

**İ. Kizirođlu, A. Erdođan, L. Turan, T. Albayrak (Ed.)**

**1<sup>ST</sup> INTERNATIONAL EURASIAN  
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*İlhami Kizirođlu, Ali Erdođan, Levent Turan, Tamer Albayrak  
(Editorial Board)*

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*Dedicated to Dear Ornithologist Prof. Dr. İlhami Kızıroğlu's  
Sixtieth Birthday...*

*Değerli hocamız ornitolog Prof. Dr. İlhami Kızıroğlu'nun  
altmışıncı doğum yılına...*

## Who is Prof.Dr.İlhami Kiziroğlu?



Kiziroglu, who is professor in Hacettepe University, was born in Elazığ (Harpur) in 1944. He had got his BSc in İstanbul University, than had got his PhD. in Germany, in Munchen Ludwigs – Maximillian University. After than, he come back to Turkey in 1976, and begun to work for Dicle University. In 1977 he transferred to Hacettepe University and he had got his Associated Professor degree with an ornithological investigation in Animal Ecology and Zoogeography branch in 1982, and had got his professor degree in 1988, at the same university in Department of Science.

He had carried out different scientific investigations, with scholarships from Alexander von Humboldt and DAAD, in various universities in Germany. He is one of the two Professors who had been awarded with “Award of Superior Success in Science” by Hacettepe University Senate. He had organized six scientific meetings. He published totally 201 investigations, about Environmental protection, and -Education, Threatened-, extinct Species, Biological Diversity, Behavior and mainly of these is Ornitho-Ecolgy. 60 of these articles are in foreign language. His studies have got 30 cited. He has done publisher of 7 books. Most of his original investigations have been given as abstract in Biological Abstract, Zoological Abstract and Ornithologishe Schriftenschau. He is editor of some foreign and Turkish magazines. He works for lots of national and international NGO’s as director. He is very good in German- and good in English language. He is married and has two sons.

### HIS MAIN SCIENTIFIC PUBLICATIONS (BOOKS):

General Biology (Fourth Edition), 2000.

Short Biography of A.v.Humboldt. 1994

The Birds Of Türkiye ( Species List in Red Data Books), 1993

Biological Structure of Beytepe and it’s Environment (Turkish, English and German), 1992

Allgemein Biologisches Grund Praktikum Bd. I.,1992

Allgemein Biologisches Grund Praktikum Bd. II.,1991

Birds of Turkey (Colored pictured) ,1989

The Maps for Turkish Resident and Migrant Birds. Published in Atlas (1994) and Tempo (1995) Magazines.

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## INTRODUCTION

As an area definition, the term Eurasia covers up quite a large region. Although it includes such a large area, it is not possible to state that its biological structure is well known. We can state that it will be an optimistic approach to say its ornitho-fauna has been completely investigated. Scientific exchange in terms of both the biological structure and bird fauna of Eurasia has so far been conducted to a limited extent with limited means. However, the geographic region of Eurasia is of great importance because of the ecosystems which it offers for bird species. Especially, it includes important migration routes, which increases its importance in terms of ornitho-fauna. The 1<sup>st</sup> International Eurasia Ornithology Congress will be organized in order to take the initiative for establishing the cooperation of various circles and scientists in observing and doing research on the ornitho-fauna of Eurasia. With the help of this congress, a first step will be taken and scientific exchange among scientists will be carried out.

Birds and a protected world are indispensable for all of us. It is certain that the 1<sup>st</sup> International Eurasia Ornithology Congress will contribute to this fact. We would also like to mention that we are proud this congress is first held in our country. We hope that the congress will be successful and contribute to science for ever.

## SUNUŞ

Avrasya kavramı bölge tanımı olarak oldukça büyük bir alanı içerir. Avrasya'nın bu kadar önemli bir bölgeyi içermesine karşın, biyolojik yapısının çok iyi bilindiğini söylemek mümkün değildir. Özellikle de ornitofaunasının tam anlamıyla ortaya konup irdelendiğini belirtmek biraz da iyimserlik olur diyebiliriz. Gerek Avrasya'nın biyolojik yapısı ve gerekse kuş faunası ile ilgili bilimsel alışveriş bu güne kadar çok dar ve kısıtlı olanaklarla gerçekleştirilmiştir. Oysa Avrasya coğrafik bölgesi kuşlara sunduğu önemli ekosistemler nedeniyle büyük önem taşımaktadır. Özellikle önemli kuş göç yollarını barındırması bölgenin ornitofaunistik açıdan önemini artırmaktadır. Avrasya coğrafyasında bulunan ve bu coğrafyanın ornitofaunası ile ilgili gözlem ve bilimsel araştırmalar yürüten her kesim ve bilim adamının katkısı ve müşterek çalışmasına bir başlangıç oluşturması için, 1.Uluslararası Avrasya Ornitoloji Kongresi yapılacaktır. Bu kongre ile bir ilk gerçekleştirilecek ve bilim adamlarının bilgi alışverişi sağlanacaktır.

Kuşlar ve korunmuş bir dünya, hepimiz için vazgeçilmez bir olgudur. Bunun gerçekleştirilmesinde 1. Uluslararası Avrasya Ornitoloji Kongresi'nin önemli ölçüde katkı yapacağı muhakkaktır. Bu uluslararası bilimsel toplantının ilk defa ülkemizde yapılıyor olmasından ötürü kıvanç duyduğumuzu belirtir, kongrenin başarılı ve sonuçlarının bilime sonsuz katkılı olmasını dileriz.

Prof.Dr.İlhami Kızıroğlu  
Kongre Başkanı  
(Congress President)

## **NUTRITIONAL STRATEGIES IN MIGRATING BIRDS**

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Many migratory birds accumulate large amounts of lipids as the prime energy source for their long-distance flights. This fat accumulation is mostly under endogenous control reflecting genetically programmed temporal shifts of the body mass set point. It is accompanied by an increase in daily food intake and food utilisation efficiency and by a seasonal shift in food selection. In particular, seasonal frugivory appears to play a key role in many migrants. Fruits have a high content of fatty acids indispensable to building up the specific depot lipids. In addition, plant secondary compounds seem to play some kind of supportive role, but the mechanisms are not yet known. The effect of being fat on the metabolic situation in migrant birds appears to be similar to the metabolic syndrome in obese humans. The fat migratory bird provide a model through which to study nutritional factors as well as the biochemical and endocrine regulation of food intake, body mass and obesity.

Key words: Bird migration, lipids, nutrition, obesity, plant secondary compounds

## **THE HISTORICAL DEVELOPMENT OF ORNITHOLOGICAL STUDIES IN TURKEY**

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Turkey shows a great diversity in both ecology and climate. Since it contains various ecosystems and stretches along bird migration routes, it is rich in terms of bird fauna. Very few countries are that much rich in bird fauna. We see that in Turkey Evliya Çelebi kept the first records on bird fauna. He also kept a record about which kinds of birds lived in some of the places he visited. It is seen that ornithology was dealt with scientifically beginning only with the 1930s. Specially appointed by Atatürk at Istanbul University, researchers Prof. Dr. Kurt Kosswig and his wife Dr. Eleonora Kosswig enabled studies on "Birds of Turkey" and they urged Prof. Dr. Saadet Ergene to prepare a PhD on the subject. Dr. Ergene is the one who conducted the first scientific research on the subject with the bird sketches he had ordered. Again starting with the 1960s, Dr. Hans Kummerlöve published an important work on 'Birds of Turkey'. Manyas Kuş Cenneti whose importance for birds was displayed by Prof. Kosswig, is the first natural park which was rewarded with an A-class certificate by the European Council in the 1950s. This is because Manyas Kuş Cenneti has a rich ornitofauna.

We also see that Sultansazlığı was taken under protection after its importance for birds were discovered in the 1960s. The results of the research which Bird Report conducted, relying especially on the records of foreign researchers, are among the important sources which have

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come to this day beginning with 1950s. Meanwhile we see that in the public sector Nihat Turan and Tansu Gürpınar are making ornithological studies and observations. Since Turkey is popular with foreign researchers, the contribution of many of them to Turkey's ornitofauna in different periods has been great. In the 1970s, with the support of TUBITAK for an ornithological research project, the first habilitation study was made. It is also seen that in the 1980s and 1990s many researchers conducting ornithological researches were educated in various universities. Today ornithological studies are being conducted in 20 universities.

## **TÜRKİYE'DEKİ ORNİTOLOJİK ARAŞTIRMALARIN TARİHİ GELİŞİMİ**

Türkiye gerek ekolojik gerekse klimatik açıdan son derece zengin ve çeşitli bir yapı gösterir. Çeşitli ekosistemleri barındırdığı ve kuş göç yolları üzerinde olduğu için, kuş faunası açısından çok zengindir. Kuş faunası bu denli çeşitli olan çok az ülke vardır. Kuş faunası ile ilgili Türkiye'de ilk yazılı kayıtların Evliya Çelebi tarafından yapıldığını görüyoruz. Evliya Çelebi uğradığı bazı bölgelerde hangi kuş türlerinin de yaşadığını kayıt altına almıştır. Ornitoloji ile bilimsel anlamda ancak otuzlu yıllarla birlikte ilgilenildiği görülmektedir. Özellikle Atatürk tarafından ülkemizde İstanbul Üniversitesinde görevlendirilen araştırmacılar Prof. Dr. Kurt Kosswig ve eşi Dr. Eleonora Kosswig Türkiye Kuşları ile ilgili çalışma yapılmasını sağlamış ve Prof. Dr. Saadet Ergene'ye "Türkiye Kuşları" ile ilgili doktora çalışması yaptırmıştır. Dr. Ergene yaptırdığı kuş çizimleri ile bu konuda ilk bilimsel çalışmaya imza atan araştırmacıdır. Yine altmışlı yıllarla birlikte, Dr. Hans Kummerlöve "Türkiye Kuşları" ile ilgili önemli bir kitabı yayınlamıştır. Prof. Kosswig'in kuşlar açısından önemini ortaya koyduğu Manyas Kuş Cenneti ellili yıllarda Avrupa Konseyi tarafından A-Sınıfı diploma ile ödüllendirilen ilk doğal parktır. Bu da oranın ornitofaunasının zengin olması nedeniyle verilmiştir.

Altmışlı yıllarda yine Sultansazlığı'nın kuşlar açısından önemini anlaşılması ile koruma altına alındığını görüyoruz. Bird-Report'un özellikle yabancı araştırmacıların kayıtlarına dayanarak yaptığı araştırma sonuçları ellili yıllardan başlayarak günümüze kadar devam eden önemli kaynaklardandır. Bu arada kamu kesiminde Nihat Turan ve Tansu Gürpınar'ın ornitolojik araştırma ve gözlemlerde bulunduğunu görüyoruz. Türkiye yabancı araştırmacılar için oldukça revaçta olan bir bölge olduğu için, çok sayıda yabancı araştırmacının değişik dönemlerde Türkiye ornitofaunasına yaptıkları katkı büyük olmuştur. Yetmişli yıllarda TÜBİTAK'ın desteğiyle ornitolojik bir araştırmayla ilk habilitasyon çalışması verilmiştir. Seksenli ve doksanlı yıllarda ise çeşitli üniversitelerde ornitolojik araştırma yürüten çok sayıda araştırmacının yetiştiği görülmektedir. Şu anda da 20 üniversitede ornitolojik çalışma yürütülmektedir.

## **PLENARY SPEAKS**

## **RESULTS OF BIRD BANDING IN SPRING 2002 AND 2003 AT TITREYENGÖL/SORGUN, MANAVGAT TURKEY**

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In the Spring of 2002 (25.3 - 11.5) and 2003 (23.3 – 11.5), my friend Werner Prünke and myself captured birds near the River Manavgat, not far from the coast of the Mediterranean Sea in Turkey. During these seasons, with the help of people from Akdeniz University, Antalya and more than 20 volunteers, we caught 24953 birds in 116 sub-species. On our best day we ringed 1203 birds. To reach our goal of getting these high numbers during these short seasons we used tape lures with the songs of 15 species, some during the night and some during the day. In both years our mist nets (108 metres long) were standing in fields along a hedge. In the year 2003 we used additional mist nets (120 metres long) in the field on the other side of the hedge to trap Wagtails and Pipits. Also in this year we had a special 'high net' (5 metres high and 24 metres long) and one extra mist net over flat water (12 metres long) on a pond for Swallows. At the shore of this pond we used three cages to trap Rails. On a few days we took the chance to trap Holarctic Waders on a riding-place filled with water after rain. We took measurements of most of the birds and looked at the moult of rare species. All the birds were banded with a metal ring we obtained from the Bird Research Society (KAD) of Turkey before we released them. In our presentation we introduce our area. Further, we present the total of our first traps from all species and the results of the spatiotemporal course and phenology of selected species with high numbers during migration. Dates of our own re-traps and from 31 foreign re-traps were also shown.

Key words: Bird banding, spring, Titreyengöl, Turkey

## **USE OF DNA ANALYSIS FOR SEXING BIRDS IN RUSSIAN BREEDING PROGRAMS**

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Because many avian species do not have sexual dimorphism or it becomes apparent only at maturity, development of sex-identification techniques for birds is important for breeding and conservation programs. Sex identification is especially important for juvenile birds, because they both form pairs more easily and are subjects for transferring. Wrong sex ratio in a juvenile group could caused formation of homosexual pairs. In such pair one bird can perform behavior inherent to another sex. Laparoscopic technique can't help for young birds and if adult birds are not in the breeding season. For several years we use cytogenetic techniques for sexing birds. Now we use PCR-based method (based on two conserved CHD - genes, that are located on the

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avian sex chromosomes: CHD-W and CHD-Z gene)(Griffiths et al.,1998). Gel electrophoresis reveals one band in the male and two in the female. We use 8% , 15 % and 6 % acrylamid gel . DNA isolates from blood or feathers samples.For 2001- 2003 we successefully sexed following spicies: *Japanese cranes Grus japonensis* ; demoiselle cranes *Anthropoides virgo* ; siberian cranes *Grus leucogeranus* ; common cranes *G. grus* - ;white-naped cranes *G. vipio* , crowned crane *Balearica pavonina*, Humboldt's penguins - *Spheniscus humboldti* , black vultures *Aegypius monachus* , bearded vultures *Gypaetus barbatus* , egyptian vultures *Neophron percnopterus*, griffon vultures *Gyps fulvus* , golden eagle *Aquila chrysaetos*, tawny eagle *Aquila rapax*, duck hawks *Falco peregrinus*, greater spotted eagle *Aegypius clanga*, white storks *Ciconia ciconia*, scarlet macaws *Ara macaw* ; sulphur-crested cockatoos *Cacatua galerita*, eastern rosella platycercus eximius1, blue- fronted amazons *Amazona aestiva*, orange-winged parrots *Amazona amazonica*, gray parrots *Psittacus erithacus*, mute swan *Cygnus olor*, black swan *Cygnus atrata*. The most difficult work was sexing of lapland owls *Strix nebulosa*) and ural owls *Strix uralensis* , because CHD-Z and CHD-Z bands were so similar in size. To solve this problem we have to use 8% denaturing acrylamide gel. We sexed dirds from Moscow Zoo, Leningrad Zoo, Nallinn Zoo, Perm Zoo, Penza Zoo, dreeding Center of Oka reserver. This method permits both store feather and blood samples for a long time and transport them at a long distance. So it is useful for studing sex ratios in wild populations of birds.Special thanks to Kenneth I. Jones (University of Illinois-Chicago) who was my guide to this method and to Crane Working Group of Eurasia for supporting.

## **BREEDING AND FEEDING ECOLOGY OF THE EXPANDING GREAT CORMORANT PHALACROCORAX CARBO SINENSIS POLPULATION IN NORTHERN POLAND**

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Similarly to the entire continental Europe a spectacular increase in the Great Cormorant population is also observed in Poland in the last decades. The number of breeding pairs in one of the biggest European colonies in Kały Rybackie, studied intensively since 1995, grew from 608 in 1980 to 9754 in 2003. In 1998 the colony began to split into several parts. After that the rate of the population development has increased considerably. Prolonged winter caused delayed and much more synchronised breeding with lowered reproductive success. In the newly established subcolonies cormorants started breeding later in the season and their breeding success was lower. Since 1995 cormorants winter regularly in the Gulf of Gdańsk and today their number amounts to several thousands. Cormorants from Kały Rybackie use alternatively both freshwater Vistula Lagoon and Gulf of Gdańsk as feeding grounds, depending on time and weather conditions. The staple food in the Lagoon was Ruffe *Gymnocephalus cernuus*, followed by Roach *Rutilus rutilus*, Perch *Perca fluviatilis* and Herring *Clupea harengus*. In the Gulf of Gdańsk the predominant prey was Round Goby *Neogobius melanostomus*, a new coming fish species from the Black Sea region, recently inhabiting shallow waters in great abundance. Cormorants take more than 1000 tons of fish yearly from the Vistula Lagoon and similar amount

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from the Gulf of Gdańsk. Due to diet composition and small size of their prey, the impact of cormorants' feeding has negligible economic importance.

