survival rates of color-banded Crested Auklets (*Aethia cristatella*), Parakeet Auklets (*Cyclorhynchus psittacula*), Horned Puffins (*Fratercula corniculata*) and Tufted Puffins (*Lunda cirrhata*) on one of the largest seabird colony of the Okhotsk Sea (Talan Island) for 1988-1991 and 2008-2015. We conducted bird's banding and daily checks of colony attendance on two study plots 80 and 120 m² on slopes where all four species nest. Totally we banded 519, 79, 38 and 46 individuals of each species, respectively. We counted the percents of next year returns of birds that were banded and observed at least once in the previous year. On average, in 1988-1991 survival rates was 77.6%, 92.9%, 63.4% and 100% for each species, respectively. In 2008-2015 the index was 62.3% and 78.8% for Crested and Parakeet Auklets, and in 2013-2015 – 81.3% and 73.4%, for Horned and Tufted Puffins, respectively. So, the survival rate of both Auklets and Tufted Puffin declined between the periods, whereas the same index for Horned Puffin increased. Our data suggest that previously found twenty years trends in Crested Auklet, Parakeet Auklet and Tufted Puffin' number decreasing on Talan Island are related not only with decreasing of breeding success but also with survival of adults in these seabirds. This study was funded by the Russian Scientific Foundation (grant 14-14-00237).

Key words: auks, auklets, puffins, survival rates, banding of birds

A MTDNA PERSPECTIVE ON GENETIC DIVERSITY IN TURKISH FORESTLAND AVIFAUNA

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Though the Anatolia is an internationally recognized avian biodiversity which has more than 470 bird species, genetic diversity of the species are not well known. Five species, Kruper's Nuthatch, Chaffinch, Great Tit, Blue Tit, and Blackbird, were examined in six localities which covered the throughout Turkish forestlands. Total DNA was isolated using DNA isolation kit. To infer the genetic diversity of the species are analyzed partial sequences of the mitochondrial cytochrome oxidase subunit I gene (COI). The species showed mainly geographic structuring in Anatolia. Different haplotypes were found among the individuals of the species in Turkey. The genetic structures are consistent with the isolation of these populations in different glacial refugia followed by establishing secondary contact after glacial retreat. Our results show that the level of the genetic diversity in Turkish avifauna is important and that resident forest species should be treated as spereted conservation units. This study was supported by TUBITAK (113O271).

Key words: Anatolia, avifauna, mitochondrial DNA, conservation

THE NEW SYSTEMATIC AND STATUS OF TURKISH BIRDFAUNA

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In this study new systematic and status of Turkish birdfauna, which has 513 bird species and 762 subspecies, was reported. The number of yearly-resident species of Nonpasseres-Group (NP-G) is 143 and Passeres-Group (P-G) is 88, summer visitor migrant bird species of NP-G are 30 species and P-G are 82 species, winter visitor bird species of NP-G are 53 species and P-G are 7 species, and transit migrant bird species of NP-G are 14 species and P-G are 4 species respectively. Twenty-nine species of NP-G and 34 species of P-G are vagrant species and two of them are extinct in wild. The rest have the other status. Turkish birdfauna have 43 bird families with 289 species and 330 subspecies in NP-G, and 34 bird families with 224 species and 432 subspecies in P-G. The bird systematic begins by NP-G with Anseriformes, Anseridae and finished Psittaciformes, Psittacidae; by P-G begins with Laniidae and finished with Passeridae.

Key words: Turkish bird species, status of bird, new systematic

Poster, IEOC_P001

A CASE OF *CONTRACAECUM SP.* IN AN *ARDEA PURPUREA*

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Contracaecum sp. is an anisakid nematode that infects fish-eating birds and marine mammals throughout the world. Larval stages of *Contracaecum spp.* usually occur in the body cavity and mesenteries of fish while the adults occur in the stomachs and gut of the water birds. A case of *Contracaecum sp.* in an *Ardea purpurea* was described in this report. Numerous parasites localized proventriculus and esophagus of the bird were removed and diagnosed as *Contracaecum sp.* according to the morphological characteristics. The proventriculus fixed 10% neutral formaldehyd and routinely processed. Five micron sections were stained by Hematoxylin and eosin and examined microscopically. Erosive lesion was noticed at the proventricular epithelial layer. The histopathological findings were related to pathological changes in proventriculus. Mononuclear and heterophilic cell infiltrations caused by the parasites were observed. This is the first *Contracaecum sp.* case in *Ardea purpurea* in Turkey.

Key words: *Contracaecum sp.*, *Ardea purpurea*, pathology, parasitology

A PRELIMINARY STUDY ON THE IMPORTANCE OF NESTING PLANT MATERIALS FOR NESTING HEALTH

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Nest-site characteristics influence reproductive characters in birds. Birds can use some gramineae specieses or some bryophytes in their nests as building material. For example, *Deschampsia antarctica*, a kind of marine grass, and some *Bryophytes* contribute the majority of nest building material for the gull (*Larus sp.*) The great tit (*Parus major*) nests are although to be composed mainly of moss, although very few have quantified nest composition. Great tit nest mass and composition varies considerably between habitats, and the amount of different materials could affect different breeding parameters. Recent evidences suggests that birds use secondary chemicals contained in green plants to control ectoparasites. We determined the nesting materials in ten redstar nests. Gramineae specieses (cup 58,5 %, rough material 24,2 %), Bryophytes (12 %, 39 %), pieces of several tree shells (12,5 %, 19,6 %) leaves and twigs of some fruit trees are the main parts of the nest materials both in nest cups and rough material parts. Redstars were used also some bird hairs, some pieces of nylon sack, pine needles and some fruits in their nests. Further we are going to plan determining the relationships between the nesting plant materials and their antiparasiter (antimicrobial, antifungal or insecticidal) effects and breeding parameters in birds.

Key words: Nesting materials, plants, nesting health

A RESEARCH ABOUT OBSERVED OR PHOTOGRAPHED CASPIAN SNOWCOCKS, *TETRAOGALLUS CASPIUS* (GMELIN, SG, 1784) IN TURKEY

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In this study, observed or photographed Caspian Snowcock records in Turkey until today are compiled. Being a first in research in the hereafter and it is also important to be a collective source of information. Caspian Snowcocks are poorly known as Chukar partridge and gray partridge in Turkey. Its distribution is in the east and northeast of the mountainous regions of Anatolia, over the border of forest 2000-4000 (usually around 2400m). Avifauna records began to be seen in Turkey in the 1990s, but very poorly. There was very little information in this books about "Caspian Snowcocks". The small number of bird watchers, deficient of Internet, camera-telescope technology is the biggest factor about this. We reviewed Caspian Snowcock literatures and official records. The latest information about the Caspian Snowcock species living in Anatolia, which consists of several taken by several former hunter's observations and photographs. Known former official latest Caspian Snowcock records, was during Kaçkar Mountain Travel Tour in 1996 by Alper Göncü ("I observed Caspian Snowcocks and chicks"). Again, the same events are among the famous hunter Fikret Selmanoğlu from Elazığ province and his captured Caspian Snowcock with the trap. We found in that recorded in Anatolia until today, by several researchers, travelers and hunters 68 official Caspian Snowcock records.

Key words: Caspian Snowcock, review, distribution

ALBINISM AS A FEATURE SIGNIFICANT FOR SELECTION IN THE POPULATION OF SWALLOW *HIRUNDO RUSTICA L.* IN CENTRAL POLAND.

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Comparison of albinism incidence within gender and age in a swallow *Hirundo rustica L.* population, as well as frequency of this feature when comparing a swallow and sand martin *Riparia riparia L.* populations. The material was collected in the area of two lakes in central Poland. The birds were caught in mist nets. The following features were taken into consideration to correlate with albinism: claws, tarsus and feathers from different body parts. Among the 62132 caught birds, 93 specimens showed features of albinism. The proportion of albinism positively correlates with the proportion of birds with high fat reserves. It also decreases with age, and is more often displayed in females than males. Albinism in the swallow population was four times higher than in sand martin populations. Albinism is a rare phenomenon in swallow populations. The observed variability related to age and fatness can be explained by lower adaptation and higher mortality of birds with albino features. The frequency of albinism in the examined sand martin population is much lower than in the swallow population, which probably is due to the lower exposure of that species to mutagenic agents present in the proximity of human settlements.

Key words: albinism, swallow, sand martin, selection, population, birds, Poland

ASSESSING THE EFFECTS OF HABITAT CHANGE ON BREEDING WATER BIRDS IN ARIN (SODALI) LAKE, TURKEY

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Arin Lake being one of the Important Bird Areas in Van Lake Basin of Turkey is a very significant area in terms of birds. Especially in migration periods, this importance increases in world scale. *Oxyura leucocephala* under extinction threat all around the world breeds at great numbers and rests here in migration period. The aim of this study was to determine effects of water level, habitat change and human intervention on the natural habitats and population of waterbirds in Arin Lake. In this study, the population density and habitat preferences of waterbirds in Arin Lake, being an important bird area, were determined through using GIS Analysis methods. The total number of waterbird species with and without breeding evidence were compared between 2013-2015. The impact of habitat displacement, number of breeding waterbirds and their breeding parameters were assessed statistically. 2013-2015, 51 waterbird species were observed in the research area. The major habitats were open waters, reed beds, mudflats, sandy areas, wet grasslands and farmlands. Significant increases were detected in mudflats, sandy areas and wet grasslands while the total area of open water and reed beds decreased. Our results demonstrated that water level fluctuation affected the habitat quality, population size, distribution and habitat preferences in feeding breeding areas of waterbirds resting and breeding in the area. Consequently, we recommend that urgent conservation measures should be taken to protect sensitive habitats of Arin Lake and birds depend on the wetland.

Key words: Waterbirds, habitat degradation, water level, GIS, Arin Lake, Van Lake Basin.

BIRD FAUNA OF ILGAZ MOUNTAIN NATIONAL PARK

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The term of biological diversity can be expressed as the diversity of species and life forms living on earth. Birds are accepted as one of the elements of biodiversity. Inventorying and monitoring of bird species can make contribution to conservation studies. This study was done between the years of 2014- 2015, to determine bird species and their population density in Ilgaz Mountain National Park. Line transect and point count methods used for determining bird species. 54 bird species were recorded in the area.

Key words: Bird fauna, Kastamonu, Ilgaz Mountain National Park, Biodiversity.

BIRDS RELEASED INTO NATURE AFTER REARING IN CONTROLLED AREA

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AKDENİZ ÜNİVERSİTESİ, ZİRAAT FAKÜLTESİ, ZOOTEKNI BÖLÜMÜ, ANTALYA

The purpose of this study was to investigate the success of studies that aim to increase the number of birds for species in danger of extinction by releasing them to their natural environment after rearing for a period of time. We explored the literature about the subject, and the studies in Turkey and worldwide were compared. The most common species of bird released in nature and reared in production stations are partridge (*Alectoris chucar*), pheasant (*Common pheasant*) and ibis (*Geronticus eremita*) in Turkey. According to the data of Ministry of Forestry and Water 69,050 partridges and 22,000 pheasants were released into wildlife in 2014. Also 112 ibises were released in nature after rearing in the production station in 2011. Bold ibises, a migratory bird only bred in Birecik/Urfa located in south eastern of Turkey, live in Morocco and Syria. Birds released after cultivating in the stations had adaptation problems with natural environment. In addition, these birds were a good prey to predators. However, this can be changed by the season of birds release, by the domestication status of female birds (wild or domesticated), the habitat and precautions taken against predators and hunters.

