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Are winter species composition and abundance censuses of birds in small urban green areas comparable?

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Brauze T., Zieliński J. 2006. Are winter species composition and abundance censuses of birds in small urban green areas comparable? Acta Ornithol. 41: 93–101.

Abstract. Wintering birds were studied in three plots (10.0–14.5 ha) in urban green areas in central Poland. Two observers independently counted the birds in each plot on six days evenly distributed between mid-December and mid-February. On the count day, each observer did two surveys: an early count, starting at 8 a.m., and immediately afterwards, a late count, finishing before noon. Using three-way ANOVA, the differences between densities, numbers of species and Shannon-Wiener diversity indices obtained in single counts were tested in relation to independent variables: the count time (early or late), the observer, and the plot. No effect of plot variable was revealed. An observer effect was, however, found in the number of species, as well as in the densities of the whole avifauna and of flocking species. Differences in the bird diversity indices were found only between the early and late counts. The results of the present study indicate that there are no means of definitively assessing the number of species, density, and species diversity of birds wintering in small parts of urban green areas.

Key words: bird census method, wintering birds, urban birds, *Parus*, *Corvus*, mixed species flocks

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Trends and temperature effects in the arrival of spring migrants in Portland (United Kingdom) 1959–2005

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Croxton P. J., Sparks T. H., Cade M., Loxton R. G. 2006. Trends and temperature effects in the arrival of spring migrants in Portland (United Kingdom) 1959–2005. Acta Ornithol. 41: 103–111.

Abstract. This paper examines the first arrival dates of 25 migrant bird species recorded at Portland, Dorset, UK, for the period 1959–2005. To determine if trends over time existed, linear regression of first arrival dates on year was used; initially for the whole period and subsequently separately for 1959–1981 and 1982–2005. First arrival dates were compared to spring temperatures along migration routes in southern Europe and France and in the UK. The arrival of 11 species (e.g. Sand Martin, Blackcap and Pied Flycatcher) was significantly earlier with the mean trend for all species showing an advance of 1.6 days/decade over the study period. Over all species, trends in first arrival date were not significantly different between the two time periods but there were differences for Turtle Dove, Whitethroat and Lesser Whitethroat. Monthly mean temperatures along the European part of the birds' migration route were generally negatively correlated with, but can only explain < 30% of the variability in, first arrival dates. The consequences of both a changed phenology and differential phenological changes between species require urgent investigation.

Key words: phenology, birds, migration, climate change

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Breeding biology of the House Martin *Delichon urbica* in Algeria

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Lahlah N., Chabi Y., Bańbura M., Bańbura J. 2006. Breeding biology of the House Martin *Delichon urbica* in Algeria. Acta Ornithol. 41: 113–120.

Abstract. Dates of egg laying, clutch size, the numbers of hatchlings and fledglings, and egg dimensions were studied in Annaba, Algeria in 2004–2005. The onset of laying is related to the end of the wet period and shows some inter-year variation. 38–45% of breeding pairs produce two broods per year. Mean clutch size declines with the progress of the breeding season. Mean values vary between the first (4.7 eggs) and second clutch (3.5 eggs) but not between years. Hatching and fledging success is relatively low in comparison with other Western Palearctic populations, probably because of environmental constraints operating at the southern edge of the House Martin breeding area. The relatively small size of Algerian House Martin eggs fits the general geographic pattern of variation.

Key words: House Martin, *Delichon urbica*, reproduction, timing, clutch size, geographic range, North Africa

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A nearly complete skeleton of the fossil galliform bird *Palaeortyx* from the late Oligocene of Germany

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Mayr G., Poschmann M., Wuttke M. 2006. A nearly complete skeleton of the fossil galliform bird *Palaeortyx* from the late Oligocene of Germany. Acta Ornithol. 41: 129–135.

Abstract. Phasianid galliform birds do not occur in Europe before the end of the early Oligocene, and their Paleogene fossil record mainly comprises isolated bones. Here we describe a nearly complete and articulated skeleton of a phasianid galliform bird from the late Oligocene of Enspel in Germany. The specimen is assigned to *Palaeortyx* cf. *gallica* Milne-Edwards, 1869 and for the first time allows the recognition of cranial and pelvic details in a late Oligocene phasianid. Many gizzard stones are preserved in both the gizzard and the crop, and constitute the earliest fossil evidence for grit use in a phasianid galliform.

Key words: fossil birds, Galliformes, *Palaeortyx*, gizzard stones, Oligocene

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Habitat and nest site selection in the Common Gull *Larus canus* in southern Poland: significance of man-made habitats for conservation of an endangered species

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Skórka P., Martyka R., Wójcik J. D., Babiarz T., Skórka J. 2006. Habitat and nest site selection in the Common Gull *Larus canus* in southern Poland: significance of man-made habitats for conservation of an endangered species. Acta Ornithol. 41: 137–144.