Key words: Great Cormorant *Phalacrocorax carbo*; population development; breeding and feeding ecology; N Poland.

## **THE DISTRIBUTION OF THE WHITE-SPECTACLED BULBUL (PYCNONOTUS XANTHOPYGOS) AND INFLUENTIAL FACTORS ON ITS DISTRIBUTION IN TURKEY.**

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This study, from 2000 to 2004, was carried out in Mediterranean, Aegean, Central and Southwest Anatolian regions of Turkey. The population density of white - spectacled bulbul (*Pycnonotus xanthopygos*) to be found intensive from Antalya to Tekirova and to be found decreasing from Tekirova to Patara in the West Mediterranean region. In the East Mediterranean region, population density were found highly intensive between shores and mountains. However, if the vegetation is suitable, it was observed that passing the mountains through valleys and arrived central areas. Also, it was seen at the boundary regions, Central and Southeast Anatolia, of Mediterranean regions. It was seen that the main influential factors on the distribution of white-spectacled bulbul (*Pycnonotus xanthopygos*) was mountainous areas, foods and dense forests. Furthermore, it was observed that the vegetation conformation had caused the horizontal and the vertical movements of species.

Key words: Mediterrenen Region, White-Spectacled Bulbul, *Pycnonotus xanthopygos*

## **ARAP BÜLBÜLÜ (PYCNONOTUS XANTHOPYGOS)'NÜN TÜRKİYE'DEKİ YAYILIŞI VE YAYILIŞI ETKİLEYEN FAKTÖRLER**

Araştırma, 2000-2004 yılları arasında Akdeniz, Ege, İç Anadolu ve Güneydoğu Anadolu Bölgelerinde gerçekleştirildi. Arap bülbülü (*Pycnonotus xanthopygos*) Batı Akdeniz Bölgesinde Tekirova'ya kadar yoğun olarak bulunurken, Tekirova'dan Patara'ya kadar yoğunluk belirgin olarak düşmektedir. Doğu Akdeniz Bölgesinde ise kıyı bandından dağlara kadar çok yoğun olarak bulunmaktadır. Ancak, dağların arasındaki vadiler boyunca, vejetasyon uygunsa, iç kesimlere geçtiği tespit edilmiştir. Ayrıca Akdeniz Bölgesine sınır olan Güneydoğu Anadolu ve İç Anadolu Bölgelerinde de yayılış gösterdiği belirlenmiştir. Türün dağılımını etkileyen faktörlerin başında dağlık alanlar ile besin ve sık orman vejetasyonunun olduğu belirlenmiştir. Vejetasyon yapısı, dağılımı etkilemenin yanı sıra dikey ve yatay yer değiştirme davranışının gerçekleşmesine de neden olmaktadır.

Anahtar Kelimeler: Akdeniz Bölgesi, Arap Bülbülü, *Pycnonotus xanthopygos*

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## **MIGRATION OF BIRDS OF PREY AT ARHAVI IN SEPTEMBER 2003**

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In the autumn of 2003, we, (Reinhard Vohwinkel, Hermann Knüver and Okan Can) were invited by Cavit Bilen to look at the migration of Birds of Prey in his homeland, at the 600 year old traditional falconry of Sparrow Hawks near the coast of the Black Sea in the North West part of Turkey. In this presentation I will introduce the impressions of our journey between 12th and 23rd September 2003. You will see the photo collection of Hermann Knüver and myself, of the fantastic landscape and of the birds of prey during their migration through the valleys and over the hills coming from the coast. Also I present some facts on how the Sparrow Hawk hunting in this region is done and I will show you pictures of birds of prey which we trapped to take data, to weigh and to band before we released them again. Pictures of some sub-species of Songbirds which we caught during our trip are also shown.

Key words: Migration, Sparrow Hawk hunting, Arhavi

## **SOME ASPECTS OF BARNACLE GOOSE, BRANTA LEUCOPSIS BREEDING AND REPRODUCTIVE SUCCESS AT THE MOSCOW ZOO**

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Mate-sampling behaviour, social structure and the effect of social dominance and intraspecific competition on the breeding success of captive barnacle geese group has been studied since 1998. Available territory is enough for the breeding of only 7-8 pairs of barnacle geese, so a competition for nest sites takes place every spring. Dominance increases reproductive success: high-ranking males have more chances to acquire and defend a nest site. Some cases of nest parasitism were observed. Snow geese and some other species can exclude barnacle geese from their nest sites. Social rank of the males of barnacle geese varies with age, experience, changing of the partner, group composition and physiological condition. The first-time pairing generally occurs at 2-3 years of age. Successfully hatching and rearing goslings is usually achieved only after several seasons. During the mate-choice process most of the barnacle geese go through one or more partners before settling with a consistent mate. Adult birds can also rather often change their partners. The hatching success of the barnacle geese in the Moscow Zoo is much lower than in the wild. Many factors can influence it: inter- and intraspecific competition, the poor physical conditions of females in spring and the pollution of the water.

Key words: Barnacle geese, inter- and intraspecific competition, social rank, breeding success.

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## **THE IMPORTANCE OF MERİÇ BASIN (EDİRNE) REGARDING TO ORNITHOFAUNA AND SOME ECOLOGICAL PROBLEMS**

*Mustafa Kaya*

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This study was carried out to determine the bird species occurring Meriç Basin. The area surveyed was in Meriç-Ergene basin, situated at about 10 km Northwest of Enez of Edirne province. During observations conducted between February 1997 and May 1998, 163 bird species were determined. Their status in the ‘Red data’ list were summarised in tables. Of 163 species; 40 were residents, 90 were summer migrants, 27 were winter migrants. Status of 6 species could not be determined due to low number of observations, such as one or two. It has also been found that 46 species breed in the study area. The importance of the region and the problems that threaten the ornithofauna are discussed.

Key words: Turkey, Thrace, Meriç Basin, Avifauna

## **MERİÇ DELTASI’NIN (EDİRNE) ORNİTOFAUNA AÇISINDAN ÖNEMİ VE BAZI EKOLOJİK SORUNLARI**

Bu çalışma Meriç – Ergene havzasında, Meriç Nehri’nin çıkışına yakın, Edirne ili Enez ilçesinin 10 km kadar kuzeybatısında yer alan Meriç Delta’sında yapılmıştır. Bu çalışmada, Şubat 1997 – Mayıs 2003 tarihleri arasında yapılan gözlemler sonucu 163 kuş türü kaydedilmiştir. Bu türlerin statüleri ve tehlike durumları tablo halinde verilmiştir. Tespit edilen 163 kuş türünden 90 türün Yaz göçmeni, 27 türün Kış göçmeni, 40 türün yerli türler olduğu tespit edilmiş ve 6 türün de araştırma süresince sadece bir ya da iki kez gözlenmeleri nedeniyle statüleri hakkında karar verilememiştir. 46 türün de araştırma bölgemizde ürettiği belirlenmiştir. Ayrıca bölgenin ornitolojik önemi üzerinde durulmuş ve bölgeyi tehdit eden sorunlar tespit edilmeye çalışılmıştır.

Anahtar kelimeler: Türkiye, Trakya, Meriç Deltası, Avifauna,

## **WINTERING WATERFOWL OF SERBIAN PORTION OF DANUBE RIVER: COUNTS 1999-2003**

*Daliborka Barjaktarov, Ivana Novcic, Voislav Vasic*

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IWC (International Water Bird Census) represents the greatest survey program of biodiversity in the world that deals with the birds of wetland habitats. Information that is gathered by census method of IWC in six Eurasian regions is used in order to estimate the size of winter populations of wetland birds, also changes in size and distribution of these populations. Danube represents an important economic and trade connection of Eastern and Middle Europe. Besides, Danube freezes over either not at all or very rarely, and as such represents an important stop for the winter migrants, as during the winter it provides them food and shelter. Natural History Museum in Belgrade counts birds on the Serbian part of Danube since 1982. The results processed for this report were collected in the standardized period 1999-2003. Most birds were recorded on 1999, 203635 individuals from 36 species (least recorded number). The greatest number of species (43) was recorded in 2003. During the administering of IWC, on the Serbian part of the Danube most ducks were recorded, both diving ducks and surface feeding ducks. In last several years there is a recorded increase in numbers of Eurasian Coots (*Fulica atra*) and Mute Swans (*Cignus olor*).

Key words: Danube, IWC, count, waterfowl

## **DISTRIBUTION AND CALENDAR OF SWIFT SPECIES IN TURKEY**

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There are four Swift species have been scattered in Turkey. These are Swift (*Apus apus*), Alpine Swift (*Apus melba*), Little Swift (*A. affinis*) and Pallid Swift (*Apus pallidus*). All these species are summer visitors in turkey. Also, they go through Turkey at the time of north-south immigration. Swift and Alpine Swift are seen, in Turkey, more often, than the other swift species, and the number of individuals is higher than the other two species. Scattering of swift species in Turkey and visiting dates are different from each other.

## **EBABİL TÜRLERİNİN TÜRKİYE'DEKİ DAĞILIMI VE TAKVİMİ**

Türkiye'de dağılım gösteren 4 ebabil türü vardır. Bunlar Ebabil (*Apus apus*), Akkarınlı Ebabil (*Apus melba*) Akkuyruksokumlu ebabil (*A. affinis*) ve Gri ebabil (*Apus pallidus*)'dir. Bu türlerin

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hepsi Türkiye’de yaz ziyaretçisidir. Ayrıca kuzey-güney göçleri esnasında Türkiye üzerinden geçmektedirler. Ebabil ve Akkarınlı Ebabil diğer Ebabil türlerine göre Türkiye’de çok daha sık görülmekte olup birey sayıları da diğer iki türe göre daha yüksektir. Ebabil türlerinin Türkiye’deki dağılımları ve geliş-gidiş tarihleri de birbirinden bazı farklılıklar göstermektedir.

## **WHY IS WHITE-HEADED DUCK WINTERING IN LAKE BURDUR (TURKEY) DECREASING?**

*Mehmet Ali Tabur, Yusuf Ayvaz, Ali Uzun*

*S. Demirel Üniversitesi Fen Edebiyat Fakültesi Biyoloji Bölümü Isparta*

The ever-increasing human impact on existing natural resources has caused the extinction of many bird species and others have become endangered. The rapid human population growth of Turkey and associated demands on natural resources threaten the biodiversity of the nation’s natural ecosystems. The number of White-headed duck (*Oxyura leucocephala*) has been declined greatly in the world. White-headed duck is one of endangered species wintering in the Lake Burdur. The lake is one of Turkey’s first sites under Ramsar Conservation. The aim of this study was to research effects of hunting, feeding, and behaviour of this species. It was determined that the largest populations were encountered as 4478 *O. leucocephala* in the lake from 1992- till 2001.

Key words: *Oxyura leucocephala*, Lake Burdur, Bird extinction, Wetland, Turkey.

## **NIÇİN KIŞLAYAN DIKKUYRUK BURDUR GÖLÜ’NDE AZALIYOR?**

Doğal kaynaklarda artan antropolojik baskı bir çok kuş türünün yok olmasına ve büyük çoğunluğunun da tehlike altına girmesine yol açmıştır. Türkiye’nin aşırı nüfusu ülkenin ekosistemindeki biyoçeşitliliği tehdit etmektedir. Dikkuyruk sayısı (*Oxyura leucocephala*) dünyada önemli ölçüde azalma göstermektedir. Bu tür Burdur Gölü’nde kışlayan nesli tehlike altında olan türlerden birisidir. Burdur Gölü Türkiye’nin Ramsar Sözleşmesine göre korunan ilk sulak alanıdır. Bu çalışmanın amacı; dikkuyruk ördeğin beslenmesi ve avlanmanın etkileri ile diğer davranışlarını araştırmaktır. Gölde 1992-2001 yıllarında yapılan gözlemlerde dikkuyruğun en yüksek birey sayısı 4478 olarak belirlenmiştir.

Anahtar Kelimeler: *Oxyura leucocephala*, Burdur Gölü, Nesli tehlikede olan kuş türleri, Sulak alan, Türkiye.

## **NEST-SITE USE BY CAVITY-NESTING BIRDS IN A BOREAL FOREST, NE MONGOLIA**

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Hole-nesting birds comprise a major component of many forest bird communities and are a group sensitive to forestry practices. In a primeval boreal forest of west Khentii, NE Mongolia, we searched for active nests of hole-nesting birds and surveyed the forest structure as well as the availability of tree holes. The nest-site preferences of 9 species, the Great Spotted Woodpecker *Dendrocopos major*, the Little Spotted Woodpecker *D. minor*, the Daurian Redstart *Phoenicurus aureus*, the Red-breasted Flycatcher *Ficedula parva*, the Coal Tit *Parus ater*, the Great Tit *P. major*, the Willow Tit *Parus montanus*, the Nuthatch *Sitta europaeae* and the Treecreeper *Certhia familiaris*, were investigated. Different bird species differed in their utilisation pattern of species, diameter and condition of nest trees as well as type, height and entrance dimension of nest holes, while type and opening width of nest holes accounted most in a discriminant function analysis. We summarised the links among species through a nest web approach, which demonstrated the competition and reuse of resources and identified key species.

Key words: hole-nesting birds, nest-site selection, nest web, boreal forest

## **THE EFFECTS OF POLLUTANTS ON BIRDS AND OTHER ORGANISM LIVING IN LAKE VAN BASIN**

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In the present study, the source of pollutants in the Lake Van and Erçek were investigated. The Primary important pollutants threatening the water and environment of these lakes are; domestic waste water and solid waste materials carried by erosion. The secondary pollutants are; the illegal construction of buildings, solid waste deposited in the surrounding of lakes, industrial waste, herbicide and pesticide waste, sound and view waste. The reasons indicated above caused physical, chemical, biological and ecological pollution in the area. It was observed that people and other organisms are directly or indirectly influenced by these pollutants. It has been assumed that the pollution problem will increase in this area. Because the area is a closed basin and the cost and period of recovery will be more expensive and longer comparing with open basin.

Key words: Drainage, The Lake Van, The Lake Erçek, Wetland, Birds

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## **VAN GÖLÜ HAVZASI'NDA DRENAJIN NEDENLERİ, SULAK ALANLARA VE KUŞLARA ETKİLERİ**

Bu çalışmada Van ve Erçek göllerini besleyen, su kaynaklarının oluşturduğu deltalarda yapılan drenajın sebepleri ve etkileri araştırıldı. Drenajın en önemli nedeninin, daha fazla otlak ve tarım arazisi açmak olduğu belirlendi. Ayrıca çeşitli nedenlerden dolayı saz, kamış ve diğer bitkilerin daha kolay toplanması amacı ile kuraklaştırma, kamusal faaliyetler, bataklık kurutmak havzada drenajın diğer sebepleri olduğu anlaşıldı. Havzada drenaj, sulak alana hayat veren suyun, sonradan açılan kanallara toplanarak göllere hızlı bir şekilde tahliyesi sonucunda gerçekleştirilir. Ender olarak su kaynağının akış yolu değiştirilerek alanın kurutulduğu da görülmüştür. Drenajın merkezde daha çok iş makineleri ile kırsal kesimlerde ise insan gücüyle yapıldığı gözlemlendi. Drenaj faaliyetlerinin sonucunda bir çok canlıyı barındıran sulak alanların kısmen veya tamamen yok alabildiği görüldü. Bu alanlarda yaşayan kuşların ve diğer canlıların yuva yapma, kuluçka, barınma, beslenme, kuraklık, çevre kirliliği konularında sorunlarla karşılaştıkları ve genelde alan değiştirerek tepki gösterdikleri izlendi. Bu çevre sorununun, başta kıyı koruma kanunu olmak üzere diğer çevre kanunlarının yeterince uygulanmamasının, kurumlar arası koordinasyon eksikliğinin ve genel olarak bilgi eksikliğinin bir sonucu olarak ortaya çıktığı kanısına varıldı.