Key words: Partridge, Pheasant, Ibis, Rearing, Releasing, Wildlife

BIOECOLOGY OF EUROPEAN MAGPIE, *PICA PICA* (L., 1758) IN KIRIKKALE (TURKEY)

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In this research 178 field works was performed with habitat preference, population size and breeding biology (nest shape, nest and egg size) of European magpies in Kırıkkale Province between 2010-2012 years. We observed that breeding activities began in February and their nests were built on silver berry tree (*Elaeagnus angustifolia*), garland thorn (*Paliurus spinachristi*), mulberry tree (*Morus alba*), white poplar (*Populus alba*), black poplar (*Populus nigra*), willow tree (*Salix alba*). In addition, the number of eggs was determined as 4-8, weights 8.1-13 g, the egg length 32.90-38.24 mm, width 22.12-25.85 mm and the eggs volume 8352.10-12786.57 mm³. The individuals were often seen alone in the area but in beginning of autumn small groups were observed. We observed that the species are associated with other birds. It was observed that competitive of this species were long-legged buzzard (*Buteo rufinus*), lesser kestrel (*Falco naumanni*) and kestrel (*Falco tinnunculus*). European magpie has a relatively low population size and minimum three, maximum 292 individuals were counted in a day. European magpie is native species in Turkey and categorized in the low-risk (LC) for IUCN.

Key words: *European magpie, Pica pica*, Bioecology, Kırıkkale, Turkey

BIRD FAUNA'S DIVERSITY AND SEASONAL DYNAMIC IN PRE-DELTAIC WETLANDS FROM ISACCEA AREA (ROMANIA)

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Our study began in the spring of 2012 and follows the bird fauna's diversity but also the seasonal dynamic of birds' population in the perimeter of four natural lakes situated in the pre-deltaic area of the Danube Delta Biosphere Reserve, one of it – Rotundu Lake being strictly protected area (228 hectares). Our list of bird fauna include 129 species, 91 being regular breeding species while another 8 species being recorded like irregular or probably breeding species in the area. Between these, we notice the breeding presence of three globally threatened species (*Aythya nyroca* – about 30 pairs, *Microcarbo pygmeus* – with no more than 10 pairs and *Haliaeetus albicilla* – we identified two nests in the north-eastern part of area). Other 23 regular breeding and two probably breeding bird species appear in the Annexe 1 of Birds' Directive. In the second part of the breeding season and during the migration time, the birds' diversity and their populations increase significantly, the birds finding here suitable feeding territories and secured refuge sites. We mention the appearance of three globally threatened species that use to stopover for feeding (*Pelecanus crispus* and *Circus macrourus*) or are wintering presence (*Branta ruficollis*) in the perimeter of these lakes.

Key words: bird fauna, Danube Delta Biosphere Reserve, breeding season, migration

BIRD STRIKES

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Birds are one of the important species of ecosystems and often considered to be an important indicators of the health of the overall environment. Birds are facing many threats to their survival in the wild such as: Climate change, wind farms, biofuel plantations, pollution, unsustainable harvest, illegal hunting, oil spills, habitat loss and bird strikes. Bird strikes are an important threat to flight safety and can cause a number of accidents. The majority of bird strikes does not cause too much damage to aircraft but the collision is usually fatal to the birds. This study aims to give a general brief on bird strikes. Previous literature were reviewed for explaining the bird strikes. This study also includes mapping of the bird species benefitting from previous studies around Turkish airports and risk maps were evaluated.

Key words: Bird, bird strike, collision, avian ecology, airport

BIRDS AS BIODETERIORATION AGENTS ON HISTORICAL MONUMENTS

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The alteration and weathering of stone is basically determined by natural and anthropogenic impacts influencing various physical, chemical and biological damage factors at the object site. The potential of animals (particularly birds and insects) to alter and destroy monuments and works of art was shown in many studies in the last years. This study aims to determine the deteriorations-effect of bird species on historical monuments in Side (Antalya/Turkey). Field studies show that these organisms cause irreversible damage to surfaces resulting in the scarring of monument fabric and damaging appearance of the rock surfaces in Side and thus they have to be regarded as a serious threat to the antique cultural heritage in Turkey. This study was performed during field trips carried out in Side/Antalya, located in the southern Anatolia region of Turkey between 2014-2015. Birds may cause mechanical damage to the surfaces of stone as they move on and across stonework. They may also leave stains on stone surfaces. The most important mode of deterioration for these organisms is the guano they leave behind, often in great abundance. The guano not only soils and stains stone surfaces, but it contains and produces nitric, phosphoric and uric acid, which can cause direct damage. Guano may also contain damaging salts, or neutralized acids may form salts, which will continue to cause deterioration. Guano is also an excellent nutrient source for other biological species, encouraging them to take hold flourish.

Key words: Biodeterioration, Birds, Historical Monuments

BIRDS OF TEKİRDAĞ (TURKEY)

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The purpose of this study, is to determine the Ornitofaunistic properties of Tekirdag the province conducted by the Forestry and Water Affairs of Nature, General Directorate of Protection and National Parks, Chamber of Biological Diversity, Department of the "National Biodiversity Inventory and Monitoring Project". The study was conducted between September 2013 and 2014. There are 66 map sections in the field. Observations was made in each map section and species identified. Observations were done in between 10:00 to 17:00 hours; using point and line length counting methods. In the diagnosis Hayman and Hume (2002) it was used. 217 species of birds have been identified across Tekirdag. Among them, 119 species are domestic, 41 species are winter migrant, 38 species are transit migrant and 54 species are summer migrant. Tekirdag Province is located on the migration route of bird species from Balkan states. Majority of its type is agroecosystem. In addition, high forest-grassland ecosystem, high mountain ecosystems, coastal dune ecosystems, grassland ecosystems, immature wetland ecosystems consisting ponds, technoecosystems and ecosystems can be found in Tekirdag. Two different sea coast and migration routes of birds on the provincial are despite that the diversity of habitats reveals a uniform status.

Key words: Tekirdağ, Birds, Turkey, Ecology

**HAEMOSPORIDIAN BLOOD PARASITES OF BIRDS OF MAKU:
MORPHOLOGICAL AND MOLECULAR RESEARCH**

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Research in avian blood parasites has seen a remarkable increase since the introduction of polymerase chain reaction-based methods for parasite identification. Twenty-five birds of 13 species (Passeriformes) were caught with mist net in Campus of MAKU. They were examined for the presence of haemosporidian parasites at morphologically and genetically. We applied Giemsa staining to thin blood smears, to detect blood parasites morphologically. Molecular methods were applied because it is difficult to detect the parasites under a microscope. After the isolated total DNA, a fragment of the mitochondrial cytochrome *b* gene of the parasites was amplified, using a nested PCR assay, from avian blood samples. The result of the morphological and molecular study compared. Although we found 40% of the samples as infected of blood parasite by microscopic examination, we found 72% of the samples as infected after the PCR applications. Microscopic examination of blood smears can be effective at diagnosing and quantifying parasite infections. However, molecular method requires, is time consuming, and may be inaccurate for detection of infections at low levels of parasite. As a result, morphological studies are not a reliable method for the diagnosis of parasite.

Key words: Blood Parasite, Molecular, Morphology, Microscopy, Passeriformes, PCR, Burdur

BODY MASS CHANGE IN SUBALPINE WARBLER (*SYLVIA CANTILLANS*) AND NIGHTINGALE (*LUSCINIA MEGARHYNCHOS*) DURING THE SPRINGMIGRATION THROUGH THE WESTERN MEDITERRANEAN (MOROCCO AND SPAIN)

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In the Palaearctic-African migration system, the presence of several ecological barriers enhances the need for a successful stopover strategy and management of fuel stores with stopover sites between barriers being particularly important. Indeed, long-distance migration requires dramatic adaptations for storing and saving energy, and physiological constraints do not allow all birds to complete their migration in a single non-stop flight. Thus repeated stopovers are required to complete their journey. In this study, fieldwork was carried out in spring between April and May, in two study sites in Morocco (one coastal site and one Saharan edge site), and in two study sites in Spain (one Balearic island and one continental site). Because of their relatively higher abundance, two trans-Saharan passerine species were chosen; Subalpine Warbler *Sylvia cantillans* and Nightingale *Luscinia megarhynchos*. The aim of this study was to show out which migratory strategies do birds stopping-over in Morocco adopt after crossing the Sahara, and at which stage refueling prior to crossing the Mediterranean occurs. Our results reveal geographical variations in physical conditions depending on their fattening strategies and habitat preferences.

Key words: Body mass, Fuel load, ecological barriers, Subalpine Warbler, Nightingale, Morocco, Spain

BREEDING BIOLOGY AND NEST SELECTION OF PASSERINE SPECIES OCCUPATION IN NEST

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As forest birds populations decreased these day, some bird species find hard to nest for reasons such as industrialization, urbanization, agricultural practices and destruction of their natural areas. T Nest boxes are made using 150 mm width and 15 mm thick wood. The floor area is 100 mm² and the entrance hole is above 125 mm from the base. The diameter of entrance hole in nest boxes is different for each species. The diameter should be 25 mm for coal tits and blue tits, 28 mm for great tits and tree sparrows, 32 mm for nuthatches and house sparrows, 45mm for starlings and junipers, and 50 mm for forest woodpeckers. In October 2014, 100 next boxes were hung on chosen trees at Terzioğlu Campus, Çanakkale Onsekiz Mart University. These next boxes have 25 mm, 28 mm, 32 mm, 45 mm and 50 mm long diameters in ascending order. Due to the variability of the hole diameter, different types of birds occupied different nests. In the presence of obtained results, factors such as which species occupied which nests, nesting bird populations in the area, hatching success and housing choices of birds using the nests are revealed.

Key words: Keyword tag: Nest box, breeding, passeriformes

CHAFFINCH *FRINGILLA COELEBS* MIGRATIONS ON THE TERRITORY OF FOREST AND FOREST-STEPPE ZONES ON THE LEFT BANK UKRAINE

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Chaffinch is one of the most massive passerine migrants in Ukraine. But nevertheless, study of its migration practically don't exercise. So we decided to fill this gap. The own visual data and those collected due questionnaire were conducted in 2012-2015 in Kyiv, Chernigiv, Sumy and Poltava regions. Phenological dates cover the period from 2000 to 2015. In spring we observed 20 flocks, 499 individuals in total. The size of flocks was from 7 to 60 birds, in average - 25. Mostly birds fly to north (72%), much less – moved to the north-east (28%). The average arrival dates in regions were as following: Poltava – 29.III, Kharkiv – 29.III, Cherkasy – 1.IV, Kyiv – 24.III, Chernigiv – 31.III, Sumy – 27.III. 198 flocks and 15 single migrants, 2719 individuals in total were observed in autumn. The size of flocks was from 2 to 70 birds, in average - 13. Mostly birds fly to south-west (63%), less birds fly to the south (33%). Other directions expressed considerably weaker. The average departure dates in regions were as following: Sumy – 25.X, Chernihiv – 6.X, Kyiv – 28.X. Previous data of Chaffinch migrations were collected. Main phenological features of migration in the regions were ascertained. Directions of migration were identified and the ratio of bird's number to directions of flight in spring/autumn was shown. So due to these studies the gap in migration of Chaffinch in the northern-east part of Ukraine in condition of climate changes was clarified.