Abstract. The Common Gull is a rare and endangered breeding species at inland habitats in Poland as well as in some other countries in Europe. Breeding biology, habitat and nest site selection were studied in this species in southern Poland. Almost all birds nested on industrial water bodies (gravel pits, sedimentation basins), although fishponds and reservoirs were the most abundant habitat in the study area. Birds built their nests mainly on islets, man-made constructions and dry land on the shores of water bodies. The islets occupied by birds were smaller and were covered by lower vegetation than the unoccupied ones. When occupied islets on industrial water bodies were compared with a random sample of islets on fishponds, the latter were found to be larger, with taller and denser vegetation. This may explain why Common Gulls did not breed on fishponds in southern Poland. Shore-breeding birds nested in open areas with sparse vegetation, occupying sites with less vegetation cover and closer to shrubs or trees than randomly selected points. Breeding performance (mean date of clutch initiation, clutch size, clutch volume, hatching success and breeding success) did not differ among nests built on islets, man-made constructions or on the shores of the water bodies. Breeding success was more than twice as high as in large riverine colonies. Industrial water bodies may become important alternative breeding habitats for this species in Poland.

Key words: Common Gull, *Larus canus*, habitat selection, man-made habitats, nest sites, nest size, breeding biology

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Eggshell patterning in the Red-backed Shrike *Lanius collurio*: relation to egg size and potential function

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Surmacki A., Kuczyński L., Tryjanowski P. 2006. Eggshell patterning in the Red-backed Shrike *Lanius collurio*: relation to egg size and potential function. Acta Ornithol. 41: 145–151.

Abstract. Despite numerous studies on avian eggs, the function of eggshell patterning remains largely unknown. Using a museum collection of Red-backed Shrike clutches, we estimated the repeatability of characteristics describing the intensity and contrast of egg pigmentation, as well as egg size and shape. Digitalized photographs of eggs were used for all measurements. Repeatability was highest for overall pigmentation intensity and overall pigmentation contrast (R = 0.81 and R = 0.82 respectively). Lower values were recorded for egg breadth (R = 0.66) and shape (R = 0.57). These findings suggest that eggshell patterning, as well as the variables describing egg size and shape, may respond to natural selection. Among the possible functions of this trait, condition signalling within species and mimicry are the most probable. To obtain more evidence of this, however, further studies in wild populations are required.

Key words: digital image analysis, egg size, egg pigmentation, egg shape, *Lanius collurio*, measurements, museum collection, repeatability

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Breeding ecology of Aquatic Warblers *Acrocephalus paludicola* in their key habitats in SW Belarus

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Vergeichik L., Kozulin A. 2006. Breeding ecology of Aquatic Warblers *Acrocephalus paludicola* in their key habitats in SW Belarus. Acta Ornithol. 41: 153–161.

Abstract. The breeding ecology of the Aquatic Warbler was studied on the three largest mires in Belarus in 1998–2004. Numbers of male Aquatic Warblers on these mires range from 6370 to 11500, which is more than 50% of the species world population. In years with favorable nesting conditions breeding success on the three mires varies from 36.3% to 54.1%. In years with significant water level fluctuations and irruptions of shrew populations the breeding success decreases sharply, varying from 2.9% to 27.7%. The main reason for the mortality of eggs and nestlings was predation, probably by small insectivorous mammals. The species is well adapted to the unstable nesting conditions in fen-mires; but in years with serious flooding, high water levels throughout the nesting season, disturbances to the vegetation structure after spring fires or in years with a high density of shrews, breeding success decreases significantly.

Key words: Aquatic Warbler, *Acrocephalus paludicola*, breeding success, predation, shrews, mires, reedbeds, threatened species

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Abundance and breeding ecology of Brown Accentors *Prunella fulvescens* in Lhasa, Tibet

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Lu X. 2006. Abundance and breeding ecology of Brown Accentors *Prunella fulvescens* in Lhasa, Tibet. Acta Ornithol. 41: 121–128.

Abstract. Data are presented for the first time on the abundance and breeding ecology of the Brown Accentor in Lhasa, Tibet. During the non-breeding periods, the accentors occurred across a wide altitudinal gradient in a variety of habitats and remained numerically abundant. When breeding, they were restricted to alpine zones (> 4300 m) with scattered shrubs, and the population density declined to a low level (0.02 nests per ha). Nests were built partially in lone-standing short, thorny bushes and at a low height (< 0.8 m) above the ground. Dates of clutch initiation ranged from early May to mid-July, a period of 80 days. Clutch size varied between 2 and 3 eggs, averaging 2.9 (± 0.1). Eggs hatched after 13–14 days of incubation, and young birds fledged at 13–17 days, when they reached 97% of the adult weight. In terms of the proportion of clutches from which at least one chick fledged, breeding success was 56.3%. No evidence of multiple mating was found in this species.

Key words: Brown Accentor, *Prunella fulvescens*, habitat selection, abundance, nest-site selection, breeding biology, social system, nestling diet

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Breeding performance of Blue Tits *Cyanistes caeruleus ultramarinus* in relation to habitat richness of oak forest patches in north-eastern Algeria

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Ziane N., Chabi Y., Lambrechts M. M. 2006. Breeding performance of Blue Tits *Cyanistes caeruleus ultramarinus* in relation to habitat richness of oak forest patches in north-eastern Algeria. Acta Ornithol. 41: 163–169.