Anahtar Kelimeler: Drenaj, Van Gölü, Erçek Gölü, Wetland, Birds

## **BIRD MIGRATION RESEARCH– SOME FUTURE PERSPECTIVES**

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Ringling of birds unveiled many mysteries of avian migrations, notably routes and destinations. However, there is still much to be explored by the use of ringling and other marks. Satellite tracking, geolocation and global positioning systems, and even electronic tags may enable much more detailed insights in migration patterns of individual birds and populations. But also a more elaborated colour marking approach is recommended. Moreover, particular chemical and molecular markers appear to be very useful in the study of bird migration by delineating origin of birds and connectivity between breeding and non-breeding grounds. Co-ordinated, collaborative, standardized and large-scale migration networks provide an other elaborated tool to study differential migration and patterns of migratory timing and fuelling. Although understanding of bird migrations gained much from captive studies about the internal mechanisms in the control of bird migration, we still lack knowledge about external factors, such as food availability, weather, competitors, parasites or diseases. Such data are also required to refine theoretical consideration about migration strategies. Future migration research must aim much more comparative research and a more integrative approach at various spatial and temporal scales, and linking various sub-disciplines. It must also consider that migration is only

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one part of the life-style of a migrating species. Thus, linking migration and breeding is an other future challenge, both for basic science and for effective protection of migratory birds.

Key words: Migration routes, connectivity, differential migration, satellite tracking, stable isotopes, colour ringing, networks

**ANNUAL SURVIVAL RATE OF AN URBAN POPULATION OF  
EUROPEAN BLACKBIRD (TURDUS MERULA) IN SZCZECIN (NW  
POLAND)**

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A colour-ringed population was observed in 1997-2003 in the Żeromski Park in Szczecin (NW Poland). Over 1999-2001, the annual survival rate of breeding individuals was similar and averaged 79% in males (N=126) and 75% in females (N=125). After the long and frosty winter of 2002/2003, the survival rate dropped to 63% in males (N=63;  $\chi^2=5.23$ ; df=1; p=0.022) and 56% in females (N=59;  $\chi^2=6.96$ ; df=1; p=0.08). Those males aged 2 and 3 years that had produced at least one fledgling (N=52) were found to survive better than the males that attained no breeding success (N=35), the respective survival rates being 85% and 66% ( $\chi^2=4.22$ ; df=1; p=0.04). Among the oldest males (older than 3 years), the survival rate was higher (83%) in the males with no offspring (N=18), compared to those that had bred successfully (52%; N=21;  $\chi^2=4.18$ ; df=1; p=0.04). The annual survival rate in young males was 72%, regardless of their breeding success. In females of all age classes, the annual survival rate was higher in the successfully breeding individuals. In the young females, breeding success (N=29) was accompanied by the annual survival rate of 76%, compared to the lack of breeding success (N=20) with 45% annual survival rate ( $\chi^2=4.85$ ; df=1; p=0.03). The successfully breeding females aged 2 and 3 years (N=48) showed the annual survival rate of 85%, compared to 57% in those without breeding success (N=44;  $\chi^2=9.26$ ; df=1; p=0.002). In older females, the respective survival rates were 82% (N=22) and 53% (N=19;  $\chi^2=4.01$ ; df=1; p=0.045).

Key words: Survival, breeding success, European blackbird



**STOPPING AT THE STOPOVER - THE DROPOUT HYPOTHESIS: A  
CASE STUDY OF BEE-EATERS AT EILAT, ISRAEL**

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The life history of the migratory bird species is dictated by the cost-benefit decisions made during the year. It appears that the most critical, and dangerous, time of the life cycle is the migratory period when not only do they have to decide on the routes to take to and from the wintering grounds but also when to stopover, where and for how long. Several studies have attempted to understand the factors that dictate these decisions, but much remains to be understood. We studied migratory European Bee-eaters (*Merops apiaster*) along the Arava Valley, Israel, during their spring migration stopover immediately after crossing the ecological barrier of the Sahel, Sahara and Sinai deserts. We evaluated the effects of body mass and age on the decision to stopover as a function of the distance from the northern edge of the deserts northwards up to the Dead Sea basin. This resulted in our proposing a new “drop-out hypothesis” wherein the weaker individuals dropout earlier from the migratory flock that is moving northwards from the ecological barrier. Juveniles, on their first migration from Africa and that lack experience, comprise the majority of the weaker proportions of the migratory flocks and dropout at the stopover sites closest to the ecological barrier. The proportion of adults increases as the flock moves northwards. The evolutionary and conservation implications of this study stress the importance of conservation of not only a single stopover site along the migratory route but that of several points staggered out such that they will allow individuals with varying degrees of body condition to advance in their desired direction with minimum stress. The study also stresses the importance of a major site like Eilat at the desert edge for individuals in inferior body condition to those sites further to the north. These individuals will comprise the major potential for recruitment as breeding individuals in the population.

**BREEDING BIOLOGY OF REDSTART (PHOENICURUS  
PHOENICURUS L.) IN RESEACH FORESTS, BÜK- LÜTFİ  
BÜYÜKYILDIRIM AND ELMALI SEDRUS RESEARH FOREST, IN  
ANTALYA**

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This study was carried out in Bük-Lütfi Büyükyıldırım (Redpine) and Elmalı Cedar Research Forest which are bounding to the directorate of west Mediterranean Forestry. Research areas have different vegetation types and altitudes. In this study, from 2000 to 2001, breeding biology of Redstart (*Phoenicurus phoenicurus*) has been investigated. The first time of building nest, the quantities in the egg haps, the total number of flying young and broad success of Redstart were determined. Migration times, choosing box colour and the influential factors on hatching were also investigated.

Key words: *Phoenicurus phoenicurus*, Breeding biology, colour nestbox

**ANTALYA ARAŞTIRMA ORMANLARINDAKİ (BÜK-LÜTFİ  
BÜYÜKYILDIRIM VE ELMALI SEDİR) BAHÇE KIZILKUYRUĞU  
(PHOENICURUS PHOENICURUS L.) POPULASYONLARININ  
KULUÇKA BİYOLOJİSİ ÜZERİNE ÇALIŞMALAR**

Bu araştırma, Batı Akdeniz Ormancılık Araştırma Müdürlüğü'ne bağlı, iki farklı yükselti ve bitki örtüsüne sahip araştırma ormanları (Bük- Lütfi Büyük Yıldırım Kızılcım ve Elmalı Sedir)'nda gerçekleştirilmiştir. İki yıl süren gözlemlerde, bahçe kızılkuşu (*Phoenicurus phoenicurus*.)'nun kuluçka biyolojisi ile ilgili olarak; araştırma ormanlarına geliş-gidiş tarihleri, yuvalanmada farklı renklere boyanmış sandıkların tercihi, ilk yuva yapımına başlama zamanı, ilk yumurta bırakma zamanı, bir yumurta kümesine bırakılan yumurta sayısı, kuluçka süresi, yumurta açılım oranı, yavru gelişim süreleri, uçan yavru sayıları, kuluçka başarıları ve kuluçka başarılarını etkileyen faktörler incelenmiştir.

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## **BODY TEMPERATURE AS A BASIS OF EARLY BEHAVIORAL DEVELOPMENT IN ALTRICIAL BIRDS.**

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Higher Nervous Activity and Neurophysiology, Russian Academy of Science, Butlerova Street, 5a, Moscow, Russia The role of body temperature (TB) in the development of early feeding and defence behaviour was studied in pied flycatcher (*Ficedula hypoleuca*) nestlings. Micro-thermocouple measurements in the wild revealed the age changes of TB variations at different ambient temperatures (TA) and during different behavioural patterns. The lower limit of TB when nestlings are still capable of begging was defined to be 1-1.5°C higher than the limit level of asymptotic curves of TB decrease in single nestlings during begging at TA=24°C, the latter corresponding to the lower level of adults' thermoneutral zone. Feeding behaviour of altricial nestlings consists of two phases: active and satiation. Feeding response (begging posture and vocalization) results in TB decrease by approximately 1°C and getting of food causes a short-term TB decrease by another several tenth of degree. Satiation phase is accompanied by sleep and considerable increase of TB (by 2-5°C). Defence behaviour (freezing) that appears on posthatching day 5-6 in response to adults' alarm call is also accompanied by TB increase. The pattern of TB increase during defence response is close to that in satiation phase of feeding behaviour. Considering the results of our studies of acoustically and visually guided behaviour, heart rate changes and characteristics of auditory brainstem potentials as dependent from TB and during feeding and defence behaviour it is suggested that freezing in response to alarm call prior to the onset of effective thermocontrol and patterned vision is "reinforced" by TB increase. Supported by RFBR grant 04-04-49743 and Universities of Russia – Basic Researches.

Key words: Pied flycatcher, development, body temperature, feeding behavior, defense behaviour

## **ENERGETIC ASPECTS OF FORMATION OF TERRITORIALITY AS A COMPLEX PROPERTY AND BASES OF STRUCTURING OF BIRDS POPULATIONS**

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Territoriality is a complex property of animals and its development is related to many factors. One of the most considerable conditions is development of sensory systems providing inspection of a territory and formation of territorial connections. The correct development of functional systems providing territorial connections in ontogeny requires the obligatory flow of

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sensory information from the environment. The natural species-specific behavior of offsprings develops only under the continuous information gained. The territoriality in offsprings develops only in the case of availability of the most suitable territory ("good" territory) during critical stages of ontogeny. "Good territory" is a territory, which meets the most requirements of animal's ecological niche. Population studies of two Passerine species (*Parus major* and *Ficedula hypoleuca*) show that a high status of a male (high level of basal metabolic rate and some morphological parameters) determines the choice of breeding area in the optimal habitat. This fact provides advantages for success survival of breeding birds and their offsprings. The birds from peripheral areas of habitats are intent on nomadic way of life. Thus, offsprings of the parents having more favorable habitat (adequate to ecological niche of the species) imprint the territorial way of live and also select a good territory for breeding. The offsprings grown up at a good territory have a higher capability to succeed it due to they have a higher status, they are better informed of the habitat characteristics. The offsprings from optimal habitats have more sophisticated morphological and physiological parameters compared to the average level. Nevertheless, only part of them can succeed the good territory; the other one disperses. In such way a species fulfills all the tolerance range. The territoriality is basic prerequisite for the structuring of populations. Was supported by the RFBR grants # 03-04-48974, 03-04-49072.

Key words: bird ringing; natural species-specific behavior, energetics and territoriality

**EVOLUTIONARY AND ECOLOGICAL EFFECTS OF VARIATIONS  
AND INTERACTIONS OF ENERGETIC PARAMETERS IN BIRDS  
LEADING TO EXTENSIVE ECOLOGICAL CAPACITIES OF  
PASSERIFORMES**

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Three-fifths of more than eight and a half thousand contemporary bird are passerines (5100). Passerines occupy a habitat with very unstable in ambient temperatures and are distributed all over the world. Passeriformes is the greatest vertebrate order from the point of view of both the number of species and the number of individuals. We may ask, what is the ecological phenomenon of Passeriformes? I propose that extensive ecological capacities of Passeriformes result from their energetics. What differences in energetics influence ecological capacities? The communication is a summary of many years of thought and research on energy budgets of passerine and non-passerine birds. The larger goal is to uncover evolutionary pathways that have occurred among birds' physiologies and their ecologies. I am designed to examine relationships between the ecological properties of birds and their rates of energy metabolism. Does a bird's rate of energy metabolism determine the presence or extent of one or more of its ecological attributes, or does an ecological property of a bird set its metabolic rate? Are cause and effect relationships evident for any species? Maximum and minimum metabolic rates differ in a

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predictable fashion between these taxonomic groups, with passerines processing energy about 30% faster than do similar-sized non-passerine birds. Thus, the energy available for thermoregulation, reproduction and other functions is greater in the passerine, when compared at a given body mass. These differences may explain differences in latitudinal distribution, reproductive parameters, molting events, diet and habitat selection. When these energetic differences are analyzed in relation to variation in body mass between species, possible explanations emerge for differences in reproductive and other parameters between small and large birds. The argument here is that energetic parameters determine ecological properties, and that evolutionary processes have operated on the basis of these parameters to result in the species distributions seen today. Experimental tests of these hypotheses remain to be done. The 1.3-1.5 times increase in minimal metabolic rate level in moderate and high latitudinal Passerine birds results in a proportional increase in maximal existence metabolism, maximal aerobic metabolism and daily work output. For existence, a passerine bird needs to increase its food intake by 30-50% or more. In Passeriformes, evaporative water loss is about 25-40% higher than in Non-Passeriformes (especially at high ambient temperatures). Was supported by the RFBR grant # 03-04-48974.

Key words: Maximum and minimum metabolic rates, ecological properties

## **MODEL OF UNIDIMENSIONAL HIERARCHICAL NICHE AND ITS ROLE IN CREATION OF FUNCTIONAL CONCEPT OF BIOLOGICAL SPECIES**

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The model of unidimensional hierarchic niche has set a new phase in development of the ecological niche theory. In the model the ecological niche of species is considered as an integrated functional unit. The consistent development of model of unidimensional hierarchical niche and systems approach to species analysis resulted in creation of functional concept of species. According to this concept each species performs in natural communities a specific function determined by structure of its ecological niche and characterized integrally by its foraging behavior. For successful fulfillment of this function, i.e. feeding by species-specific methods, organisms of a given species have acquired peculiar ecological, morphological, physiological, genetic and other adaptive characters. This approach allows us to resolve the problem of integrity of species at multiplicity of their separate characters. Integrity, discretion, certainty of species is most clearly shown at the foraging behavior level. All species are clearly differed from each other by this parameter. Proceed from species-specific foraging behavior all other characters of species have been developing.

Key words: Concept, ecological niche, foraging behaviour

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## MONTH'S DINAMICS OF WATERBIRD NUMBER AT THE CASPIAN COASTAL ZONE OF AZERBAIJAN

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Azerbaijan is situated on the most important way of migration for waterbirds. As minimum 10-12 millions of only Waterfowl birds migrate along Caspian coast during one season (Krivonosov, 1979). Our modern data for Azerbaijan show near 700 thousand waterbirds in wintering and as minimum 10-12 times more during migration. During 1996-1997 years seasonal count of waterbirds along Azerbaijan part of the Caspian Sea coast was conducted. Different methods of count were used: helicopter count (during January, March, April, September, October and December) also counts from lands along coast and count from Vessel and motor boats. All main islands also were counted. Results of counts were combined for receiving maximal full data about bird number and are reflected in Tables.

Key words: Waterbirds, Caspian Sea, counts

## PHYLOGENY OF MAGPIES (GENUS PICA) INFERRED FROM MTDNA DATA

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We investigated the phylogenetic relationships of species and subspecies of the cosmopolitan genus *Pica* using 813 bp of the mitochondrial genome. The phylogenetic relationships within the genus *Pica* revealed in our molecular analyses can be summarized as follows: (1) Korean magpies (*Pica pica sericea*) appeared basal within the genus *Pica*; (2) European magpies (*P. p. pica*) showed a close relationship to the Kamchatkan magpie (*P. p. camtschatica*); (3) two North American species (*P. hudsonia* and *P. nuttalli*) showed a sister-group relationship; (4) most importantly, the European-Kamchatkan clade appeared more closely related to the North American clade than to Korean magpies. Based on these results and genetic distance data, it is possible that members of an ancestral magpie lineage in East Asia initially moved north to form Kamchatkan magpies and then crossed the Bering land bridge to found North American taxa. At a later date, a group might have split off from Kamchatkan magpies and migrated west to form the Eurasian subspecies. Based on the above findings, including phylogenetic placement of *P. hudsonia* and *P. nuttalli* as nested within the larger *Pica pica* clade, and the lack of evidence suggesting reproductive isolation within the genus *Pica*, we believe that the current classification

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may be inaccurate. A more conservative classification would recognize one monophyletic species (i.e., *P. pica*) and treat *P. nuttalli* and *P. hudsonia* as subspecies. More extensive studies on the population genetics and biogeography of magpies should be conducted to better inform any taxonomic decisions.

Key words: *Pica*, mitochondrial DNA, molecular phylogeny, divergence, classification

## **PLANNING FOREST RESOURCES FOR MULTIPLE USE AND ITS EFFECTS ON BIRD HABITATS**

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Turkey is the richest country in the Europe in terms of bird species. According to avifauna list of Turkey is prepared in 1996, there are 450 recorded species of birds in country, of which 376 occur regularly in the country, making Turkey an important area in this respect. However, almost all populations of bird species in Turkey have been, or are still being, extinct in many areas. Disturbance of forest ecosystems caused by unplanned exploitation of forests and therefore, global warming, desertification and, generation of added pressures on remaining forests to supply goods and services quickened this extinction. Bird populations are one of the most important element in forest ecosystem. In this respect, Birds are effected by degeneration of forest ecosystem and forest management practices. In order to eliminate such causes forests should be managed by well-prepared contemporary forest management plans. Reviewing the related literature and recent studies on the subject, recommendations were made on planning items to be considered and how these items evaluated and used in forest ecosystem planning in Turkey. As the importance of universal values of forests is increasing, sustainable forest management, biological diversity conservation, and multiple use principles should be taken into account in the forest management planning in Turkey.