Key words: Chaffinch, migrations, climate changes, Ukraine

DETECTION OF THE MIDWINTER WATER BIRD DISTRIBUTION IN ERÇEK LAKE, DÖNEMEÇ AND BENDİMAHI DELTAS WITH GEOGRAPHICAL INFORMATION SYSTEM

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This study was carried out in Erçek Lake, Dönemeç and Bendimahi deltas in Lake Van Basin. The study aims to detect the midwinter water bird counting and distribution with geographical information systems. The study was carried out in the winter months of 2014-2015. In the study, water birds were counted in certain points of Lake Van and between specific hours. Point observation method was used as an observation method. Obtained data was processed into the observation cards, then this numerical data was analyzed with Arcmap 10.2 and MapInfo Professional Programs. Result: Totally 3 fields including Erçek Lake, Dönemeç and Bendihami deltas with high density of birds were identified. Among these fields, in Erçek Lake, totally 2875 individuals belonging to 21 species were found out. Mostly seen species in the field is Sakarmeke (*Fulica atra*). In Bendimahi delta, totally 2062 individuals belonging to 20 species were found out, densely seen species is Mallard (*Anas platyrhynchos*). In Dönemeç Delta, 8092 individuals belonging to 21 species were observed. Mostly observed species in the field is Sakarmeke (*Fulicia atra*). Digitized thematic maps indicating the distribution and density of the species in the field were created according to the nutritional status, 3 fields with high density of species in midwinter in Lake Van Basin were determined. These fields are Erçek Lake, Bendihami and Dönemeç Deltas. As the region has a very harsh winter, it has limited number of nutrition fields for species. Therefore, species are densely seen in the shallow localities with soft water inflow into Van Lake, no freezing water and rich in nutrition. Dense population in these points leads to disadvantageous situation with such factors as hunting and pollution.

Key words: Erçek Lake, Bendimahi Delta, Dönemeç Delta, Water birds, Arcmap 10.2

ECOLOGY OF HIRUNDINIDAE IN TURKEY

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This study composed of 178 days field work was performed during 2010-2012 period in Kızılırmak River (Central Anatolia). House martin (*Delichon urbicum*), red-rumped swallow (*Hirundo daurica*), rock martin (*Hirundo rupestris*), barn swallow (*Hirundo rustica*) and sand martin (*Riparia riparia*) were observed to be summer visitors in the area. We investigated the habitat preferences, population size and breeding features (location and structure of the nests, egg size and reproduction times) of these species. Population sizes of family Hirundinidae species recorded in Kırıkkale Province were compared. We observed that sand martin had the most and red-rumped swallow had the least number of individuals. House martin was encountered 19 times, and maximum 1000 individuals were counted. Red-rumped swallow was encountered once, 10 individuals were counted. Rock martin was encountered twice, maximum 20 individuals were counted. Barn swallow was encountered 50 times, maximum 56 individuals were counted. Sand martin was encountered 42 times, maximum 4435 individuals were counted. We found that House martin, rock martin, barn swallow and sand martin are summer migrants that breed, and red-rumped swallow is a transit migrant in the area. Environmental regulations around the river, sand pit activities, new agricultural lands and the proximity of agricultural lands to the river bed have detrimental effects on the breeding areas of sand martin.

Key words: *Delichon urbicum*, *Hirundo daurica*, *Hirundo rupestris*, *Hirundo rustica*, *Riparia riparia*, Bioecology, Turkey

ECTOPARASITES OF CATTLE EGRET IN ALGERIA

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A remarkable invasion has been presented by the Cattle Egret *Bubulcus ibis*, native to Asia and South Africa, cattle egret is wide spread in Algeria (North-east) since the nineteenth century (Heim Balsac and Mayaud , 1962). He had a large expansion by his adaption of the urban environment. It is now settled in most environments. Our study was conducted in the Algéria country in 2013. Five months monitoring to study some aspects, we identified ectoparasites of chicks, and quantified the parasite load. Identification of ectoparasites chicks showed that they are infected by two species of ectoparasites, Ticks that are représented by *argas sp.*, and louse. Lice are represented by: *Ciconiphilus decimfasciatus*. The lice infestation is most prevalent; it reaches the maximum in chicks of 15 days. In 30 chicks examined lice are most abundant with 613.04 individuals; they are followed by ticks with 176.12

Key words: Cattle Egret, *Bubulcus ibis*, parasites, lice, ticks

**ECTOPARASITISM STUDY OF THE EURASIAN COLLARED DOVE
(*STREPTOPELIA DECAOCTO*) IN NORTH-EASTERN ALGERIA.**

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Knowing that the birds are host to a wide variety of macroparasites (McLanghlin, 1989). Among them there is the ectoparasites that may have adverse effects on their hosts (Møller, 1994). The axis of the complex host-parasite is very important in the dynamics of populations with a rapid growth alongside humans, like the Collared dove, because there is a greater risk of transmission of parasites to humans. Our study was conducted over two consecutive years 2010 and 2011. The monitoring of individuals in the nest and adults allowed us to study ectoparasites from the nest and directly on individuals. The Collared dove in Algeria suffered a heavy parasite load, in fact four species of ectoparasites were identified in the nest: Lice (*Columbicola columbae*, *Lipeurus heterographus*), mites (*Ornithonyssus sylvarium*) and ticks *Argas sp*). Deworming direct adults and chicks showed a presence of five species of ectoparasites including three species of lice and two of mites. Lice are represented by: *Columbicola columbae*, and *Physconelloides sp Colimenopon sp*, and mites by *Ornithonyssus bursa* and *Falculifer sp*. The distribution of parasites on the individuals was about: 38.57% of mites and 61.43% of lice on chickens with a low rate of mites on adults represented by 3% and 97% of lice. Our study demonstrates a co-evolutionary relationship between chicks, adults, and the parasites. Indeed, it seems that our population is not affected by these infective agents (good fitness before the flight). It must still be noted that the action of parasites is expressed through long term and certainly would play a role on the fitness as well as on the physiological conditions of their hosts.

Key words: Collared dove, *Streptopelia decaocto*, parasitism, lice, mites, ticks

**EUROPEAN BEE-EATER (*MEROPS APIASTER*) COLONIES IN
CORUM, NORTHERN TURKEY**

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In this study, it was aimed to examine the presence of bee-eater populations and the properties of their breeding areas in Çorum, Northern Turkey. The European bee-eater (*Merops apiaster*) is an important bird species due to being effective ecosystem engineer. It is migratory and it breeds in southern Europe and in parts of north Africa and western Asia. Field studies were carried out in a 170 km² area in Çorum Province between May and August in 2014 breeding season. During this study, four breeding colonies and some solitary pairs were found at three different areas. The colonies settled on a bank on a roadside, banks in two dried stream beds and a bank utilized for quarry. In conclusion, the data described in this preliminary study extend our knowledge about the distribution and breeding areas of The European bee-eater to a new area. It is clear that this study region is an important bee-eater breeding area and this area would be interesting for the researchers studying on bee-eaters in the subsequent projects.

Key words: European bee-eater, *Merops apiaster*, Colony, Corum

EVOLUTION OF THE PARASITE LOAD: IDENTIFICATION AND QUANTIFICATION OF ECTOPARASITES OF THE COMMON MOORHEN "*GALLINULA CHLOROPUS*" IN THE NORTH-EAST OF ALGERIA

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The focus and context in our search, consists in the study of parasites of the common moorhen "*Gallinula chloropus*". It is widely distributed throughout Algeria, and is present in all wetlands with large numbers. This is why it represents a good model that provides the ability to perform long-term studies on the impact of ectoparasites. Our study was conducted from November 2012 to April 2013 and focused on ectoparasites of the bird nesting in the lake Tonga (Algerian extreme Northeast). In a sample of 08 individuals examined, we identified 02 types of ectoparasites: mites and lice. Mites were represented by 02 families: Pterolichidae, and Analgidae; lice by 02 families also: Menoponidae and Phylloptéridae. The parasite load in the common moorhen increases when external conditions are favorable. Mites are almost all of ectoparasitic stand (97,60%). However, lice constitute only (02,40%) of the parasites. Ectoparasites have been the subject of a parasitic typology as follows: 49.16% in the wings, 27.91% in the belly, 20.27% on the back and only 0.93% at the tail.

Key words: *Gallinula chloropus*, Parasitism, Mites, Lice, Lake Tonga.

FARMLAND BIRDS COMMUNITIES OF ABANDONED AND INTENSIVELY CULTIVATED FARMLAND LANDSCAPES IN BULGARIA

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Farmland birds have been reported to strongly decrease in Europe over the last 30 years. Agricultural land abandonment and intensification are considered the main drivers for the negative population trends. The aim of the study was to examine the difference in breeding bird community structure of two model areas in Bulgaria – an area with different stages of post-abandonment vegetation regrowth and another one where intensive agriculture still exists. We also related bird community structure to the landscape composition and configuration metrics calculated for the sampling plots. Our results demonstrated that species richness and diversity were negatively affected by both woody vegetation cover characteristics along the secondary succession gradient and agricultural intensification. The shifts in bird community pattern in abandoned agricultural fields were mainly related to grassland specialists that decreased in species richness, diversity and abundance along the succession gradient. Birds from the European conservation concern were also negatively affected by both processes. To stop and reverse the loss of farmland bird diversity in the rural areas, a sustainable development should be reinforced by a proper implementation of agri-environment and other policy measures that effectively encourage the small-scale extensive farming.

Key words: farmland birds, land abandonment, agricultural intensification

FEMALE YELLOW-VENTED BULBULS (*PYCNONOTUS XANTHOPYGOS*) PREFER ATTRACTIVE UNFAMILIAR MALES AS A MATING PARTNER: EXPERIMENTAL EVIDENCE

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Yellow-vented bulbul (*Pycnonotus xanthopygos*) is territorial and socially monogamous species, pair bonds persists through breeding season or all year and often lasts for several years and species flocking in the winter and social units of about 5 to 50 individuals. The sexes of species are similarly ornamented and yellow ventral patch is an important character for pairing and also plays role in mate choice. In this study we intend to examine the role of ornamentation and familiarity on mate choice in Yellow-vented bulbul in aviary experiments. We first manipulated intensity of yellow patch colour of both familiar and unfamiliar birds to distinguish effect of yellow patch of individual's attractiveness. Individuals were randomly assigned to increased or decreased yellow group. Second we measured both males' and females' preferences for yellow patch and familiarity using an aviary four-choice test. Our results provide evidence that Yellow-vented bulbuls are able to discriminate familiar and unfamiliar conspecifics and male ornament and familiarity interactively affect female mate choice. The experimental increase of the intensity of the male's yellow patch resulted in increased sexual interest by the females. Females preferred unfamiliar males with increased yellow as a mating partner. Acknowledgments This study was supported by The Scientific and Technological Research Council of Turkey, TUBITAK (project no: 212T111), and was conducted with permission of the Ministry of Environment and Forest (17825/04.03.2011) and Akdeniz University Ethical Committee on Animal Experiments regulations (134/26.01.2012).