Abstract. Like many other seasonally breeding birds, Blue Tits raise their chicks mainly at the time when numerous caterpillars attack fresh oak leaves. This paper reports on the results of the first quantitative study of food ecology in combination with the breeding biology of a North African population of Blue Tits occupying distinct patches of oak habitat (high-altitude semi-evergreen zeen oak versus low-altitude evergreen cork oak). To check for between-habitat differences in intensities of nest parasites feeding on chicks, all nests monitored were heat-treated during the chick-raising stage. The peak demands of the chicks were found to coincide with the peak date of caterpillar availability in both habitat types. Food availability was much higher in the semi-evergreen habitat, and the diversity of prey delivered to the chicks was higher in the evergreen habitat. Surprisingly, breeding success was very low in both habitat types. It is suggested that several environmental constraints may cause maladapted avian breeding responses in heterogeneous Algerian habitat mosaics. Spatial variation in micro-climate may influence the capacity to adaptively adjust breeding responses to distinct habitat types.

Key words: Blue Tit, *Cyanistes caeruleus ultramarinus*, North Africa, habitat richness, *Quercus*, oak, reproduction, *Parus*

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SHORT NOTES

Absence of insular density inflation in Corsican Finches *Carduelis* [*citrinella*] *corsicanus*

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Förschler M. I. 2006. Absence of insular density inflation in Corsican Finches *Carduelis* [*citrinella*] *corsicanus*. Acta Ornithol. 41: 171–175.

Abstract. The insular syndrome predicts a number of differences between insular and mainland populations. One such prediction is that island populations tend to exhibit density inflation. This prediction was examined by comparing the population densities of mainland Citril Finches (central and south-west Europe) and insular Corsican (Citril) Finches (Mediterranean islands). Contrary to the hypothesis of density inflation in island populations, no indication of higher densities in Corsican Finches (0.6–2.1 pairs/10 ha) was found in comparison with Citril Finches (1.3 pairs/10 ha). In fact, population densities in the mainland population of the Catalan Pre-Pyrenees (7–10 pairs/10 ha) were extraordinarily high in comparison with all other study areas.

Key words: Citril Finch, *Carduelis citrinella*, Corsican Finch, *Carduelis corsicanus*, population density, density inflation, niche expansion, insular syndrome

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SHORT NOTES

Sexing Red-necked Grebes *Podiceps grisegena* by molecular techniques and morphology

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Kloskowski J., Grela P., Krogulec J., Gąska M., Tchórzewski M. 2006. Sexing Red-necked Grebes *Podiceps grisegena* by molecular techniques and morphology. Acta Ornithol. 41: 176–180.

Abstract. Sexual size dimorphism was analysed in the Red- necked Grebe in southeast Poland. A DNA-based procedure was utilised to sex individuals and to assess the accuracy of morphological criteria for the sex identification of adult breeding birds: discriminant analysis on the sample level and within-pair comparisons. Males were significantly larger than females in all body measurements used in the discriminant function selection process. Owing to considerable overlap in measurements, however, the sexes cannot be accurately separated by biometrics at the population scale. Sexual dimorphism was most pronounced in bill length measured from the corner of the gape to the tip, but only 79% of individuals were correctly identified on the basis of this parameter alone. When two variables, bill length and wing length, were combined, the discriminant function was of similar efficiency (80%) in determining the sex. The accuracy level of sexing may be improved by comparing mates within pairs: combined comparisons of bill length and body mass were as accurate as the genetic technique, but sex assignment was restricted to 76% of the measured pairs.

Key words: Red-necked Grebe, *Podiceps grisegena*, sexual size dimorphism, discriminant function analysis, molecular sexing, within-pair comparisons

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SHORT NOTES

Prolonged incubation of non-viable eggs in the Bearded Vulture *Gypaetus barbatus*

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Margalida A., Bertran J. 2006. Prolonged incubation of non-viable eggs in the Bearded Vulture *Gypaetus barbatus.* Acta Ornithol. 41: 181–184.

Abstract. We present the frequency and duration of prolonged incubation in the Bearded Vulture and test different hypotheses on the possible adaptive significance of this behaviour. The mean and median prolonged incubation lasted 29 and 25 days respectively (n = 10), i.e., 54% and 46% respectively longer than the average incubation period. There was a negative correlation between the duration of prolonged incubation and the egg-laying date: prolonged incubation lasted longer in earlier clutches than in later ones, and territories with many breeding attempts showed short incubation prolongations. On the other hand, no correlation was found between the duration of prolonged incubation and productivity or breeding success. The results suggest that more experienced birds, which occupy higher quality territories and lay their eggs earlier, prolonged their incubation to a greater extent. Although prolonged incubation may constitute an example of adaptive behaviour, the extensive periods documented in some cases do not appear to support this assumption.

Key words: Bearded Vulture, *Gypaetus barbatus*, energy constraints, prolonged incubation, unhatchable eggs, birds of prey

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