Key words: Forest Management, Bio-diversity, Forest Ecosystem, Bird Habitats

## **ORMAN KAYNAKLARINDAN ÇOK YÖNLÜ YARARLANMANIN PLANLANMASI VE KUŞ HABİTATLARI ÜZERİNE ETKİLERİ**

Türkiye, kuş türü çeşitliliği bakımından Avrupa kıtasındaki en zengin ülkedir. 1996 yılında hazırlanan avifauna listesine göre, Türkiye’de 450 kuş türü kaydedilmiştir. Bu kuş türlerinden 376’sı düzenli olarak ülkede bulunmaktadır. Ancak, Türkiye’deki kuş türlerinin hemen hepsinin birçok yerdeki popülasyonları yok olmuş ya da yok olma süreci halen devam etmektedir. Ormanların uzun yıllar boyunca kontrolsüz ve plansız şekilde işletilmesi, orman ekosistemlerinin yapılarının bozulmasına, global ısınmaya, çölleşmeye ve orman alanları üzerindeki baskıların artmasına neden olmuş ve bütün bunların sonucunda da; söz konusu süreç daha da hızlanmıştır. Orman ekosistemini oluşturan en önemli unsurlardan biri kuş

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populasyonlarıdır. Bu nedenle kuşlar, orman ekosistemindeki bozulmadan ve orman yönetimi uygulamalarından en çok etkilenen canlı türlerinin başında gelmektedir. Bu olumsuzlukların ortadan kaldırılması, ormanların, çağdaş politikalarla ve iyi hazırlanmış amenajman planlarıyla işletilmesini gerektirmektedir. Son yıllarda yapılan çalışmalar ışığında; Türkiye orman ekosistemlerinin planlanmasında dikkate alınması gereken unsurlar ve bu unsurların planlama çalışmalarında nasıl değerlendirilip, kullanılabileceğine ilişkin öneriler getirilmiştir. Sonuç olarak: ormanların evrensel bir değer olarak öneminin giderek arttığı günümüzde, Türkiye'deki orman amenajman planlarının, Sürdürülebilir Orman Yönetimi, Biyolojik Çeşitliliğin Korunması ve Çok Yönlü Yararlanma esasları temel alınarak düzenlenmesinin gerekliliği vurgulanmıştır.

Anahtar Kelimeler: Orman Amenajmanı, Biyolojik Çeşitlilik, Orman Ekosistem, Kuş Habitatları

## **SPATIAL AND TYPOLOGICAL STRUCTURE AND THE ORGANIZATION OF THE ORNITOCOMPLEXES OF SOUTH-WEST SIBERIA (FOREST STEPPE)**

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The spatial and typological structure of birds population is understood by us as the general character of its territorial heterogeneity, i.e. the basic directions in the changes of communities in factorial space. The spatial - typological organization of the population of birds is its territorial structure and factors determining it (Ravkin, 1984). The analysis of distribution and number of birds of Southwest Siberia was earlier stated in the works by Johansen H. (1943-1961), Zalessky I.M., Zalessky P.M. (1931). The birds were counted on the constant, not strictly fixed routes without restriction of transect width. Recalculation on the area was carried out on average range of detection by an interval way (Ravkin, 1967). In total 62 habitats were studied from May, 16 till August, 31 1984 and 1986-87. General extent of routes on which the birds were counted is about 2240 km. The classification of population was carried out with the help of one of the methods of factorial classification - qualitative analogue of the method of main components (Trofimov, Ravkin, 1980) on factors of similarity of Jaccar (Jaccar, 1902) for quantitative attributes (Naumov, 1964). Tacksons of classifications were named by the conditions of environment which are shown on all the territory occupied by the ornitocomplexes, included in the given group. Spatial and typological classification of the population of birds of southern forest-steppe in the first half of summer on the level of a subtype is presented as three condensations of communities connected among themselves: vacant land; rivers and lakes; cities and settlements. The basic tendencies of territorial changes in the first half of summer are defined by forests, much moisture and water, and also proaccuracy of reservoirs, settings and ruderality. The subtypes of the population presented in the scheme in the second half of summer, are more ordered, than in the first, in connection with leveling of influence of after-nesting travels of birds. Due to it in comparison with chart constructed for the previous period, the scheme is more compact. It is especially clearly seen in the vertical line of

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changes of the population from woods to field habitats. At the same time in comparison with the first half of summer the provincial differences of ornitocomplexes of field habitats with small forests and windbreak fields grow. Basically leading kinds of birds for the first and second halves of summer are identical. However in the list of wood habitats there is no *Anthus trivialis* as a leader in the second half of summer, instead *Parus maior* appears. For the fields there are no *Pica pica* and *Corvus frugilegus* among leaders, but *Passer montanus* is registered, which comes from cities and settlements. In the field habitats on damp sites of forest-steppe Priirtyshja in the second half of summer among leaders *Tringa glareola* is marked. In the lakes and marshes *Sturnus vulgaris* and *Aythya ferina* disappear from the list of leaders, as well as *Fulica atra*, who was the leader of lake habitats. For the urbanized territory the list of leading species remains constant, only *Sturnus vulgaris* and *Larus canus* which were looking for food here during the period of nestlings left from the ruderial sites. For forest-steppe of the Ob and the Irtysh and valleys of the Ob, bordering on the east with the southern forest-steppe of Zauralye and Priirtyshie studied by us, it is established, that spatial heterogeneity of the summer population is connected, first of all, also with the presence of forests, water and settings of the territories. Subzone differences of landscapes, like in our case, do not influence on the structure of the population significantly. The greater influence in this region on the summer population is rendered by landscape in a combination with moisturing and degree of a mineral feed of fytotsenoses. (Toropov, etc., 1985). In forest-steppe of Nazarovskaia hollow the anthropogenous transformation of habitats influences in the greater degree (Scykov, 1997). According to the classification of the population for the summer period for individual estimation of communication the six factors of environment were selected, basically determining the territorial variability of ornitocomplexes. The most significant was the anthropogenous influence, including the settlements and land cultivation. The influence of the latter insignificantly decreases in the second half of summer. In general during the summer the anthropogenous influence is mostly significant. The force of the influence of feeding on city dumps is lower. Level of moisture and landscape (an inundated mode) are less significant. Influence of moisturing grows in the second half of summer, which is connected with the concentration of waterbirds and a waterfowl on the significantly big areas of mashes and lakes while in forests and fields the drying of small reservoirs took place and they lost the appeal to birds due to openness and availability.

## **THE MORPHOFUNCTIONAL FEATURES OF THE AVIAN BURSA OF FABRICIUS**

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According to the modern ideas the avian Bursa of Fabricius (BF) is the central immune organ, which produces the B-lymphocytes. The effector cells of the latter provide humoral immunity. There are also data, that BF in domestic fowls contains structures, typical for the peripheral immune organs. Thus, the avian BF is considered to combine the functions of central and peripheral organs of immunogenesis. Full knowledge of the BF morphology in domestic and

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wild birds is necessary to confirm this speculation. The material for investigation was extracted from some representatives of the following groups: Galliformes, Anseriformes, Columbiformes and Falconiformes. The research confirms that the BF is a diverticulum of the posterior part of cloaca's wall. Its shape in different kinds of birds is various. The BF wall consists of three tunics: mucosa, muscularis and serosa. The mucosa is gathered into folds of different height, which contain two types of lymphoid follicles. The overwhelming majority of follicles belong to the first type, where the B-lymphocytopoiesis occur. Their base is formed of the epithelial tissue. The minority of follicles belongs to the second type. They are mainly located just underneath the folds' epithelium and are typical for the peripheral immune organs. Their base is composed of the reticular tissue. The obtained data testifies that the avian BF can function as central and peripheral immune organ.

Key words: Bursa of Fabricius, immunity, morphology, birds.

### **THE ROLE OF HABITAT COMPOSITION ON TERRITORY SIZE VARIATION AND ITS EFFECT ON BREEDING SUCCESS IN THE BLACK-BILLED MAGPIE (*PICA PICA SERICEA* GOULD)**

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This study tests the structural cue hypothesis on black-billed magpie territories to see if territory size is regulated by assessing the prey abundance of the habitat using clues of the vegetation structure. The effectiveness of such an assessment on an urban landscape is evaluated in terms of breeding success where the importance of anthropogenic food is examined. The results of the study show that prey abundance is inversely related to territory size. The model provided under the structural cue hypothesis was superior to the model by the direct-monitoring hypothesis. To do this, predicted prey abundance was calculated from the function of vegetation structure that best described sampled prey abundance. Relationships of interspecific competition between territory size or prey abundance were not found. The breeding performance of the sample territories varied considerably. The amount of invertebrate prey available in the territory positively affected breeding success. However, laying date which is thought to be highly influenced by territory quality was not positively influenced by prey abundance. Anthropogenic food sources and trash bins appeared to be positively correlated with the magpie's breeding success. It is suggested that although assessed prey abundance is crucial in breeding success, unpredictable food sources are important as well.

Key words: Anthropogenic food; black-billed magpie; prey abundance; structural cue hypothesis; territory size

## THE VALUE OF THE ORNITHOLOGY CENTERS OF THE SYSTEM OF SUPPLEMENTARY EDUCATION

*Cheboksary Kaikar*

*Gouriev Aleksey, Director of the Municipal Educational Institution of supplementary education for children "Ecological and biological center "Kaikar"*

Two ecological centers "Crex crex" and Kaikar (Falco), where great attention is given to the development of ornithological circles are open in Cheboksary of the Chuvash Republic since 1983. Those institutions are part of the system of auxiliary education. "Crex crex" center has brought up about a thousand young ecologists and ornithologists; "Kaikar" is formed recently in February 1998. About 400 lovers of nature study there now. Those institutions work according to the unified pedagogical system developed by the teacher-ornithologist Gouriev Aleksey. Such institutions have greatly increased the possibilities for research work and attracted the students to the study of local nature. Later graduates of the centers who are now the majority of the ornithologists of the Republic not only studied birds, but also brought up new specialists. The main task of the teachers-biologists is drawing public attention to the problems environment protection, study of fauna and flora. As a result of the study process they organize specialized camps where students of other cities are invited. There is history of more than 40 expeditions on the territory of USSR in which great deal of attention was given to the study of a number of ornithological objects.

- Far East, Khanka Lake – the Japanese crane (*Grus japonensis*)
- Saratovskaya oblast – Bustard (*Otis tarda*)
- Kazakhstan, Tan-Shan – (*Ibidirhynchus struthersii*)
- Kalmykia, Manych-Gudilo Lake – waterfowl
- Crimea, Caucasus, Turkmenistan, Usbekistan expeditions and so forth.

Many materials got recognition from Russian ornithologists. There is a lot of cyclization, with results being sent to cyclization centers. Young ornithologists got their cyclization experience in Karelian center under the supervision of professor Zymin. This ornithological fauna research work of the students and teachers are regularly recorded in the database of the Chuvash department of the Union of Russian fowl protection. Study and protection of birds depend on qualified personnel, ecological propaganda; work opportunities in the very nature. These are prior issues in the work of our centers. Involvement in joint camps and events of the specialists from other regions facilitates information exchange and brings them closer in various directions.

## OKULDISI (KURS) KURUMLARIN ORNITOLOJ BAXIMINDAN ONEMI

Rasmi (devlet) oxul disi gocux kursun muduru Guryev Aleksey "ekoloji-biyolojik merkei "kaykar"(sahin) 1983 yilindan beri Guras Cumhuriyeti ; yetinde Geboksari sehrinde 2 exolojik merkei agildi : "Karas" (crex crex ) ve "kaykar" (falco). Burda ornitoloj kurslarin gelismine biyik onem veril mextedir. Bu kurslar okul disi editim sistemine boglidir . "Karas" merkeinde-bine yaxin genc ekolog ve ornitoloj egetim almish . "kaykar" merkei yeny kurulmus (1998

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ylinda), fakat bugin burda 400 e yaxin gena tabiatci egitim gormektedir .Bu kurslar ornitoloj-egitimci Guryev Alexsey tarahndan haur-Lanmis egitim programina baglidir . Bu merculer tabiat arestirmalari-na dana de gelistirmelerine ve butir arastirmalara okul gokuklarin da katilmalarina biyik yardim atmektedirler . Dana sonar kurs ne-unlarl Guvas ornitolojarin gogu bu kurs meunlar sadece kus arastir-malar degil aym zamanda yeni kadro yetistirme islerini de yapiyorlar.Biyolog-egitimcin o nemli hedefi-tabiat kerugma sorunlarina ilgi gextirmektir. Egitim yeti sonunda kongreler duzenlenmex-tedir. Buraya baska sehirlerden De ogrenciler katilmaxtadir.Kurslarin kuruludu klari zamandan beri ho tan fazla Arastirma gezisi duzenlenmistir:

Uzak doyu , hanka golu- Japan turnasi (Grus Japeonensis)

Garator rilayeti-.....(Otis tarda)

Kazakistan , Tanri day-.....(ibidirhynchus struthersii).

Kalmik ozerk Cumhuriyeti ,

Manig – Gudilo yolu – su kuslarl

Krima , kaf kaslara , Turkmenistana, ozbexistana geziler.

Kuslara damga vurma ( yuykleme) isine buyun o nemrerilmektedir . Bunun sokuslari kus halkalama merhezine gonderilmexedir.

Bu merkezin ogrencilerin arastirma sonuclari kus koruma merkezine gonderilmex-tedir. Kus korumosive arastirmasl exoloji propodandasina , deneyimli arastirmaularln oimasi ve tabiatta calisma imkanlarin olmasina baglidir.Ortax kongrelerin duzenle-mesi bildi alis- rerisi delismesine yardim ediyor .

## **A NEW SPECIES RECORD FOR TURKEY: ARCTIC WARBLER (PHYLLOSCOPUS BOREALIS)**

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An arctic warbler (*Phylloscopus borealis*) was caught and ringed on 23 October 2002 at the Cernek Ringing Station in Kızılırmak Delta, Bafra - Samsun. The Cernek ringing station is run by Ondokuz Mayıs University and the ringing activity is part of the National Bird Ringing Program. At the Cernek station trapping is performed by mist nets placed in the dune vegetation between Cernek Lake and Black Sea, and mainly passerines are caught. On 23/10/2002, during the 17:00 o'clock net control a *Phylloscopus* with a wing bar was caught and identified as *P. borealis*. Morphometric as well as other identification characters were noted. The three most commonly caught *Phylloscopus* species, namely *P. collybita*, *P. trochilus* and *P. sibilatrix* differ in their lack of a wing bar, structure of the eye-stripe, supercilium and ear coverts. Another possible species *P. nitidus* as well as *P. trochiloides* can be ruled out by the wing formula, tip of wing, and the length of the 1. and 2. primaries. Other West Palearctic *Phylloscopus* species with conspicuous wing bars are *P. inornatus*, *P. humei* and *P. proregulus* differing in head and wing patterns, wing formula, morphometrics and the main body structure.

Key words: Arctic warbler, *Phylloscopus borealis*, Kızılırmak Delta, Bird ringing

## **TÜRKİYE İÇİN YENİ TÜR KAYDI: KUZEY ÇIVGINI (PHYLLOSCOPUS BOREALIS)**

Ulusal Halkalama Programı kapsamında, Ondokuz Mayıs Üniversitesi tarafından Kızılırmak Deltası, Bafra- Samsun'da, Cernek halkalama istasyonunda yürütülen halkalama çalışmaları sırasında 23 Ekim 2002 tarihinde bir Kuzey Çivgını ( *Phylloscopus borealis*) yakalandı ve halkalandı. Cernek halkalama istasyonunda, Karadeniz ve Cernek Gölü arasındaki kumul vejetasyona kurulu sis ağı ile çoğunluğu ötücülerden oluşan kuşlar yakalanmaktadır. 23.10.2002 tarihinde, saat 17.00'da yapılan ağ kontrolü sırasında büyük ikincil örtüleri uçlarında beyazımsı bir şerit bulunan bir *Phylloscopus* yakalandı ve *P. borealis* olarak tanımlandı. Morfometrik ve diğer tanımlayıcı özellikler kaydedildi. Yakalanan kuşun ülkemizde sonbahar göçünde sık rastlanan türlerden *P. collybita*, *P. trochilus* ve *P. sibilatrix*, kanatta açık renk şerit olmayışı, sürme, kaş (supercilium) ve kulak örtü tüylerinin yapısı ile, kanadında şerit bulunması açısından benzerlik gösteren *P. nitidus* ve *P. trochiloides* türleri de kanat formülleri, kanat ucu ve 1. ve 2. birincil uçuş tüylerinin uzunluğu ile elemine edilebilirler. Kanadında bant bulunabilen diğer üç Batı Palearktik türü olan *P. inornatus*, *P. humei* ve *P. proregulus* ise kanat ve baş tüylerinin özellikleri, kanat formülü, çeşitli ölçümler ve genel vücut yapısı açısından belirgin şekilde farklıdır.