Key words: Yellow-vented bulbul, *Pycnonotus xanthopygos*, Sexual selection, mate choice, familiarity, ornamentation

FIRST CASE OF *COLLYRICLUM FABAE* IN A *PARUS MAJOR* IN TURKEY

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Collyriclum faba is a trematod parasite of numerous bird species in Europe, northern Asia, and the Americas, both migrants and residents. The life cycle of *C. faba* is unknown; its first intermediate host is unknown and its second intermediate hosts are probably insects. The parasite can be found in subcutaneous cysts located in various parts of the body of its avian host. *C.faba* adults occur in pairs within subcutaneous cysts. A case of *Collyriclum faba* in a *Parus major* described in this report. Totally 6 cyst were localized under the skin in abdominal area near the cloaca. Three of the cysts submitted for parasitological examination and the other three cysts fixed in 10% formalin and examined microscopically. At the histopathological examination all of the subcutaneous cysts the parasite occurred in pairs in one cyst and no inflammatory reaction was observed. The parasites removed the cysts and diagnosed as *Collyriclum faba* according to the morphological characteristics. This is the first *C. faba* report in Turkey.

Key words: *Collyriclum faba*, *Parus major*, pathology, parasitology.

**FIRST CONFIRMED OPEN NESTING IN EUROPEAN ROLLERS
(CORACIAS GARRULUS)**

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The European Roller is a secondary nester which uses holes on trees, earth slopes, or man-made structures, including buildings, walls, bridges, etc. For natural substrates, nesting places are usually excavated by other species such as woodpeckers, and bee-eaters. We determined several properties of nest sites in Diyarbakir area (South-eastern Turkey), hypothesizing that nest places which were preferred by the species must show differences depending on environmental favourability, especially on available habitats for foraging. Material and Methods: Field excursions were conducted between May and July 2015, using standard ornithological equipment (field glasses, telescopes, cameras, and GPS devices). Attributes of active nests as well as of neighbouring area were determined. Particular attentions were paid to habitats used by the nest owners, and to their possible effects on selection of nesting places. During field excursions in frame of a more detailed study aiming to gain data on habitat selection of the European Roller in the study area, we detected that open nests were also used by the species. A literature survey shows that this is the first documented detection of open nests for the species. Rollers were observed breeding in nests of Magpies (*Pica pica*) on pine (*Pinus nigra*) trees, which were apparently used in previous seasons and already abandoned at this time. At least two out of four nests, which were found in a single area, contained chicks. Nest site availability in relatively rich habitats for foraging might be crucial for reproduction of the species. In areas which offer only limited opportunities for nesting, the birds are apparently forced to select nesting places that could be risky in terms of their susceptibility to predation, or unfavourable climatic conditions. This study was supported by the Scientific and Technological Research Council of Turkey (TÜBİTAK) (Project No.: 114Z995).

Key words: European Roller, *Coracias garrulus*, Breeding, Nesting, Habitat selection.

**FORAGING HABITAT SELECTION OF BLACK-BILLED GULL
GELOCHELIDON NILOTICA, IN CENTRAL SPAIN.**

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Understanding habitat selection patterns is relevant to develop management strategies in species conservation. Black-Billed Gull *Gelochelidon nilotica* is a worldwide distributed species that breeds in wetlands of Central Spain (mainly in Biosphere Reserve of Castilla-La-Mancha). The study area is covered by different types of crops: cereal fields, vineyards and olive trees between others. The main objective of the present study was to determine if some of these habitats are preferred for foraging. We selected 20 points at random around each five wetlands where the species is known to nest in Castilla-La-Mancha, to quantify the availability of soil use types. Then we cover 14 transects by car within a circle of 7 km radius around each wetland, (total 1,346.86 km), obtaining 53 points with presence of black-billed gull hunting (200 birds in total). Both in random and contact points we recorded the habitat type and the distance to the nearest breeding wetland. Then we compared use and availability using the rank test. The preferred habitat were the cereal crops in their three stages (crops growing, mature crops and harvested crops) while vineyards were avoided. Black-Billed Gull foraged on average 3 km away from the colony (range 0.2 - 17.7).

Key words: Black-billed Gull, Castilla- La-Mancha, Cereal crops, habitat selection, vineyards, wetland

IDENTIFICATION OF THE DAILY DISPLACEMENT ACTIVITIES OF WHOOPER SWAN (*CYGNUS CYGNUS*) WITH GEOGRAPHICAL INFORMATION SYSTEMS (GIS) IN LAKE VAN

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The aim of this study is to identify the daily displacement activities Whooper Swan (*Cygnus cygnus*) in Lake Van Basin with Geographical Information Systems (GIS). In this study, fields preferred by Whooper Swan, a winter visitor and its daily activities were determined. This examination is based upon the data of the observation conducted in 2015 winter season. With point observation method, population density and daily displacement activity were identified. All obtained numerical data was analyzed with Arcmap 10.2 and Maplnfor Professional Programs. 4 fields where the species lodged were identified in Lake Van. 17 individuals in Dönemeç Delta, 63 in Yaylıyaka reeds, 52 in Göründü reeds and 23 in Çelebibağ reeds, totally 155 individuals were found out. Population density and daily displacement activity of the species vary. However, less activity was seen in Çelebibağ reeds due to intense hunting pressure. In the analyzed data, thematic and temporal comparative maps were created with the purpose of specifying the daily displacement and population of the species. In accordance with the obtained data; in Dönemeç Delta, Göründü and Yaylıkaya reeds, Whooper Swan was seen to rest and be fed in the distant parts of the lakes, far from the waterside in in the daytime. It was found out to approach to the waterside more in the evening and rest in the sand dune area. Population mobility was put forward to be resulted from dense anthropogenic and environmental factors. Çelebibağ reeds is very close to the settlement unit. Due to this reason, Whooper Swan take shelter in a roost far from the humans and animals. This shelter is very muddy and impractical for transportation. The species which felt safe was found out to have less displacement activity.

Key words: Whooper Swan (*Cygnus cygnus*), Arcmap 10.2, Dönemeç Delta, Yaylıyaka Reeds, Göründü Reeds, Çelebibağ Reeds

INFORMATIVE NOTES ON THE AQUATIC BREEDING BIRDS FROM CRAIOVA MUNICIPALITY (DOLJ COUNTY, ROMANIA)

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Craiova municipality is an important city located within a plain area from the south-west of Romania, on the left bank of the Jiu River. The aquatic basins from the city attract a wide variety of aquatic and semi-aquatic birds in spite of the intense industrialization and anthropogenic pressure exerted over time. In time, birds adapted to the present urban living conditions. The bird monitoring that started in 2000 led to the identification of 46 aquatic and semi-aquatic species. 18 species are considered nesting species and 5 species possibly nesting species. Most of the breeding species are migratory. The number of nesting species and pairs varied from one year to another. The common species that breeding here annually in the last five years (2011–2015) are: *Aythya nyroca* (2–4 pairs), *Anas platyrhynchos* (+9 pairs), *Ixobrychus minutus* (3–7 pairs), *Nycticorax nycticorax* (4–6 pairs), *Ciconia ciconia* (1–2 pairs), *Tachybaptus ruficollis* (2–5 pairs) *Gallinula chloropus* (7–10 pairs), *Fulica atra* (8–15 pairs), *Chlidonias hybrida* (4–8 pairs), *Vanellus vanellus* (3–9 pairs), *Acrocephalus schoenobaenus*, *A. scirpaceus*, *A. arundinaceus*, *Motacilla alba*. Of the nesting species present in the city, 8 species are mentioned in Annex 1 of the Birds Directive: *Aythya nyroca*, *Ixobrychus minutus*, *Circus aeruginosus*, *Himantopus himantopus* (all are breeding species in the reed thicket), *Nycticorax nycticorax* (in the willows near Craiovița Lake), *Egretta garzetta* (starting with 2013, breeding in colonies of 5-7 pairs in association with the black-crowned night heron in the scrublands along the bank of the Jiu), *Ciconia ciconia* (install nests on the electricity poles from Mofleni), *Chlidonias hybrida* (built floating nests at the edge of the reed thicket).

Key words: anthropogenic habitat, aquatic birds, reproduction

MORPHOLOGY OF FLAMINGO SKULLS FOUND DEAD AT SALT LAKE IN GÖKÇEADA

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Morphological studies are, the field that have both long and rich stories, and also, important integrative elements of paleontology and biology. Osteology studies provides general information about the growth, evolution, biodiversity and biomechanism of organisms. Flamingos are appropriate for morphological analysis due to the factors such as their dietary patterns can vary according to where they live. Therewithal, possibility to observe changes in their phenotypes and small variations with morphological studies can be obtained too. In the study carried on ten flamingo skulls that found dead on Gökçeada Salt Lake, premaxilla length, maxilla length, jugal length, quadratojugal length, quadrate length, pterygoid length, palatine length, nasal length, prefrontal length, lacrimal length, Squamosal length, parietal length, dentary length, surangular length, angular length, nostril opening, orbital opening, foramen magnum opening, vomer aperture of the samples are measured with caliper. Since the study has been conducted in Gökçeada, Çanakkale, lack of similar studies in Aegean region on flamingos does not provide any possibilities to make comparisons. Similar studies, that will be conducted on different regions in the next years, will create the sources to explain morphological variations between regions.

Key words: Keyword tag: *Phoenicopterus roseus*, Gökçeada, morphology, skull

ORNITHOLOGICAL PARAMETERS WHICH SHOULD BE TAKEN INTO CONSIDERATION WHILE BUILDING A WIND FARM

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In this study we intent to examine the ornithological parameters which should be taken into consideration while building a wind farm (WF). In this regard possible impacts of WF and possible mitigation measures available to minimize those impacts were discussed. Contemporary literature, professional monitoring reports and our field study results were evaluated. Impacts of WF on birds are classified as Habitat Effects (Habitat lose or fragmentation of breeding, post-breeding, foraging, wintering or stop-over sites due to transformation of landscape), Behavioural Effects (Disturbance or displacement during construction and operation phase. And also changes in the migratory directions and flight altitudes due to barrier effect) and Direct fatality (Immediate deaths or severe injuries due to accidentally collusion of flying birds with turbine rotating blades or turbine towers itself). WF need to meet precise ornithological criteria both before and after the constructions to minimize those impacts. In WF site selection phase, distance of the WF to wetlands, conservation sites, bird migration routes and breeding site of large raptors like griffon vulture and white-tailed eagle should be considered and WF sites should not be planned close to these areas. Before–after control impact assessment (BACI) studies should be conducted and ornithological monitoring reports should be prepared both in autumn and spring migration period at least for 2 years by experts. In this context, before construction phase, birds of WF site and its close proximity and migration routes of birds should be determined. Threatened bird species, migrant raptors and large flocks like cranes and storks should be classified as a target species and should be monitored. During construction and post construction phase carcass search studies should be conducted to determine collisions. Turbine visibility might be increased to prevent collisions by painting the turbine blades with ultra-violet paints and using intermittent light on the top of turbine.

Key words: Wind farm, site selection, bird migrations, monitoring, mitigation

PATTERNS OF SPECIES RICHNESS OF WADERS IN THE “LA MANCHA HÚMEDA” BIOSPHERE RESERVE, CENTRAL SPAIN

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Area, isolation and environmental heterogeneity are ecological mechanisms widely known as drivers of patterns of species richness. Migratory birds that move to areas of wintering has priority in seek sites of rest and foraging, while breeding birds need balance between safe environments for the nest, as well as foraging habitats. In this work, we aim determining the pattern of richness of wintering (non-breeding) and breeding waders on twenty-two saline lakes of “La Mancha Húmeda” Biosphere Reserve (MHBR). Hierarchical Partitioning Analysis was used for to detect the individual contribution of twelve environmental variables. We recorded twenty-six species (8 breeding and 18 non-breeding species). For both groups, the greater richness was obtained in the same lakes. The richness of breeding and non-breeding species were strongly dependent on the spatial arrangement of the lakes (spatial autocorrelation). For breeding birds, the richness also was associated with the hydroperiod and number of lakes in a radius of 10 km. In the last three decades many wetlands of MHBR has been strongly altered by wastewater. Our results are the first insight about the effects of this and other factors in the richness patterns of waders in the MHBR.

Key words: Migratory birds, environmental factors, specie-area relationship, saline lakes

PLACE OF SOME CATEGORIES OF PREY IN THE DIET OF WHITE STORK IN THE REGION OF EL MERDJA (TEBESSA – ALGERIA)

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The white stork is an opportunistic bird, its food content reflects the type of food availability in its foraging area and Orthoptera have always represented an important part of its diet. The site of El Merdja undergoes significant degradation partly caused by human action, that will affect the distribution of fauna including orthoptera hence the importance of this study. The methodology is to recuperate the mandibles of Orthoptera after decorticating 55 pellets of white stork, harvested in the region of El-Merdja during the months of February to may 2014. 207 pairs of mandibles of Orthoptera récentes were divided into three families: Acrididae (175 individuals), Pamphagidae (21 individuals) and Gryllidae (11 individuals). Six s / Orthoptera families were identified spread over eight genera and species. *Acridella* sp is the most abundant (74 individuals) maximum is recorded in March followed *Ailopus thalassinus* (55 individuals) and *Ailopus strepens* (38 individuals). All families are constant, and the subfamilies Acridinae-field cricket and Pamphaginae; Oedipodinae is common and Gryllotalpinae is rare. Conclusion All species are constants, *Oedipoda miniata* is common and *Gryllotalpa gryllotalpa* is rare. The Acrididae family is the most dominant (84.54%) and the s / Family acridinae (81.5%). the species *Acridella* sp is the most dominant.

Key words: Orthoptera - prey - white stork - Tebessa

PLACE OF THE HYBRID SPARROW AND COLOMBIDAE IN THE AVIFAUNA OF TWO PALM GROVES IN THE REGION OF OUARGLA, ALGERIA

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The present research work was carried out in two palm groves in the region of Ouargla (Algeria), that of El Ksar (31 ° 58'N. And 5 ° 19'E.) and the agricultural exploitation of the university kasdi merbah Ouargla (31 ° 56N. and 5 ° 17 'E.). To study the avifauna of this region we adapted the squared plans method. Thus, 22 species were recorded in the palm grove of El Ksar and 29 species in the university grove. Within 22 bird species inventoried during the breeding season at El Ksar, 15 families are reported. Most dominant and most important in number of species observed are those of thrush, pigeon family, and Sylviidae, each with 3 species. However the 25 bird species recorded in the palm grove of the university, belonging to 18 families whose best represented is that of Turdidae with 5 species followed by the pigeon family with 4 species. In both study stations the hybrid sparrow species is clearly dominates by a relative abundance equal to 33.3% in El Ksar and 34.9% in the agricultural exploitation of the university. And for the distribution type, it was found that the hybrid sparrow always has contagious distribution in both stations.

Key words: avifauna, hybrid sparrow, columobidae, palm groves , Ouargla

PLACE THE BIRDS IN THE DIET OF THE BARN OWL *Tyto alba* IN TWO DIFFERENT STATIONS IN THE REGION OF OUARGLA (ALGERIAN SAHARA)

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This work port on the study of the diet of the Barn Owl *Tyto alba* in the region of Ouargla following the analysis of pellets of rejection, After two stations (El Ksar, Tazegrert). For El Ksar station, two category-preys are counted. Birds occupy the first ranks (AR = 90.9%). followed by rodents (AR = 9.0%). The most consumed prey are Columbidae sp.ind. (AR = 81.8%), followed by Timaliidae (AR = 9.0%) and Muridae (AR = 9.0%). In the second, which is the Tazegrert station, two category-preys are identified. Birds (AR = 81.8%). Distantly followed by rodents (AR = 18.2%). Among prey species, *Streptopelia sp.ind* (AR = 63.6%), spend sp.ind (AR = 9.0%), *Turdoides fulvus* (AR = 9.0%), *Mus musculus* (AR = 9 0%), and *Elyomis quercenus* (AR = 9.0%) are the most consumed. In overall terms, the birds occupy first place in the diet of the Barn Owl in the region of Ouargla (AR = 86.3%). Followed by rodents (AR = 13.7%). And the most consumed prey is streptopelia sp.ind (AR = 72.7%).

Key words: *Tyto alba*, diet, pellets, Ouargla, Algerian Sahara

POSSIBLE DISEASE THREATS FROM FARMS TO REINTRODUCED WILD ANIMALS IN CENTRAL- WESTERN PROTECTED AREAS OF SAUDI ARABIA

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There is plan to establish poultry and livestock farms near the protected areas in central-western Saudi Arabia, it is extremely important to establish the site as far as possible from protected areas. This might prevent transmission of any disease to re-introduced *Oryx leucoryx*, *Gazella subgutturosa marica*, *Struthio camelus camelus* and *Chlamydotis macqueenii*. Most of the infectious diseases could be very dangerous to the reintroduced animals, when there is an interface between farmed birds and wild birds at some location as houbara, lappet-faced vulture and other globally threatened birds move out of the protected area and possibly mingle with farmed birds then there is a potential for the transmission of pathogens from domestic animals to wild animals. We found Arabian Oryx, houbara bustard are very vulnerable to various diseases such as Newcastle disease, *Avian poxivirus*, Adenovirus, Chlamydiosis, Salmonellosis, Q-fever, Bluetongue (orbivirus), Malignant catarrhal fever (*Alcelaphine herpesvirus-1*). It has been suggested to implantation of poultry farms within 10 kilometers of the protected area should not be authorized, implantation of livestock breeding, rearing, wintering, slaughtering units within 10 kilometers of protected areas should not be authorized and regularly control disease risk 30 km around the protected areas (serological screening).

Key words: disease transmission, poultry and livestock farms, reintroduced animals, Saudi Arabia

PREDICTING ECOLOGICAL IMPACTS OF SEA-LEVEL CHANGE ON COASTAL CONSERVATION AREAS IN INDIA

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In addition to the mounting empirical data on direct implications of climate change for natural and human systems, evidence is increasing for other, indirect climate change phenomena such as sea-level rise. Rising sea levels and associated marine intrusion into terrestrial environments are predicted to be among the most serious eventual consequences of climate change. The many complex and interacting factors affecting sea levels create considerable uncertainty in sea-level rise projections: conservative estimates are on the order of 0.5-1.0 m globally, while other estimates are much higher, approaching 6 m. Marine intrusion associated with 1– 6 m sea-level rise will impact species and habitats in coastal ecosystems severely. Examining areas most vulnerable to such impacts may allow design of appropriate adaptation and mitigation strategies. We present an overview of potential effects of 1 and 6 m sea level rise for coastal conservation areas in the Indian Subcontinent. In particular, we examine the projected magnitude of areal losses in relevant biogeographic zones, ecoregions, protected areas (PAs), and Important Bird Areas (IBAs). In addition, we provide a more detailed and quantitative analysis of likely effects of marine intrusion on 22 coastal PAs and IBAs that provide critical habitat for birds in the form of breeding areas, migratory stopover sites, and overwintering habitats. Several coastal PAs and IBAs are predicted to experience higher than 50% losses to marine intrusion. We explore consequences of such inundation levels on species and habitat in these areas.

Key words: Sea-level Change, Coastal Inundation, Marine Intrusion, Biogeographic Zones, Ecoregions, Protected Areas, Important Bird Areas, Adaptation, Mitigation

QUALITATIVE AND QUANTITATIVE ANALYSIS OF BIRD FAUNA
WITHIN THE AREA OF CRAIOVA INTERNATIONAL AIRPORT (0 – 3
KM) (ROMANIA)

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The study renders the results of the ornithological research achieved in 2014-2015 within the perimeter and the proximity of Craiova International Airport (C.I.A.) on a range of 3 km, thus covering all the ecological aspects of the year. The list resulted after the research includes 58 bird species belonging to 13 systematic orders. Forest and shrub species are predominant (37). From the henological point of view, 25 species are sedentary, 7 species are partially migratory, 22 species are summer guests, 3 species are winter guests and 1 species is a passage species. Within the perimeter of C.I.A., we identified 21 species that flew over the airport at different heights or were stationary in various places. Of the total number of identified species, 28 species may trigger certain risks for the safety of airplanes and, implicitly, for air traffic, either due to their large size and high flight or their gregarious behaviour. Among these, the most frequently met are: *Columba livia domestica*, *Streptopelia decaocto*, *Corvus monedula*, *C. frugilegus*, *Pica pica*, *Passer montanus*, *P. domesticus* followed by *Falco tinnunculus*, *Phasianus colchicus*, *Columba palumbus*, *Hirundo rustica*, *Sturnus vulgaris*, *Emberiza calandra*. Other potentially dangerous species were rarely (*Ardea cinerea*, *Anas platyrhynchos*, *Buteo buteo*, *Larus ridibundus*) or very rarely/accidentally observed (*Ciconia ciconia*, *Vanellus vanellus*, *Larus cachinnans*, *Turdus pilaris*, *Fringilla sp.* *Carduelis sp.*). The most numerous number of individuals was registered for the species *Corvus sp.*, *Sturnus vulgaris*, *Columba sp.*, *Passer sp.* Most of the birds present a maximum activity and dynamism during the first part of the day (7 a.m. to 12 p.m.) and towards the evening (2 to 5 p.m.), in the interval February – March and September - October.

Key words: ornithological analysis, International Airport Craiova

RE-INTRODUCTION OF THE RED-NECKED OSTRICH (*STRUTHIO CAMELUS CAMELUS*) IN FENCED PROTECTED AREA OF CENTRAL SEMI-ARID AREA IN SAUDI ARABIA

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The Arabian Ostrich *Struthio camelus syriacus* a distinct subspecies became extinct in the wild during the mid-20th century, due to over-hunting and commercial exploitation. The extant of *S. C. camelus*, a Red-necked form that occurs in northeastern Africa and is considered the most closely related, and possibly the same subspecies as the extinct Arabian form has been chosen for the reintroduction in 1988-89 by obtaining Red-necked Ostrich from Sudan from a private collection. Few birds were translocated to Mahazat as-Sayd protected area in 25 ha fenced enclosure in 1994. Until now a total of 96 Red-necked Ostrich have been released in fenced Mahazat as-Sayd and the estimated population is between 125 to 150 individuals. Since captive flock of ostriches were translocated to Mahazat their survival rate increased (>41%) by the end of 2000. On an average 22-30 chicks are hatched annually. A total of 137 ostriches recorded dead over the period of 13 years during drought period. One of the key questions is what proportion of birds makes use of the supplementary food and water provisions, and what happens to those birds that do not use it? Captive-bred and wild-born adult and young ostriches died of starvation and thirst, despite being provisioned with alfalfa and water in several years! Present population of ostrich in Mahazat is more than 300.

Key words: Red-necked Ostrich *Struthio camelus camelus*, reintroduction, Saudi Arabia, drought.