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## **A PROPOSAL ON RELATIONSHIP BETWEEN BODY MASS AND HABITAT PREFERENCE OF PASSERINE BIRDS IN EUROPE**

*Utku Perktas, Atıl Barış Albayrak, Çağatay Tavşanoğlu, Zafer Ayaş*

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Body mass is evaluated as one of the parameters that show the complexity of habitats preferred by different animal species. In this study, the habitat preference of breeding passerine birds in nine habitat types, that is important for European passerine birds, was discussed in relation to their body size. Eleven passerine bird species for each habitat type and totally 99 species were evaluated. Most of the selected species was found in non-favourable conservation status according to the European Threat Status. Body mass of passerine bird species was significantly different between habitat types (ANOVA with Welch statistics;  $F' = 9.94$ ,  $P < 0.001$ ). The difference was discussed by means of the structure of habitat types.

Key words: Body mass, habitat preference, passerine birds, European Threat Status

## **AVRUPA ÖTÜCÜ KUŞLARININ HABİTAT TERCİHLERİ VE VÜCUT AĞIRLIKLARI ARASINDAKİ İLİŞKİ ÜZERİNE BİR ÖNERİ**

Farklı hayvan gruplarında vücut ağırlığı türlerin tercih ettikleri habitatın karmaşıklığını gösteren parametrelerden birisi olarak değerlendirilmektedir. Bu araştırmada, Avrupa ötücü kuşları için önemli olarak bildirilen toplam dokuz habitat tipinde üreme amaçlı olarak bulunan ötücü kuş türlerinin vücut ağırlıkları dikkate alınarak habitat tercihleri tartışılmıştır. Bu araştırmada, Avrupa ötücü kuş türleri açısından önem statüsüne sahip toplam dokuz habitat tipinde üreme amaçlı olarak bulunan ötücü kuş türlerinin vücut ağırlıkları dikkate alınarak habitat tercihleri tartışılmıştır. Her bir habitat tipi için 11 tür olmak üzere toplam 99 ötücü kuş türü değerlendirmeye alınmıştır. Seçilen türlerin tamamına yakını Avrupa Tehdit Statüsü'ne göre uygun olmayan koruma statüleri içinde yer almaktadır. Söz konusu ötücü kuş türlerinin tercih ettikleri habitat tipleri arasında, ortalama vücut ağırlıkları bakımından istatistiksel olarak anlamlı fark bulunmuştur ( $F' = 9.94$ ,  $P < 0.001$ ). Bu fark habitat yapısına dayalı olarak

## **A STUDY ON STUDY ON THE ORNITHOFAUNA OF PORSUK DAM LAKE IN ESKİŞEHİR**

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This preliminary study has been carried out to determine the possible validities and harms of Porsuk Dam of Eskişehir, which is one of the oldest dams in Turkey, to its surrounding area, in terms of ornithological view. In this study, 81 species have been identified that belong to 34 families from 13 orders. 30 of observed species are native, 22 of them are immigrant, 15 of them are immigrant visitor, 7 of them are winter visitor, 5 of them are visitor for food, 1 of them is native or visitor for food, and 1 of them is immigrant or visitor for food.

Key words: Ornithofauna, Aves, Eskişehir, Porsuk Dam Lake

## **ESKİŞEHİR PORSUK BARAJ GÖLÜ ORNİTOFAUNASI ÜZERİNE ÖN BİR ÇALIŞMA**

Bu ön çalışma, Türkiye'nin en eski barajlarından birisi olan Eskişehir'in Porsuk Baraj gölünün, çevreye olan olası yarar veya zararlarını ornitolojik bakış açısından belirlemek için yürütülmüştür. Çalışmada 13 takımdan 34 familyaya ait 81 tür tespit edildi. Tespit edilen türlerin 30'unun yerli, 22'sinin göçmen, 15'inin transit göçmen, 7'sinin kış ziyaretçisi, 5'inin besin ziyaretçisi, 1'inin yerli ya da besin ziyaretçisi, 1'inin de besin ziyaretçisi ya da göçmen olduğu belirlendi.

Anahtar Sözcükler: Ornitofauna, Aves, Eskişehir, Porsuk Baraj Gölü

## **AVIAN POPULATION PARAMETERS AND DIAGNOSING CAUSES OF POPULATION DECLINES**

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Inadequately investigated aspect of population studies is the feasibility to forecast the population condition on the basis of some population parameters, including morphological traits. The attempt of such analysis was performed by the example of birds in the Courish Spit, eastern Baltic. The birds are studied by the team of Biological Station Rybachy since over 40 years. Among all the birds controlled annually, the populations of three species, namely, of wryneck,

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of red-backed shrike, and of barred warbler, have been declined up to extinction. The population trends, productivity, survival rates, and body size were studied using standardized bird trapping and measuring. No temporal trends in productivity indices (clutch size, breeding success) and in body size (wing length, body mass) was found. The annual local survival rates alone was a good index, at least in barred warbler. One might expect that populations extinction is the result of critical conditions for bird surviving on African wintering quarters.

Key words: Population parameters, population decline, survival rate.

## **BIRD SPECIES LIVING IN THE KÜRE MOUNTAINS NATIONAL PARK**

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Küre mountains, located in the Western Blacksea Region, are one of the most important natural areas of Turkey as visula beautiy and natural riches. Küre mountains attract attantion with naturalness of forest, greatnes of its' area, biological diversity, rich wildlife and endemizm. Küre mountains is one of the area need to be protection determined by WPA (Dünya Koruma Vakfı). Thus, different observation and examination have been done different time depent on determination of birds species and wild animals in this area. Examinations become dense Pınarbaşı, Cide, Azdavay and Şenpazar, located side of Küre Dağları National Park in Kastamonu. With this aim, 46 birds species have been determined using binoculars and cameras at the predetermining investment point to determine birds species.

Key words: Küre Mountains Natioanal Park, Biological diversity, Birds species.

## **KÜRE DAĞLARI MİLLİ PARK'INDA YAŞAYAN KUŞ TÜRLERİ**

Batı Karadeniz Bölgesinde bulunan Küre Dağları, görsel güzelliği ve doğal zenginlikleri açısından ülkemizin sahip olduğu önemli doğal alanlardandır. Ormanların doğallığı, yaşlılığı, alanın büyüklüğü, zengin biyolojik çeşitliliği, bünyesinde barındırdığı yaban hayatı zenginliği ve endemizm ile dikkati çeken Küre Dağları, Dünya Koruma Vakfının belirlediği Avrupa'nın korunması gereken yüz orman alanından biridir. Bu nedenle ülkemizin gözbebeği olan bu bölgede çeşitli dönemlerde yaban hayvanları ve kuş türlerinin belirlenmesine yönelik olarak inceleme ve gözlemler yapılmıştır. Araştırmalar, Küre Dağları Milli Parkının Kastamonu kısmında Pınarbaşı, Cide, Azdavay ve Şenpazar ilçelerinde yoğunlaştırılmıştır. Kuş türlerinin belirlenmesine yönelik olarak tespit edilen gözlem noktalarında dürbün, fotoğraf makinesi ve dijital kamera kullanılmak suretiyle değişik familyalara ait 46 adet kuş türü tespit edilmiştir.

Anahtar Kelimeler: Küre Dağları Milli Parkı, Biyolojik Çeşitlilik, Kuş türleri

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## **BIRD OBSERVATIONS IN ISPARTA (1999-2003)**

***İdris Oğurlu, Ebubekir Gündoğdu, Yasin Ünal, Ümit Kilimci***

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In the study, data obtained from various bird observations which held between June 1999 – November 2003 in Isparta were used. Counts were conducted in a non-periodical way on randomly selected points. Properties of the bird habitats were also recorded. Consequently, 165 bird species, were determined during the study, and their localities and habitats were shown systematically in a list. The species, habitat types and localities were present in tables and figures.

Key words: Bird Species, Habitat, Isparta

## **ISPARTA ÇEVRESİ KUŞ GÖZLEMLERİ (1999-2003)**

Bu çalışmada Haziran 1999- Kasım 2003 tarihleri arasında Isparta’da farklı zamanlarda yapılan kuş gözlem verileri bir araya getirilerek sunulmuştur. Sayımlar rastgele noktalarda periyodik olmayan gözlemler tarzında yapılmıştır. Gözlemler süresince kuş türlerinin gözlemlendiği habitatların özellikleri de kaydedilmiştir. Sonuç olarak, 165 kuş türünün varlığı tespit edilmiştir. Gözlemlenen kuş türlerinin listesi, görüldükleri mevki ve habitatlar tablo ve grafikler halinde sunulmuştur.

Anahtar Kelimeler: Kuş Türleri, Habitat, Isparta

## **BIRDS OF GÖLLER BÖLGESİ**

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Göller Bölgesi has important wetlands for biodiversity. In this study conducted during years of 2000-2002 in the lakes of Beyşehir, Burdur, Eğirdir, Gölhisar, and Kovada, 192 bird species belonging to 50 families and 18 ordo were observed. In the search field, 56 residential, 42 winter migratory, 51 summer migratory, and 28 transit migratory species were observed. The rest 15 species had different migration status. All of these species were categorized as 28 in A.2, 31 in A.3, 31 in A.4, 5 in A.1.2, 5 in B.2, 6 in B.3. 86 species had not dangered status. While Cuculiformes, Strigiformes, and Caprimulgiformes were less dominant, Passeriformes found to be the most dominant ordo. The number of species was found to be 185 in Burdur Lake, 181 in Lake Beyşehir, 171 in Lake Eğirdir, 164 in Lake Gölhisar, and 153 in Lake Kovada. In this study, Lake Beyşehir and Lake Burdur were found to be the most similar, Lake Burdur and Lake Kovada were however displayed minimum level of similarity.

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Key words: Goller Bölgesi, Avifauna, Birds, Bioecology, Lake Beyşehir, Lake Burdur, Lake Eğirdir, Lake Gölhisar, Lake Kovada.

## GÖLLER BÖLGESİNİN ORNİTOFAUNASI

Goller Bölgesi biyoçeşitlilik açısından önemli sulak alanlar içermektedir. Beyşehir, Burdur, Eğirdir, Gölhisar ve Kovada göllerinde 2000-2002 yıllarında gerçekleştirilen çalışmada 18 takıma ait 50 familyadan 192 tür belirlenmiştir. Araştırma sahasında; 56 yerli, 42 kış göçmeni, 51 yaz göçmeni ve 28 transit göçer belirlenmiştir. Geri kalan 15 türün ise göllerde farklı statülere sahip olduğu tespit edilmiştir. Türlerin; 28'i A.2, 31'i A.3, 31'i A.4, 5'i A.1.2, 5'i B.2, 6'sı B.3 statüsünde yer almaktadır. 86 tür ise tehlike altında değildir. Çalışma sahasında en baskın takım Passeriformes iken Phoenicopteriformes, Cuculiformes, Strigiformes, Caprimulgiformes takımlarının baskınlığı en az bulunmuştur. Tür sayısı Beyşehir Gölü'nde 181, Burdur Gölü'nde 185, Eğirdir Gölü'nde 171, Gölhisar Gölü'nde 164 ve Kovada Gölü'nde 153 olarak tespit edilmiştir. Araştırmada Burdur ve Beyşehir göllerinin en fazla, Burdur ve Kovada göllerinin en az benzerlik gösterdiği belirlenmiştir.

Anahtar Kelimeler: Goller Bölgesi, Avifauna, Kuşlar, Biyokoloji, Beyşehir Gölü, Burdur Gölü, Eğirdir Gölü, Gölhisar Gölü,

## BIRDS OF KÜÇÜK AKGÖL

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133 birds species from 36 families belonging to 14 ordo defined in the research carried out between 2001-2003 in lake Küçük Akgöl in western Marmara region. The numeral distribution of the species in terms of the ordo is follow; Podicipediformes 3, Pelecaniformes 1, Ciconiiformes 8, Anseriformes 10, Accipitriformes 9, Falconiformes 2, Gruiformes 2, Charadriiformes 6, Columbiformes 4, Strigiformes 2, Caprimulgiformes 1, Apodiformes 2, Coraciiformes 2 and Passeriformes 81. Species determined in Küçük Akgöl have been observed as following; 59 residential, 38 summer migrant, 33 winter migrant, 3 transit migrant. The species determined this lake have been categorised as follows; 3 A.1.2, 17 A.2, 20 A.3, 21 A.4, 2 B.2, 2 B.3 and the remaining 68 species are not endangered. In the lake whose diversity index is 29.93 26005 individuals were counted during 2 years.

Key words: Küçük Akgöl, Ornithofauna, Bioecology, Bird systematics

## KÜÇÜK AKGÖL ORNİTOFAUNASI

Marmara bölgesinin batı kısmında yer alan Küçük Akgöl'de 2001-2003 yılları arasında yapılan çalışmada 14 takıma ait 36 familyadan 133 tür tespit edilmiştir. Takımlara göre türlerin sayısal dağılımı; Podicipediformes 3, Pelecaniformes 1, Ciconiiformes 8, Anseriformes 10, Accipitriformes 9, Falconiformes 2, Gruiformes 2, Charadriiformes 6, Columbiformes 4, Strigiformes 2, Caprimulgiformes 1, Apodiformes 2, Coraciiformes 2 ve Passeriformes 81 olarak belirlenmiştir. Küçük Akgöl tespit edilen türlerinin; 59'u yerli, 38'i yaz göçmeni, 33'ü kış göçmeni, 3'ü transit göçer olarak gözlenmiştir. Bu gölde belirlenen türlerin; 3'ü A.1.2, 17'si A.2, 20'si A.3, 21'i A.4, 2'si B.2, 2'si B.3 kategorisinde yer almakta ve geriye kalan 68 türün nesli tehlike altında bulunmamaktadır. Çeşitlilik indeksi 29.93 olan gölde 2 yıl boyunca 26005 birey sayılmıştır.

Anahtar Kelimeler: Küçük Akgöl, Ornitofauna, Biyoekoloji, Kuş Sistematiği

### BIRDS OF LAKE ACARLAR

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178 bird species from 39 families belonging to 17 ordo were defined in the research carried out between 2001-2003 in lake Acarlar in western Marmara Region. The numeral distribution of the species in terms of the ordo is as follow; Podicipediformes 5, Pelecaniformes 1, Ciconiiformes 10, Anseriformes 16, Accipitriformes 12, Falconiformes 2, Galliformes 2, Gruiformes 3, Charadriiformes 21, Columbiformes 4, Cuculiformes 1, Strigiformes 4, Caprimulgiformes 1, Apodiformes 2, Coraciiformes 3, Piciformes 3 and Passeriformes 88. 74 residential, 49 summer migrant, 49 winter migrant and 6 transit migrant species were defined in the research area. 27 of the species in the lake are in the category of A.2, 28 are in A.3, 26 are in A.4, 6 are in A.1.2, 8 are in B.2 and 7 are in B.3. The remaining 76 species are not in danger. In the research area, Passeriformes is the most dominant ordo, while Pelacaniformes, Cuculiformes, Caprimulgiformes are defined to be the least dominant ordo. The diversity index of lake Acarlar, where 73632 individuals were counted, is stated as 36.41

Key words: Lake Acarlar, Ornithofauna, Bioecology, Bird systematics

### ACARLAR GÖLÜ KUŞLARI

Marmara Bölgesinin batı kısmında yer alan Acarlar Gölü'nde, 2001-2003 yılları arasında gerçekleştirilen çalışmada 17 takıma ait 39 familyadan 178 kuş türü belirlenmiştir. Takımlara göre türlerin sayısal dağılımı; Podicipediformes 5, Pelecaniformes 1, Ciconiiformes 10, Anseriformes 16, Accipitriformes 12, Falconiformes 2, Galliformes 2, Gruiformes 3, Charadriiformes 21, Columbiformes 4, Cuculiformes 1, Strigiformes 4, Caprimulgiformes 1, Apodiformes 2, Coraciiformes 3, Piciformes 3 ve Passeriformes 88 olarak belirlenmiştir.