SEASONAL BIRDS' DYNAMIC AND BREEDING SEASON IN TWO WETLANDS FROM PRUT RIVER BASIN (ROMANIA AND MOLDOVA)

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Our study was done during 2012 – 2015, using the fixed point method in two IBAs from the Prut River basin: Jijia and Miletin Ponds (Romania) in the middle sector and Manta–Beleu Lakes (Moldova) in the lower sector. We recorded 75 bird species in the first area, respectively, 83 species in the second one, the majority of them being waterfowls and waders (52 species on the Jijia and Miletin Ponds and 75 species in Manta–Beleu area). We found 43 breeding species in the first IBA and 33 breeding species in the second IBA. During the migration time, we recorded 27 passage bird species on the Jijia and Miletin Ponds, while in the Manta–Beleu area, 39 species appear just in passage. Both sites represent birds' wintering areas, with visibly more species on the Manta-Beleu Lakes (13) than on the Jijia and Miletin Ponds (5). We met 5 globally threatened species (*Aythya nyroca*, *Microcarbo pygmeus* and *Haliaeetus albicilla* like breeding species, while *Branta ruficollis* and *Aquila clanga* appear in passage), respectively, 40 bird species included in Annexe 1 of Birds' Directive, 24 of them being mentioned in the Romanian Red Book and Moldavian Red Book, too.

Key words: wetlands, IBAs, bird fauna, breeding season, wintering, migration

**SEASONAL BODY MASS CHANGES IN PIED FLYCATCHER
(*FICEDULA HYPOLEUCA*) AT TWO STOPOVER SITES IN MOROCCO**

ZERDOUK SOUAD, SCHAMEL ABDENBI & RGUIBI IDRISSE HAMID

ZERDOUK SOUAD & RGUIBI IDRISSE HAMID: EQUIPE DE RECHERCHE : VALORISATION DES RESSOURCES NATURELLES ET BIODIVERSITÉ UNIVERSITÉ CHOUAIB DOUKKALI, FACULTÉ DES SCIENCES, BP 20, EL JADIDA, MOROCCO, SCHAMEL ABDENBI: LABORATOIRE BIOCHIMIE, NUTRITION ET VALORISATION DES RESSOURCES NATURELLES, UNIVERSITÉ CHOUAIB DOUKKALI, FACULTÉ DES SCIENCES, EL JADIDA, MOROCCO

Seasonal body mass changes during stopover were investigated for the pied flycatchers *Ficedula hypoleuca* stopping over at two sites in Morocco, the reedbeds of Larache on the Atlantic coast, and Smir marshes on the Mediterranean coast. Estimation of stopover duration was done using the recent method by Schaub et al. (2001). We investigated effects of age and site on body mass parameters and to describe the diet in terms of prey composition to further interpret these data in relation to migration strategy during the stopover in Morocco. Body mass and fat reserves all increased markedly during the day since first capture. These changes in body mass were strongly associated with the observed changes in fat reserves. The prey size distribution differed significantly between the two sites with birds at the reedbeds of Larache fed larger prey than at Smir marshes.

Key words: Body mass, stopover ecology, Pied Flycatcher, migration, Morocco

**SEXUAL DIMORPHISM IN YELLOW-VENTED BULBUL
PYCNONOTUS XANTHOPYGOS: MALES ARE LARGER BUT NOT
BRIGHTER**

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Yellow-vented bulbul has grey-white eye-ring and yellow ventral, with combination of these characters are diagnostic for species identification. The sexes of species are similarly ornamented and it has no distinguishable sexual trait. Yellow ventral patch is an important character for pairing and also plays role in mate choice. We intend to investigate sexual differences in morphology and yellow under tail coloration of yellow-vented bulbul whose sexes are similarly ornamented. We used CHD sexing to determine the sexes of bulbuls. Then we measured 13 morphological traits (bill height, bill width, bill length, alula, tarsus, wing, 8th primer, tail, head to bill, total length, body bass, and length and width of yellow ventral patch) of 58 male and 53 female bulbuls: Also reflectance curves of yellow ventral patch were measured by a Spectrometer. Multivariate analysis of variance (MANOVA) used to determine differences in morphology in sexes. Males were significantly larger and heavier than females in 12 morphometric variables except for bill width ($P < 0.05$). In contrast, no differences were found reflectance of yellow ventral patch ($P > 0.05$). Our results confirm that sexes of Yellow-vented bulbul are sexually dimorphic. Acknowledgments this study was supported by the Scientific and Technological Research Council of Turkey, TUBITAK (project no: 212T111), and was conducted with permission of the Ministry of Environment and Forest (17825/04.03.2011) and Akdeniz University Ethical Committee on Animal Experiments regulations (134/26.01.2012).

Key words: Yellow-vented bulbul, *Pycnonotus xanthopygos*, Sexual dimorphism, ornamentation, morphology

SOME FEATURES OF WOODPIGEON COLUMBA PALUMBUS WINTERING IN UKRAINE

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Woodpigeon *Columba palumbus* is known as a breeding migratory species on territory of Ukraine, though part of its population remains on wintering, especially in south regions. The aim of our studies was to define the main wintering places of Woodpigeon in Ukraine and estimate the numbers of its accumulations in this period. During January-February months in 2010-2015 we organized pedestrian and motor-car rout accounts of wintering Woodpigeons on territory of different biotopes of Odesa, Mykolaiv, Kherson regions and in the Crimea. As a result of our researches, it was recorded that main places of Woodpigeon wintering are in two regions on the south of Ukraine. First, is the district of rice growing near the Danube River in Odesa region on a border with Romania, where Woodpigeon together with other birds feed mainly on rice grain left after crop cutting. The maximal size of coveys makes 100 thousand individuals here. The second region is a districts situated at the foot and mountain of Crimea (inclusive the South Bank of the Black Sea), where these birds feed mainly on oak acorns and nuts of beech tree in the local forests. The amount of birds in these accumulations here reaches to 50 thousand individuals. Except this, the cases of single individuals wintering are known in central (Kirovograd region) and northern parts (Kiev town) of Ukraine. So it was recorded that main wintering areas of Woodpigeon in Ukraine are on the territory of the most southern and southern-west parts of Ukraine (Odesa region and the Crimea), however there is a certain tendency of expansion of wintering places of this species to more northern regions of the country.

Key words: Woodpigeon, wintering, Ukraine

STATUS OF REINTRODUCED HOUBARA BUSTARD CHLAMYDOTIS MACQUEENI IN SAUDI

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The breeding programme of Houbara bustard was started in Saudi Arabia in 1986 to undertake the restoration of native species such as Houbara through a programme of re-introduction, involving the release of captive bred birds in the wild. Two sites were selected for houbara re-introduction i.e., Mahazat as-Sayd and Saja Umm Ar-Rimth protected areas in 1988 and 1998 respectively. Both the areas are fenced fairly level, sandy plain with a few rock outcrops. Captive bred houbara have been released in Mahazat since 1992 by NWRC and those birds have been successfully breeding since then. The nesting season of the houbara at Mahazat recorded from February to May and on an average 20-25 nests are located each year but no nesting recorded in Saja. Houbara are monitored using radio transmitters through aerial tracking technique and also vehicle for terrestrial tracking. Total population of houbara in Mahazat is roughly estimated around 300-400 birds, using the following: $N=n_1+n_2+n_3+n_4+n_5$ (n_1 =released or wild born, radio, regularly monitored/checked; n_2 =radio tagged missing; n_3 =wild born chicks not recorded; n_4 =wild born chicks, recorded but not tagged; n_5 =immigrants). But in Saja only 4-7 individuals of houbara have been survived since 2001 because most of the birds are predated immediately after the release. Mean annual home was also calculated using Kernel and Convex polygons methods with Range VII software. The minimum density of houbara was also calculated. In order to know the houbara movement or their migration to other regions, two captive-reared male houbara that were released into the wild and one wild born female were fitted with Platform Transmitter Terminals (PTT). The home range shows that wild-born female has larger movement than two males. In 2014 one more area has been selected for reintroduction programme to establish the network of sites to provide easy access to move these birds and mingle with the wild houbara. Some potential sites have been proposed which require more surveys to check the habitat suitability.

Key words: Asian Houbara bustard, reintroduction, movement, Saudi Arabia

THE AVIFAUNA OF THE WETLAND AREAS OF GELİBOLU PENINSULA

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The wetland areas have a great importance in terms of their biological variety, sustainable ecological resources and bird species. These important ecosystems are changing or disappearing in a global level because of the urbanization, pollution, agricultural activities and the interference to the hydrologic system. For protecting the wetland areas and revealing their importance, the identification of the biological variety can be one of the first steps. In Gelibolu Peninsula, there are a lot of wetland areas which are important for breeding, nutrition and station for a variety of bird species; this increases the importance of the Peninsula in terms of bird migration movement. In our field Works, we made observations in 3 wetland areas which have different habitat types. As a result of the field works; 162 bird species that belong to 18 families and 43 ordos in Kavak Delta, 128 bird species that belong to 14 families and 36 ordos in Uzunhızırılı pond, 123 bird species that belong to 14 families and 37 ordos in Lake Tuz in Kemik Snout(Suvla) are identified.

Key words: Avifauna, Gelibolu Peninsula, Wetlands, Kavak Delta, Uzunhızırılı Pond, Lake tuz in Kemikli Snout

THE DIURNAL RHYTHM OF THE WHITE-HEADED DUCK'S *OXYURA LEUCOCEPHALA* AND THE FERRUGINOUS DUCK'S *AYTHYA NYROCA* ACTIVITIES, DURING HIBERNATION IN THE WETLANDS OF SOUK AHRAS (NORTH EAST OF ALGERIA)

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Even though they form they oriental part of the high plains in Algeria, the natural and artificial wetlands of Souk Ahras are very poorly studied. Their ecosystem occupies a surface of around 800 has and shelters, especially during the hibernation season, a significantly diverse Fauna and flora namely birds. These waterfowl inhabitants of the region constitute mainly of diving ducks. Two species of which are internationally recognized as the White-headed duck *Oxyura leucocephala* and the Ferruginous duck *Aythya nyroca*. Accounts made, each year, state that their numbers largely exceeds the 1% required for an aquatic ecosystem classification. In this thesis project will provide a contribution to the knowledge about the structure and the ecology of the hibernation season of the two above mentioned species "registered on the red list of the IUCN". The diurnal activities' balance sheet of which is dominated by a sleep displaying the role of daytime reset of their hydro system.

Key words: diurnal behavior, etho-ecology, reset territory, wetland, high plains of eastern Algeria, White-headed duck, Ferruginous duck

THE EFFECT OF URBANIZATION ON THE PHENOTYPE OF THE COLLARED DOVE (*STREPTOPELIA DECAOCTO*) IN NORTHEASTERN ALGERIA

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Numerous species were adapted to humans, especially invasive species associated to humans in towns and cities. These adaptations to urban environments are expressed by changes in behaviour and physiology, reflecting phenotypic plasticity or evolution (Møller, 2008). Although the Collared Dove (*Streptopelia decaocto*) is one of the most common Columbidae species in the different Algerians environments during the recent years (Merabet et al. 2010, Belabed 2013), data on its biometric are almost non existent. This work, conducted during 2011, in northeastern Algeria, aims to produce information on the effect of the degree of urbanization on the phenotype of Collared Doves adult in Annaba (extreme northeastern Algeria), based on their morphometric data. To do this, our methodology was to capture adult individuals in two different sites: one urban and one suburban, and measure the morphological parameters. The parameters that have been considered are: weight, height, width and length of the beak, length of culmen, collar, tarsus, stretched and bent wing, the fifth remix and finally the wing span. Our results show that there are significant differences between the individuals captured in both environments. Indeed, the collar, the stretched and bent wing and the wing span are more important for individuals in suburban site. Whereas, urban individuals show height and a larger bill length. Showing differences in adaptive flight and food, between the two sites. while urban individuals show a height and length of beak more important. This reflects differences in adaptive flight and food between the two sites.