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Araştırma sahasında; 74 yerli (% 41.5), 49 yaz göçmeni (% 27.5), 49 kış göçmeni (% 27.5) ve 6 transit göçer (% 3.5) tür belirlenmiştir. Göldeki türlerin 27'si A.2, 28'i A.3, 26'sı A.4, 6'sı A.1.2, 8'i B.2, 7'si B.3 kategorisinde yer almaktadır. Geriye kalan 76 tür tehlike altında değildir. Çalışma sahasında en baskın takım Passeriformes iken Pelacaniiformes, Cuculiformes, Caprimulgiformes takımlarının baskınlığı en az bulunmuştur.

## **CALLS OF THE CHICK BLACK VULTURE - AEGYPIUS MONACHUS**

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The Black vultures (*Aegypius monachus*) are rared bird in Europe. The black vulture is usually named as “dumbly “. The vultures do not make voice at certain period of life. The chicks state their needs with different voice. The voice of chick in cage became our working materials. The voice of chicks was assessed and was observed for first four month of life. After analysis the chicks voice was divided into different groups. Four different voice were determined for the chick. These are as follows; a) beggary sound, b) displeasure loud, c) intermediary sound, d) relaxed loud. It was evaluated as a sonogramme.

Key words: Calls, beggingcalls, weepingcalls intermediate calls, sounds expressing satisfaction, black vulture (*Aegypius monachus*).

## **KARA AKBABA ( AEGYPIUS MONACHUS ) YAVRUSUNDAKI SESLER**

Kara Akbaba (*Aegypius monachus*) Avrupa’da ender bulunan bir türdür. Akbabalar çoğunlukla “dilsiz” kabul edilir. Akbabalar belirli dönemler dışında ses çıkarmazlar. Yavrular ihtiyaçlarını değişik seslerle bildirir. Volyerde yaşayan yavruların sesleri araştırma materyalimizi oluşturmuştur. Dört ay süresince yavruların sesleri tespit edildi. Değerlendirme sonucunda yavruların çıkardığı sesler farklı gruplarda toplandı. Yavrular dört çeşit ses çıkarmaktadır. Bunlar a) dilenme sesleri, b) “ağlama” sesleri, c) ara sesler, d) hoşnutluk sesleri. Bunlar sonogram olarak değerlendirilmiştir.

## CLINICAL EVALUATION OF THE FRACTURE TREATMENT AND REHABILITATION RESULTS OF WILD BIRDS

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Two (Pandion haliaetus), one (Aegypus monachus), 39 (Buteo rufinus), five falcon (Falconidae), four harrier (Accipitridae), three stork (Ciconia ciconia), one (Pavo cristatus), 28 pigeon (Columbidae) which was brought to Ankara University Veterinary Faculty Orthopedics and Travmatology Department and Scientific Raptor Research Rehabilitation Center, were used in this study. Different types of fractures observed in different bones with clinical and radiological evaluations. For the fractures the intramedullar pins, Kirschner Ehmer External Fixator systems, cerclage wires, mini titanium plates and bandages were used for fracture fixations. Because osteomyelitis, nonunion of bones, lost of athletic performance, stress in same cases successfully treatment could not be achieved. Natural demises and euthanasia was used due to the determined causes in 28 cases. In this clinical evaluations when the animal had fractures brought as soon as it was possible to an veterinary hospital or advanced rehabilitation centers, application of temporary fracture fixation reduces the loses and promotes success in treatment. Especially in wing fractures it is so common to turn into an open fracture and become infectious which seriously reduces the achievement of regaining animal to nature. In this study, after the operations and rehabilitations of the cases which treated successfully was brought back to nature.

## YABANI KANATLILARIN KIRIKLARININ ORTOPEDİK SAĞALTIMLARININ VE REHABILITASYON SONUÇLARININ DEĞERLENDİRİLMESİ

Bu çalışmada Ankara Üniversitesi Veteriner Fakültesi Ortopedi ve Travmatoloji Bilim Dalı Kliniği'ne ve Türkiye Yırtıcı Kuşları Araştırma ve Rehabilitasyon Derneği Merkezi'ne getirilen iki balık kartalı (Pandion haliaetus), bir kara akbaba (*Aegypus monachus*), 39 kızıl şahin (Buteo rufinus), beş doğan (Falconidae), dört atmaca (Accipitridae), üç leylek (*Ciconia ciconia*), bir (*Pavo cristatus*), 28 güvercin (Columbidae) çalışma materyalini oluşturdu. Yapılan klinik ve radyolojik muayeneler sonucunda farklı nitelikte, farklı kemiklerde kırıklar belirlendi. Bu çalışmada, belirlenen kırıkların sağaltımında fiksasyon amacıyla IM pin, tam Kirschner-Ehmer eksternal fiksatorü, serklaj teli, mini titanyum plak gibi fiksasyon materyalleri veya sadece bandaj uygulaması yapıldı. Bu yırtıcı kuşların sağaltımında 28 olguda osteomyelitis, kırık kaynamaması, atletik performansın kaybı, stress gibi nedenlerle istenilen sağaltım başarısı elde edilememiştir. Belirtilen nedenlerle bazı hayvanlarda doğal ölümler gözlenmiş bazı hayvanlarda da ötenazi uygulamasına gidilmiştir. Bu klinik değerlendirmede, yabani kanatlıların kırık oluşumu sonrasında mümkün olduğu kadar kısa sürede veteriner hastaneleri veya uzmanlaşmış

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rehabilitasyon merkezlerine götürülmesinin, ve bu sürede ilgili ekstremiteye geçici bir tespit uygulanmasının sağaltımın başarısı açısından çok önemli olduğu belirlendi. Özellikle kanat kırıklarının hızla açık kırık formuna dönüşmesi ve enfeksiyon riski kırık sağaltımının başarısını ve yabani kanatlıların tekrar doğaya kazandırılmasını engellemektedir. Bu çalışmada, operasyon ve postoperatif rehabilitasyon çalışmaları sonunda tedavi edilebilen yabani kanatlılar tekrar doğaya kazandırılmıştır.

## EVALUATION OF 2002-2003 DATAS OF CERNEK RINGING STATION

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Kızılırmak delta is one of the biggest wetlands on the of the Turkish Black Sea coast. The wetlands of the delta cover 16 110 ha and have IBA and Ramsar status. Ringing was performed at the eastern side of the delta near lake Cernek in an area of dune vegetation characterized by false acacia (*Robinia pseudoacacia* ), dayrose (*Rosa canina*), rasperry ( *Rubus canescens*) and laurel (*Laurus nobilis*). Ringing studies were carried out on 2002 and 2003. In spring 2002, 1197 birds from 46 species and in autumn 2002, 8774 birds from 73 species were ringed. In spring 2003, 1749 birds from 56 species and in autumn 2003, 5865 birds from 65 species were ringed. Both year and seasons combined a total of 17 585 birds from 86 species were ringed at the Cernek station. Ringing studies so far revealed the first Turkish record of Arctic warbler (*Phylloscopus borealis*). A Kingfisher (*Alcedo atthis*), ringed on 08.09.2003, was recaptured three days later at Adana-Akyatan and a Garden warbler (*Sylvia borin*) was reported from Egypt. The most common ringed species in one season were Garden warbler (*S.borin*) 1396, Blackcap (*S.atricapilla*) 1382, Willow warbler (*P.trochillus*) 1069, Robin (*Erithacus rubecula*) 877 and Spotted flycatcher (*Muscicapa striata*) 749.

Key words: Kızılırmak Delta, Cernek, migration, bird ringing

## CERNEK HALKALAMA İSTASYONU 2002- 2003 YILI VERİLERİNİN DEĞERLENDİRİLMESİ

Kızılırmak Deltası, Türkiye'nin Karadeniz kıyılarında yer alan en büyük sulak alandır. Alan, yaklaşık olarak 16.110 ha. Büyüklüğünde olup Önemli Kuş Alanı ile Ramsar statüsüne sahiptir. Halkalama çalışmaları, deltanın doğu yakasında yer alan kumul vejetasyona sahip Cernek Gölü kıyısında yapıldı. Alan, akasya (*Robinia pseudoacacia* ), kuşburnu (*Rosa canina* ), böğürtlen (*Rubus canescens* ) ve defne (*Laurus nobilis* ) bitkileri ile karakterize edilmektedir. Halkalama çalışmaları, 2002 ve 2003 yılları arasında gerçekleştirildi. Sırasıyla, 2002 yılı ilkbahar göç döneminde 46 türden 1197 birey, sonbahar göç döneminde ise 73 türe ait 8774 birey

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halkalanmıştır. 2003 yılı ilkbahar göç döneminde 56 türden 1749, sonbahar göç döneminde ise 65 türe ait 5865 birey halkalanmıştır. İki yıllık çalışma boyunca Cernek İstasyonu'nda toplam 86 türe ait 17 585 birey halkalanmıştır. Dört göç mevsimini kapsayan bu çalışmalar sırasında, Türkiye için yeni tür kaydı olan Kuzey Çıvgını (*Phylloscopus borealis*) halkalandı. Cernek istasyonunda halkalanan bir Yalıçapkını'nın (*Alcedo atthis*) Adana – Akyatan'dan, bir Boz ötleğen'in de (*Sylvia borin*) Mısır'dan geri bildirim yapıldı. Bir çalışma döneminde en çok yakalanan türler sırasıyla; Boz ötleğen (*S. borin*) 1396, Karabaşlı ötleğen (*S. atricapilla*) 1382, Söğüt bülbülü (*P.trochillus*) 1069, Kızılgerdan (*Erithacus rubecula*) 877 ve Benekli sinekkapan (*Muscicapa striata*) 749

## **HABITAT REQUIREMENTS FOR THE NEST PREFERENCE AND THE DISTRIBUTION OF KRUEPER'S NUTHATCH (SITTA KRUEPERI) IN ANTALYA**

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Habitat requirement on the nest preference and distribution of the Krueper's nuthatch (*Sitta krueperi*), which is locally distributed mostly on Anatolia and few individuals on Lesvos and Caucasians, have been investigated in Antalya. Distribution of Krueper's nuthatch is found in natural forests, non-planted, middle or old aged conifer forests, red pine, black pine, cedar, and juniper, and nearly these trees maquis (especially *Quercus sp.*), and broad-leaved trees like maple, (*Acer sp.*), poplar (*Populus sp.*), and plane tree (*Platanus sp.*) Krueper's nuthatch uses hollowed-out nest hole by woodpeckers or making itself in a died tree, died thick branch or wooden power pole. We have found totally 18 nest holes, which were 9 nest holes in Redpine, 5 nest holes in Blackpine, 3 nest holes in Cedar, and one nest hole in power pole, in Antalya between 2000 and 2003. Nest areas have been calculated in average 974,44±125,33m altitude, and 26.94<sup>0</sup>±4,68<sup>0</sup> slope, 4 of them in flat area and 13 of them northwest, north and east face of the hillside. Nest holes determined on average 11,84±1,62m from the ground and it looks south, southeast and east direction in usually middle old aged trees.

Key words: Krueper's nuthatch, *Sitta krueperi*, nest, Distribution, Antalya

## **ANADOLU SIVACISININ (SITTA KRUEPERI)ANTALYA'DAKI YAYILIMI VE DOĞAL YUVA TERCİĞİNDE HABITAT GEREKSİNİMLERİ**

Coğunlukla Anadolu'da ve az miktarda birey Midilli ve Kafkaslarda yerel yayılım gösteren Anadolu sıvacısının (*Sitta krueperi*) Antalya bölgesinde doğal yuva terciği ve yayılımı incelenmiştir. Buna göre; dikimle olmayan orta yaşlı veya yaşlı, araları seyrek kızılçam, karaçam, sedir, ardıç gibi iğne yapraklı herdem yeşil ağaçların oluşturduğu doğal ormanlarda ve zaman zaman da bu ağaçların yanında bulunan makilerde (özellikle *Quercus sp*) ve akçaağaç

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(*Acer sp.*), çınar (*Platanus sp.*), kavak (*Populus sp.*) gibi geniş yapraklı ağaçlarda yayılım gösterdiği saptanmıştır. Yuva yeri olarak, ağaçkakanlar tarafından oyulmuş yuva deliklerini kullanabildiği gibi nispeten kurumuş, çürümüş ağaç veya elektrik direklerinde kendisinin açtığı yuva deliklerini de kullanmaktadır. 2000-2003 yılları arasında Antalya’da yapılan gözlemler sonucunda 18 adet yuva saptanmıştır. Bu yuvaların an 9’u Kızılcım, 5’i Karaçam, 3’ü Sedir ve biri elektrik direğinde saptanmıştır. Yuva yeri olarak ortalama 974,44±125,33m rakımda 4’ü düz zeminde ve 13’ü kuzeybatı, kuzey ve doğu yamacında ve biri güney yamacında ortalama 26,94<sup>0</sup>±4,68<sup>0</sup> eğimdeki orta yaşlı ağaçlarda saptanmıştır. Yuva delikleri ağacın genelde güney ile doğu yüzleri arasında yerden ortalama 11,84±1,62m yüksekte olduğu saptanmıştır.

Anahtar kelimeler: Anadolu sıvacısı, *Sitta krueperi*, yuva terciği, yayılım, Antalya

## INVESTIGATIONS ON BREEDING BIOLOGY OF HOUSE SPARROW (*PASSER DOMESTICUS*) POPULATION IN ANTALYA

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In this study, breeding biology of House sparrow (*Passer domesticus*) has been investigated between 2001-2003 breeding seasons in Antalya. The first time of building nest, the quantities in the egg heaps, width, size and weight of eggs, the number of flying youngs and the brood succes of House Sparrow were investigated. Also, body length and weight, length of beak, wing, tail and TMT and widen of foot were measured during development period of the youngs. It was observed that House Sparrow incubates 4 times during breeding season in Antalya. The average of the incubation and development times of the youngs and brood succes of the species was determined.

Key words: House Sparrow, Antalya, Breeding Biology, *Passer domesticus*

## ANTALYA İLİ EV SERÇESİ (*PASSER DOMESTICUS*) POPULASYONUNUN KULUÇKA BİYOLOJİSİ ÜZERİNE ARAŞTIRMALAR

Bu çalışmada, 2001-2003 yılları arasında üreme döneminde Ev serçesi (*Passer domesticus*)’nin Antalya’daki kuluçka biyolojisi incelenerek; ilk yuva yapımına başlama zamanı, bir yumurta kümesine bırakılan yumurta sayısı, kuluçka süresi, yumurta açılım oranları, yavru gelişim süresi, uçan yavru sayıları, yumurta ağırlığı, en ve boy uzunlukları, yavruların ağırlık, vücut, gaga, kanat, TMT (Tarsometatarsus) ve kuyruk uzunlukları ile ayak açıklığı ölçüleri gelişim süresi içinde incelenmiştir. Ev serçesi (*Passer domesticus*)’nin bir üreme döneminde 4 defa kuluçkaya yattığı gözlenmiştir. Ortalama kuluçka ve yavru gelişim süresi ile kuluçka başarısının yıllara göre dağılımı belirlenmiştir.

Anahtar Kelimeler: Ev serçesi, Antalya, Kuluçka Biyolojisi, *Passer domesticus*

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## **PLUMAGES OF LONG-LEGGED BUZZARD (BUTEO RUFINUS) : SEX AND AGE, CAN THEY BE SEPERATED IN THE FIELD ?**

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Field and laboratory studies revealed that a significant difference in plumage between the sex and age of Long-legged Buzzard (*Buteo rufinus*). Data on plumage, morphometrics and sex-specific habitat selection have been presented in here. During this study both captive and free-living birds have been used for the determination of age, sex and morphometrics. both captive and free-living birds found to be have same differences. Plumage and extend in their posture are found to be indicating of determining age and sex.

## **KIZIL ŞAHINLERDE TÜY YAPISI: CINSİYET VE YAŞ SAHADA AYIRT EDİLEBİLİR Mİ?**

Laboratuvar ve saha çalışmalarıyla, kızıl şahinlerde (*Buteo rufinus*) cinsiyet ve yaşa bağlı tüy yapıları arasında belirgin farklılıklar olduğu ortaya konmuştur. Tüyleri, morfometrik özellikleri ve seçtiği habitatla bağlantılı cinsiyetleri burada sunulmuştur. Bu çalışma süresince yaş, cinsiyet ve morfometrik özelliklerin belirlenmesinde doğada yaşayan ve barındırılan kuşlar kullanılmıştır. Hem doğada yaşayan hem de barındırılan kuşlarda da benzer farklılıklar bulunmuştur. Tüyler ve duruştaki bazı farklılıklar yaş ve cinsiyetin belirlenmesinde indikatör kullanılabileceği belirlenmiştir.