Key words: Collared Dove, *Streptopelia decaocto*, urbanization, phenotype.

THE MIGRATION ECOLOGY OF EGYPTIAN VULTURE *NEOPHRON PERCNOPTERUS* IN SERTAVUL PASS, MUT PROVINCE SOUTHERN TÜRKIYE

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Egyptian Vulture breeds in Continental Europe and Middle to East Asia, then it migrates to West and Northeast Africa to spend winters. Populations of this species have declined in the 20th century and now considered as endangered (EN; IUCN) by hunting, accidental poisoning, and collision with power lines. In this study, we intend to investigate migration ecology of *Egyptian vulture Neophron percnopterus* in Sertavul Pass on the Eurasian-African flyway, Mut Province Southern Türkiye. Monitoring surveys were performed between September 2013 and December 2015. The area was visited once a month and during the breeding season twice a month. Standard raptor migration monitoring guidelines used to record migratory raptors passing and counting was started at sunrise and continued until sunset. Telescopes (40 X 60) and binoculars (16 X 24), digital cameras (Canon 400 mm) were used during the monitoring period. Results: We detected that Egyptian Vulture is summer visitor in the region and we observed the species in the region between to March to September in each year. Most of the vultures were observed in the Sertavul Dumb while they were resting and foraging. A total of 232 were counted Egyptian vultures in Sertavul. Among these individuals immature, juvenile, sub adults and adults had been seen. During surveys in 2013 we also had found an individual wounded by the electric transmission lines (state property) and handed to the government officials. Egyptian Vulture migrates over Bosphorus (coming from Eastern Europe) and Hatay-Belen Pass, through Arabian Peninsula and the levant to reach Africa. According to our results during its migration Sertavul Pass is one of its resting and foraging site. Immature, juvenile, sub adults and adults had been seen as these individuals had come from their possible nesting sites in Göksu Valley located on south east of Sertavul.

Key words: *Egyptian vulture*, *Neophron percnopterus*, migration, Sertavul Pass, Eurasian-African flyway.

THE MIGRATION OF FOUR RAPTOR SPECIES AT BELEN PASS, TURKEY

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Raptors are declining in many parts of their range and for most of the raptor species, population size and migration ecology poorly known in Turkey. Monitoring raptors along migration corridors can be used to assess changes in population size. Therefore in this study we intend to determine migration characteristics of four raptor species (Greater Spotted Eagle – *Clanga clanga*, Lesser spotted eagle – *Clanga pomarina*, Short-toed Snake-eagle - *Circaetus gallicus* and Booted Eagle - *Hieraetus pennatus*) at Belen Pass on the Eurasian-African flyway. Monitoring was performed for each month at least 20 days, between years 2011 to 2014. Standard raptor migration monitoring guidelines used to record migratory raptors passing and counting was started at sunrise and continued until sunset. Telescopes (40 X 60) and binoculars (16 X 24), digital cameras (Canon 400 mm) were used during the counting period. According to our results, the four species were transit migrant in the region and 5108 raptors counted in 512 migration records. While lesser spotted eagle was the most abundant species with 4727 individuals in 274 migration records, booted eagle was the rarest raptor with 30 individuals in 20 migration records. Short-toed Snake-eagle was the earliest migrating species seen in the region both in spring and autumn migration period among these raptors. Our results supports that Belen Pass is one of the most important bottleneck on the Eurasian-African flyway because of its location and topography. There are few studies on migration of raptors from Belen Pass. Our study is the first long term monitoring about this theme. Lesser spotted eagle was the most abundant species and greater spotted eagle was the only vulnerable (IUCN) species among these raptors.

Key words: Belen pass, bottleneck, migration ecology, raptor, eagle, migration

THE MTDNA-COI BARCODING OF SONGBIRDS (AVES: PASSERIFORMES) OF BEYDAGLARI AND ITS COMPARISON WITH PHYLOGENETIC TREES FORMED BY THE MTDNA-ND2 GENE

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Accuracy of the gene locations used for DNA barcoding and the method questioned as a review. The basic feature distinguish recent DNA barcoding method from other phylogenetic methods is being an universal biological identification system for all animal species with using a single gene location. Mitochondrial cytochrome C oxidase subunit I (COI) gene is being used as DNA barcoding gene. The COI barcoding gene is compared with dehydrogenase subunit 2 (ND2) in other phylogenetic studies about birds. We here, provide a DNA barcode analysis for songbirds in Antalya. Fifteen species, of minimum 3 individuals for each species were analysed. Total DNA was extracted using DNA isolation kit following the manufacturer's protocol. PCR reactions were performed given in the literatures with some minor modifications. Sequencing reactions were carried out by MACROGEN. Average intraspecific distances were calculated using Mega 4.0.2 software. Neighbor-joining (NJ) and maximum parsimony trees were created to provide a graphic representation of the divergence pattern among the species. The mtCOI and mtND2 genes are compared generated phylogenetic trees. We found some differentiation between mtCOI's and mtND2's phylogenetic trees. In this regard it must be considered that only studying with COI gene without other gene segments is not enough to evolutionary relationship some bird species. This a pilot study was partly supported by TUBITAK (113O271) and MAKU-Bap (0264-YL-15).

Key words: DNA barcoding, Passeriformes, Phylogeny, COI, ND2

THE POPULATION OF LAUGHING DOVE (*STREPTOPELIA SENEGALENSIS* L. 1758) IN ANTALYA /TURKEY

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The laughing dove is a resident breeding bird in the tropics of Africa, Middle East and India. In recent years, laughing dove has spread many countries around the Mediterranean including Turkey. It is invasive species for Turkey and it is expanding its distribution from south to north. In this study we intent to determine breeding period and breeding areas of laughing dove in Antalya. Contemporary literature and our field observations evaluated for this purpose. Results: Laughing dove were seen all part of Antalya. It breeds yearlong especially from March to August. According to our field observations and contemporary literature laughing dove seen all parts of Antalya but it breeds densely in Kaleiçi district (old city centre). Laughing dove is considered as well adapted species to urban ecosystem because it builds nests to almost everywhere including balconies.

Key words: Laughing dove, *Streptopelia senegalensis*, Breeding biology, Antalya

THE POPULATION STATUS OF *GLAREOLA PRATINCOLA*, L. 1766
IN THE BOĞAZKENT/ANTALYA

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Turkey has total 502 bird species including 437 regular and 65 accidental species. Collared Pratincole (*Glareola pratincola*) which is one of this species is summer migrant and also breeding in our country. It is highly sensitive to negative effects such as loss of habitat and nest predation because of the breeding on the ground. The species prefers to breed habitats that have dry marshes near wetland and agricultural field. Turkey is among in some countries where the population of species is decreasing. It was determined the number of the individuals at the study areas by this preliminary study. Counts were performed simultaneously in all study area when the species came (morning: 07:00-09:00, Midday:12:00-14:00, evening: 16:00-19:00). The results of our study showed that maximum individual numbers were 24 in 2015. Furthermore, it was determined breeding activities at study area. In the same area, the project calling with “studies on the incubation biology of Collared Pratincole” will be carried out and it will be revealed breeding/vital activity of species and if there are negative factors affecting the breeding success, this factors will be determined with this study. Thus, in study area which is one of breeding areas in Turkey will be provided breeding data and recorded this information. This studies will be provided background for conservation programme of species by examining the vital activities in nesting areas in which agricultural activities.

Key words: Boğazkent/Antalya, *Glareola pratincola*, Population status, Turkey

THE RESULTS OF BLACK STORK CENSUS IN NORTHERN UKRAINE IN 2008-2015

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Black stork *Ciconia nigra* is a rare bird in Ukraine, which is Red Data Book species. In order to make clear the modern number of the species on the territory of Kyiv region the census was organized and conducted by the author of the abstract, together with the Department of zoology of Shevchenko National University in Kyiv, Bird Conservation and Study Society of Ukraine, State Museum of Natural History (Lviv) and Kyiv Zoo in 2008-2015. Information was collected during the own field researches. During field studies we marked nests and possible places of their location by asking forestry worker and local people. Also valuable information was used which was kindly given to us by ornithologists of different scientific establishments. As a result of the census in 2008-2015 29 nests and 37-39 probable places of breeding were recorded. So, not less than 66-68 pairs of Black Stork breed in Kyiv region. The average density was 1,62 nests per 100 km² of the forests. In comparison with previous census (1990-91) the results of the last one shows that bird numbers increased in Kyiv region.

Key words: Black Stork, census, numbers, Ukraine.

THREE WEPPS FIELD IN THE INTENSITY OF BIRD MIGRATION IN THE ANATOLIAN SIDE OF ÇANAKKALE PROVINCE

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Every year in Spring and Autumn periods, there happens a large scaled bird migration, which is regular and joined by billions of birds, between Africa Continent and West Paleartrik Region that Turkey is in, too. Çanakkale, which forms the narrowest passing point in the west of Turkey, is considered as a critical point in terms of bird migration because of its existing wind potential, wetland area and the geographical position. Three RES field migration monitoring in the Anatolian part of Çanakkale have been made spring and autumn migration periods in 2015. This study observations carried out in 2645 during spring migration, while 607 were counted soaring migratory birds during autumn migration. Observations migration routes have been identified in the Anatolian part of the Çanakkale province.

Key words: The Route of Bird Migration, Çanakkale, Anadolu, West Paleartrik.

TROPIC ASPECT SOME OF ANATIDAE AND RALLIDAE AT SEBKHET EL MALEH (EL-MÉNÉA - GHARDAÏA).

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RUE ASAAD ABASS EL ALIA ALGER

This work is about the diet of Coot and some waterfowl species are held at Sebkh El-Maleh El-Ménéa during of the month October and April (2012 and 2013). It consists of two parts. The first deals with trophic availability of the medium studied and the second on the stomach contents of barnacle and Rallidae. El Golea now called El-Menia, covers an area of 49000 Km² is an oasis attached from Guardaïa and lying halfway on the road from Algiers-Tamanrasset. This region is in the Saharan bioclimatic mild winter with rainfall equal to 47.3 mm / year. Lake El Golea is located at altitude of 330 to 397m with a longitude of 02 ° 54 'to 02 ° 56' East and 03 ° 25' Nord. Located 12 km south of Daira El-Ménéa, in the town of Hassi El-Gara and 280 km from the town of Guardaïa. This lake is an endorheic depression consists of salty soil which consists of two bodies of water, the first located in the North to moderate salinity and the second is the sabkha or bare salt lake whose banks are covered by salt. This lake to a diverse vegetation such as Juncaceae, Cyperaceae, Poaceae and others. The inventory of trophic availability allowed us to identify 1467 individuals belonging to 8 classes, 14 orders, 23 families and 24 species. The most dominant species *Daphnia pulex* with an abundance of 56.0%. The diet of our findings helped highlight the Eurasian Coot consumes 2 plant species such as *Renonculaceae sp.* and *Potamogetonaceae sp.*, monitoring of animal fraction is represented by four species of the beetles, the Hymenoptera, Diptera and the nematomorphs. Analysis of the digestive tracts of Souchet highlighted planctophage a diet consisting of 72.2% and 20.0% of Mollusks of ostracods. On the stomach contents Mallard consists essentially of plants with a rate of 91.8% shown particularly *Ruppia maritima*. Finally for the Marbled Teal has an omnivorous diet consisting essentially of 66.7% of animal prey and 33.3% of vegetable prey.