## **PRELIMINARY RESULTS ON THE BREEDING SUCCESS OF CINEREOUS VULTURE (AEGYPIUS MONACHUS L.) IN TÜRKMENBABA MOUNTAIN (NORTHWESTERN TURKEY)**

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The Cinereous Vulture (*Aegypius monachus*) is a globally threatened raptor species with gradually declining numbers. After Spain, Turkey has the second largest population in Europe, with an estimated 100-200 pairs. This study was carried out at Türkmenbaba Mountains, near Eskişehir (northwestern Turkey), where the largest Cinereous Vulture colony in the country exists. Individual nest sites were identified and breeding success monitored throughout 2001-

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2003 by systematic searches and observations. A total of 75 nests were recorded in 9.900 hectares. 16 nests were found to be occupied in 2001 (%47 of all known nests), 28 nests in 2002 (% 44), and 27 nests in 2003 (%37). Breeding success (nests where young fledged/occupied nests) was %93,74, %82,14, and %81,48 for the three consecutive years, respectively. Breeding success ratios are apparently higher than world average (%50-70). On the other hand, it has found that deserted nests were mostly located near human (forestry) activity.

Key words: Cinereous vulture, breeding success, Türkmenbaba Mountain, conservation, population biology

## **KARA AKBABA' NIN (AEGYPIUS MONACHUS L.) TÜRKMENBABA DAĞINDAKİ ÜREME BAŞARISI ÜZERİNE ÖN BULGULAR**

Kara Akbaba (*Aegypius monachus*) tüm dünyada tehdit altında olan ve sayıları giderek azalan yırtıcı bir türdür. Türkiye, tahmini 100-200 çift ile Avrupa'da İspanya'dan sonra en büyük popülasyona sahiptir. Bu çalışma, Türkiye'deki en büyük üreme kolonisinin bulunduğu Eskişehir ili yakınındaki Türkmenbaba Dağı'nda gerçekleştirilmiştir. 2001-2003 yılları boyunca, sistemli tarama ve gözlemlerle alanda bulunan bireylerin yuva yerleri saptanmış ve üreme parametreleri kaydedilmiştir. Araştırma sonucunda 9.900 hektar alanda toplam 75 yuva belirlenmiştir. 2001 yılında 16 yuva (bilinen yuvaların % 47'si), 2002 yılında 28 yuva (% 44) ve 2003 yılında 27 yuva (% 37) üreme için kullanılmıştır. Üreme başarısı (yavru uçurulan yuvaların toplam kullanılan yuva sayısına oranı) 2001 yılı için %93,75, 2002 yılı için % 82,14, 2003 yılı için % 81,48 olarak saptanmıştır. Üreme başarısı dünya ortalamasına göre (%50-70) oldukça yüksektir. Ancak terk edilen yuvaların yoğun insan (ormancılık) faaliyetlerinin yapıldığı bölgelerde olması dikkat çekicidir.

Anahtar kelimeler: Kara akbaba, üreme başarısı, Türkmenbaba Dağı, koruma, popülasyon biyolojisi

## **PRINCIPAL THREATS OF MIGRATORY BIRDS IN THE EASTERN KARADENİZ MOUNTAINS IN TURKEY**

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This study examines the principal threats for migratory birds in the Eastern Karadeniz Mountains, Turkey. The research area includes Eastern Karadeniz Mountains Important Bird Area which comprises 40 percent (12,300 km<sup>2</sup>) of all the Important Bird Areas in Turkey. This is the largest of all the 97 Important Bird Areas in Turkey. It occurs in Caucasus Ecoregion and is traversed by the most important raptor migration route in the Western Palaearctic. The study area is very rich in migratory birds with about 200 species such as whooper swan (*Cygnus cygnus*), mallard (*Anas platyrhynchos*), buzzard (*Buteo buteo*), quail (*Coturnix coturnix*),

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woodcock (*Scolopax rusticola*), turtle dove (*Streptopelia turtur*), long-eared owl (*Asio otus*), bee-eater (*Merops apiaster*), nightingale (*Luscinia megarhynchos*), fieldfare (*Turdus pilaris*) and rose-coloured starling (*Sturnus roseus*). Observations were carried out from 1990 to 2003. Principal threats for the migratory birds were determined to be habitat deterioration (habitat degradation, habitat loss and fragmentation), hunting (over exploitation and poaching), killing and trade.

Key words: Migratory birds, threats, habitat deterioration, important bird areas, Eastern Karadeniz Mountains.

## **DOĞU KARADENİZ DAĞLARINDA (TÜRKİYE) GÖÇMEN KUŞLARI TEHDİT EDEN BAŞLICA TEHLİKELER**

Bu çalışmada, Türkiye'nin Doğu Karadeniz Dağlarında, göçmen kuşları tehdit eden başlıca tehlikeler ortaya koyulmaktadır. Araştırma alanı içerisinde, büyüklüğü 12,300 km<sup>2</sup> olan ve Türkiye'deki önemli kuş alanlarının %40'ını oluşturan "Doğu Karadeniz Dağları Önemli Kuş Alanı" bulunmaktadır. Kafkas Ekobölgesi'nin içinde bulunan ve Batı Palearktiğin en önemli gündüz yırtıcı kuş göç yolunun geçtiği bu alan, Türkiye'nin 97 önemli kuş alanının en büyüğüdür. Araştırma alanı, ötücü kuğu (*Cygnus cygnus*), yeşilbaş (*Anas platyrhynchos*), şahin (*Buteo buteo*), bildirgin (*Coturnix coturnix*), çulluk (*Scolopax rusticola*), üveyik (*Streptopelia turtur*), kulaklı orman baykuşu (*Asio otus*), arıkuşu (*Merops apiaster*), bülbül (*Luscinia megarhynchos*), tarla ardıcı (*Turdus pilaris*) ve alasığircık (*Sturnus roseus*) gibi 200 civarındaki göçmen kuş tür ile bu bakımdan oldukça zengindir. Araştırmalar, 1990 yılından 2003 yılına kadar yapılan gözlemlerle sürdürülmüştür. Sonuç olarak, göçmen kuşları tehdit eden başlıca tehlikeler; yaşam alanı tahribi (yaşam alanı bozulması, yaşam alanı yok olması ve parçalanması), avlama (aşırı yasal avcılık ve yasak av), öldürme ve kuş ticareti olarak belirlenmiştir.

Anahtar Kelimeler: Göçmen kuşlar, tehditler, yaşam alanı tahribi, önemli kuş alanları, Doğu Karadeniz Dağları.

## **REPRODUCTION POPULATION OF WHITE STORK CICONIA CICONIA IN SOUTHEAST ANATOLIA**

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The largest and most dense reproduction population of white stork is determined in Diyarbakır. The current poles at 30 km southeast of Diyarbakır were used for nesting by white storks. At 20 km distance, 90 current poles are present and 53 nests were found on these poles. 110 juvenils were grown on only 42 nests. The juvenil number per nest is 2.61. 1-5 juvenils are grown in each nest. The percentage of juvenil number in each nest are as follows; one-juvenil nest 9.09

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%, two-juvenil nest 21.81 %, three-juvenil nest 19.09 %, four-juvenil nest 36.36 % and five-juvenil nest 13.63 %. Due to various causes, 23 juvenils loss were assessed and the percentage of loss is 20.9 %.

Key words: White stork, *Ciconia ciconia*, nest, juvenil, reproduction population, Tigris, Southeast Anatolia, Diyarbakır.

## **GÜNEYDOĞU ANADOLU'DA LEYLEK *CICONIA CICONIA* ÜREME POPULASYONU**

Leyleklerin (*Ciconia ciconia*) en yoğun ve en büyük üreme popülasyonu Diyarbakır'da tespit edildi. Diyarbakır'ın 30 km güneydoğusundaki yüksek gerilim elektrik hatları leylekler tarafından yuva yeri olarak kullanılmaktadır. Yirmi kilometrelik mesafedeki 90 adet yüksek gerilim elektrik direğinden 53 ünde yuvalar bulunmaktadır. Bunlardan 42 yuvada 110 yavru yetiştirildi. Yuva başına yavru sayısı 2.61 dir. Yuvalarda 1-5 arası yavru yetiştirilmiştir. Bir yavrulu yuva % 9.09, iki yavrulu yuva % 21.81, üç yavrulu yuva % 19.09, dört yavrulu yuva % 36.36 ve beş yavrulu yuva % 13.63 yavru yüzdesine sahiptir. Çeşitli nedenlerden dolayı toplam 23 yavru kaybı tespit edilmiştir. Kayıp yüzdesi 20.9 dir.

Anahtar Kelimeler: Beyaz Leylek, *Ciconia ciconia*, yuva, yavru, üreme popülasyonu, Dicle Nehri, Güneydoğu Anadolu, Diyarbakır

## **REPRODUCTIVE SUCCESS OF THE WOODCHAT SHRIKE (*LANIUS SENATOR*) IN WESTERN BULGARIA**

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The success of reproduction of the Woodchat Shrike (*Lanius senator*) was determined on the basis of 30 nests from two localities in Western Bulgaria (1999-2003). The average clutch size was 6.0 ( $\pm 0.73$  SD, range 5-7), and the first clutches were found to be significantly larger in comparison to the replacement ones. Hatching success (82.3%) and fledging success (77.2%) were also estimated. The overall probability of survival of an egg at the onset of incubation that would result in a fledged young was calculated using the Mayfield's (1961, 1975) exposure-day method. Most of the observed nests (63.3%) were lost during the breeding season, 57.8% of them depredated by birds and reptiles, 15.8% - by mammals, and 26.3% - influenced by inclement weather or human disturbance (deserted). The survival rates found were compared with similar studies from other parts of the Woodchat Shrike's European breeding range.

Key words: Woodchat Shrike, *Lanius senator*, reproductive success, Mayfield's method, Bulgaria

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## THE BIRDS OF GAZIANTEP

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In this execution, the city centre ve nearby environs were studied between 29.03.2003 and 18.11.2003. The birds in this execution region were determineted to be found as intensive habitats. In the study, the ornithological data were obtained from the 32 observation done periodically. This work is expected to have an important contribution to the ornito-inventory of Gaziantep in which has not been completed yet.

Key words: Birds, Ornitoinventory, Gaziantep

## GAZIANTEP KUŞLARI

Bu araştırma 29.03.2003 – 18.11.2003 tarihleri arasında Gaziantep il merkezi ve yakın çevresindeki alanlarda yürütüldü. Bu alanlar yörede kuşların yoğun buldukları habitatlar olarak belirlendi. Çalışmada periyodik olarak yapılan 32 gözlemden elde edilen ornitolojik veriler yer almaktadır. Bu çalışmanın henüz tam olarak oluşturulamamış Gaziantep ornitoenvanterine katkıda bulunulacağı umulmaktadır.

Anahtar Kelimeler: Kuşlar, Ornitoenvanter, Gaziantep

## THE CONTROL EFFECTIVENESS OF WOODPECKER SPECIES ON THE GREAT EUROPEAN SPRUCE BARK BEETLE IN TURKEY

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Woodpeckers are members of Picidae family. There are eight species of woodpeckers found in Turkey, seven of which are present in the Northeastern Black Sea Region. The purpose of this research is to study the effects of woodpecker species influencing the actual population of the great European spruce bark beetle (*Dendroctonus micans* (Kug.) (Coleoptera: Scolytidae), which is found in about 250 000 ha of 450 000 ha oriental spruce (*Picea orientalis* (L.) Link.) forests and continues to extend its spread. In this scope in Artvin, Giresun, and Trabzon Regional Directorate of Forestry spruce forests were studied. In 125 plots a total of 3853 trees were evaluated. Woodpeckers eat thousands of bark beetles or wood boring insects which are serious pests on oriental spruce. The actual effectiveness of woodpecker species on *D. micans*

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population was about 5 percent. The woodpeckers species play a vital role in helping to control insect pests in oriental spruce forests in Turkey.

Key words: Woodpeckers, *Dendroctonus micans*, Natural control

## **AĞAÇKAKAN TÜRLERİNİN DEV KABUK BÖCEĞİNİN DOĞAL KONTROLÜNDEKİ ETKİLİLİĞİ**

Ağaçkakanlar Picidae familyasının üyeleridir. Türkiye’de sekiz ağaçkakan türü vardır, bunlardan yedi tanesi Doğu Karadeniz Bölgesi’nde bulunur. Bu çalışmanın amacı ağaçkakan türlerinin, 450 000 ha olan doğu ladini (*Picea orientalis* (L.) Link.) ormanlarının yaklaşık 250 000 ha’ında bulunan ve yayılışını sürdüren, dev kabuk böceğinin (*Dendroctonus micans* (Kug.) (Coleoptera: Scolytidae)) aktüel popülasyonuna etkilerini araştırmaktır. Bu kapsamda Artvin, Giresun ve Trabzon Orman Bölge Müdürlüğü ladin ormanlarında çalışılmıştır. Toplam 125 deneme alanında, 3853 ağaç değerlendirilmiştir. Ağaçkakanlar, doğu ladininin önemli zararlıları olan kabuk böceklerinin veya odun oyucu böceklerin binlercesini yer. Ağaçkakan türlerinin *D. micans* popülasyonu üzerindeki aktüel etkililiği yaklaşık %5’dir. Ağaçkakan türleri, Türkiye’de doğu ladini ormanlarında zararlı böceklerin doğal kontrolünde önemli bir role sahiptir.

## **THE IMPORTANCE OF MOSQUITO CONTROL ON THE WAY OF BIRD MIGRATION**

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The principal hosts of arboviruses (arthropod borne viruses) are wild birds, and the principal vectors are mosquitoes. Many arboviral diseases namely, St. Louis Encephalitis, Western Equine Encephalitis, West Nile Virus, Eastern Equine Encephalitis, are transmitted from mosquito species to birds and humans. The infected mosquitoes transmit the virus when feeding on human and bird hosts and in some conditions caused of deaths. The studies in Israel, Czech Republic, and Romania have implicated wild birds as important vertebrae hosts for arboviruses. Turkey is located on major migration routes of birds, and many birds species are using different aquatic areas (e.g. lakes, ponds) for the resting, wintering and breeding, and also these areas have different habitats for mosquito reproduction. The aim of this poster presentation is what methods of mosquito control would be most useful in resting, wintering and breeding areas on the way of migratory birds

Key words: Mosquito control, bird migrations, arboviruses, Turkey

## KUŞ GÖÇ YOLLARI ÜZERİNDE SIVRISINEK MÜCADELESİNİN ÖNEMİ

Arboviruslerin (Eklembacaklılar ile taşınan virüsler) başlıca konakları yaban kuşları olup başlıca taşıyıcıları sivrisineklerdir. Birçok arboviral hastalık (örneğin; Güney Louis Ensefaliti, Batı At Ensefaliti, Batı Nil Virusu, Doğu At Ensefaliti) sivrisinek türlerinden kuş ve insanlara taşınmaktadır. Enfekte olmuş sivrisinekler, insan ve kuş konaklarından beslendiklerinde, virus taşınmış olur ve bazı durumlarda ölüm meydana gelir. İsrail, Çek Cumhuriyeti ve Romanya'da yapılan çalışmalarda, virus bulaşmış yabani kuşların arboviruslar için en önemli omurgalı konaklar olduğu görülmüştür. Türkiye, kuşların önemli göç rotaları üzerinde yerleşmiş olup, birçok kuş türü farklı sucul alanları dinlenmek, kışlamak ve üremek amacıyla kullanılmaktadır ve aynı zamanda bu alanlar sivrisineklerin üremesi için farklı habitatlar bulundurmaktadır. Bu poster sunumunun amacı göçmen kuşların yolları üzerinde dinlenmek, kışlamak ve üremek amacıyla kullandıkları alanlarda sivrisineklerin mücadelesinde hangi metotların daha kullanışlı olacağını göstermektir.

## THE ORNITHOFAUNA OF SARIÇAY DELTA IN ÇANAKKALE

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This study was carried to determine the bad enviromental situations that effected the bird species and the ornithofauna of Sarıçay Delta, which is located in Çanakkale province. In study period from 2002 to 2003, 61 bird species were identified in the area. However, it was determined that various activities near the wetlands effected the nutritions and destroyed the biotops of some bird species.

Key words: Sarıçay Delta, Ornithofauna, Protection, Distrubition, Systematic

## ÇANAKKALE SARIÇAY DELTASI'NIN AVIFAUNASI

Bu çalışmada, Çanakkale ili sınırları içinde bulunan Sarıçay Deltasında görülen kuş türlerinin tespiti ve karşılaştıkları olumsuz çevre koşulları araştırılmıştır. 2002-2003 yılları arasında yapılan gözlemlere göre 61 kuş türü tespit edilmiştir. Ancak özellikle tatlı su kenarlarında yapılan çeşitli aktiviteler sebebiyle son zamanlarda kuşların beslenme ve yaşam biotoplarının bozulduğu ve bazı türlerin bundan olumsuz yönde etkilendikleri tespit edilmiştir.