Key words: Algerian Sahara, Sebkh El-Menéa, Rallidae, Anatidae, Diet, vegetable, arthropods.

UNDERSTANDING THE RELATIONSHIP BETWEEN FARMLAND BIRD COMMUNITIES AND AGROFORESTRY LANDSCAPES: A TOOL FOR EFFECTIVE MANAGEMENT PRACTICES IN NATIONAL PARKS

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Agricultural landscapes host the largest proportion of “threatened” birds in Europe and are considered a conservation priority. In this study we investigate the habitat use of farmland passerines in agroforestry landscapes in two National Parks in Greece: Lakes Koronia-Volvi and the Macedonian Tempe (KV) and East Macedonia-Thrace (EMT). We sampled bird communities at 620 points during 2013-2015, mapped the land-uses and calculated three landscape metrics representing habitat diversity. Ordination revealed two distinct farmland bird communities in KV: one being associated with homogeneous agricultural land and the other being linked to more diverse semi-natural landscapes. In EMT, bird communities differed among different cultivation practices, with the group associated with irrigated fields, being also linked to shrubland and forests. This fact may be attributed to the large areas of homogeneous landscape in EMT, giving some species the chance to select their optimum habitat, whereas in KV, the mosaic of arable and irrigated fields led to different habitat-use strategies. As many species of both groups are of conservation concern, we stress the importance of incorporating measures that support both large agricultural patches and heterogeneous landscapes mixed with natural vegetation, in an effort to maximize the effectiveness of management practices regarding farmland birds.

Key words: farmland birds, agroforestry landscapes, management, protected areas

URBANIZATION'S IMPACT OF THE NATURAL FIELD EL MERDJA (TEBESSA- ALGERIA) ON THE WHITE STORK TROPHIC NICHE (1998-2014)

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Natural environments are significantly invaded by humans in recent years. The estimating impact of changes to these destabilized areas will be demonstrated through a comparative study of the trophic niche by using a biological model: the white stork. A total of 110 pellets of rejection were analyzed by wet process, the fragments are determined and counted. The food spectrum of the Stork comprises a wide range of invertebrate prey as that vertebrate: 4 classes, 7 orders and 24 families. Insects are dominant and alone represents 92.48% of total prey. It contains four orders whose Beetles are more dominant and represent 70.48% of total prey orders. The comparative study between 1998 and 2014 revealed the significant decrease in the total number of prey consumed (3888 and 971 prey), the disappearance of two insect orders Hymenoptera and Neuroptera prey and the appearance of Hemiptera. Nine families of insect prey have appeared, and four disappeared. Conclusion The effect of urbanization on the natural environment is demonstrated by a new composition of faunal populations on this site.

Key words: impact - urbanization - white stork – Tebessa

FIRST RESULTS OF DIET OF WINTERING LONG-EARED OWL, *ASIO OTUS*, IN BURDUR, TURKEY

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This is the first report of the diet composition of Long-eared Owl (*Asio otus*) in the southern Anatolia, Burdur. Max. 29 individuals were counted in wintering population in roost side, which are four pinus tree of campus of Mehmet Akif Ersoy University. We examined 167 pellets of Long-eared Owls. After each pellet was washed by 96% ethanol to fix the bacteria, separated the bones using the binocular. We found that each Long-eared Owl ate average daily 0.52 prey items. The diet consisted of 98,4 % small mammals, which were identified at least four species and 1.6 % songbirds. The mammal species were 74.4 % *Microtus anatolicus*, 17.6 % *Mus macedonicus*, 4.8 % *Microtus sp.*, 0.8% *Suncus etruscus*, and 0.8% *Apodemus whitherbyi* respectively. Long-eared Owls take an important role for control the pest mammal species in the city.

Key words: Long-eared Owl, *Asio otus*, diet, Burdur

BIODIVERSITY AND INFESTATION RATES OF ECTOPARASITES (ARTHROPODA) ON THE BIRDS IN KIZILIRMAK DELTA, TURKEY

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1SELÇUK ÜNİVERSİTESİ VETERİNER FAKÜLTESİ PARAZİTOLOJİ, AD KONYA-TURKEY, 2GAZİ ÜNİVERSİTESİ FEN FAKÜLTESİ, BİYOLOJİ BÖLÜMÜ 06500 ANKARA, TURKEY, 3ONDOKUZ MAYIS UNIVERSITY, ORNİTOLOJİ ARAŞTIRMA MERKEZİ, 55139 SAMSUN-TURKEY

This study was performed to detect ectoparasites occurred on wild birds captured in Cernek Ringing Station in Kızılırmak Delta in Turkey, between May 2014-October 2015. The birds captured by misnets for ringing were examined for ectoparasites, macroscopically. In this study, 619 bird species were examined for ectoparasites, and out of 106 (%17.12) by lice, 117 (%19) by acari found to be infested. The birds belonging to the 11 orders were found to be infested by lice specimens, while the birds belonging to three orders (Caprimulgiformes, Piciformes, Passeriformes) by acari specimens. In this study, 35 louse species belonging to the 21 genera; six out of Amblyceran (*Actornitophilus*, *Colpocephalum*, *Menacanthus*, *Meromenopon*, *Myrsidea*, *Ricinus*) and 15 out of Ischnoceran (*Alcedofulla*, *Ardeicola*, *Brueelia*, *Degeeriella*, *Goniodes*, *Lipeurus*, *Luniceps*, *Maculinirmus*, *Meropoecus*, *Meropsiella*, *Mulcticola*, *Penenirmus*, *Phlopterus*, *Quadriceps* and *Rallicola*) were detected. Seventeen acari species; *Analges chelopus*, *Analges spiniger*, *Analges mucronatus*, *Dolichodectes edwardsi*, *Joubertophyllodes modularis*, *Pterodectes rutilus*, *Proctophyllodes anthi*, *Proctophyllodes cetti*, *Proctophyllodes clavatus*, *Proctophyllodes doleophyes*, *Proctophyllodes leptocaulus*, *Proctophyllodes mesocaudatus*, *Proctophyllodes sylvia*, *Proctophyllodes truncatus*, *Strelkoviacarus quadratus*, *Trouessartia swidwiensis* and *Trouessartia simillima* were detected in this study. * The study was financially supported by the Research Fund of the Selçuk University (Project number: 14401039).

Key words: Bird, louse, lice, Phthiraptera, acari, feather mites, Kizilirmak, Turkey

**DECLINE IN THE MIGRATORY FLIGHTS OF WHITE STORKS
PASSING OVER BELEN, HATAY OVER A 3 YEAR PERIOD**

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Belen Pass in Hatay, is on a migratory route heavily used by soaring birds including raptors, waterfowls and shorebirds. During the time between spring of 2011 and autumn of 2013, we have conducted surveys and observations in and around Belen Pass for noting down the migrations of soaring birds. In this study we have taken storks and their migratory data into consideration. Our results indicated a strong decline in migrating birds over the 3 year period. During surveys we have used binoculars (Nikon 7X35 ve 10X50), a telescope (Nikon 20-45X60 mm) and digital cameras with telelenses (Canon 400, Nikon 200–500 ve Panasonic 35–420 mm). Two observation posts were chosen from among the vantage points to observe both spring and autumn migrations. In a 3 year period the quantity of migrating storks had showed a non-linear decline with a less decline between 2011, 2012 and a harder fall in the quantity between 2012 and 2013. However, we have also noticed that the migratory activities were severely compromised by the weather patterns and events. We tried to relate this decline to the wind turbines, yet the surveys after 2013 showed a slight increase in the flight quantities.

Key words: Windfarms, Avians, Birds Migrations, Storks

MIGROTARY ECOLOGY OF THE SPECIES PASSING OVER ARMUTLU/YALOVA

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Sea of Marmara is known to be located on primary and secondary migration routes for avian species. Migrating birds follow the routes beginning from Europe, passing over and between Kuş Lake and Uluabat Lake located 60 km to southwest of Armutlu/Yalova and over and around Iznik Lake. In this study we had observed and studied migratory ecology of buzzards, storks, short-legged eagles, lesser spotted eagles, honey buzzards and marsh harriers. Surveys took place between 20.08.2014 and 14.01.2016 consisting of 18 days a month during migration periods. During surveys we have used binoculars, a telescope and digital cameras with telelenses. We have made interviews with indigenous people and gathered information on local birds. Avian species recorded during surveys were evaluated under regional and migratory status, population status according to Türkiye Kuşları Red Data Book, conservation status according to IUCN, Bern Convention and National Game Comitee declarations. Survey results point out that the species migrating over these routes are all transit migrants with traces of short stopovers and direct by-pass flights over Armutlu/Yalova. The species are classified as Least Concern by IUCN. During surveys a total of 561 birds were observed over 67 flights. Majority of these flights with 29 of them belonged to buzzards while the minority belonged to marsh harriers with only two flights. However, most crowded flights belonged to storks. During 2014 surveys no regional routes or flightpaths were noted due to the lack of migratory flights, but after 2015 three main flightpaths were observed over Armutlu region. Both our field studies and contemporary literature yielded results indicating the flightpaths passing over Armutlu are part of a greater migratory system used by buzzards, storks, short-legged eagles, lesser spotted eagles, honey buzzards and marsh harriers. The species' flight patterns and schedules tend to differ among years as they also have inconsistencies in their flight

Key words: Ecology, migration, storks, raptors, soaring birds

DIVERSITY AVIAN ECTOPARASITES

OUARAB SAMIAA AND MEDJDOUB-BENSAAD FERROUDJAB

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To detect ectoparasites potential vectors and reservoirs of bird's pathogens, arthropods are researched and collected on different bird nests Passeriformes Europe Greenfinch (*Carduelis chloris*), the black robin (*Turdus merula*) and hybrid sparrow (*Passer domesticus* X *Passerhis pagnolensis*) and Columbiformes rock dove (*Columba livia*) in Bouinane region (Blida). About 701 arthropods collected, we determined 6 mite species with a dominance of *Ornythonyssus bursa* (58.5%), followed by *Dermanyssus gallinae* (11.4%), and a single species of lice *Menacanthus stramineus* 11.8 %. Note the total absence of flea and tick in these 40 nests analyzed. Mites are used as epidemiological tools to detect the pathogen by sensitive PCR molecular biology. The PCR results show that *Dermanyssus gallinae* and *Menacanthus stramineus* are vectors of *Borrelia sp.* in our study area, with

Key words: Ectoparasites, birds, nests, Mites, PCR, Bouinane , Blida

**RESULTS OF THE WHITE STORK *CICONIA CICONIA* CENSUS IN
REPUBLIC OF KOSOVO IN**

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This was the first White Stork census carried out in Republic of Kosovo using standardized methods. According to our results estimated in 2015, the total number of White Stork nests in Republic of Kosovo is at least 50 occupied nests, with increase of 100 % comparing with our studies conducted in 2014 in order to obtain data about the status of nesting population for White Stork in the Republic of Kosovo. The highest densities recorded were in south-central and eastern part of the country. More than 95 % of nests were successful, about 40% of nests were in trees, 15 % of nests were on buildings, and most of nests, near 45 %, were built on

Key words: White Stork, *Ciconia ciconia*, census, nests, Republic of Kosovo

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