Anahtar Kelimeler: Sarıçay Deltası, Avifauna, Sistemantik, Koruma, Dağılışı

## THE ORNITHOLOGICAL IMPORTANCE AND THE ORNITHOFAUNA OF DALAMAN DISTRICT

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These studies were carried out around the lakes of Kargın (Kocagöl) and Kükürtlü and the Sarısı, Dalaman and Tersakan Rivers together with Dalaman and Sarigerme beaches all of which were within the borders of Muğla province and Dalaman District. A total of 197 bird species from 49 families and 17 orders were recorded via field observation during the years from 2001 to 2003. Of the species recorded, 6 were Endangered (E), 28 were Declining (D), 30 were Vulnerable (V), 6 were Rare (R), 2 were Localized (L), one of them was Insufficiently Known (Ink.) and 124 were in the categories of Secure (S) species. Dalaman District, with lakes, ponds, rivers, irrigation channels, and marshy and swampy grounds, is hosting as a feeding and breeding environment for many bird species. These habitats serve as a refuge for the bird species especially during the cold winter months and migration periods and this increases the value of these habitats and proves the ornithological importance of the region and shows the necessity of the protection of these wetlands.

Key words: Dalaman, Aves, Kocagöl Pond, Wetland, Systematic, Sarigerme.

## DALAMAN VE ÇEVRESİNİN ORNİTOFAUNASI VE ALANIN ORNİTOLOJİK AÇIDAN ÖNEMİ

Bu çalışma, Muğla ili Dalaman ilçesi sınırları içerisinde bulunan Sarı su, Dalaman Çayı, Tersakan Çayı, Dalaman ve Sarigerme Kumsalı, Kargın Gölü (Kocagöl), Kükürtlü Göl ve yakın çevresinde gerçekleştirildi. Alanda 2001-2003 yılları arasında yapılan arazi gözlemleri sonucunda, 17 takım ve 49 Familya'ya ait 197 kuş türü tespit edilmiştir. Tespit edilen türlerden 6'sı Tehlike Altında (E), 28'i Azalan (D), 30'u Hassas (V), 6'sı Nadir (R), 2'si Lokalize olmuş (L), 1'i Yetersiz Bilgi (Ink.) ve 124'ü Güvenli (S) kategorisindedir. Dalaman ve çevresi bulundurduğu sazlık, bataklık, ırmak, göl ve sulama kanallarıyla birçok kuş türünün beslenmesine ve üremesine olanak sağlamaktadır. Özellikle soğuk kış aylarında ve göç döneminde kuşlara barınak durumunda olması, bu sulak alanın ornitolojik önemini ve korunma gerekliliğini ortaya koymaktadır.



## **THE REASONS OF DRAINAGE OF IN VAN LAKE THE EFFECTS ON BIRDS AND IRRITATED FIELD**

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In this study, the effects and, the reasons of drainage caused by water sources that feed Van and Erçek Lake were investigated. It found that the most important reason of drainage is to open more agricultural field and pasturage. Also droughtness caused by making easy collection of marsh and other plants, public activity and to dry the swam are the reasons of drainage in the basin. The drainage in the basin is achieved by discharging the collected water that feed the marshy field quickly via waterway into lake. Rarerly, the basin was being dried by changing the flowing way of the water resource. Dreinage are made by labour machine in urban area but it is carried out by human power. Marshy fields that harbour many kind of living organisms are demolished completely or partially by drainage activity. The birds and other living in these fields come across with problems of feeding, nest, broady hen, environmental pollution shelter drought and it observed these organisms generally realt by changing the area.

Key words: The Lake Van, The Lake Erçek, Wetland, Birds

## **VAN GÖLÜ HAVZASINDAKİ ÖNEMLİ ÇEVRE KIRLETICILERİ, KUŞLARA VE DİĞER CANLILARA ETKİLERİ**

Bu çalışmada aynı kapalı havza içinde bulunan Van ve Erçek göllerinde kirlenmeye neden olan başlıca kaynaklar incelendi. Bu göllerin sularını ve kıyılarında oluşan sulak alanları tehdit eden birinci derecede önemli kirleticiler; yeterince arıtılmayan kanalizasyon atıkları, akar sularla taşınan katı evsel atıklar ve erozyonla taşınan maddeler olarak belirlendi. İkinci dereceden kirleticilerin ise; kıyılarıdaki kanunsuz yapılaşma, göl kıyılarının yakınlarına kurulan çöp dökme alanları, sanayi atıkları, zirai ilaç atıkları, görüntü ve ses kirliliği oldukları gözlemlendi. Sayılan nedenlerden dolayı havzadaki bir çok kıyıda fiziksel, kimyasal, biyolojik, görüntü ve ses kirliliğinin oluştuğu anlaşıldı. Bu kirlilikten havzada yaşayan insan ve diğer canlıların doğrudan yada dolaylı olumsuz etkilendikleri görüldü. Alanın kapalı havza olma özelliği göz önüne alınınca, sorunun açık havzalara oranla daha hızlı ilerleyeceği, eski haline gelmesinin de daha maliyetli ve uzun süre alacağı sonucuna varıldı.

Anahtar Kelimeler: Pollution, The Lake Van, The Lake Erçek, Wetland, Birds

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## THE UNIQUE BREEDING AREA OF BLUE-CHEEKED BEE-EATER (MEROPS PERSICUS) PRESENTLY KNOWN IN TURKEY

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During the observations between May and August 2003, it has been detected that about 25 to 40 pairs of blue-cheeked bee-eater (*Merops persicus*) at nesting areas within three adjacent settlements of province Şanlıurfa (South-eastern Anatolian region, Turkey) have attempted to breed. It has also been determined that the birds arrive at the site towards mid of May, and that incubation period takes place principally during June and nestling period during July, while leaving the area occurs within the first half of August. The nesting areas, which have been used also in recent years, show substantial similarities with each other in terms of habi-tat, and the place, position and shape of nests. The presently active largest breeding colony of the species, which is represented by very few numbers of individuals in Turkey, is under threat especially caused by the human activities due to being close to housing areas. There is necessity of announcing a new "Important Bird Area" at the site bordering three villages where the breeding areas of blue-cheeked bee-eater are located, and effective conservation measures are to be immediately taken. This work is a part of a project supported by the United Nations Development Programme (UNDP) / Global Environment Facility (GEF) - Small Grant Programme (SGP) (TUR-01-11).

Key words: Blue-cheeked bee-eater, *Merops persicus*, breeding, Turkey, South-eastern Anatolia

## YEŞİL ARIKUŞU'NUN (MEROPS PERSICUS) TÜRKİYE'DE BİLİLEN TEK GÜNCEL ÜREME ALANI

2003 yılı mayıs-ağustos ayları arasındaki gözlemlerle, Şanlıurfa'nın birbirine komşu üç köyü içinde bulunan yeşil arıkuşu *Merops persicus* üreme kolonilerinde yaklaşık olarak toplam 25 - 40 çift kuşun üreme etkinliği gösterdiği belirlendi. Kuşların mayıs ayı ortalarına doğru yöreye geldikleri, özellikle haziran ayı boyunca kuluçka, temmuz ayı süresince yavru bakımı yaptıkları, ağustos ayının ilk yarısı içinde de söz konusu bölgeyi terk ettikleri saptandı. Geçmiş yıllarda da düzenli olarak kullanılmış olan yuvalanma alanları birbirlerine habitat, yuvaların yeri, konumu ve biçimi açısından büyük benzerlikler göstermektedir. Ülkemizin az sayıda bireyle temsil edilen bu kuş türünün, hâlen aktif olduğu bilinen üreme kolonilerinden en bü-yüğü üzerindeki başlıca tehdit, yuvaların yerleşim yerlerine yakınlığı nedeniyle doğrudan ya da dolaylı insan etkisi altında bulunmalarından kaynaklanmaktadır. Güneydoğu Anadolu Böl-gesi'nde, yeşil arıkuşunun ürettiği köylerin sınırları içinde kalan yeni bir "Önemli Kuş Alanı" ilan edilmesi ve burada etkili koruma önlemleri alınması gerekmektedir.

Anahtar sözcükler: Yeşil arıkuşu, *Merops persicus*, Üreme, Türkiye, Güneydoğu Anadolu Bölgesi

Poster presentations

**TIME-BUDGET OF STELLER'S SEA-EAGLE (HALIAEETUS PELAGICUS) AND WHITE-TAILED SEA-EAGLE (H. ALBICILLA) IN CAPTIVITY (MOSCOW ZOO).**

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In the Moscow Zoo a group of 4 Steller's Sea-Eagles and 2 White-tailed Sea-Eagles live together with 8 Vultures in a large mountain-like open-air cage. Sea-Eagles demonstrated 9 various forms of activity which were measured every 10 second and compared with behavior in natural environment described in literature (Masterov, 1992r). For the Steller's Sea-Eagle in the Zoo relative duration of comfort display (0.286) and acoustic activity (0.03) was about three times higher than under natural conditions at Kamchatka peninsular (0.088 and 0.013 accordingly) while readiness to act was slightly less (0.196 against 0.24). On contrary the White-tailed Sea-Eagles in the Zoo was less active: readiness to act 0.034 against 0.144 in nature. In the Zoo its duration of comfort display (0.084) was much less than that of the Steller's Eagle while duration of acoustic display (0.023) were similar. Both Sea-Eagles were most active among inhabitants of the cage. Majority of aggressive contacts with other raptors were initiated by the Steller's Sea-Eagles (42% of all registered cases) and the White-tailed Sea-Eagles (31%). Therefore sharing of a large common cage changed activities and behavior of Sea-Eagles.

Key words: Sea-Eagles, Zoo, activities, time-budget

**TREATMENT OF HUMERAL FRACTURE IN A LONG-LEGGED BUZZARD (BUTEO RUFINUS) WITH A MINI TITANIUM PLATE**

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In this clinical observation, mini titanium plate and screws were used as fixation materials for the treatment of open humeral fracture of a long legged buzzard (*buteo rufinus*) caused by fire arm shot injuries. Surgical treatment applied according to the clinical and radiological examination. In the radiographic evaluations of the case revealed that, the raptor had distal humeral fractures in right wing. The mini titanium plates which have 6 holes were chosen with bar according to the type and the localization of the fracture. The clinically and radiological examinations of the cases were periodically performed after the operation with no postoperative complications were observed except a mild local infection in the area. From the findings, it was concluded that mini titanium plates and screws are recommendable as fixating materials for the surgical treatments for long bone fractures of birds of prey, as these materials are small in size, easy to shape and ease of usage during operations.

Poster presentations

## **BİR KIZIL ŞAHİNDE (BUTEO RUFINUS) HUMERUS KIRIĞININ MINI TITANIUM PLAK İLE SAĞALTIMI**

Bu klinik gözlemede, bir kızıl şahinde belirlenen ateşli silah yaralanmasına bağlı açık humerus kırığının mini titanyum plak ve vidalar kullanılarak sağaltımı yapılmıştır. Klinik ve radyolojik muayenelere göre cerrahi sağaltım uygulaması dikkate alınmıştır. Radyolojik muayene sonucunda yırtıcı kuşun sağ kanadında distal humerus kırığı gözlenmiştir. Kırığın tipine ve yerine göre 6 delikli ve barlı mini titanium plak fiksasyon materyali olarak belirlenmiştir. Operasyondan sonra, olgu periyodik olarak klinik ve radyografik muayenelerle izlenmiştir ve bölgede hafif bir enfeksiyon dışında komplikasyon gözlenmemiştir. Bulgular sonucunda, yabani yırtıcı kuşların uzun kemik kırıklarının cerrahi sağaltımında, boyutu, operasyon sırasında şekillendirme ve kullanım kolaylığı nedeniyle mini titanium plak ve vidaların önerilebilir fiksasyon materyalleri olduğu

## **TURKISH BREEDING BIRD ATLAS PROJECT: PALAS (TUZLA) LAKE AND KAYSERİ REGION**

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The goal of this project was to create a Breeding Bird Atlas for the region surrounding Palas Lake and city of Kayseri in central Turkey. For the Breeding Bird Atlas of Turkey Project the whole country has been divided into 50×50 km UTM squares. The coordinates of the 50×50 km square we surveyed are from 700,000-750,000 m E and 4,300,000-4,350,000 m N in UTM Grid Zone 36S. Study area was divided into 25 10×10 km squares. Each 10×10 km square was visited twice during the breeding season, once early (between May 10 and June 1, 2003) and once late in the season (between June 14 and July 1, 2003). For each survey the altitude, UTM coordinates, time of day, habitat types, and the bird species that were seen and/or heard were noted along with their breeding code. Distribution maps for each bird species were made. In the 50×50 km UTM square a total of 99 bird species were seen. The bird species that were seen frequently in the study region were: *Emberiza melanocephala* Black-headed Bunting: (recorded on 66 bird atlas forms), *Sturnus vulgaris* Starling (56), *Pica pica* Magpie (53). Of these 99 species , 61 are Species of European Conservation Concern (SPEC) that have an unfavorable conservation status.

Key words: Breeding Bird Atlas, Palas Lake, SPEC

## **PALAS (TUZLA) GÖLÜ VE ÇEVRESİNDE ÜREYEN KUŞLAR ATLASI**

Poster presentations

Çalışmamızda İç Anadolu Bölgesi' nin Kayseri ili Palas Gölü ve çevresindeki üreyen kuşlar belirlenerek bu bölgenin kuş atlasının çıkartılması amaçlanmıştır. Türkiye' de Üreyen Kuşlar Atlası Projesi için tüm Türkiye UTM kordinat sistemine göre 50x50 km' lik karelere ayrılmış durumdadır. Çalıştığımız 50x50 km' lik kare alan 36S Grid bölgesinde yer alıp köşe UTM koordinatları 700000-750000 m D ve 4300000-4350000 m K' dir. Palas Gölü ve çevresinin 50x50 km'lik alanı 10x10 km'lik 25 kareye bölündü. Her bir kareye farklı zamanlarda iki kez gidildi (10.05.2003-01.06.2003 ve 14.06.2001-01.07.2003 tarihleri arasında). Bulunulan her bir kare içinde, kayıtları toplayan kişiler tarafından gözlemin yapıldığı tarih, saat, gözlem yerinin yüksekliği, UTM koordinatları, habitatı ve buralarda görülen veya sesleri ile tanımlanan kuşların üreme kodları kaydedildi. Her bir kuş türünün dağılım haritası yapıldı. Yapılan gözlemler sonucu 99 kuş türü kaydedildi. En çok görülen kuş türleri : Karabaşlı kirazkuşu (Emberiza melanocephala): (66 kuş atlas formunda bulunmaktadır), Sığırcık (Sturnus vulgaris): 56, Saksığan (Pica pica): 53. Palas Gölü ve çevresinde kaydedilen toplam 99 türden 61'i Avrupa'da tehdit altında olan türlerdir (Species of European Conservation Concern – SPECS). Anahtar kelimeler: Üreyen kuşlar atlası, Palas Gölü, SPEC.

## **VISUAL AFFERENTATION INFLUENCES THE DEVELOPMENT OF THE ACOUSTICALLY-GUIDED DEFENSE BEHAVIOR IN ALTRICIAL FICEDULA HYPOLEUCA NESTLINGS.**

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The development of defense behavior in normal and visually deprived broods was studied in the wild. Deprivation was accomplished by covering nestlings' eye with nontransparent cups on day 1; on day 12 the cups were removed. Tape-recorded species alarm call (AC) was reproduced in 2-5 minutes-long series 3-5 times a day interspaced by 15-30 minutes with respect to nestlings' age. Auditory food calls (FC) were presented separately and with AC in background. Behavioral observations revealed that freezing posture that had been formed in normal nestlings by day 10-11 was not observed in deprived young even after the deprivation was stopped. Comparison of the age dynamics of AC efficiency showed no significant difference between normal and deprived nestlings until day 8. Starting from day 9, the efficiency of AC in the normal young rapidly increased, whereas that in visually deprived nestlings decreased significantly, both tendencies amounting to a great difference in age dynamics of AC efficiency. After visual deprivation had been stopped, efficiency of AC significantly increased but until fledging it never reached the normal level. Supported by RFBR grant # 04-04-48920a

Key words: Pied flycatcher, behavioral development, defense behavior, visual deprivation

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